Changes in diversity language in National Institutes of Health grant awards: observational study

Neil Mehta,[1] Anupam B Jena[2,3,4]

[1]Department of Health Services, Policy and Practice, Brown University School of Public Health, Providence, RI, USA

[2]Department of Health Care Policy, Harvard Medical School, Boston, MA 02115, USA

[3]Department of Medicine, Massachusetts General Hospital, Boston, MA, USA

[4]National Bureau of Economic Research, Cambridge, MA, USA

Correspondence to: A B Jena jena@hcp.med.harvard.edu; (ORCID 0000-0002-9734-5122)

Additional material is published online only. To view please visit the journal online.

ABSTRACT

OBJECTIVE
To assess changes in the prevalence of diversity language in National Institutes of Health (NIH) grants in 2024-25.

DESIGN
Retrospective longitudinal analysis.

SETTING
United States.

SAMPLE
17 701 abstracts of research grants awarded by the NIH between 1 January 2024 and 20 June 2025.

MAIN OUTCOME MEASURES
Prevalence of diversity language in NIH awarded grants measured by month. A within grant analysis compared 2024 and 2025 versions of the same grants, and the net change in the number of words reflecting diversity language versus all words was calculated, using thousands of randomly sampled lists generated from the abstracts to provide control words.

RESULTS
The rate of words reflecting diversity language decreased sharply between October and November 2024, from 11.11 to 5.42 words per 1000, a 51% relative decrease. The decrease persisted through 2025, with an overall relative decrease of 25% between January 2024 and June 2025. In a within grants analysis, among 1967 pairs of identical grants in 2024 that were non-competitively renewed in 2025, words reflecting diversity language comprised fewer than 1% of all words but accounted for about 10% of all deleted words between 2024 and 2025, with 8.28 words per 1000 deleted. This decrease was lower than that of all randomly sampled lists of control words.

CONCLUSIONS
Words reflecting diversity language have decreased across the abstracts of research grants awarded by the NIH.

WHAT IS ALREADY KNOWN ON THIS TOPIC

News reports have indicated that US federal agencies have recently limited or discouraged use of words related to diversity, health inequities, and other scientific subjects commanding political attention in National Institutes of Health (NIH) research grants

Lists of diversity language compiled by news agencies, including words such as "women," "gender," and "sexual orientation" have circulated among researchers

News reports suggest that researchers may be modifying their language or research topics to align with federal priorities

WHAT THIS STUDY ADDS

This study found that words reflecting diversity language have appeared less frequently in NIH grant awards since 2024, with a 25% relative decrease between January 2024 and June 2025

In a pairwise analysis of the same grants observed in both 2024 and 2025, words reflecting diversity language were deleted from abstracts at a 10-fold higher rate than other words during revisions of non-competing continuation grants

Introduction

News reporting has flagged the removal of words concerning diversity, equity, inclusion, health inequities, and similar terms from research grants funded by the US National Institutes of Health (NIH).[1-3] Lists of words reflecting diversity language have been compiled by news agencies using manual reviews and circulated across research centers and on online forums of researchers.[1-5] For example, the *New York Times* compared the text of more than 5000 government websites before and after the 2025 US presidential inauguration using a large language model, and manually reviewed examples of words flagged by the large language model that had subsequently disappeared across this period.[1] According to news reporting, some of these terms have been used to automatically mark grant proposals for review.[1 6]

Many of these changes have been attributed to executive orders targeting diversity, equity, and inclusion related funding and priorities. Relevant orders include executive order 14168, which requires the US government to recognize gender as a binary between male and female, and executive order 4151, which terminates all activities related to diversity, equity, inclusion, and accessibility.[7 8] Specifically, the latter order requires agencies to "terminate, to the maximum extent allowed by law, all . . . 'equity-related' grants or contracts."[8]

News reports have described researchers self-censoring their use of diversity language to increase their odds of receiving grants.[6] For example, one report from the Associated Press found that researchers were instructed by a government health publication to strike information related to sexual orientation from an already accepted manuscript.[9]

While news reports and initial anecdotes suggest that recent policies have motivated removals of diversity language from NIH grant applications and awards, this issue has not been rigorously evaluated. We used publicly available information about grants awarded by the NIH in 2024 and 2025 to measure changes in use of diversity language in NIH grant awards.

