Case No. 25-2230

United States Court of Appeals for the First Circuit

PRESIDENT AND FELLOWS OF HARVARD COLLEGE,
Plaintiff-Appellee,

v.

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES; NATIONAL INSTITUTES OF HEALTH; ROBERT F. KENNEDY, in his official capacity as Secretary of the United States Department of Health and Human Services; **UNITED STATES DEPARTMENT OF JUSTICE; TODD BLANCHE,** in his official capacity as Attorney General of the United States; **UNITED STATES DEPARTMENT OF EDUCATION; LINDA MCMAHON,** in her official capacity as Secretary of the United States Department of Education; **GENERAL SERVICES ADMINISTRATION; EDWARD FORST,** in his official capacity as Administrator of the United States General Services Administration; **UNITED STATES DEPARTMENT OF ENERGY; CHRISTOPHER WRIGHT,** in his official capacity as Secretary of the Department of Energy; **NATIONAL SCIENCE FOUNDATION; BRIAN STONE,** in his official capacity as Acting Director of the United States National Science Foundation; **UNITED STATES DEPARTMENT OF DEFENSE; PETER HEGSETH,** in his official capacity as Secretary of the United States Department of Defense; **NATIONAL AERONAUTICS AND SPACE ADMINISTRATION; JARED ISAACMAN,** in his official capacity as Administrator of the National Aeronautics and Space Administration; **UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT; SCOTT TURNER,** in his official capacity as Secretary of Housing and Urban Development; **UNITED STATES DEPARTMENT OF AGRICULTURE; BROOKE L. ROLLINS,** in her official capacity as Secretary of Agriculture,
Defendants-Appellants.

On Appeal from the United States District Court for the District of Massachusetts; Judge Allison Burroughs, Case No. 1:25-cv-11048-ABD

BRIEF OF AMICUS CURIAE CONFERENCE OF BOSTON TEACHING HOSPITALS, INC. IN SUPPORT OF PLAINTIFF-APPELLEE AND AFFIRMANCE OF JUDGMENT

(Counsel on following page)

Martin F. Murphy
Eric M. Gold
Max A. Jacobs
Alysha Agarwal
MANATT, PHELPS & PHILLIPS, LLP
One Beacon Street, 11th Floor
Boston, Massachusetts 02108
(617) 646-1400

Attorneys for Amicus Curiae Conference of Boston Teaching Hospitals, Inc.

RULE 26.1 CORPORATE DISCLOSURE STATEMENT

Pursuant to Federal Rules of Appellate Procedure 26.1 and 29(a)(4)(A), amicus curiae Conference of Boston Teaching Hospitals, Inc. ("COBTH") certifies that (i) it is a non-governmental corporation; (ii) it has no parent corporation; and (iii) no publicly held corporation owns ten percent or more of its stock.

COBTH is a non-profit organization composed of twelve Boston-area teaching hospitals: Beth Israel Deaconess Medical Center, Lahey Hospital & Medical Center, Boston Children's Hospital, Boston Medical Center, Boston Medical Center – Brighton, Brigham and Women's Faulkner Hospital, Brigham and Women's Hospital, Mass Eye and Ear, Massachusetts General Hospital, Cambridge Health Alliance, Dana-Farber Cancer Institute, and Tufts Medical Center.

TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES

Page(s)

CASES

STATUTES

OTHER AUTHORITIES

Jacqueline Mitchell, *BIDMC's Complex Hypertension Clinic Offers First-Of-Its-Kind Procedure to Patients with Hard-To-Treat High Blood Pressure* (Jan. 11, 2024), https://bidmc.org/news-stories/all-news-stories/news/2024/01/bidmc-complex-hypertension-clinic-offers-procedure-to-patients-with-high-blood-pressure; 11

Lisa Mayr et al., Effective Targeting of PDGFRA-altered high-grade glioma with avapritinib, 43 CANCER CELL 740-56 (Apr. 14, 2025), https://www.cell.com/cancer-cell/pdf/S1535-6108(25)00070-4.pdf.....11

Mass General Brigham, *Clinical Trial Tests Novel Stem-Cell Treatment for Parkinson's Disease* (Mar. 6, 2025), https://www.massgeneralbrigham.org/en/about/newsroom/press-releases/clinical-trial-novel-stem-cell-treatment-for-parkinsons 9

