



April 9, 2021

BY ELECTRONIC SUBMISSION

Office of the Director
National Institutes of Health
Once Center Drive, Rm 126
Bethesda, MD 20892-0147

Response to NIH Request for Information [NOT-OD-21-066]: “Inviting Comments and Suggestions to Advance and Strengthen Racial Equity, Diversity, and Inclusion in the Biomedical Research Workforce and Advance Health Disparities and Health Equity Research”

The American Society for Pharmacology and Experimental Therapeutics (ASPET) appreciates the opportunity to provide comments to the National Institutes of Health (NIH) in response to its Request for Information on the topics of diversity, equity, and inclusion (DEI) in the biomedical research workforce. ASPET is committed to these principles and looks forward to a productive discussion with NIH as new strategies and initiatives aimed at resolving equity issues in STEM are undertaken.

ASPET is a 4,000-member scientific society located in Rockville, MD. ASPET’s members conduct essential basic and clinical pharmacological research and work for academia, government, large pharmaceutical companies, small biotech companies, and non-profit organizations. Their efforts help to develop new medicines and therapeutic agents to fight existing and emerging diseases.

Diversity in science is about cultivating and maximizing talent. To reach our scientific and technological potential, we require an inclusive and diverse workforce that draws on the full talent pool available in our country. But persistent inequities still exist in our government agencies and academic institutions. ASPET supports NIH’s UNITE initiative to identify and address structural racism within the NIH-supported and the greater scientific community. We hope ASPET’s dialogue with NIH will help to achieve UNITE’s goals and inform our own internal efforts to increase diversity, equity, and inclusion.

I. All Aspects of the Biomedical Workforce

New or existing influence, partnerships, or collaborations NIH could leverage to enhance its outreach and presence with regards to workforce diversity (both the internal NIH workforce and the NIH-funded biomedical research enterprise); including engagement with academic institutions that have shown a historical commitment to educating students from underrepresented groups (especially Historically Black Colleges and Universities (HBCUs), Hispanic-Serving Institutions (HSIs), Tribal Colleges and Universities (TCUs), and other institutions), racial equity organizations, professional societies, or other federal agencies

There are many ways that NIH can partner with professional societies like ASPET to work together to increase workforce diversity. ASPET has chartered a committee to address issues of diversity, equity, and inclusion within the field of pharmacology by increasing participation, visibility, and status of underrepresented groups within the society. DEI committees within professional societies could be mobilized to recruit diverse candidates for internal NIH positions or NIH-funded positions by distributing job opportunities to their networks. NIH could aid in this effort by creating a distribution list for these notices and encouraging committees to recruit diverse candidates. These committees could also partner with NIH to do career recruitment on HBCU and TCU campuses as well as at traditional colleges and universities that have shown a commitment to the principles of DEI.

Professional societies like ASPET also are developing outreach strategies for K-12 students to introduce them to science and research early in their scholastic career and lay the groundwork for these students to think about pursuing a degree in a STEM field. K-12 are critical years to foster a love and appreciation for science and would greatly increase the talent pool that have the potential to pursue STEM careers. ASPET is attempting to reach students in this age band via its Young Scientists Committee (YSC). Our YSC has explored an event to take place concurrently with our annual meeting that would have schoolchildren judge a poster competition among trainees. The YSC is targeting majority-minority and underfunded schools. To build on this program and similar programs at other societies, NIH could partner with professional societies to provide funding for creative outreach of this type to students at the K-12 level to explain major scientific disciplines and highlight career paths and outcomes, with an emphasis on diverse schools.

Lastly—and related to K-12 outreach—ASPET wants to acknowledge NIGMS’s [Science Education Partnership Awards \(SEPA\)](#) program. SEPA promotes interactive partnerships between biomedical and clinical researchers and pre-kindergarten to grade 12 (P-12) pre-service and in-service teachers, schools, and other interested organizations. The program provides opportunities for students from underserved communities to consider careers in basic or clinical research; provides teachers with professional development in science content and teaching skills; and improves community health literacy through SEPA-funded science centers and museum exhibits on health and medicine. To provide more opportunities for increasing diversity within the STEM field, NIH might consider expanding this program to include partnerships between universities and community-based non-profit organizations that provide support for students from underserved communities or providing more opportunities for funding grants that have the explicit goal of increasing workforce diversity.