Methods

We conducted two analyses to examine changes in diversity language in abstracts of NIH awarded grants during 2024 and 2025, using a list of words based on

existing news reports from the *New York Times* and PEN America (the full list of words, which we term diversity language, is available in the supplementary appendix). Grant abstracts were obtained from the NIH RePORTER.[10]

We tabulated the rate of words reflecting diversity language per 1000 words overall in abstracts of newly awarded grants, by month, between 1 January 2024 and 20 June 2025. The term "expression" had a disproportionately high prevalence across all months and appeared in contexts unrelated to identity and health inequities (eg, "gene expression") and therefore was excluded. We plotted rates of appearance of words reflecting diversity language, by month, to examine whether these words were less likely to appear in grant abstracts after the 2024 US presidential election.

It is possible that changes in the use of diversity language over time may not reflect explicit censoring, but changes in actual proposed research to better match new funding priorities. To investigate the possibility that the nature of proposed research may have changed with new grants awarded over time—which could explain changes in use of diversity language—we conducted a within grants analysis. Specifically, we analyzed newly awarded or non-competitively renewed grants in 2024, excluding grants with subprojects, which were non-competitively renewed in 2025. These grants, issued under the NIH's non-competitive continuation process, require routine progress reports for multi-year projects that are already approved and do not compete with other grants for funding.[11] For example, for a five year grant, the third year of funding is typically non-competitively renewed based on successful demonstration of progress in the second and third years of the grant. Studying changes in language use among non-competitively renewed grants allowed us to study changes in abstracts between 2024 and 2025 for the same set of grants, thereby allowing comparisons within the same area of research. In this pairwise analysis, we calculated

Trends in diversity language

Prevalence of words reflecting diversity language in grants, by month

the **bmj**
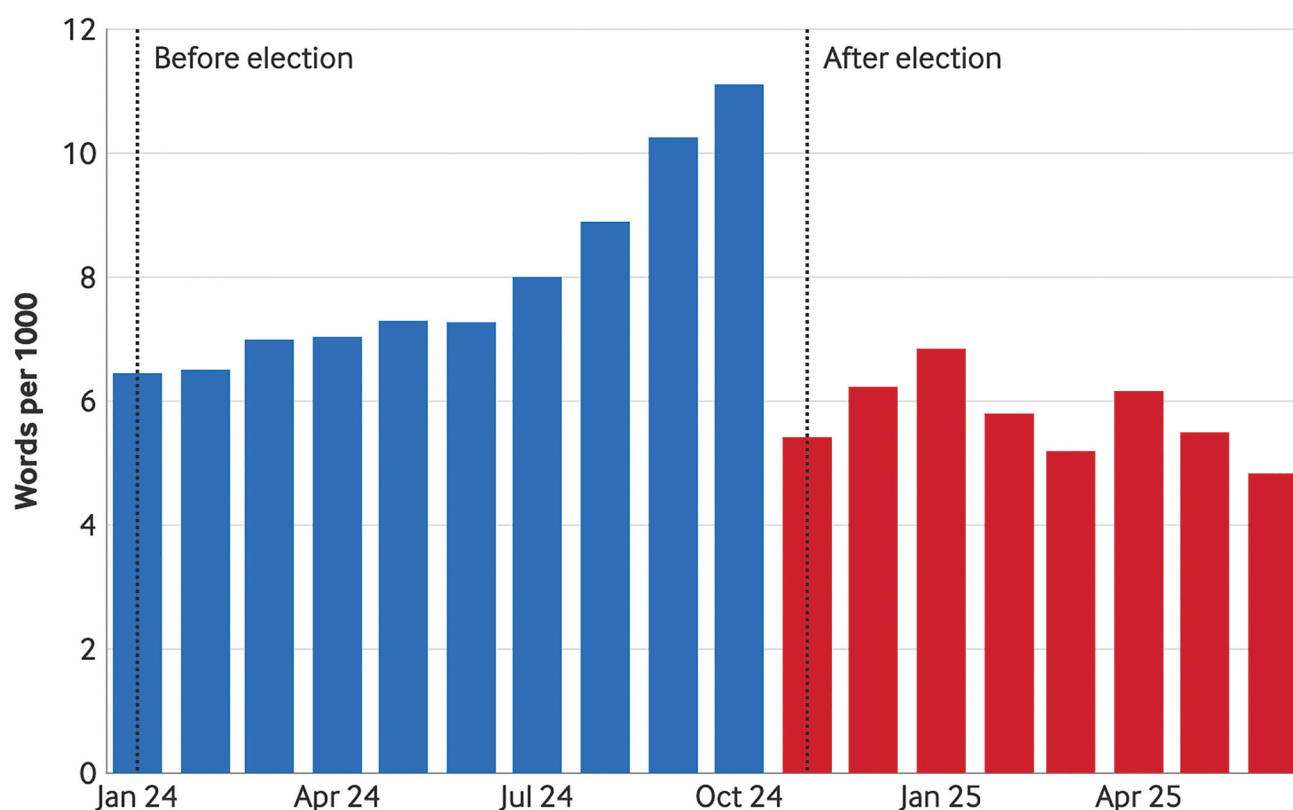
Article DOI: 10.1136/bmj-2025-087222 • Download data