Mass General Brigham, *Office of Clinical Research Translational and Clinical Research Centers at MGH,* https://tcrc.mgh.harvard.edu/ (last visited July 16, 2026).....14

Meagan Raeke, *The boundless potential of CAR T cell therapy, from cancer to chronic diseases: Q&A with Carl June,* (Aug. 22, 2023), https://www.pennmedicine.org/news/carl-june-on-the-boundless-potential-of-car-t-cell-therapy.....8

National Cancer Institute, *Specialized Programs of Research Excellence (SPOREs)*, https://www.cancer.gov/about-nci/budget/fact-book/extramural-programs/spores (last updated June 4, 2026).....16

National Institute of Health, *SPYRAL AFFIRM Global Study of RDN With the Symplicity Spyral RDN System in Subjects with Uncontrolled HTN*, https://clinicaltrials.gov/study/NCT05198674 12

National Institute of Health, *Center for Suicide Research and Prevention-Administrative Core*, NIH RePORTER, https://reporter.nih.gov/project-details/10575948 (last visited July 16 2026) 16

News Release, Dana-Farber Cancer Institute, Rapid Blood Cancer Diagnostic Could Speed Decisions and Save Lives (Oct. 9, 2024), https://www.danafarber.org/newsroom/newsreleases/2024/rapid-blood-cancer-diagnostic-could-speed-decisions-and-save-lives.....10

Nicole Feldmen, *Establishing a Nonsyndromic Hearing Loss Gene* (July 1, 2024), https://advances.massgeneral.org/otolaryngology/article.aspx?id=1576 7

RULES

IDENTITY AND INTEREST OF AMICUS CURIAE

The amicus curiae file this brief pursuant to Fed. R. App. P. 29.[1] All parties have consented to the filing of this brief.

COBTH is a non-profit organization comprised of twelve Boston-area teaching hospitals: Beth Israel Deaconess Medical Center, Lahey Hospital & Medical Center, Boston Children's Hospital, Boston Medical Center, Boston Medical Center – Brighton, Brigham and Women's Faulkner Hospital, Brigham and Women's Hospital, Mass Eye and Ear, Massachusetts General Hospital, Cambridge Health Alliance, Dana-Farber Cancer Institute, and Tufts Medical Center (collectively, the "Teaching Hospitals").

The Teaching Hospitals treat patients, conduct ground-breaking research, and train the next generation of health care professionals. The Teaching Hospitals are each party to affiliation agreements with Boston-area medical schools, including, for certain of the Teaching Hospitals, Harvard Medical School.[2] However, the Teaching

---

1 Pursuant to Fed. R. App. P. 29(a)(4)(E), counsel states that (i) COBTH's counsel authored this brief in whole; (ii) no party or party's counsel contributed money that was intended to fund preparing or submitting this brief; and (iii) no person other than COBTH contributed money that was intended to fund preparing or submitting the brief.

2 Beth Israel Deaconess Medical Center, Boston Children's Hospital, Brigham and Women's Faulkner Hospital, Brigham and Women's Hospital, Mass Eye and Ear, Massachusetts General Hospital, Cambridge Health Alliance, and Dana-Farber Cancer Institute are affiliated with Harvard Medical School; Cambridge Health

Hospitals and the respective affiliate medical schools are entirely separate entities with independent governance structures, boards, and management teams.

The Teaching Hospitals regularly collaborate with universities, including Harvard, on federally-funded research projects. The Teaching Hospitals also leverage universities' federal funding to further their own research and provide innovative treatments to their patients, and are themselves recipients of federal grants. The longstanding collaboration between the Teaching Hospitals, universities, and the federal government has fostered a powerful innovation ecosystem and has led to improved outcomes for patients across the country.

Accordingly, COBTH has considerable first-hand experience regarding the critical importance of federal funding for medical research, the immense benefits resulting from breakthroughs discovered through federally-funded research, and the dire consequences of the funding cuts at issue.

