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NIH indirect cost cuts will affect the economy and employment

ecent US policy changes will have far-reaching consequences for the economy and employment, in addition to health and safety. Here we describe an interactive, geospatial visualization that illustrates the projected effect of funding cuts on communities nationwide.

The US government has historically invested in a health research ecosystem that has positioned the USA as a leader in preventing and treating heart disease, cancer, Alzheimer's disease, diabetes, infectious disease and more¹. Federal investments have paid off; for instance, over 99% of new drugs approved by the US Food and Drug Administration from 2010 to 2019 had received funding support, in part, from the National Institutes of Health (NIH)².

NIH funding generates clinically relevant discoveries and direct economic benefits for communities. According to the United for Medical Research coalition, each US \$1 million invested by the NIH in health research generates about \$2.5 million in economic activity. In total, NIH funding produced an estimated \$94 billion in new economic activity and supported more than 400,000 jobs in fiscal year 2024 alone.

Despite strong returns on investment, on 7 February 2025, the NIH announced it would abruptly cap funding rates for research infrastructure ('indirect costs' (IDCs)). IDCs represent the real costs of paying for facilities, equipment, and safety and ethical review that enable the performance of research projects within an institution. The NIH's proposed IDC rate cap of 15% would slash negotiated, effective IDC rates from about 40%, as assessed in an economic preprint that analyses IDC support in US institutions³. Soon after the IDC cuts were announced, a coalition of higher-education institutions challenged the IDC cuts in federal courts. The coalition was granted a preliminary, and then a permanent, injunction; the Trump administration has appealed the ruling.

If implemented, IDC cuts will affect public and private universities, hospitals, businesses and research institutes. These institutions contribute to local communities by creating



Fig. 1 | **Visualization of county-level economic effects of NIH cuts to funding for indirect costs.** Economic loss is associated with proposed federal cuts to the IDC rate for medical research supported by the NIH; the map combines publicly accessible funding data from NIH, US census commuter flow data, and the estimated \$2.56 million loss in economic activity for each \$1 million reduction in NIH support. Map is from https:// scienceimpacts.org/; map data from OpenStreetMap, CC-BY 4.0. B, billion; K, thousand; M, million.

opportunities for employment and education, and by driving innovation and addressing healthcare needs. Initial analyses of IDC cuts focused on aggregating losses to institutions at the state level. This framing does not address how losses at specific institutions affect surrounding communities.

On 27 March 2025, our interdisciplinary team of researchers released a data-driven, interactive map that communicates the effects of IDC cuts on local economies. The map visualizes county-level and state-level economic losses that would result from the IDC cuts. We calculate economic loss from publicly available NIH RePORTER data on direct cost and IDC funding in the 2024 fiscal year, but our approach has not yet been peer reviewed. The map leverages US census data on where people live and work to distribute the estimated economic effects along commuter flows⁴. Our interactive county-level map demonstrates the estimated magnitude and extent of the effects nationwide (Fig. 1). In total, we estimate that proposed IDC cuts would lead to about \$16 billion in economic loss and around 68,000 lost jobs annually across major population centres, regional hubs and small towns. There is broad public interest in this information – we received more than 50,000 unique visitors in the first week after launch. Many visitors used the map to take snapshots of local effects, then share them with followers and congressional representatives.

Beyond the map, our website provides information about the importance of NIH funding, guidance for taking action, and opportunities to share information with others. The design of the text and interactive features on the website are informed by insights from cognitive neuroscience, such as leveraging the

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power of prediction and feedback for belief updating⁵ and how perceived self and social relevance drives valuation and information sharing^{6,7}. For example, the website includes an interactive quiz on the local effects of funding cuts, which draws on evidence that surprising, self-relevant feedback can lead to durable changes in beliefs and behaviours⁸. Broadly, the website highlights the potential of using map-driven digital platforms^{9,10} to deploy behavioural interventions that can measure changes in attitudes and motivate action.

The fate of research infrastructure support remains uncertain and is but one of a series of cutbacks to federal investment in research. Beginning in January 2025, the Trump administration has postponed and/or cancelled peer review of grants11, cancelled training programmes for young scientists (including internships with clinical staff) and terminated active awards¹², totalling billions in committed funds. These cuts affect people, local economies and innovation throughout the USA and beyond, and will have effects for years to come. The threat and implementation of funding cuts have already led to lost opportunities for graduate training, research staff layoffs, and faculty hiring freezes, undermining an emerging generation of scientists.

Research transforms lives, enables discoveries and spurs an innovation economy. But its effects are often hidden from view. Moving forward, we advocate for making the implicit explicit – leveraging insights from behavioural science and methods from geographic information systems to reveal and communicate the local, economic and personal benefits of research and the widespread harms that will occur if federal investment in research is cut or eliminated.

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Competing interests

The authors declare no competing interests.