Fig 1 | Prevalence of words reflecting diversity language in abstracts of research grants awarded by the National Institutes of Health, by month, before and after the US presidential election. An interactive version of this graphic and downloadable data are available at https://public.flourish.studio/visualisation/26583068/

Table 1 | Deletion rate of words reflecting diversity language versus all other words in abstracts of research grants awarded by the National Institutes of Health with renewals in 2024 and 2025

	Year of grant award		
	2024	**2025**	**Deletion rate* (per 1000 words)**
No of words overall	751 373	750 828	0.73
No of words reflecting diversity language	6401	6348	8.28
No of all other words	744 972	744 480	0.66

*Number of words present in 2024 versions of a grant that were not present in 2025 versions of the same grant, divided by number of words in 2024 grants. For example, of 6401 words reflecting diversity language in 2024 grants, 53 of these words were not present in 2025 versions of those same grants, for a deletion rate of 53 of 6401 words, or 8.28 per 1000 words.

the overall change in the number of words related to diversity between 2024 and 2025. We used this figure to calculate an average deletion rate, in words per 1000, of words reflecting diversity language between these two periods.

To determine whether the observed deletion rate of words reflecting diversity language could be due to chance alone, we conducted a falsification analysis by repeatedly sampling lists of control words from our sample of 2024 grant abstracts and calculating the average deletion rate for words in each control list. The purpose of this analysis was to assess whether the average rate at which words related to diversity were deleted from abstracts was greater than the rate of deletion observed for random control words in 2025 than in 2024. We conducted this analysis in four ways: first, for each of the 248 diversity related words, we sampled an additional unique, random word from all words in 2024 abstracts, and compiled them into a list (each control list therefore had 248 words). We then calculated the total deletion rate of the words in this control list. We repeated this process 1000 times to generate 1000 control lists and then used these control lists to compute the average deletion rate of control words between the same grants in 2024 versus 2025.

Second, since only 88 of 248 diversity related words appeared in 2024 abstracts, we modified our approach to only match random control words to each diversity related word if that word was present in the body of any 2024 abstract. This method resulted in 1000 control lists, each containing 88 random control words. Using these lists, we again calculated the average deletion rate of control words between the same grants in 2024 versus 2025.

Next, we repeated the first analysis but excluded control words that appeared fewer than five times in text, included non-letter characters, or were stop words (ie, common words that are often filtered out when performing analyses of text since those words offer little semantic meaning, such as the, a, is, and, in, an). This analysis aimed to ensure that our findings were not affected by typos, special characters, numbers, and other words that may be deleted at different rates than plain language.

Lastly, we combined the constraints in the second and third analyses: we only selected one control word for each diversity related word found in the body of 2024 abstracts and excluded words for which the exclusion criteria applied. Each of these

four falsification approaches resulted in 1000 lists of control words, the average deletion rate of which between 2024 and 2025 abstracts was compared with that observed for words reflecting diversity language.

Patient and public involvement

This study was a retrospective observational study. No patients or members of the public were involved in setting the research question or the outcome measures, nor were they involved in developing plans for design or implementation of the study, asked to advise on interpretation, or involved in the writing up of results.
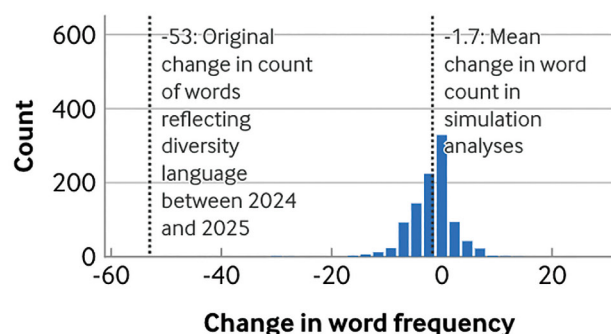
Results

Overall, 17 701 grants were analyzed. Beginning in November 2024, we observed a sharp decline in the monthly prevalence of words reflecting diversity language after a gradual increase throughout the preceding period (fig 1). In total, 5.69 fewer diversity related words per 1000 were used between October 2024 and November 2024, a 51% relative decrease. Further, we found 6.45 words related to diversity per 1000 words in abstracts of grants awarded in January 2024, compared with 4.84 in June 2025, a 25% relative decrease.