INTRODUCTION AND SUMMARY OF THE ARGUMENT

In vacating and setting aside the Government's funding cuts, the District Court recognized that "the longstanding, collaborative relationship between the government and Harvard and its partner institutions" has produced significant

---

Alliance and Tufts Medical center are affiliated with Tufts University School of Medicine; Boston Medical Center is affiliated with Boston University School of Medicine; and Lahey Hospital & Medical Center is affiliated UMass Chan Medical School.

societal benefits that spread beyond the institution receiving direct funding. *President & Fellows of Harv. Coll. v. U.S. Dep't of Health & Hum. Servs.*, 798 F. Supp. 3d 77, 132 (D. Mass. 2025). The District Court also recognized that in ordering the unlawful funding cuts, the Government failed to consider "the potential societal costs to Harvard" and "the American public generally," and the "decades of reliance interests that have been engendered by the government's prior practice of supporting Harvard as a research institution." *Id.* at 130-132. Similarly, the District Court correctly noted that the funding cuts "jeopardized decades of research and the welfare of all those who could stand to benefit from that research." *Id.* at 135.

The Teaching Hospitals, as "partner institutions" to Harvard Medical School and other Boston-area medical schools, and as federal grant recipients themselves, know first-hand the importance of federally-funded research in creating a world-class innovation ecosystem that has led to the development of dozens of life-saving treatments and cures for diseases, and the serious consequences of terminating funding.

The funding freezes impact not just Harvard but the entire innovation ecosystem, and by extension the nation more broadly, because scientific breakthroughs are often the culmination of years or decades of collaboration between scientists at universities, hospitals, and other research institutions. In this innovation ecosystem, the Teaching Hospitals build off and expand on federally-

funded basic science research conducted at Harvard or by Harvard faculty, as well as research produced at universities. The Teaching Hospitals also collaborate directly with those universities on clinical research studies. Both avenues have led to breakthrough innovations that improve the lives of millions of patients throughout the country. Unfortunately, the funding freeze could cause this thriving innovation ecosystem to collapse. Even if funding were to be restored on a later date, years of progress would be lost.

COBTH thus submits this amicus brief to share its first-hand perspective and expand on the District Court's correct findings.

ARGUMENT

The District Court held the Government's funding freeze to be arbitrary and capricious under the Administrative Procedure Act, 5 U.S.C. § 706(2), because the Government failed to consider, among other things, "the potential societal costs to Harvard [and] the American public generally," and "the decades of reliance interests that have been engendered by the government's prior practice of supporting Harvard as a research institution." *Id.* at 131-32.

As to societal costs, the District Court found that the "[r]esearch that has been frozen could save lives" and that the "funding freezes could and likely will harm the very people Defendants professed to be protecting," including those suffering from devastating diseases including "Alzheimer's disease, heart disease, or autism." *Id.* at

132; *see Michigan v. Env't Prot. Agency*, 576 U.S. 743, 759 (2015) ("The Agency must consider cost—including, most importantly, cost of compliance—before deciding whether regulation is appropriate and necessary.").

As to reliance interests, the District Court recognized that "Harvard scientists and other researchers" depend on federal funding to "build and staff their labs, create collaborations with other university research teams, and continue to be financially able to engage in and complete cutting-edge work aimed at important and beneficial scientific advances." *President & Fellows of Harv. Coll.*, 798 F. Supp. 3d at 132; *Dep't of Homeland Sec. v. Regents of Univ. of Cal.*, 591 U.S. 1, 30 (2020); *Housatonic River Initiative v. Env't Prot. Agency,* 75 F.4th 248, 270 (1st Cir. 2023) ("A more detailed justification may be required . . . when the agency's prior position has engendered serious reliance interests.").

The District Court's findings are consistent with the Teaching Hospitals' first-hand experience. The Teaching Hospitals, Harvard, and other universities all contribute to a world-class innovation ecosystem. Key components of the innovation ecosystem include: (a) hospitals using federally-funded university resources and building off basic research conducted at universities; and (b) hospitals working directly with universities on research projects and clinical trials. For decades, the Teaching Hospitals have utilized this innovation ecosystem to produce significant

societal benefits, including the discovery of life-saving procedures and medications, which the funding freezes place in jeopardy.

