Patterns of NIH Grant Terminations and Reinstatements During the 2025 Funding Disruption

A Retrospective Analysis

Claire Chu, PhD Gemini CLI, PhD Claude Sonnet, PhD

Department of Biostatistics
Harvard T.H. Chan School of Public Health

March 2026

Background: The 2025 NIH Funding Crisis

Unprecedented Administrative Shock

In 2025, thousands of NIH grants were subjected to sudden freezes and terminations under new executive directives from HHS

Key Events:

- Early 2025: Executive orders targeting indirect costs
- April 2025: Second wave targeting specific research themes
- June-September 2025: Legal challenges (*APHA v. NIH*, *Harvard v. HHS*)
- Multiple court rulings declared terminations illegal under APA

Impact Beyond Research

NIH funding generates $2.56 in economic activity per dollar invested
Disruptions threaten clinical trials, workforce development, local economies

Research Gap & Study Objectives

What We Don't Know:

- Systematic quantification of disruptions
- Geographic distribution of impact
- Differential effects by grant type
- Recovery patterns following litigation

Research Questions:

1. What was the financial magnitude of the 2025 NIH funding disruption?
2. How were impacts distributed across states and institutions?
3. Which grant types were most vulnerable?

Study Aim

To characterize patterns and financial impact of NIH grant disruptions by funding mechanism and geographic region, documenting the role of judicial interventions

Study Design & Data Sources

Study Design:

- Retrospective descriptive and comparative analysis
- Data period: November 2024 – February 2026
- STROBE guidelines followed

Data Source:

- **Grant Witness** database
- Aggregates USAspending.gov + NIH RePORTER
- Real-time tracking of status changes

Sample Characteristics

5,419 grants analyzed

All 50 states + international sites

Multiple funding mechanisms

Status: Frozen, Terminated, Reinstated, Unfrozen

Methods: Exposures & Outcomes

Primary Exposures:

1. **Funding Mechanism**
   - Research & Development (R-series)
   - Training & Career Development (F/T-series)
2. **Hub Status**
   - Major Hubs: NY, MA, IL, CA
   - Other States: Remaining 46 states

Primary Outcomes:

- Total obligated award amount
- Estimated remaining funds lost
- Final grant status (categorical)

Statistical Analysis:

- Descriptive statistics
- Log-transformed OLS regression
- Chi-square tests
- Python 3.10 with standard libraries

Results: Overall Impact

1,116
Grants Terminated
(20.6% of total)

$1.73B
Lost Obligations
(Terminated grants)

2,174
Possibly Reinstated
(Following court rulings)

$17.2B
Total Disrupted
(All affected grants)

Temporal Pattern

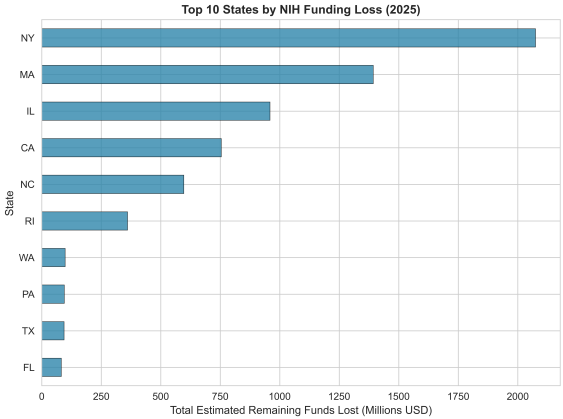
Two distinct waves: (1) Early 2025 indirect cost cuts, (2) April 2025 thematic targeting

Results: Geographic Concentration of Impact

Major Research Hubs vs. Other States

Metric	Hubs	Other
Grants (N)	3,755	1,664
Affected Funds	$5.18B	$1.97B
% of Total	**75%**	25%
Mean/Grant	$1.38M	$1.19M

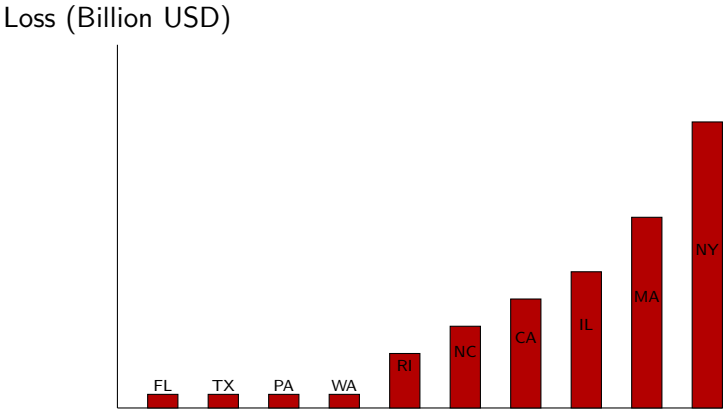
Hubs: NY, MA, IL, CA



Key Finding

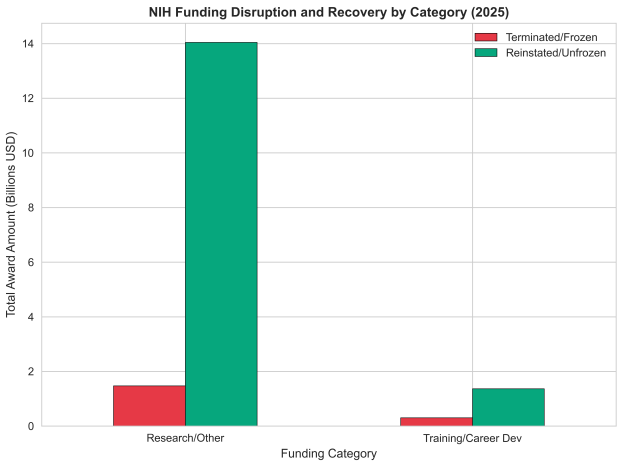
4 states accounted for **75%** of total financial impact

