

Nos. 25-1611, 25-1612

**IN THE UNITED STATES COURT OF APPEALS
FOR THE FIRST CIRCUIT**

(No. 25-1611)

AMERICAN PUBLIC HEALTH ASSOCIATION; IBIS REPRODUCTIVE
HEALTH; INTERNATIONAL UNION, UNITED AUTOMOBILE, AERO-
SPACE, AND AGRICULTURAL IMPLEMENT WORKERS (UAW); BRIT-
TANY CHARLTON; KATIE EDWARDS; PETER LURIE; NICOLE MAPHIS,

Plaintiffs-Appellees,

v.

NATIONAL INSTITUTES OF HEALTH; JAY BHATTACHARYA, in his offi-
cial capacity as Director of the National Institutes of Health; UNITED STATES
DEPARTMENT OF HEALTH AND HUMAN SERVICES; ROBERT F. KEN-
NEDY, JR., in his official capacity as Secretary of the United States Department of
Health and Human Services,

Defendants-Appellants.

(Caption continued on inside cover)

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

**BRIEF OF AMICI CURIAE BIOLOGICAL AND BIOMEDICAL
RESEARCH SOCIETIES IN SUPPORT OF PLAINTIFFS-APPELLEES**

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(No. 25-1612)

COMMONWEALTH OF MASSACHUSETTS; STATE OF CALIFORNIA; STATE OF MARYLAND; STATE OF WASHINGTON; STATE OF ARIZONA; STATE OF COLORADO; STATE OF DELAWARE; STATE OF HAWAII; STATE OF MINNESOTA; STATE OF NEVADA; STATE OF NEW JERSEY; STATE OF NEW MEXICO; STATE OF NEW YORK; STATE OF OREGON; STATE OF RHODE ISLAND; STATE OF WISCONSIN,

Plaintiffs-Appellees,

v.

ROBERT F. KENNEDY, JR., in the official capacity as Secretary of Health and Human Services; UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES; JAY BHATTACHARYA, in the official capacity as Director of the National Institutes of Health; NATIONAL INSTITUTES OF HEALTH; NATIONAL CANCER INSTITUTE; NATIONAL EYE INSTITUTE; NATIONAL HEART LUNG AND BLOOD INSTITUTE; NATIONAL HUMAN GENOME RESEARCH INSTITUTE; NATIONAL INSTITUTE ON AGING; NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM; NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES; NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES; NATIONAL INSTITUTE OF BIOMEDICAL IMAGING AND BIOENGINEERING; EUNICE KENNEDY SHRIVER NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT; NATIONAL INSTITUTE ON DEAFNESS AND OTHER COMMUNICATION DISORDERS; NATIONAL INSTITUTE OF DENTAL AND CRANIOFACIAL RESEARCH; NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES; NATIONAL INSTITUTE ON DRUG ABUSE; NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES; NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES; NATIONAL INSTITUTE OF MENTAL HEALTH; NATIONAL INSTITUTE ON MINORITY HEALTH AND HEALTH DISPARITIES; NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE; NATIONAL INSTITUTE OF NURSING RESEARCH; NATIONAL LIBRARY OF MEDICINE; NATIONAL CENTER FOR ADVANCING TRANSLATIONAL SCIENCES; JOHN E. FOGARTY INTERNATIONAL CENTER FOR ADVANCED STUDY IN THE HEALTH SCIENCES; NATIONAL CENTER FOR COMPLEMENTARY AND INTEGRATIVE HEALTH; NIH CENTER FOR SCIENTIFIC REVIEW,

Defendants-Appellants.

CORPORATE DISCLOSURE STATEMENT

None of the amici curiae has any parent corporation or any publicly held corporation that owns 10% or more of its stock.

/s/ *Megan Barbero*
Megan Barbero

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INTERESTS OF AMICI CURIAE¹

Amici curiae are four nonprofit biological and biomedical societies (the “Societies”) that support scholars pursuing cutting-edge scientific research:

- The American Society for Biochemistry and Molecular Biology (ASBMB) supports 11,000 researchers dedicated to advancing discovery in molecular life science. Their work has driven advances in medicine, agriculture, and bioengineering.
- The American Society for Cell Biology (ASCB) was founded in 1960 with the mission of cultivating a multidisciplinary scientific community focused on the cell, the basic unit of all life. ASCB’s members are 6,000 leading researchers worldwide, including 32 Nobel laureates.
- The American Society for Microbiology (ASM) is one of the oldest and largest life science societies in the United States, supporting over 37,000 scientific researchers. Its members support research to detect and diagnose infectious diseases.
- The Federation of American Societies for Experimental Biology (FASEB), founded in 1912, is a federation of 22 societies representing more than 110,000 researchers. Today, FASEB hosts multiple scientific conferences, publishes scientific journals, and provides its members with career resources.

Together, their members have pioneered breakthroughs that improve the lives of millions of Americans. They have invested substantial resources in the next generation of researchers, including by participating in the National Institutes of Health’s (NIH) Maximizing Opportunities for Scientific and Academic Independent Careers

¹ No counsel for any party authored this brief in whole or in part, and no party’s counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than amici curiae and their counsel made a monetary contribution to this brief’s preparation or submission. All parties consent to the submission of this brief.

(MOSAIC) program. The Societies submit this brief to detail the devastating effects of NIH’s challenged actions on amici, their members, and the scientific community, and to highlight the importance of judicial review.

PRELIMINARY STATEMENT

Scientific progress depends on diversity—of thought, experience, and background. It requires brilliant scholars to wield their curiosity, creativity, and drive to solve complex problems and explore unknown facets of the natural world. Research is driven by questions, not certainties, and breakthroughs occur by chance as often as by design. Increasing diversity among researchers sharpens group decisionmaking, bringing different perspectives to the fore to pursue novel inquiries and hasten discovery. And increasing diversity in study subjects is critical to develop effective therapies for individuals with different backgrounds.