A. The Teaching Hospitals' Scientific Breakthroughs Build On Federally-Funded Research at Universities.

Any singular research laboratory does not work in isolation; instead, scientific breakthroughs happen through collaboration among universities and hospitals across the country. Research is iterative, and discoveries made through basic research at a university frequently open a pathway for further studies at the Teaching Hospitals. These further studies may result in the development of new life-saving treatments and cures. When funding for basic research at universities is cut off, hospitals lose promising leads for future research, and patients are deprived of life-changing treatments.

For instance, in 2019, researchers at Harvard Medical School discovered that a specific protein, PKHD1L1, found in inner ear cells, is required for normal hearing in mice.[3] A year later, a 10-year-old girl with hearing loss arrived at Boston Children's Hospital. The hospital found no cause for the patient's hearing loss within known hearing-loss genes. The patient then enrolled in a genetic screening trial. Through genetic screening, the hospital found that the patient had errors in the same

---

[3] Xudong Wu et al., *PKHD1L1 Is A Coat Protein of Hair-Cell Stereocilia And is Required in Normal Hearing*, 10 NAT. COMMC'NS. 3801 (Aug. 23 2019), https://www.nature.com/articles/s41467-019-11712-w.

PKHD1L1 protein the Harvard researchers recently studied. Without the initial research by Harvard scientists, the cause of the 10-year-old girl's hearing loss may well have remained undiagnosed. However, a doctor at Boston Children's Hospital "came across the Harvard Medical School publication" discussing the PKHD1L1 protein, and realized there was then "strong reason to believe" a PKHD1L1 deficit caused the 10-year-old patient's hearing loss. Armed with this knowledge, researchers identified other pediatric patients with PKHD1L1 variations to enroll in a study. [4] This finding opened the path to potential gene therapy treatment for hearing loss, an area in which Boston Children's Hospital was already a leader, in large part because of robust academic collaboration.[5] This scientific breakthrough would not have happened without federal funding of basic research at Harvard Medical School.

---

[4] Nicole Feldmen, *Establishing a Nonsyndromic Hearing Loss Gene* (July 1, 2024), https://advances.massgeneral.org/otolaryngology/article.aspx?id=1576.

[5] Boston Children's Hospital, *Boston Children's Hospital Research Contributes to Decades of Progress in Genetic Hearing Loss* (Apr. 23, 2026), https://www.childrenshospital.org/newsroom/media-archive/boston-childrens-hospital-research-contributes-decades-progress-genetic; Boston Children's Hospital, *Children's Rare Disease Collaborative, Childhood Hearing Loss Study at the CRDC*, https://research.childrenshospital.org/research-units/childrens-rare-disease-collaborative/crdc-rare-diseases/childhood-hearing-loss (last visited July 16, 2026) ("The family [of the 10-year old patient with hearing loss] now has an answer to why their child has hearing loss and uncovering this diagnosis is the first step towards possible future gene therapy for this type of hearing loss.").

Another team at Boston Children's Hospital is investigating the use of inhaled hydrogen gas as a rescue therapy during cardiac arrest. Many previous studies, including studies conducted by Boston Children's Hospital and Harvard Medical School faculty, have demonstrated that hydrogen can lessen damage caused during cardiac arrest.[6] The research team at Boston Children's Hospital hopes to improve outcomes for patients experiencing life-threatening cardiac arrests.[7]

At Mass General Brigham's Cancer Institute, researchers conducted a promising Phase 1 clinical trial evaluating a new therapy for glioblastoma, an aggressive brain tumor. The new therapy combines two separate approaches: CAR-T therapy, which has been approved for treatment of blood cancers but has thus far limited use for solid tumors like glioblastoma; and T-cell engaging antibody molecules.[8] The new therapy, pioneered by doctors at Mass General Brigham who

---

6 Boston Children's Hospital, *HydrogenFAST Study, Important Studies in this Area*, https://research.childrenshospital.org/research-units/hydrogenfast-study-research/hydrogenfast-studies (last visited July 16, 2026) (listing previous studies).

7 Hydrogen's Feasibility and Safety as a Therapy in ECPR (HydrogenFAST) (last updated July 3, 2025), https://clinicaltrials.gov/study/NCT05574296?term=HydrogenFAST&viewType=Card&locStr=Boston,%20MA&country=US&state=Massachusetts&city=Boston&rank=1; Boston Children's Hospital, *HydrogenFAST Study,* https://research.childrenshospital.org/research-units/hydrogenfast-study-research (last visited July 16, 2026).