In a within grant pairwise analysis of 1967 grant pairs, we found 53 fewer diversity related words across pairs of otherwise identical grants, equivalent to a net word deletion rate of 8.28 per 1000 words (table 1). Although the rate of deletion was low, words reflecting diversity related language comprised fewer than 1% of all words in our sample but accounted for about 10% of all deleted words, meaning that words reflecting diversity language in 2024 grants were deleted at a 10-fold higher rate than other words from those same grants in 2025. In the four falsification analyses, conducted using repeatedly sampled lists of control words, we found a greater net decrease in words reflecting diversity language than that observed in all lists of control words, suggesting that our estimated reduction in use of diversity related words was highly unlikely due to chance alone (fig 2). In figure 2, the top left graph shows 248 random control words sampled from abstract body, and the top right graph shows control words in top left graph restricted to match number of hits from list of words reflecting diversity language (88 words). The bottom left graph shows the change in control words, excluding stop words and
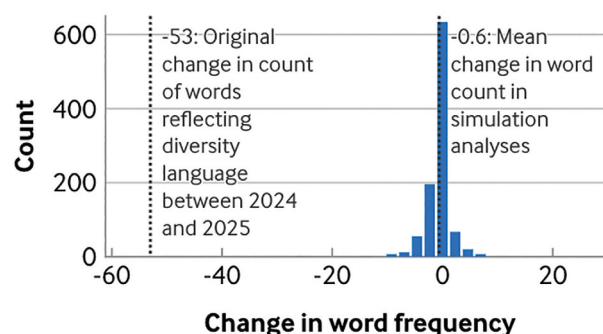
Deletion of words

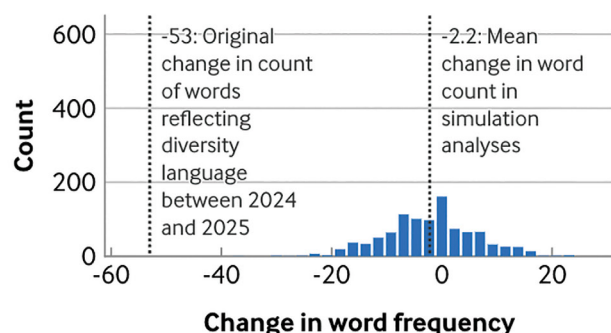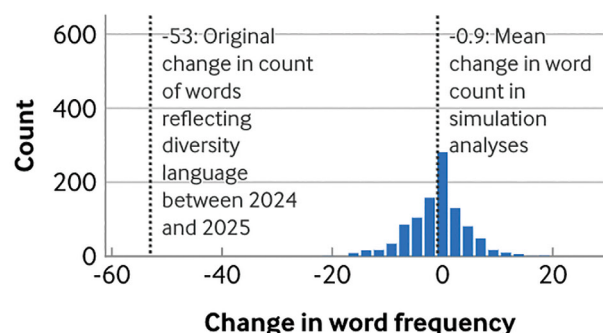Deletion rate of words reflecting diversity language versus control words

Article DOI: 10.1136/bmj-2025-087222

Fig 2 | Observed deletion rate of words reflecting diversity language compared with average deletion rate of control words in abstracts of research grants awarded by the National Institutes of Health. An interactive version of this graphic and downloadable data are available at https://public. flourish.studio/visualisation/26607413/

words with non-letter characters, that appear at least five times in the text. The bottom right graph combines the two restrictions: restricted control words appearing at least five times in text.

Discussion

Principal findings

In a text analysis of abstracts of new NIH grant awards, we found a decrease in the prevalence of words reflecting diversity language since the 2024 US presidential election. Our analysis directionally agrees with findings of news reports, which broadly suggest greater scrutiny of research pertaining to diversity, equity, and other topics of political interest. One strength of our approach was the pairwise analysis of the same grants in 2024 and 2025, which showed a change, albeit small, in the language used to describe the same research. This result is consistent with

anecdotal evidence that researchers have modified language to prevent grant abstracts from being flagged for governmental review, suggesting a limitation on researchers' ability to freely use specific terms in federal research grants.