Congress recognized these benefits when it made diversity—both of researchers and research subjects—a core tenet of NIH’s mission. Today, multiple statutes require NIH to broaden participation in science by supporting a diverse cohort of emerging researchers. *See, e.g.*, 42 U.S.C. § 282(h). NIH must “utilize diverse study populations” to ensure that research outcomes accurately capture health impacts on minority groups. *Id.* § 282(b)(8)(D)(ii); *see, e.g., id.* § 289a-2(a)(1). It must also research health issues that disparately affect underserved populations. *See, e.g., id.* § 282(b)(8)(D)(ii); *id.* § 285a-6(c)(1)(C). NIH has affirmed that “[i]nclusivity in

research generates more broadly applicable information and improves scientific understanding of the health and well-being of specific population groups.”²

These basic facets of scientific research have not been controversial until now. But earlier this year, on the heels of executive orders focused on ending diversity, equity, and inclusion (DEI), NIH issued a series of directives instructing personnel to cease funding so-called “DEI” research. Relying on these directives, NIH staff summarily terminated hundreds of millions of dollars in biomedical research grants. NIH’s actions are both unlawful and disastrous. They have “throw[n] science into a downward spiral,” with dire consequences for scientists, institutions, and discovery.³ Scholars have been stranded during difficult career transitions. Institutions unable to rely on federal support have made “unprecedented funding cuts and staff layoffs.”⁴ Experiments and clinical trials have been cut short, even on the cusp of vital breakthroughs.⁵ And with morale plummeting, scientists are fleeing the field or seeking opportunities abroad, crippling our research capacity.⁶

² Francis S. Collins, *NIH-Wide Strategic Plan, Fiscal Years 2021-2025*, at 32 (July 2021), <https://tinyurl.com/2wsb4m4u>.

³ Alander Rocha, *NIH Grant Cuts Throw Science into a ‘Downward Spiral,’ Researchers and Advocates Say*, Ga. Recorder (Sept. 16, 2025), <https://tinyurl.com/4dxbhj3s>.

⁴ Nina Lakhani, *‘A Disaster for All of Us’: US Scientists Describe Impact of Trump Cuts*, The Guardian (July 20, 2025), <https://tinyurl.com/4wujhu3b>.

⁵ See Protect Our Care, *“It’s A Bloodbath”: Trump Administration Slashes Millions in NIH Funding for Maternal Health, HIV, and Other Research* (Mar. 26, 2025), <https://tinyurl.com/bddzdr3u>.

⁶ Laurie Udesky & Jack Leeming, *Exclusive: A Nature Analysis Signals the*

With its “unreasonable and unreasoned agenda of blacklisting certain topics,” A91, the Administration has fractured a longstanding and productive partnership between the federal government and research institutions. Since World War II, the government has supported public and private institutions through competitive research grants.⁷ NIH grants support early-career researchers and keep talent flowing into our institutions. These grants enable lifesaving discoveries—reducing cancer deaths by 33% and cardiac deaths by 70% in the last half-century alone.⁸ And they are an excellent return on public investment, producing \$2.56 in economic output for every \$1.00 in federal input.⁹ The challenged directives and grant terminations have jeopardized the future of this partnership, stranding researchers and crippling research institutions.

NIH offers little defense for its actions and does not dispute the harms they have caused. Instead, NIH attempts to shield its actions from judicial review. Those

Beginnings of a US Science Brain Drain, Nature (Apr. 22, 2025), <https://tinyurl.com/3r6j8t95>; Catherine Offord, *Overseas Universities See Opportunity in U.S. ‘Brain Drain’*, Sci. Insider (Mar. 17, 2025), <https://tinyurl.com/yew5dacj>.

⁷ Jake Miller, *A Brief History of Federal Funding for Basic Science*, Harv. Med. (Apr. 2025), <https://tinyurl.com/3ptau7cd>; see also Vannevar Bush, *Science: The Endless Frontier* 17 (July 1945), <https://tinyurl.com/4wed3czu>.

⁸ See Rebecca L. Siegel, et al., *Cancer Statistics, 2023*, Am. Cancer Soc’y (Jan. 2023), <https://tinyurl.com/tw9cyjpr>; Nat’l Heart, Lung & Blood Institute, *Coronary Heart Disease Research* (last visited Nov. 18, 2025), <https://tinyurl.com/2c3u4a2p>.

⁹ United for Med. Rsch., *NIH’s Role in Sustaining the U.S. Economy* 2 (Mar. 2025), <https://tinyurl.com/4rwur8d7>.

arguments are both wrong and dangerous. Should NIH prevail, any agency could issue unlawful directives, swiftly implement them, and withdraw hundreds of millions of dollars in federal funding—only to brush those decisions aside when they are challenged in court and avoid any definitive ruling on the merits.

ARGUMENT

I. NIH VIOLATED CONGRESSIONAL MANDATES AND ITS CORE MISSION, HARMING AMERICAN SCIENCE AND DAMAGING HUMAN HEALTH

The challenged NIH directives arbitrarily upended longstanding federal support for diversity in science, including ensuring that the scientific workforce and the subjects of research studies reflect the American public. The challenged directives violate multiple congressional mandates and undermine the agency’s longstanding support for broadening participation in scientific research.

A. Congress and NIH have long recognized that workforce diversity strengthens research teams and diversity in studies improves research outcomes.

For years, Congress has instructed NIH to prioritize recruitment of a diverse research workforce, and to ensure that research includes underrepresented populations. NIH may not decline to follow those congressional mandates simply because it has “policy objections.” *In re Aiken Cnty.*, 725 F.3d 255, 259 (D.C. Cir. 2013). Yet that is precisely what NIH has done.

Congress has enacted multiple statutes requiring NIH and its institutes to recruit diverse populations of scientists. *E.g.*, 42 U.S.C. § 282(h) (requiring NIH to

“provide for an increase in the number of women and individuals from disadvantaged backgrounds . . . in the fields of biomedical and behavioral research”); *id.* § 288(a)(4) (same). Congress also requires NIH to prioritize research into health equity and health disparities. *E.g., id.* § 282(b)(8)(D)(ii) (requiring NIH to encourage clinical researchers to “utilize diverse study populations” and to prioritize “health disparities”); *id.* § 283p (requiring NIH to “encourage efforts to improve research related to the health of sexual and gender minority populations”); *id.* § 289a-2(a)(1) (requiring NIH to recruit diverse test subjects). And it has directed institutes within NIH to fund programs for underserved groups. *E.g., id.* § 285a-6(c)(1)(C) (directing the National Cancer Institute to support breast cancer research initiatives that “assist women who are members of medically underserved populations, low-income populations, or minority groups”).¹⁰