8 Meagan Raeke, *The boundless potential of CAR T cell therapy, from cancer to chronic diseases: Q&A with Carl June,* (Aug. 22, 2023),

are also associate professors at Harvard Medical School, was designed and translated for patient use within five years thanks to extensive collaboration within the innovation ecosystem. All three patients enrolled in the trial "experienced dramatic reductions in their tumors."[9]

Another clinical trial at Mass General Brigham is examining a first-of-its-kind stem cell treatment for Parkinson's disease. Cell replacement for Parkinson's disease replaces the dopamine neurons in the brain lost to degeneration. By reprogramming stem cells derived from the patient's own blood, the treatment avoids the need for immunosuppressive treatments, which are required when using cells from donors. The innovative treatment has the potential to lead to even more therapies to restore damaged brain systems and degenerated brain cells. The treatment itself is based on research and technologies invented at a federally-funded research lab run by a professor of neurology at Harvard Medical School.[10]

---

https://www.pennmedicine.org/news/carl-june-on-the-boundless-potential-of-car-t-cell-therapy (outlining the pioneering of CAR T cell therapy invented in the Perelman School of Medicine at the University of Pennsylvania, leading to the first FDA approval for this type of therapy).

9 Haley Bridger, *'Dramatic' inroads against aggressive brain cancer, Cutting-edge therapy shrinks tumors in early glioblastoma trial*, (Mar. 14, 2024), https://news.harvard.edu/gazette/story/2024/03/dramatic-inroads-against-aggressive-brain-cancer/.

10 Mass General Brigham, *Clinical Trial Tests Novel Stem-Cell Treatment for Parkinson's Disease,* (Mar. 6, 2025),

The Teaching Hospitals also rely on basic research conducted at universities beyond Harvard to support their groundbreaking treatments. For example, CRISPR-Cas9 technology, developed by scientists at UC Berkeley through NIH funding, has been a springboard for innovative treatment at the Teaching Hospitals. CRISPR-Cas9 technology functions like "genetic scissors," allowing scientists to modify genes. Using this technology, surgeons at Massachusetts General Hospital recently performed a successful transplant of a genetically-edited pig kidney in a man with end-stage kidney disease, who faced a 5–to-10 year waiting period for a human kidney transplant.[11] Researchers at Dana-Farber Cancer Institute are using CRISPR technology to develop breakthroughs in other areas, creating CRISPR-based rapid molecular diagnostics for two forms of leukemia that are driven by mutations that involve gene fusions.[12] All of these innovations would have been disturbed had funding for the basic science research been cut off.

---

https://www.massgeneralbrigham.org/en/about/newsroom/press-releases/clinical-trial-novel-stem-cell-treatment-for-parkinsons.

11 Press Release, Brandon Chase, *Massachusetts General Hospital Performs Second Groundbreaking Xeotransplant of Genetically-Edited Pig Kidney Into Living Recipient* (Feb. 7, 2025), https://www.massgeneral.org/news/press-release/mgh-performs-second-xenotransplant-of-genetically-edited-pig-kidney-into-living-recipient.

12 News Release, Dana-Farber Cancer Institute, Rapid Blood Cancer Diagnostic Could Speed Decisions and Save Lives (Oct. 9, 2024), https://www.dana-farber.org/newsroom/news-releases/2024/rapid-blood-cancer-diagnostic-could-speed-decisions-and-save-lives.

At the University of Texas, the National Cancer Institute of the NIH funded years of research regarding the protein receptor PDGFRA on the surface of human cells.[13] Building on the prior research, Dana-Farber and Boston Children's Hospital studied the role of that same protein receptor on the surface of human cells, discovering that the medication avapritinib may be effective in treating children with aggressive brain cancer.[14]

And NIH-funded research from the University of Mississippi Medical Center in the 1990s found a connection between kidney function and high blood pressure.[15] In the 2020s, Beth Israel Deaconess Medical Center became part of a study for a new treatment for patients with high blood pressure involving a minimally invasive procedure to calm nerve cells connected to kidneys, building on the research from decades prior.[16]

---

13 Carman K M Ip et al., *Neomorphic PDGFRA extracellular domain driver mutations are resistant to PDGFRA targeted therapies*, 9 NAT. COMMC'NS. 4583 (Nov. 2, 2018), https://pmc.ncbi.nlm.nih.gov/articles/PMC6214970/.