Limitations of this study

This exploratory analysis has several limitations. First, we analyzed changes in usage of specific words that were identified in news reporting, because we were not aware of a specific, authentic list of prohibited words. Secondly, we did not separate words reflecting diversity language into separate domains, which may obscure changes in the relative prevalence of certain subjects over others; it is possible that specific subtopics (eg, racial equity) drove the observed decrease in the overall prevalence of words reflecting diversity language. Thirdly, our analysis relied on a

limited period of eight months. Additionally, we used lists of terms compiled by news outlets, some of which lack a public methodology. However, these lists have directly shaped researchers' perceptions and remain a key resource in instances of researchers pre-emptively removing diversity related language from grants. Furthermore, it is unclear why we observed a decline in the prevalence of diversity related words immediately in November 2024, rather than after the January 2025 presidential inauguration. One possibility is that grants were retrospectively modified. News outlets have published reports of federal officials instructing researchers to remove diversity related words from already funded grants, and a former federal official reported that words such as "equity" and "disparity" were disproportionately removed from several hundred grants that were terminated and later reinstated.[12][13] Therefore, changes in diversity language observed before January 2025 may not be anticipatory but may simply reflect retrospective modification of language in existing grants. Future work should consider monitoring changes over a longer period and should consider using a semantic or word embedding strategy to capture different subtopics.

Conclusions

News reports have indicated that US federal agencies have recently limited or discouraged use of words related to diversity, health inequities, and other scientific subjects commanding political attention in NIH research grants. In an analysis of abstracts of grants awarded by the NIH, we found that words reflecting diversity language appeared less frequently in 2025 compared with abstracts of grants awarded in 2024. In a pairwise analysis of the same grants observed in both 2024 and 2025, which allowed us to examine changes in language within the same research project specifically, words reflecting diversity language were deleted from grant abstracts at a 10-fold higher rate than other words in 2025.

1 Yourish K, Daniel A, Datar S, White I, Gamio L. These Words Are Disappearing in the New Trump Administration. *The New York Times*. https://www.nytimes.com/interactive/2025/03/07/us/trump-federal-agencies-websites-words-dei.html. 2025. Accessed August 2, 2025.

2 Connelly AJ. Federal Government's Growing Banned Words List Is Chilling Act of Censorship. PEN America. 2025. Accessed August 2, 2025. https://pen.org/banned-words-list/

3 Lee BY. These 197 Terms May Trigger Reviews Of Your NIH, NSF Grant Proposals. Forbes. Accessed August 2, 2025. https://www.forbes.com/sites/brucelee/2025/03/15/these-197-terms-may-trigger-reviews-of-your-nih-nsf-grant-proposals/

4 u/Majano57. r/NIH: These 197 Terms May Trigger Reviews Of Your NIH, NSF Grant Proposals. Reddit. 2025. https://www.reddit.com/r/NIH/comments/1jcemqb/these_197_terms_may_trigger_reviews_of_your_nih/

5 u/GrungeDuTerroir. r/labrats: List of banned words being sent to NSF POs. Reddit. 2025. https://www.reddit.com/r/labrats/comments/1ih8kp3/list_of_banned_words_being_sent_to_nsf_pos/

6 McFarling UL, Chen A, Owermohle S. Growing number of federal health agencies are combing grants for taboo words, unnerving researchers. STAT. 2025. Accessed August 2, 2025. https://www.statnews.com/2025/02/13/trump-dei-ban-banned-words-list-scrambles-research-nih-veterans-affairs/

7 Executive Order 14168—Defending Women From Gender Ideology Extremism and Restoring Biological Truth to the Federal Government. In: *The American Presidency Project*. UCSB. Accessed 2025. https://www.presidency.ucsb.edu/documents/executive-order-14168-defending-women-from-gender-ideology-extremism-and-restoring

8 Executive Order 14151—Ending Radical and Wasteful Government DEI Programs and Preferencing. In: *The American Presidency Project*. UCSB. Accessed 2025. https://www.presidency.ucsb.edu/documents/executive-order-14151-ending-radical-and-wasteful-government-dei-programs-and-preferencing

9 Johnson CK. Researchers say the US government tried to erase sexual orientation from their findings. Associates Press News. 2025. Accessed 2025. https://apnews.com/article/science-trump-executive-order-gender-c44f80a1cce8b0c4751e64cc2751d67e

10 National Institutes of Health. RePORTER. Accessed 2025. https://reporter.nih.gov/

11 Types of Applications. National Institutes of Health. https://grants.nih.gov/grants-process/plan-to-apply/find-your-opportunity-contacts-and-due-dates/types-of-applications

12 Randazzo S, Ostroff C, Shifflett S. Scientists Strip 'Diversity' Language From Research to Keep Federal Grants. Wall Street Journal. 2025. https://www.wsj.com/health/scientists-are-removing-dei-language-to-keep-federal-grants-d092833b

13 Oza A. Scientists had to change more than 700 grant titles to receive NIH funding. Health disparities researchers fear what's next. 2025. https://www.statnews.com/2025/10/29/nih-banned-words-analysis-grant-title-changes/

Web appendix: Supplementary appendix