NIH’s own strategic plan incorporates these mandates. Congress requires NIH to develop a strategic plan every six years, and to submit that plan to Congress. 42 U.S.C. § 282(m)(1). NIH must ensure that resources “are sufficiently allocated for” the priorities set forth in its plan. 42 U.S.C. § 282(b)(6). For over a decade, NIH’s

¹⁰ NIH has long implemented these statutory requirements through formal guidelines. *See, e.g., NIH Guidelines on the Inclusion of Women and Minorities as Subjects in Clinical Research*, 59 Fed. Reg. 11146, 11146 (Mar. 9, 1994) (reaffirming “NIH’s commitment to the fundamental principles of inclusion of women and racial and ethnic minority groups . . . in research . . . to address significant gaps in knowledge about health problems”).

strategic plan has prioritized “diversity of the biomedical research workforce,”¹¹ as “[t]he increasingly complex scientific questions” facing our society must be met by a “diversity of thought, experience, and demographics.”¹² The plan also requires NIH to “focus on developing and testing interventions to reduce health disparities”; to “increase diversity in [study] participation”; and to “increase the diversity of study populations.”¹³ Those priorities reflect that diversity in study populations “generates more broadly applicable information and improves scientific understanding of the health and well-being of specific population groups.”¹⁴

Broadening participation in the scientific workforce improves the quality of research.¹⁵ Researchers from underserved communities are more likely to pursue conditions that disproportionately affect minority groups,¹⁶ which often cause disparities in health outcomes and billions in healthcare costs.¹⁷ They have been shown

¹¹ Francis S. Collins, *NIH-Wide Strategic Plan, Fiscal Years 2016-2020*, at 35 (2016) [hereinafter 2016 Strategic Plan], <https://tinyurl.com/4m22a94b>; *accord* Francis S. Collins, *NIH-Wide Strategic Plan, Fiscal Years 2021-2025*, at 55 (2021), <https://tinyurl.com/2wsb4m4u> [hereinafter 2021 Strategic Plan].

¹² 2021 Strategic Plan, *supra* note 11, at 32–33.

¹³ 2021 Strategic Plan, *supra* note 11, at 11, 15, 28.

¹⁴ 2021 Strategic Plan, *supra* note 11, at 32–33.

¹⁵ See Nature, *Science Benefits from Diversity* (June 6, 2018), <https://tinyurl.com/2696mbj6>.

¹⁶ Talia H. Swartz, et al., *The Science and Value of Diversity: Closing the Gaps in Our Understanding of Inclusion and Diversity*, J. of Infectious Disease (Aug. 19, 2019), <https://tinyurl.com/m2pz6avy>.

¹⁷ NIH Press Team, *NIH-Funded Study Highlights the Financial Toll of Health Disparities in the United States*, NIH (May 16, 2023), <https://tinyurl.com/25daw2e9>.

to “produce more innovative research”¹⁸ with “more novel ideas,”¹⁹ giving teams “a competitive edge.”²⁰ Indeed, “[o]verwhelming evidence suggests that teams that include different kinds of thinkers outperform homogeneous groups on complex tasks.”²¹ And studies reveal that diverse teams “more easily and efficiently solve [scientific] problems”²²—outpacing homogeneous research groups and producing papers that yield 5–10% more citations.²³

NIH’s decision to target so-called “DEI” for funding cuts has had devastating effects on scientific research. As of September 15, 2025, over 5,100 NIH grants have been cut or frozen,²⁴ including over 1,700 pursuant to the challenged directives. A1323–24. Roughly 90% of all terminated grants funded research and development,²⁵ including at least 160 active clinical trials addressing prominent health

¹⁸ Univ. of Cal. at Berkeley, *The Scientific Community: Diversity Makes the Difference*, UnderstandingScience.org (last visited Nov. 11, 2025), <https://tinyurl.com/mtskj532> (citing Bas Hofstra et al., *The Diversity-Innovation Paradox in Science*, PNAS (Apr. 28, 2020), <https://tinyurl.com/32srbackx>).

¹⁹ Daniela Blei, *Science’s Diversity Problem*, Stanf. Soc. Innov. Rev. (2020), <https://tinyurl.com/4xh776cy>.

²⁰ Kendall Powell, *These Labs are Remarkably Diverse – Here’s Why They’re Winning at Science*, Nature (June 6, 2018), <https://tinyurl.com/hd83uxxk>.

²¹ Swartz, *supra* note 16.

²² LabXchange RDEISE Team, *The Benefits of Increasing Diversity in STEM*, LabXchange (Aug. 22, 2024), <https://tinyurl.com/jvye6ww7>.

²³ Swartz, *supra* note 16.

²⁴ Ian Karbal, *Researchers: Pennsylvania Out Nearly \$40 Million in NIH Scientific Grants After Federal Cuts*, Penn. Cap.-Star (Sept. 15, 2025), <https://tinyurl.com/3w3j78ea>.

²⁵ Marcelo Jauregui-Volpe, *New Brief Finds NIH has Canceled \$1.9 Billion in Grants*, Ass’n of Am. Univs. (May 9, 2025), <https://tinyurl.com/33m8s8pm>.

conditions.²⁶ These disruptions will cause lasting damage even after funding is restored. Some scientists have reported delays and difficulties accessing their funds even after the government restored certain grants pursuant to court order.²⁷ Others have found their experiments “ruined” as samples expired and key timepoints were missed.²⁸ And as the JAMA Health Network found, “[e]ven temporary disruptions in NIH funding have been shown to increase research personnel unemployment by 40% in single-grant laboratories and reduce their publication rates by 90%.”²⁹

B. Scientific research depends on predictable federal funding and reasoned decisionmaking.

Our nation’s scientific enterprise needs predictable and stable federal support to plan and conduct research. Sudden and arbitrary changes in funding can stall discoveries that are vital for innovation and human health. When NIH makes changes to funding policy that violate the law, scientists must be able to seek redress in court.

²⁶ AAMC, Impact of NIH Grant Terminations (May 27, 2025), <https://tinyurl.com/3kn5x2h5>.

²⁷ Robert Kuttner, *The NIH Funding Wars*, Am. Prospect (Aug. 1, 2025), <https://tinyurl.com/3hzd8984> (“Some NIH funding has been released, but only in response to direct court orders, only in other states, and only in part.”).

²⁸ See Danielle J. Brown & Nicole Pilsbury, *Cuts, Uncertainty Over NIH Grants Disrupt Innovation in Health Fields, Researchers Say*, Md. Matters (Sept. 15, 2025), <https://tinyurl.com/mtc2h9nw>.