14 Lisa Mayr et al., *Effective targeting of PDGFRA-altered high-grade glioma with avapritinib,* 43 CANCER CELL 740-56 (Apr. 14, 2025), https://pubmed.ncbi.nlm.nih.gov/40086436/.

15 H. L. Mizelle et al., *Role of Pressure Natriuresis in Long-Term Control of Renal Electrolyte Excretion*, 22 HYPERTENSION 102 (July 22, 1993), https://pubmed.ncbi.nlm.nih.gov/8319986/.

16 Jacqueline Mitchell, *BIDMC's Complex Hypertension Clinic Offers First-Of-Its-Kind Procedure to Patients with Hard-To-Treat High Blood Pressure* (Jan. 11,

These examples—and many others like them—demonstrate the critical role of federal funding for basic science at universities in providing the foundation for new treatments and cures being pioneered everywhere, including at the Teaching Hospitals. Simply put, freezing funding to Harvard today may shut the door to future innovations. If the Harvard scientists had not uncovered the initial link between PKHD1L1 and normal hearing in mice, the doctors at Boston Children's Hospital would not have discovered the cause of the hearing loss in their 10-year-old patient, and a promising area of further study would be left unexplored. Similarly, but for the University of California – Berkeley's pioneering work on CRISPR-Cas9, powerful new treatments for diverse diseases would remain undiscovered.

Federal research funding to universities like Harvard is a key building block to new, and often unexpected, discoveries. The consequences of funding freezes extend far beyond the walls of the targeted institutions, and negatively impact the Teaching Hospitals, and most critically, their patients. For the innovation ecosystem to continue to function, universities and their partner institutions must be able to have confidence that their federal funding is secure.

2024), https://bidmc.org/news-stories/all-news-stories/news/2024/01/bidmc-complex-hypertension-clinic-offers-procedure-to-patients-with-high-blood-pressure; National Institute of Health, *SPYRAL AFFIRM Global Study of RDN With the Symplicity Spyral RDN System in Subjects with Uncontrolled HTN*, https://clinicaltrials.gov/study/NCT05198674.

B. The Teaching Hospitals Work Jointly with Universities on Federally Funded Research Projects.

Through research support and direct participation in clinical studies, universities, including Harvard, play a vital role in the Teaching Hospitals' research mission. Clinical trials are expensive and time-consuming endeavors. Federal funding to universities helps make them possible.

Harvard Catalyst is an NIH-funded center at Harvard University that coordinates and supports clinical and translational research at the Teaching Hospitals, including through programs relating to pilot funding, biostatistics, compliance, training, and lab space.[17] Harvard Catalyst also helps coordinate multisite studies and provides essential guidance and support to the Hospitals' investigators throughout the clinical research process.

Harvard Catalyst is invaluable to the Teaching Hospitals. In one year at Beth Israel Deaconess Medical Center alone, Harvard Catalyst supported 76 principal investigators working on 152 clinical research projects, who attended to more than 4,500 study visits. Support from Harvard Catalyst spans several different vital disease areas including Huntington's disease, impacting over 41,000 Americans,[18]

---

[17] Harvard Catalyst, *About*, https://catalyst.harvard.edu/about/ (last visited July 16, 2026).

[18] Huntington's Disease Society of America, *Overview of Huntington's Disease*, https://hdsa.org/what-is-hd/overview-of-huntingtons-disease/ (last visited July 16, 2026).

Alzheimer's disease, impacting over 7 million Americans,[19] and kidney disease, impacting over 35 million Americans.[20]

At Massachusetts General Hospital, Harvard Catalyst makes up one of the two units in the hospital's Translational and Clinical Research Centers, which supports the conduct of patient-oriented research projects and serves as a human resource laboratory in which investigators can perform their funded projects.[21]

The funding cuts to Harvard and Harvard Catalyst, and by extension the Teaching Hospitals, have already had real world effects on research. For example, a Boston Children's Hospital instructor who had been funded on a federal grant through Harvard Catalyst was forced to terminate her research due to the funding freeze. Only when funding was reinstated to Harvard Catalyst was she able to continue her research.

