

World view



By Ubadah Sabbagh

The postdoc experience is broken. Let's reimagine it

Postdoctoral woes, especially in biomedical research, are symptomatic of a wider problem. Funding bodies have an opportunity to spearhead a cultural shift.

It's not breaking news that postdocs feel undervalued and demoralized. In a *Nature* survey of 3,838 postdocs in 93 countries earlier this year, only 40% were satisfied with their salaries, and just 34% with their career-advancement prospects (see go.nature.com/48msp). In the life sciences, early-career researchers are leaving academia in droves.

I know first hand how real the problems are, from my experience both as a postdoc and in my position as the chair of the postdoc and student advisory committee of the Society for Neuroscience in Washington DC. I am one of two postdocs in a working group that was set up by the US National Institutes of Health (NIH) in November 2022 to examine these issues. We received about 3,300 comments between February and April, and gave a preliminary update on our deliberations in June.

Last week, we released a report with six major recommendations on how to reshape the postdoctoral experience (see go.nature.com/3tj2qw), starting with ensuring that all NIH-supported postdocs receive employee benefits and a salary that is commensurate with their skills, adjusted for inflation. Rather than repeating our report, I would like to provide my thoughts on its broader context.

The recommendations are not insignificant. They are a fundamental shift in how the scientific ecosystem perceives and values the role of postdoctoral scholars. The NIH director will now consider them.

I hope that the NIH will not just make the suggested policy changes, but that it will lead the way in transforming the entire academic biomedical research enterprise in the United States. By embracing bold changes and overcoming historical inertia, we ensure fairer compensation for postdocs, clearer career paths and an environment in which scholars from marginalized groups are empowered and foreign talent is invited and retained.

Fair compensation is the most urgent issue – 90% of the comments that the working group received were about pay and benefits. In Boston, Massachusetts, where I live, many postdocs' salaries are low enough that they are eligible for low-income housing lotteries. The NIH National Research Service Award, a common postdoctoral fellowship in the life sciences, includes a childcare allowance of only US\$2,500 a year. The average yearly cost of childcare in Boston for one infant is about \$20,000.

But treating postdocs right is not just about raising salaries and improving benefits. The postdoc crisis is not a

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stand-alone problem. The scientific system that has served us well since the Second World War is no longer viable, and failing to meaningfully change it threatens not just postdocs, but research as a whole. Postdocs are arguably the node in the system most under pressure right now, but that pressure extends to others, too: junior and senior faculty members, graduate students and more.

This broader challenge of reimagining how science is done demands the attention of all institutions. The NIH does not have the authority to ensure that all postdoctoral scholars are appointed as full-time employees at their institutions. But the NIH – and similar funding bodies in other nations and other fields – has a leadership. It can articulate expectations and push forward by engaging with stakeholders, funders, foundations and the institutions that receive its grants.

This includes engaging with US government agencies such as the Internal Revenue Service, Citizenship and Immigration Services and the Department of Homeland Security. A coherent, comprehensive federal strategy could better the lives of US postdocs by improving visa processes and boosting incentives to attract foreign talent (as President Joe Biden's executive order on artificial intelligence, issued in October, does). Clarifying the tax policy around fellowships and creating new incentives are essential. Every year, graduate students and postdocs with federal fellowships struggle to fully understand how to file their taxes, because the tax code can be confusing.

We also need to redefine both what success looks like and which career paths postdocs are trained for. Becoming a principal investigator at a research university cannot be the definition of success, with everything else being labelled as an 'exit' or 'alternative'. Most data suggest that only about 20% of postdocs will land in tenured or long-term academic positions. Other posts should be considered successful outcomes too, including those at minority-serving institutions, liberal-arts colleges, community colleges, non-profit research institutions, policy think-tanks, biotechnology and pharmaceutical companies and other types of industry. The NIH's leadership can shift cultural thinking about this topic. Revising what career outcomes are considered successful after completing a NIH-funded training programme would be a simple start. If these necessary changes feel radical or impossible, we need to think about what kind of institutional inertia is working against them, and why.

Any efforts to make large changes should include the voices of early-career scientists. We will be the ones to push science forward. Any effort without us will not be fully serious, meaningful or substantive.

How the scientific system treats researchers is a choice. It is not inevitable or out of our control. It's time we make bold choices as a scientific community that align with both reality and our values.