²⁹ Mohammad S. Jalali & Zeynep Hasgul, *Potential Trade-Offs of Proposed Cuts to the US National Institutes of Health*, JAMA Health F. (July 25, 2025), <https://tinyurl.com/2b9atj4k> (citing Wei Yang Tham, et al., *Scientific Talent Leaks Out of Funding Gaps*, U.S. Census Bureau (Feb. 11, 2024), <https://tinyurl.com/vjacv9et>).

After all, the Administrative Procedure Act creates a “basic presumption that anyone injured by agency action should have access to judicial review.” *Corner Post, Inc. v. Bd. of Govs. of Fed. Rsrv. Sys.*, 603 U.S. 799, 823 (2024) (cleaned up); *see also* 5 U.S.C. § 704 (authorizing review of “[f]inal agency action for which there is no other adequate remedy in a court”).

Federal funding is essential to science. NIH funds more than 50,000 research grants for more than 300,000 researchers at more than 2,500 institutions.³⁰ Scientists rely on NIH support to acquire the infrastructure, personnel, equipment, and supplies necessary to run cutting-edge experiments.³¹ Organizations use federal funding to maintain state-of-the-art lab space.³² When federal support becomes unstable, institutions hedge to avoid risk, creating a “‘human capital erosion’ loop”—in which “reduced funding for training and salaries drives researchers out of the field, decimates lab capacity, and reduces institutional viability.”³³

That erosion is already occurring. NIH’s policy upheaval has left scientists

³⁰ Larry Luxner, *Rare Disease Researchers Warn NIH Budget Cuts Could Threaten Progress and Endanger Lives*, Rare Disease Advisor (Apr. 2, 2025), <https://tinyurl.com/mrxffmef>.

³¹ *See* NIH Off. of Extramural Rsch., *NIH Grants Policy Statement: Section 7.3* (Apr. 2024), <https://tinyurl.com/54cjrt3w>.

³² *See* NIH Off. of Extramural Rsch., *supra* note 31.

³³ *See* Glob. Biodefense Staff, *NIH Budget Cuts Threaten to Cripple U.S. Biomedical Innovation and Public Health*, Glob. Biodefense (July 28, 2025), <https://tinyurl.com/28dmnuh4> (recounting how “[i]n previously documented funding gaps, labs lost 40% of their personnel and saw publication output drop by 90%”).

grappling with uncertainty, and forced our institutions to “cut back on spending.”³⁴ After “unprecedented funding cuts and staff layoffs” due to the mass termination of NIH grants, “[a] generation of scientific talent is also on the brink of being lost.”³⁵ Universities have reduced the size of incoming PhD classes,³⁶ delayed research on groundbreaking experiments,³⁷ frozen faculty hiring,³⁸ laid off postdocs and research assistants,³⁹ and dismissed PhD students shortly before their dissertations.⁴⁰ Scientific conferences, the heart of academic intellectual exchange, have already experienced a sharp downturn in participation and anticipate further “dramatic changes”

³⁴ Bridget Balch, *How Uncertainty Around Cuts to Scientific Research is Impacting the Future Biomedical Research Workforce*, AAMC (Apr. 16, 2025), <https://tinyurl.com/mrymj2ky>.

³⁵ Lakhani, *supra* note 4.

³⁶ See, e.g., Ana Despa & Sarah Diaz, *Stalled Funding, Canceled Grants: How the NIH Crisis is Affecting Duke*, The Chronicle (June 27, 2025), <https://tinyurl.com/37jmhhwv>.

³⁷ See, e.g., Killian Baarlaer, *UofL Loses Roughly \$1 Million of NIH Research Funding, Stoking Concerns Among Scientists*, Courier J. (June 6, 2025), <https://tinyurl.com/2v5z5urw> (noting how one professor “had to redistribute funding,” thus “slowing down progress on studying a potentially ‘groundbreaking’ treatment”).

³⁸ See, e.g., Jeff Robinson, *UTMB Researcher Says NIH Cuts Have Cost University Millions*, The Daily News: Galveston County (June 4, 2025), <https://tinyurl.com/nhjt6ae>.

³⁹ See, e.g., Rachel Nuwer, *U.S. Budget Cuts are Robbing Early-Career Scientists of Their Future*, Sci. Am. (July 3, 2025), <https://tinyurl.com/2x46pkdn>.

⁴⁰ See, e.g., Ellis Preston, *PhD Students Left ‘Devastated’ from Grant Money Uncertainties*, The State Press (Apr. 8, 2025), <https://tinyurl.com/3r5jx427>; Emilee Klein, *UMass Climate Scientists Reeling as Trump Administration Slashes Funding for Research*, Greenfield Recorder (June 23, 2025), <https://tinyurl.com/5n862rtk>.

this year.⁴¹ And scientific research facilities are emptying out.⁴² In Boston, Massachusetts, there has been an 11% increase in vacant laboratory properties compared to this time last year.⁴³

This seismic shift has already had lasting economic consequences—shrinking the field, destroying morale, and driving talent abroad.⁴⁴ Brilliant scholars are losing faith in America as a beacon of scientific innovation.⁴⁵ As *Nature* observed, “US scientists submitted 32% more applications for jobs abroad between January and March 2025 than during the same period in 2024,” while the “applications to US institutions from researchers in Europe dropped by 41%.”⁴⁶ NIH funding cuts have also caused biotech investors to “retreat to safety,”⁴⁷ withdrawing support from large medical and life-science companies that provide the technology and biological materials needed for cutting-edge scientific research.⁴⁸ As the scientific community

⁴¹ Christine Ro, *The Economic Effects of Federal Cuts to US Science – in 24 Graphs*, *Nature* (June 25, 2025), <https://tinyurl.com/23jx6kyk>; see Toni Feder, *Conference Organizers, Potential Participants Fault US Policies for Falling Attendance*, *PhysicsToday* (Aug 01, 2025), <https://tinyurl.com/24w78hz5> (noting that some conferences already “report drops in turnout of roughly 20–30%”).

⁴² Ro, *supra* note 41.

⁴³ Ro, *supra* note 41.

⁴⁴ Udesky & Leeming, *supra* note 6; Offord, *supra* note 6.

⁴⁵ See, e.g., James Glanz, *World Scientists Look Elsewhere as U.S. Labs Stagger Under Trump Cuts*, *N.Y. Times* (May 31, 2025), <https://tinyurl.com/5n6p8vn5>.