Beyond providing research infrastructure, hospitals and universities work together on significant, long-term studies. The Nurses' Health Study is one example.

---

19 Alzheimer's Association, *Alzheimer's Disease Facts and Figures*, https://www.alz.org/alzheimers-dementia/facts-figures (last visited July 16, 2026).

20 American Kidney Fund, *Quick kidney disease facts and stats*, (Aug. 13, 2025) https://www.kidneyfund.org/all-about-kidneys/quick-kidney-disease-facts-and-stats.

21 Mass General Brigham, *Office of Clinical Research Translational and Clinical Research Centers at MGH,* https://tcrc.mgh.harvard.edu/ (last visited July 16, 2026).

The 50+ year-long study is a collaboration between Harvard and Brigham and Women's Hospital. Thousands of nurses across the country have participated as subjects in the study's decades of research. The study's findings have uncovered links between smoking and cardiovascular disease, postmenopausal obesity and breast cancer, led to treatments and prevention methods for various diseases, and helped shape national dietary guidelines.[22] The study has received NIH funding since 1976 and would not be possible without such funding.[23]

The Center for Suicide Research and Prevention ("CSRP") is another example.[24] CSRP is a practice-based center aiming to advance and implement research that prevents suicide and delivers innovative tools for suicide prevention to health systems. This important initiative is funded by an NIH grant awarded to both

---

22 Nurses' Health Study, *Key Contributions to Scientific Knowledge*, https://nurseshealthstudy.org/about-nhs/key-contributions-scientific-knowledge (last visited July 16, 2026).

23 Nurses' Health Study, *History*, https://nurseshealthstudy.org/about-nhs/history (last visited July 16, 2026).

24 The Center for Suicide Research and Prevention, *The Center for Suicide Research and Prevention at Mass General Brigham and Harvard University*, https://csrp.mgh.harvard.edu/ (last visited July 16, 2026).

Mass General Brigham and Harvard University. Co-investigators come from across the Mass General Brigham system and various schools at Harvard.[25]

Dana-Farber and the Harvard Medical School work together through the Dana-Farber/Havard Cancer Center under a five-year grant from the National Cancer Institute to their Specialized Programs of Research Excellence. The grant supports four integrated research projects, including projects to address ways of overcoming mechanisms of resistance to certain targeted cancer therapies, and examining approaches to treatment and prevention of breast cancer metastases to the brain across different types of breast cancer. The research includes projects building on earlier preclinical work demonstrating that certain targeted therapeutics (known as BET bromodomain inhibitors) complement chemo-immunotherapy in particularly difficult to treat breast cancers, making treatment more effective.[26]

---

25 National Institute of Health, *Center for Suicide Research and Prevention—Administrative Core*, NIH REPORTER, https://reporter.nih.gov/project-details/10575948 (last visited July 16, 2026).

26 National Cancer Institute, *Specialized Programs of Research Excellence (SPOREs)*, https://www.cancer.gov/about-nci/budget/fact-book/extramural-programs/spores (last updated June 4, 2026); Dana-Farber Cancer Institute, *Dana-Farber/Harvard Cancer Center Awarded $12 Million NCI SPORE Grant to Advance Breast Cancer Research* (Oct. 2, 2025), https://www.dana-farber.org/newsroom/news-releases/2025/dana-farberharvard-cancer-center-awarded-12-million-nci-spore-grant-to-advance-breast-cancer-research.

The collaboration between universities and hospitals on projects such as these depends on continued federal funding. Again, funding freezes harm not just the university that received federal funding, but the hospitals that partner with them, and the patients and their families who benefit from cutting edge medical diagnostics and treatments.

C. If Funding Is Terminated, Work Cannot Resume Immediately Where It Left Off.

NIH funding to Harvard, other universities, and the Teaching Hospitals is critical to the innovations and ongoing research projects described above. Importantly, long-term research often cannot be picked up where it was left off. When federal funding is terminated, the Teaching Hospitals are left with a difficult choice: divert funding from other areas or risk losing staff and perishable resources.

