Science Advancement & Outreach
A DIVISION OF PETA

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Request for Information (RFI): Inviting Comments and Suggestions on the Eunice Kennedy Shriver National Institute of Child Health and Human Development's Support of Extramural Research Training and Early Career Development (NOT-HD-24-011)

Submitted via e-mail to: NICHDTCDRFI@mail.nih.gov

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A division of People for the Ethical Treatment of Animals

In this RFI, The Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) has sought feedback on the recent recommendations developed by the Extramural Training and Career Development Working Group for the future of NICHD training and career development programs. More specifically, the working group made several recommendations for changes that could be made to NICHD's training programs to prepare and diversify the future research workforce and to address NICHD's mission.

These included:

- Rethink How We Talk About Outcomes
- Reinvigorate Institutional Training and Career Development Programs (T32 and K12)
- Create Community Amongst Trainees
- Use Training and Career Development to Diversify NICHD's Reach
- Reinvigorate the Loan Repayment Programs (LRPs)
- Use Training Programs to Support Strategic Research Priorities

One critical area that was not addressed by the working group was the need to provide training programs that support a diversity of research methods and the need to provide more support for research and training non-animal methods (NAMs). Our response will explain how prioritizing training programs for NAMs will help enhance NICHD's efforts to support a wider range of young researchers, reinvigorate the current training programs, expand NICHD's reach, and help NICHD meets its mission.

Currently, many NICHD training and research funding opportunities are still heavily animal-based, despite the well-known problems with translation and replicability of animal research. Many researchers trained in the use of animal models lack the time, funding, or institutional support to receive training in emerging, human-relevant research technologies. Yet training

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and early career periods are an ideal time within a scientist's career to acquaint them with new and/or unfamiliar technologies.

As the range of animal-free testing methods expands, researchers whose graduate and undergraduate education was animal-based will need training with these tools to keep pace with pivotal developments and redirect their research as needed and ensure that the U.S. science workforce does not fall behind other countries. Increased extramural training and career development initiatives will help ensure we are creating a robust biomedical workforce that is able to compete with a rapidly changing scientific landscape and respond to increasing calls for improved translation of biomedical research findings into human health advancements. Specific extramural training in advanced, non-animal methods would better prepare early career researchers for a robust, innovative, and satisfactory career in science.

The Extramural Training and Career Development Working Group provided several recommendations that could be applied to the institute's need to expand funding opportunities to capture and support trainees who use or wish to use NAMs, including:

- "Create and expand mechanisms to support the full talent pool of postdoctoral scholars."
- Rethink the current heavy reliance on RO1s as the gold standard in order to include and support non-traditional scholars. As the working group noted, a "heavy reliance on RO1s as the gold standard outcome for training programs excludes…non-traditional scholars such as data scientists or engineers."
- "Increase diverse perspectives and broaden the pool of PIs working on NICHD mission relevant research."

NAMs, now an agency-wide priority,[1] are consistently outperforming animal tests in their ability to model human biology, yet NICHD has released no funding mechanisms to specifically support extramural trainees and early career researchers who use or wish to use these technologies. In line with the working group's recommendations, NICHD should:

- Create mechanisms to exclusively support postdoctoral scholars who use or wish to train in the use of NAMs.
- Shift success metrics to better support scientists who use NAMs, including data scientists and engineers.
- Award more grants to trainees and their mentors who are using NAMs to broaden and modernize NICHD mission relevant research, as well as to create larger pools from which to attract study section members who use and are familiar with NAMs, thus reducing the likelihood of animal methods bias,[2] the preference for animal-based methods where they are not necessary or where animal-free methods are suitable, in grant funding.

NICHD can also implement the following to improve research methods diversity by supporting NAMs researchers and shifting away from reliance on outdated animal-based methods:

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[1] Bertagnolli MM. Statement on catalyzing the development of novel alternative methods. Published February 1, 2024. Accessed April 9, 2024. https://www.nih.gov/about-nih/who-we-are/nih-director/statements/statement-catalyzing-development-novel-alternatives-methods

[2] Krebs CE, Herrmann K. Confronting the bias towards animal experimentation (animal methods bias). *Front Drug Discov*. 2024:10.3389/fddsv.2024.1347798.

- Create Individual Research Fellowships and Career Development Awards exclusively focused on training for graduate students and postdocs who use or wish to use NAMs.
- Create Institutional Training Grants for extramural trainees and early career researchers to receive training that would allow them to make the transition from animal to non-animal research methods.
- Offer Education Grants for summer research experiences and short courses exclusively involving NAMs.
- Offer grant supplements to extramural trainees and early career researchers who wish to switch to NAMs mid-funding.

While NICHD and NIH as a whole lag behind in providing adequate support for NAMs training, some supplemental training programs have been developed to begin to fill this gap. For example, in the EU, the European Commission's Joint Research Centre hosts a summer school on NAMs. Many online resources by experts in the field also exist, including those offered by PETA Science Consortium International e.V. and the Physicians Committee for Responsible Medicine. The Dutch Transition Programme for Innovation created a series of "helpathons," action-orientated workshops built around a specific question that encourages researchers through a community forum to think creatively and harness the power of coincidence in the discovery of new opportunities with regard to NAMs. NICHD should consider developing similar programs to ensure that early career researchers have access to the support and training they will need for NAMs research.

NICHD's strategic plan includes the following broad goals, all of which require research that is based in human biology:

- Understanding the Molecular, Cellular, and Structural Basis of Development [in humans]
- Promoting Gynecologic, Andrologic, and Reproductive Health
- Setting the Foundation for Healthy Pregnancies and Lifelong Wellness
- Improving Child and Adolescent Health and the Transition to Adulthood
- Advancing Safe and Effective Therapeutics and Devices for Pregnant and Lactating Women, Children, and People with Disabilities

Concerningly, NICHD's strategic plan includes many references to the institute's support of experiments on non-human species in its efforts to meet the very human-specific needs of the patients relying on its research. By creating dedicated extramural funding and training opportunities exclusively for NAMs intended to more accurately model human biology, and reducing funding for poorly translatable animal models, NICHD can move toward achieving its vital goals of both providing essential training and development for the 21st century research workforce and leading research and training to understand human development, improving reproductive health, enhancing the lives of children and adolescents, and optimizing abilities for all.