⁴⁶ Udesky & Leeming, *supra* note 6.

⁴⁷ Yoana Cholteeva, *Cuts to FDA and NIH Will Hurt Health Tech Startups, Investors Warn*, *Glob. Corp. Venturing* (May 2, 2025), <https://tinyurl.com/ux2ps33>.

⁴⁸ Ro, *supra* note 41; e.g., Alex Philippidis, *StockWatch: NIH Indirect Cost*

fighters for a lifeline, and foreign adversaries double down, “America’s position as the world’s uncontested technology and innovation powerhouse” has begun to erode.⁴⁹ And “many researchers and prospective graduate students are concerned that the future of both biomedical research and their livelihoods is in jeopardy.”⁵⁰

Disruptions in funding also strand scholars during pivotal career transitions.⁵¹ Scholars must spend roughly a decade pursuing a doctorate degree and postdoctoral fellowship before becoming independent.⁵² That pipeline bleeds talent, with 36–51% of PhD students and 41% of postdocs stepping away.⁵³ NIH offers “transition grants” to combat this attrition by funding emerging researchers as they pursue faculty

Cuts Shake Tools Stocks, GenEdge (Feb. 17, 2025), <https://tinyurl.com/y2fba5sm>.

⁴⁹ Rebecca Mandt, et al., *Federal R&D Funding: The Bedrock of National Innovation*, MIT Sci. Pol’y Rev. (Aug. 20, 2020), <https://tinyurl.com/2s4brtye>; see also Sci. & Techn. Action Comm., *China is a Determined and Formidable Competitor with the U.S. in Science & Technology*, at 1 (last visited Nov. 18, 2025), <https://tinyurl.com/bdhst4h6>.

⁵⁰ Balch, *supra* note 34.

⁵¹ See Claudia L. Lloreda, *Exclusive: NIH Nixes Funds for Several Pre- and Postdoctoral Training Programs*, Transmitter (Apr. 8, 2025), <https://tinyurl.com/3ekeasyc>.

⁵² See Educations.Com Team, *Study a PhD: A Guide to PhD Degrees* (June 17, 2025), <https://tinyurl.com/273uw6vj> (“On average, PhD programs last 5-7 years[.]”); Courtney Chandler, *When Does a Postdoc End?*, ASBMB Today (Jan. 27, 2023), <https://tinyurl.com/md5fzte> (“Postdoctoral fellowships have also gotten longer, with many stretching to five to six years (if not more).”).

⁵³ See, e.g., Sonia N. Young, et al., *Factors Affecting PhD Student Success*, Int’l J. Exercise Sci. (Jan. 1, 2019), <https://tinyurl.com/2hf4vbdk>; Yueran Duan, et al., *Postdoc Publications and Citations Link to Academic Retention and Faculty Success*, PNAS (Jan. 21, 2025), <https://tinyurl.com/34xysxsr>.

roles.⁵⁴ The scholars who receive transition grants are “emerging leaders in their respective scientific disciplines . . . at critical junctures within their careers.”⁵⁵ And they are more successful at achieving independence than others, with approximately 89% of awardees earning faculty roles.⁵⁶

The MOSAIC program, in which the *amici* Societies participate, is one successful transition grant. MOSAIC pairs transition funding with mentorship opportunities—connecting each grant recipient with a partner organization for networking, career development, and specialized training.⁵⁷ The Societies participate in this initiative by offering game-changing programs for scholars, such as lab management training,⁵⁸ research skills development,⁵⁹ grant writing workshops,⁶⁰ and “match-making visits for scholars.”⁶¹ The MOSAIC program now has a proven track record

⁵⁴ NIH, *Activity Codes* (last visited Nov. 18, 2025), <https://tinyurl.com/yn2mx9yw> (describing types and functions of NIH grants).

⁵⁵ See FASEB, *FASEB Disheartened by MOSAIC Program Termination* (Apr. 4, 2025), <https://tinyurl.com/2wr93scz>.

⁵⁶ Nicole C. Woitowich, et al., *Analysis of NIH K99/R00 Awards and the Career Progression of Awardees*, eLife (Jan. 19, 2024), <https://tinyurl.com/mrys3skj>.

⁵⁷ NIH Off. of Extramural Rsch., *Notice of Funding Opportunity*, USA.gov (last visited Nov. 18, 2025), <https://tinyurl.com/6n6ee3sb> (Expired) (explaining the MOSAIC application process and selection criteria);

⁵⁸ ASM, *ASM MOSAIC Program* (last visited Nov. 18, 2025), <https://tinyurl.com/mrx6vxy3>.

⁵⁹ FASEB, *FASEB MOSAIC* (last visited Nov. 18, 2025), <https://tinyurl.com/yn2t3rhu>.

⁶⁰ ASBMB, *ASBMB MOSAIC* (last visited Nov. 18, 2025), <https://tinyurl.com/mv9a6m6n>.

⁶¹ ASCB, *MOSAIC Program (AMP)* (last visited Nov. 18, 2025), <https://tinyurl.com/hhxr5dy7>.

of successfully supporting grant recipients in their transitions to faculty roles.⁶²

And MOSAIC is merit-based. Rather than prioritize awardees from underrepresented groups, MOSAIC selects scholars who have actively worked “to promote broad participation in the biomedical research workforce.”⁶³ Applicants are free to explain how they have expanded participation through their own initiative and drive.⁶⁴ Moreover, MOSAIC is not limited to one form of diversity and “includes those who grew up in poor households or rural areas or were raised by parents who do not have college degrees.”⁶⁵ Successful applicants have done everything “from mentoring young people to advocating for new departmental policies.”⁶⁶ They have founded a comic series introducing scientific concepts to young children;⁶⁷ started a

⁶² For example, nearly all MOSAIC scholars in ASBMB’s 2021 and 2022 cohorts have faculty roles, and members of its 2023 and 2024 cohorts have hit the faculty market early. *See, e.g.,* NIH, *The Role of Nuclear Factor Erythroid 2-Related Factor 2 in Sarcopenic Obesity*, NIH Reporter (last visited Nov. 18, 2025), <https://tinyurl.com/e5ut29up> (proposal by MOSAIC scholar who attained faculty role); Univ. of Oregon Coll. Arts & Sci., *Faculty Directory* (last visited Nov. 18, 2025), <https://tinyurl.com/3pxv83ff> (featuring MOSAIC scholar who attained faculty role).