The experience of one of the Teaching Hospitals is illustrative. Seventeen Harvard graduate students worked at the Teaching Hospital supported by fellowship awards administered through Harvard Medical School. After the funding freeze in April 2025, the Teaching Hospital provided temporary funding from other sources to help support the trainee researchers until the awards were restored, following the District Court's ruling, late in 2025. However, to provide the bridge funding, the Teaching Hospital needed to reach into its research endowment, pulling funds away from the recruitment of new faculty members, internal career development grants for junior faculty members, and the purchase of equipment. The students were thus

able to continue their research, but at the cost of disruptions to the Teaching Hospital's internal operational efforts.

In situations when the hospital cannot provide bridge funding between the initial funding freeze and later reinstatement, the Teaching Hospitals must hire and train new staff, obtain new resources, and replace the lost institutional knowledge that followed the freeze. Meanwhile, patients have lost the significant benefits and life-changing treatments that would have been provided if the innovation ecosystem were funded continuously. For example, when the Government cancelled $400 million of federal funding to Columbia University in 2025, its funding for the decades-long Diabetes Prevention Program Outcomes Study was immediately terminated.[27] The abrupt cancellation threatened the study's ability to "understand the occurrence of dementia, their causes, and potential treatments."[28] Although the study resumed after funding was restored four months later, the intervening time saw layoffs of staff at 30 centers, loss of longitudinal data, and the loss of research infrastructure.[29]

---

[27] Diabetes Prevention Program Outcomes Study, *DPPOS Funding Restored!*, https://dppos.bsc.gwu.edu/web/dppos/restoredppos (last visited July 16, 2026).

[28] *Id*.

[29] *Id*.

During long-term studies, longitudinal data—i.e., data derived from repeated observations of the same subjects over a prolonged period of time—is imperative to researchers' work. By freezing funding, the Government is putting both the integrity and the effectiveness of these studies in jeopardy, a reliance cost the Government did not consider in its decision to freeze funding to Harvard.

* * *

As the District Court recognized, the funding freeze affected research projects "that are critical both nationally and worldwide." *President & Fellows of Harv. Coll.*, 798 F. Supp. 3d at 100. This is especially true for Harvard's medical research that contributes to the Teaching Hospitals' work. Together, Harvard and the Teaching Hospitals have conducted pathbreaking research that improves the lives of thousands of Americans across the country. Federal research funding is crucial to this partnership. For the innovation ecosystem to flourish, federal funding must continue.

CONCLUSION

For the foregoing reasons, COBTH respectfully requests that the Court affirm the District Court's judgment (1) vacating and setting aside the Freeze Orders and Termination Letters, and (2) permanently enjoining the Defendants from implementing, instituting, maintaining, or giving any force or effect to Defendants' Freeze Orders, Termination Letters, and attendant unconstitutional conditions, as

well as any terminations of, freezes of, or refusing to grant or to continue federal funding undertaken pursuant to the Freeze Orders and Termination Letters.

Dated: July 22, 2026

Respectfully submitted,

/s/ Eric M. Gold

Martin F. Murphy (Bar No. 1058618)
Eric M. Gold (Bar No. 1144465)
Max A. Jacobs (Bar No. 1214439)
Alysha Agarwal (Bar No. 1225139)
MANATT, PHELPS & PHILLIPS, LLP
One Beacon Street, 11th Floor
Boston, Massachusetts 02108
(617) 646-1400
EGold@manatt.com

Attorneys for Amicus Curiae Conference of Boston Teaching Hospitals, Inc.

CERTIFICATE OF COMPLIANCE WITH FED. R. APP. P. 32(g)

1. This brief complies with the type-volume limitations of Fed. R. App. P. 29(a)(5) and 32(a)(7)(B): it contains 3,881 words.

2. This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(6): it was prepared with Microsoft Word using a proportionally spaced typeface, Times New Roman font size 14.

Dated: July 22, 2026 */s/ Eric M. Gold*

CERTIFICATE OF SERVICE

I certify that I have submitted the foregoing document with the Clerk of Court for the United States Court of Appeals for the First Circuit, using the electronic case filing system of the Court. I hereby certify that all parties' counsels are registered CM/ECF users and that service will be accomplished by the CM/ECF system.

Dated: July 22, 2026 */s/ Eric M. Gold*