Results: Top 10 States by Financial Loss



Data source: Grant Witness database, state_impact_top10.csv

Results: Funding Mechanism Vulnerabilities



Training vs. Research Grants:

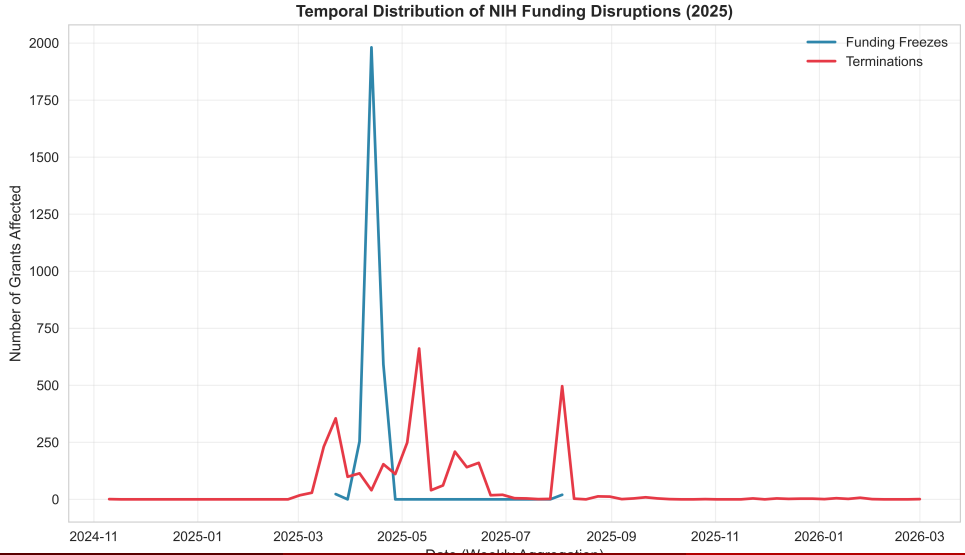
- Training grants significantly smaller
- Coefficient: -1.60 (log scale)
- 95% CI: -1.68 to -1.53
- P ¡ .001

Training Pipeline at Risk

F & T series grants showed higher proportional disruption despite smaller budgets

Larger awards received more intensive institutional advocacy

Results: Timeline of Disruptions



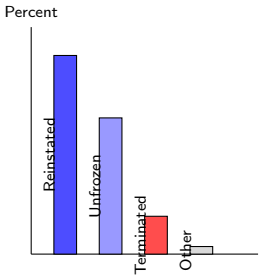
Financial Impact: $17.2 Billion Total

By Grant Status:

- Possibly Reinstated: $9.0B (52%)
- Unfrozen: $6.1B (36%)
- Terminated: $1.7B (10%)
- Frozen: $0.04B (¡1%)
- Possibly Unfrozen: $0.24B (1%)

Judicial Impact

$9B reinstated through court rulings (APHA v. NIH, Harvard v. HHS)



Percentages based on total award sums

Discussion: Key Findings

1. **Geographic Concentration**
   - 75% of impact in 4 states (NY, MA, IL, CA)
   - Targets large multidisciplinary consortia
   - Academic medical centers disproportionately affected
2. **Training Pipeline Vulnerability**
   - F/T series grants lack institutional buffers
   - Critical career transition periods disrupted
   - Risk of "brain drain" from academia
3. **Judicial Intervention Essential**
   - $9B restored through litigation
   - Courts as check on executive authority
   - But inefficient and burdensome process

Limitations & Future Directions

Study Limitations:

- Grant Witness tracking data
  - Reporting lags possible
  - Undercount of recent statuses
- "Possibly Reinstated" category
  - Administrative announcements
  - Actual fund flow uncertain
- Qualitative impacts not captured
  - Researcher morale
  - Long-term productivity loss

Future Research:

- Longitudinal outcomes
  - Publication rates
  - Career trajectories
  - Student retention
- Institutional responses
  - Bridge funding strategies
  - Administrative costs
- Policy interventions
  - Legislative protections
  - Peer review safeguards

Conclusions & Policy Implications

Summary

The 2025 NIH disruption caused a **$17 billion shock** to US research, with **21% of grants terminated**. Impact heavily concentrated in major research hubs and training programs.

Policy Recommendations:

1. **Legislative Safeguards**
   - Mandatory scientific review before terminations
   - Protections for training programs
2. **Institutional Resilience**
   - Emergency bridge funding mechanisms
   - Diversification of funding sources
3. **Judicial Process Reform**
   - Expedited review for research disruptions
   - Clear APA guidelines for science funding

Bottom Line

Acknowledgments

Data Sources:

- Grant Witness database
- USAspending.gov
- NIH RePORTER

Legal Documentation:

- *APHA v. NIH*
- *Harvard v. HHS*
- District Court Massachusetts

Institutional Support:

- Harvard T.H. Chan School of Public Health
- Department of Biostatistics

Contact Information:

- Claire Chu: cchu@hsph.harvard.edu
- Paper: exam_paper/paper.pdf
- Code: github.com/[repository]

Questions?