⁶³ La. Clinical & Translational Sci. Ctr., *NIH Webinar: MOSAIC K99 Program to Promote Faculty Diversity* (Aug. 29, 2024), <https://tinyurl.com/3fm28xv6>.

⁶⁴ ASCB Post Staff, *ASCB Responds to the NIH’s Termination of the MOSAIC Program* (Apr. 3, 2025), <https://tinyurl.com/y2azc6xn> (MOSAIC “created a national community of support for early career scientists, focused on scientific excellence, mentorship, and expanding opportunity”).

⁶⁵ *See* Brett Kelman, *As a Diversity Grant Dies, Young Scientists Fear It Will Haunt Their Careers*, KFF Health News (Apr. 29, 2025), <https://tinyurl.com/ms79ra9u>.

⁶⁶ Laurel Oldach, *MOSAIC Changes the Landscape*, ASBMBToday (Feb. 2, 2023), <https://tinyurl.com/23pyx4va>.

⁶⁷ Emily Storz, *NIH MOSAIC Postdoctoral Career Transition Award to*

program giving teenagers in rural Montana valuable research experience;⁶⁸ and helped low-income students learn about genetics.⁶⁹ These scholars are innovators and leaders. They belong at the forefront of scientific discovery, and MOSAIC helps them get there.

Transition grants such as MOSAIC accelerate research careers, push science forward, and sharpen our nation's competitive edge in a rapidly changing world. "MOSAIC funds research on cancer, Alzheimer's disease, spinal cord injuries, cochlear implants, fentanyl overdoses, stroke recovery, neurodevelopmental disorders, and more."⁷⁰ But the challenged directives now jeopardize this important research. New faculty have been laid off or furloughed and students have been stranded during extensive doctoral or postdoc programs.⁷¹ These harms to careers, institutions, and scientific research cannot be remedied if there is no enforceable restraint on NIH's authority to terminate awards.⁷²

Promote Diversity, Fox Chase Cancer Center, Temple Health (Feb. 3, 2023), <https://tinyurl.com/3mt394fu>.

⁶⁸ Meaghan MacDonald-Pool, *Montana State Postdoctoral Researcher Wins Prestigious MOSAIC Award*, Mont. State Univ. (July 25, 2022), <https://tinyurl.com/4md7sf3k>.

⁶⁹ Andrea Lius, *MOSAIC Scholar Loves to Share the Fun of Science*, ASBMB-Today (Sept. 24, 2024), <https://tinyurl.com/mwjjr477>.

⁷⁰ Kelman, *supra* note 65.

⁷¹ See Lloreda, *supra* note 51 ("Program directors and grantees are scrambling to continue supporting their students.").

⁷² See Johnpaul Sleiman, *When Courts Decide Science: The University and the Cases That Could Decide Our Future*, Campus Times (Oct. 20, 2025), <https://tinyurl.com/yswbhav5> (noting that "the future of research is being decided" in court).

II. THIS COURT SHOULD REVIEW NIH’S UNREASONABLE AND UNREASONED ACTIONS, WHICH HAVE UPENDED SCIENCE FUNDING

NIH’s sudden about-face on supporting diversity in scientific researchers and study subjects has had catastrophic effects on scientists, institutions, and research. Now NIH seeks to insulate its directives from any meaningful judicial review. *See* NIH Br. 22–34. That result would leave scientists with no way to challenge unlawful agency actions that shape the future of the American scientific endeavor.

A. The NIH should not be allowed to deprive scientists of any check on its unlawful decisionmaking by insulating its directives from judicial review.

NIH attempts to avoid review by arguing that the challenged directives are not final agency action, and are mooted by a new “unified strategy” statement. NIH Br. 24–26, 32–34. That is wrong on both counts. Agency action is final where: (1) it marks “the consummation of the agency’s decisionmaking process,” and (2) it has “legal consequences” or shapes legal “rights or obligations.” *Harper v. Werfel*, 118 F.4th 100, 116 (1st Cir. 2024) (cleaned up). And a case is moot if “the parties lack a legally cognizable interest in the outcome” or it is “impossible for the court to grant any effectual relief.” *Harris v. Univ. of Mass. Lowell*, 43 F.4th 187, 191–92 (1st Cir. 2022) (cleaned up). NIH has it backwards: The challenged directives are final agency actions with catastrophic effects on scientists and institutions. The “unified strategy” statement is just a webpage detailing an aspirational list of goals. Nothing about that “strategy” moots the directives or the damage they have caused.

Start with the directives. NIH claims that its funding directives do not become “final” until the agency applies them to cancel individual grants. NIH Br. 32–34. But courts take a “pragmatic” approach to finality, elevating an order’s practical effects over its formalistic trappings. *U.S. Army Corps of Eng’rs v. Hawkes Co., Inc.*, 578 U.S. 590, 599 (2016) (cleaned up). A guidance document is final agency action when it “reflect[s] a settled agency position which has legal consequences” for the agency and regulated parties. *Appalachian Power Co. v. EPA*, 208 F.3d 1015, 1023 (D.C. Cir. 2000). In *POET Biorefining, LLC v. EPA*, for example, the D.C. Circuit held that EPA guidance listing a new method for calculating cellulose quantities in bio-fuel was final agency action. 970 F.3d 392, 402, 406 (D.C. Cir. 2020). Though the guidance was informal, the court explained, it “carrie[d] legal consequences because it withdraws some of the discretion [the regulations] afforded EPA.” *Id.* at 405. Its “unequivocal language” suggested EPA had “definitively” decided how cellulose content was to be calculated, leading regulated parties “to believe that it will declare [subsequent] registrations invalid unless they comply.” *Id.* (cleaned up) (brackets added). And it had been applied “as if it were binding,” used by agency personnel as a basis “to analyze POET[’s] registration application.” *Id.*

The challenged NIH directives are formal policy declarations with mandatory instructions and concrete legal effects. They use “unequivocal language” to “with-draw[] some of the discretion” granted to NIH staff, *id.*, directing them to reject

applications and terminate awards on specific topics. *See, e.g.*, A2013, A2072 (directing staff to “terminate the grants on the attached spreadsheet by COB today”); A561–62, A568–69, A577–78, A584–85, A591–92 (directing staff to “not issue” diversity-related grants and ensure “DEI language [is] removed”). And NIH’s application of the directives indicates they are binding criteria with concrete “legal consequences” for scientists and institutions nationwide. *POET*, 970 F.3d at 405. The challenged directives are the basis for thousands of individual grant terminations, and signaled to regulated parties that NIH will no longer support related research. Because the directives “reflect[] a settled agency position which has legal consequences both for” NIH staff evaluating grants and regulated parties, *id.* at 406 (cleaned up), they are final in every relevant sense.

