



Future of Research

Future of Research Statement on the use of the Grant Support Index to support early and mid-career investigators

Overview

The Board of Directors of Future of Research (FoR) wish to express our support for the National Institutes of Health's proposal to limit grant support by implementing the Grant Support Index (GSI): <https://www.nih.gov/about-nih/who-we-are/nih-director/statements/new-nih-approach-grant-funding-aimed-optimizing-stewardship-taxpayer-dollars>.

We applaud the NIH for using data to shape its policies on the distribution of limited research dollars. There is ample evidence of diminishing returns as a single lab continues to receive additional funding. The number of principal investigators who would be affected by the proposed cap is dwarfed by the number of additional awards that could be more efficiently distributed across NIH investigators. As pointed out in a recent analysis of the distribution of R01s, certain institutions and investigators may be more affected than others. Investigators and institutions are likely to be biased in the face of a potential loss of funding - a measure that institutions erroneously use as a metric of their success - and as roughly 65% of NIH-funded investigators have the equivalent of one R01 or less, do not represent the majority of NIH-funded investigators (<https://tinyurl.com/yaad5g9w>). This applies not only to the small percentage of NIH PIs who would be immediately impacted by the proposed cap, but also to the scientific "middle class," those who aspire to someday be among the NIH's most highly-funded investigators. It was pointed out at the NIH Council of Councils that "basing NIH policy on correlation is something scientists don't like to do," and we assert that basing NIH policy on outlier data points, like individual institutions where large numbers of PIs will be affected, is similarly unscientific. We urge the NIH to consider the best interests of all investigators and institutions. Decisions in the best interests of the wider community may not be popular with an influential minority; after all, those who benefit most from the status quo may be understandably reluctant to see changes that would redistribute funding, no matter how badly needed or overdue such measures may be.

We particularly laud the NIH's ongoing efforts to support junior academics and future generations of scientists, and urge policymakers to keep this the community at the forefront of its considerations. Graduate students and postdocs are being dissuaded from pursuing academic careers by the funding situation ahead of them. These junior scientists carry out the bulk of research in the biomedical enterprise, and yet their voice may be the least represented in this conversation. We are particularly concerned that the loudest voices in this debate may come from a small, but influential, minority who do not represent the average scientist. We therefore urge the NIH to prioritize the role it plays in stewarding future generations, and the long-term stability of the research community.

Clarifying common anecdotes and assumptions in this debate

We are concerned that this debate may be influenced by a number of flawed assumptions and anecdotes. One common assumption is that the best investigators attract the most funding, but when a measure of success is the amount of funding an investigator attracts, this is a tautology. There is no clear data to support the claim

that the most-funded science is the “best” science; indeed it may simply be the most expensive, or an institution may have the best support system for securing funding. We appreciate concerns that certain measures of productivity can be flawed in this debate, but we are reassured that both the diminishing returns in the Research Commitment Index, and the finding that labs with more funding do not produce more future NIH Early Stage Investigators, indicate a cap will be beneficial. There is certainly no evidence yet that the scientific enterprise as a whole will be harmed by the cap.

Some have expressed concerns that this move is driving or may drive investigators “overseas.” These fears are not supported by any evidence that the funding situation is better elsewhere, other than in the European ERC system - which has a mechanism that caps funding. Indeed, roughly two-thirds of postdocs in biomedicine are thought to be of foreign origin, and the funding situation in the U.S. is a factor in attracting foreign investigators (Franzoni et al., 2012: <https://tinyurl.com/ydz8wrr2>). Any claim that investigators are moving overseas due to this proposal should be based on evidence, and not vague fears.

This week, Levitt and Levitt published a paper emphasizing the role that the senior scientific community should take, and that bias against junior researchers as study section participants increase in age needs to be corrected administratively (<https://tinyurl.com/y9x2m4j7>). The use of the GSI is an appropriate measure to begin to address some of the issues raised.

Caveats and concerns we have about the proposal

We insist that the NIH assess the effect that this proposal to implement a cap could have on under-represented minorities in the biomedical enterprise as a core concern of the proposal. We also have concerns about the way points may be allocated, particularly for multi-Principal Investigator grants, and for training grants. Collaborative science and training of the next generation of scientists are critical to the success of the biomedical enterprise; we support the recent move to assign no points to training mechanisms, and we call for a reduction in the points awarded for multi-PI grants. However, we do not agree with the suggestion that negative points be awarded for training mechanisms, as this may incentivize those who otherwise have no incentive to be involved with training mechanisms to utilize these grants merely for their own gain. Finally, we agree with the open letter from new investigators (<https://tinyurl.com/y9y3erjm>) that allowing exceptions from the GSI will undermine the potential of the NIH to address this issue.

Conclusion

Those who are most likely to be negatively affected by this move are also in the strongest position to seek funding elsewhere, and most likely to have their complaints heard, compared to the early, and particularly mid-career, investigators who are not in such stable or influential positions. If the biomedical enterprise is to continue expanding its population of early career researchers, as has been the case for some time, then PIs with large labs that train more junior investigators must also be prepared to assist in accommodating them within the system. If these investigators are indeed as excellent as claimed, then diversifying their funding portfolio should be attainable.

We will watch the implementation of these proposals with extreme concern, for if the scientific community is not willing to provide the next generation of researchers with fair opportunities for sustained contribution, then we will have to redouble our efforts to reduce the proportion of postdoctoral researchers being trained for positions that are not available.

In summary, while we have some caveats and suggestions for further revision, we support the general move by the NIH to cap the funding awarded to investigators using the Grant Support Index as a move to make the biomedical enterprise more sustainable and ease the hyper-competitive environment under which early and mid-career investigators are persevering.