And those directives—which followed from unilateral executive orders, not any congressional change to the governing statutes—have harmed scientific discovery and human health. The abrupt loss of NIH support has cut short clinical trials, stranding patients in need of treatment.⁷³ NIH has ended research into HIV/AIDS, maternal mortality, youth suicide, and bone health.⁷⁴ It has cut hundreds of studies

⁷³ *E.g.*, Aimee Cho, *Mom with Stage 4 Cancer Approved for Clinical Trial After NIH Funding Cuts Left Her in Limbo*, NBC Wash. (Mar. 8, 2025), <https://tinyurl.com/57aw9tpa>; Carolyn Y. Johnson, *His Custom Cancer Therapy is in an NIH Freezer. He May Not Get it in Time.*, Wash. Post (June 18, 2025), <https://tinyurl.com/2uardwms> (each discussing patients with metastatic cancer who have lost access to potentially lifesaving treatments).

⁷⁴ Protect Our Care, *supra* note 5.

exploring cancer and heart conditions.⁷⁵ The resulting damage to science is difficult to reverse, as experiments often cannot be restarted after a funding gap.⁷⁶ And the costs to researchers are steep. Students plan their careers around these programs and spend years preparing to apply.⁷⁷ With federal support now terminated, many have been left with no clear path to achieve independence and continue their research—some “awardees competing for professor jobs will lose research funding that made them stronger candidates; and those already hired will have less money for salaries and supplies in their research labs.”⁷⁸ That is a loss not only to the affected individuals and their research labs, but also to the continued development of the scientific research community.

Now compare the statements offered by NIH to support its mootness claims. The government claims that the NIH has “rescinded or superseded” the directives

⁷⁵ Meg Tirrell, *NIH Froze Funding for Clinical Trials at a Major University. By Fall, They’ll Run Out of Funding*, WRAL News (June 23, 2025), <https://tinyurl.com/yeuhy6fh>; Elisa Muyl & Anthony Lydgate, *How Trump Killed Cancer Research*, Wired (July 21, 2025), <https://tinyurl.com/72e2j7a7> (“Attempting to eliminate funding for certain kinds of ‘woke’ studies, the Trump administration erased hundreds of millions of dollars being used for cancer research.”).

⁷⁶ E.g., Karen Feldscher, *After Some Federal Grants Reinstated, Researchers Struggle to Restart Projects*, Harv. Sch. of Pub. Health (Aug. 7, 2025), <https://tinyurl.com/bd5d3v87>; Sarah Rahal, “Great News but a Weird Twist.” *After the NIH Moved to Restore Hundreds of Grants, Researchers Remain in Limbo*, Boston Globe (Aug. 3, 2025), <https://tinyurl.com/44jpchbp>.

⁷⁷ See, e.g., Kelman, *supra* note 65 (discussing importance of transition grants to emerging scientists).

⁷⁸ Kelman, *supra* note 65.

by implementing new “grant priorities guidance.” NIH Br. 24, 26. But NIH’s new “guidance” is merely a statement on its website. That statement, entitled “Advancing NIH’s Mission Through a Unified Strategy,” better resembles a press release or a mission statement than a policy directive or funding instructions. NIH, *Advancing NIH’s Mission Through a Unified Strategy* (Aug. 15, 2025), <https://perma.cc/V5E2-4ED2>. To be sure, the “unified strategy” announces new goals for research aligned with the Administration’s priorities—albeit in contravention of congressional commands. But it is only aspirational. It does not implement any new criteria for funding and does not instruct personnel to do anything at all. This kind of broad-brush policy pronouncement cannot moot the directives and the harm they have caused.

And the NIH has not actually rescinded or replaced the challenged directives. The “unified strategy” certainly did not do so—nowhere on that webpage did NIH amend the challenged directives. Instead, it lists “areas” the agency is now “prioritizing,” with no instructions for staff and no new criteria for grant managers to apply.⁷⁹ Notwithstanding its persistent disregard for congressional requirements and reasoned decisionmaking, the government asks this Court to take it at its word that the challenged directives are no longer operative. The Court should be skeptical of such claims absent evidence more compelling than a new webpage.

⁷⁹ See NIH, *Advancing NIH’s Mission Through a Unified Strategy* (Aug. 15, 2025), <https://perma.cc/V5E2-4ED2>.

B. The arbitrary and capricious design and implementation of NIH's directives has harmed programs and scientists.

The challenged NIH directives are arbitrary and capricious in design and implementation. *See* 5 U.S.C. § 706(2)(A). The district court correctly found that NIH's failure to "provide a working definition of Diversity, Equity and Inclusion," A63, has made its directives "breathtakingly arbitrary and capricious," A163. As a result, NIH has cut scientific funding based on little more than word searches, and shuttered competitive, merit-based programs that neither match the rationale of the directives nor align with congressional funding requirements.

NIH asserts that it need not "define every term in internal guidance." NIH Br. 40. But its failure to define DEI, the very thing it seeks to eliminate, "'is arbitrary and capricious because it allows the [NIH] to arrive at whatever conclusion it wishes without adequately explaining the standard on which its decision is based.'" A166 (quoting *Firearms Regul. Accountability Coal., Inc. v. Garland*, 112 F.4th 507, 525 (8th Cir. 2024)); *see id.* ("[T]hey do not even attempt to define DEI, but instead set it up as some sort of boogeyman."). This has borne out in practice. NIH has terminated merit-based funding opportunities like MOSAIC, which should not fall within the directives' scope. In terminating individual grants, NIH used generalized termination letters with little to no explanation. Such actions are a far cry from "reasonable and reasonably explained." *FCC v. Prometheus Radio Project*, 592 U.S. 414,

423 (2021). And many grants were cut just for using specific words.⁸⁰ A professor at the University of California lost funding to study the efficacy of the shingles vaccine because she used the word “hesitancy” once in her proposal.⁸¹ Researchers at Georgia State developing a drug for Type 2 diabetes lost their grant “after having the words ‘trans’ and ‘expression’ flagged, despite the terms being ‘gene expression’ and ‘translational therapeutic strategies.’”⁸² These grants had nothing whatsoever to do with the type of so-called DEI-related programs NIH sought to “eradicate.” A171.

NIH asserts that the Court cannot second-guess its unlawful actions because its “decisions reflect quintessential policy judgments on hotly contested issues.” NIH Br. 39. To the extent diversity in science is a “policy judgment” at all, Congress has already made that judgment: it instructed NIH to fund programs that encourage diversity in workforce, experimental populations, and research topics. NIH cannot flout those directives simply it has “policy objections.” *Aiken Cnty.*, 725 F.3d at 259. But, in any event, broadening participation in science is not a “hotly contested” political issue. NIH has recognized its importance for decades.⁸³ And “NIH funding, in

⁸⁰ See Usha L. McFarling, et al., *Growing Number of Federal Health Agencies Are Combing Grants For Taboo Words, Unnerving Researchers*, STAT+ (Feb. 13, 2025), <https://tinyurl.com/yfu2fusr>; Anil Oza, *Scientists Had To Change More Than 700 Grant Titles to Receive NIH Funding. Health Disparities Researchers Fear What’s Next*, STAT+ (Oct. 29, 2025), <https://tinyurl.com/46bmr2r>.

⁸¹ Carolyn Y. Johnson, *Her Research Grant Mentioned ‘Hesitancy.’ Now Her Funding Is Gone*, Wash. Post (Mar. 15, 2025), <https://tinyurl.com/2mjn7e2x>.

⁸² Rocha, *supra* note 3.

⁸³ See, e.g., *supra* note 10.

fact, historically has been a bipartisan priority.”⁸⁴

NIH also seeks to minimize the effects its actions have had on our scientists by asserting that “[g]rantees can hardly claim unfair surprise that the agency’s priorities changed with a new Administration.” NIH Br. 43. But never before has the NIH withdrawn scientific funding on anything approaching the scale of what it has done here. Nor could grantees anticipate that NIH would do so with no change in its governing statutes. NIH has a long tradition of careful and deliberate grant review and decision-making, terminating grants on rare occasions, and only as a last resort. “NIH terminated fewer than six grants midstream in the 13 years from 2012 to January 20, 2025.” *NIH v. APHA*, 145 S. Ct. 2658, 2667 (2025) (Jackson, J., concurring in part). By contrast, in the past ten months alone, NIH has cut or frozen more than 5,100 grants and nearly \$5.3 billion in funding, including 1,700 pursuant to the challenged directives. A1323-1324. After a century of bold partnership and unparalleled progress, nobody expected the federal government to just walk away.

Further, NIH has always funded scientific research through multiyear grants. Funding opportunities shape scientific decision-making, and sudden changes set scientists back years. Grant applications take time, diligent effort, and deep knowledge. Before applying, researchers must gather preliminary data and survey the literature

⁸⁴ Sy Boles, *NIH Funding Delivers Exponential Economic Returns* (Mar. 11, 2025), <https://tinyurl.com/bdh7s6wx>.

to validate their hypothesis.⁸⁵ That process can take a year or more depending on the researcher's background knowledge and the nature of the grant.⁸⁶ Once the scientist writes and submits their application, they must undergo several rounds of review by the NIH over nine to ten months.⁸⁷ Grants are rarely funded on the first attempt—requiring applicants to address comments, conduct research, and resubmit in the next cycle.⁸⁸ And meritorious grants are often funded two years after they are drafted.⁸⁹ The sudden loss of funding can force scientists to start from scratch, stalling research for years.⁹⁰ For new faculty or postdocs, who lack the runway necessary to apply a second time, these losses can be career-ending.⁹¹

⁸⁵ See Brady T. West, *A Michigan Research Professor Explains How NIH Funding Works – and What it Means to Suddenly Lose a Grant*, The Conversation (May 2, 2025), <https://tinyurl.com/432j77we>.

⁸⁶ West, *supra* note 8585.

⁸⁷ See NIH, *Grants Process: Review* (Aug. 16, 2024), <https://tinyurl.com/yp-syvwc4>; Univ. of Arizona, *NIH Peer Review Process* (last visited Nov. 12, 2025), <https://tinyurl.com/fft242n4>.

⁸⁸ NIH, *NIH All About Grants Podcast: To Resubmit or Not* (Oct. 5, 2021), <https://tinyurl.com/mesz3v4z>.

⁸⁹ See West, *supra* note 85 (“[I]t generally takes about two years from the time you start writing a proposal to the time that you get funded.”).

⁹⁰ See Annie Waldman, et al., *Science Shattered*, ProPublica (June 12, 2025), <https://tinyurl.com/bdhtj64u> (“[M]ore than 70 researchers [] said that they were unable to continue their projects due to the terminations.”).

⁹¹ See Nuwer, *supra* note 39 (“Senior researchers often have a diversity of funding streams, but for those starting out in the field, ‘grants serve as the foundation for an entire career of work’ With the cuts, ‘there are some [early-career researchers] who we will undoubtedly lose from the scientific and health enterprises.’” (alteration in original)); see, e.g., Sara Reardon, et al., *U.S. Scientists’ Lives and Careers Are Being Upended. Here are Five of Their Stories*, Science (May 2, 2025), <https://tinyurl.com/2z2772hv>.

* * *

NIH's challenged directives violate congressional mandates to broaden diversity in the scientific workforce and in research subjects. They are breathtakingly arbitrary in design and implementation, culling grant programs and individual awards that do not even fall within their scope. The summary termination of well over a thousand grants has derailed cutting-edge health research and jeopardized the careers of scientists around the nation. Left unchecked, and with an unaccountable NIH, these actions will undermine America's continued leadership in science and technology and stall an unmatched engine of innovation and growth. This Court should reject the government's effort to insulate NIH's actions from review and hold that they are unlawful.

CONCLUSION

This Court should affirm the decision below.

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CERTIFICATE OF COMPLIANCE

This brief complies with this Court's type-volume limitations because it contains 6474 words. Fed. R. App. P. 29(a)(5).

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Dated: November 19, 2025

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CERTIFICATE OF SERVICE

I certify that the foregoing brief will be served on all counsel of record through the court's CM/ECF system.

Dated: November 19, 2025

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