Factors that present obstacles to training, mentoring, or career path (e.g., training environments) leading to underrepresentation of racial and ethnic groups (particularly Black/African Americans) in the biomedical research enterprise throughout the educational and career continuum and proposed solutions (novel or proven effective) to address them

The focus on mentorship following the 2019 release of the National Academies of Science, Engineering, and Medicine report [The Science of Effective Mentoring in STEMM](#) is a welcome acknowledgement of the critical role of a mentor in the career development of young researchers. Effective mentoring is positively correlated with career retention and career outcomes. Despite evidence of the benefits of mentorship, training in being a mentor is not prioritized at many institutions.

One way to encourage a greater focus on mentorship is for NIH to collect additional data on the outcomes of mentoring relationships. Presently, when trainees select a mentor the mentor’s ability to

provide mentorship is judged based on criteria that appear on the surface to suggest strong mentoring skills (e.g., outcomes of past trainees), but are not dispositive of a PI's mentorship skills. In grant reviews, NIH could develop a fuller picture of a PI's mentorship abilities by asking questions about what steps a PI has taken to enhance or maintain their mentorship skills (e.g., "Has the PI attended any recent trainings on mentorship?"). At the conclusion of a trainee's time with a PI, NIH could also seek feedback on the quality of the mentor/mentee relationship. With more data NIH can create evidence-based practices to enhance mentorship between PIs and trainees.

For underrepresented groups specifically, NIH can encourage matching mentors and trainees who have similar cultural backgrounds (including outside of the PI/trainee relationship). In fields where almost every historical figure and late-career researcher is white and male, having a mentor that "looks like me" is a powerful confirmation that minorities can succeed in a STEM field, and that visual representation can unlock a trainee's confidence in their own abilities. Mentors of similar cultural backgrounds will also, naturally, be adept at managing the unique challenges that come with being a minority in a STEM field and pass that guidance along to trainees.

However, for reasons both related to historical inequities as well as practical concerns, a mentor of similar background may be unavailable. To mitigate cross-cultural confusion, NIH may consider developing materials that educates mentors on the common challenges that minority groups confront in communicating across racial, cultural, and ethnic boundaries. Mentors who have an understanding of the cultural backgrounds of their trainees will be more inclusive and increase the confidence of those they are mentoring. A focus on "culturally-responsive" mentoring can help trainees navigate what would otherwise be invalidating experiences that could lead to disaffection and be a catalyst for an exit from the field.

Barriers inhibiting recruitment and hiring, promotion, retention and tenure, including the barriers scientists of underrepresented groups may face in gaining professional promotions, awards, and recognition for scientific or non-scientific contributions (e.g., mentoring, committees), and proven strategies or novel models to overcome and eliminate such barriers

There are several issues that contribute the lack of retention of underrepresented groups at the early stages of their careers. Last November, Nature [published results](#) of a survey of postdocs during the COVID-19 pandemic. In addition to complaints of low pay and meaningless work, nearly 1 in 4 postdocs reported receiving harassment and/or discrimination in their current positions. 40% of respondents reported gender discrimination (of which 90% of the reports were from female postdocs); 24% reported racial discrimination. Many postdocs identified the source of the discrimination as their PI. Predictably, high levels of anxiety and depression were also reported. Any meaningful attempt to address the difficulty in retaining underrepresented groups in the STEM fields must also grapple with the reports of widespread gender and racial discrimination and harassment. Addressing these issues is critical for moving forward so that we can provide a healthy and safe training environment for everyone to maintain a diverse biomedical research enterprise.

ASPET also notes that becoming a parent appears to derail many careers in the biomedical sciences. [According to a recent study](#), 43% of women and 23% of men leave full-time STEM employment after having their first child. The shocking attrition rate suggests that balancing a STEM career with parenting responsibilities is extremely difficult. Creating flexibilities so that researchers are not forced to choose

between becoming a parent and advancing their career is crucial to maximizing the potential of our biomedical workforce.

II. Policies and Partnerships

Existing NIH policies, procedures, or practices that may perpetuate racial disparities/bias in application preparations/submissions, peer review, and funding, particularly for low resourced institutions, and proposed solutions to improve the NIH grant application process to consider diversity, inclusion, and equal opportunity to participate in research (e.g., access to application submission resources, changes to application submission instructions/guidance, interactions with and support from NIH staff during application process)

Though ASPET acknowledges and appreciates NIH efforts to educate researchers on the problem of unconscious bias in peer review, education alone is insufficient to address the harm that these biases have on minority researchers. NIH should focus its efforts on recruiting diverse scientists to serve as peer reviewers to dilute the effects of implicit bias which will inevitably occur when assessing submissions and reviewing grants. With more diverse representation, the likelihood of implicit bias being the key factor between approval or denial in and peer review process will be substantially minimized. The NIH Center for Scientific Review's commitment to [posting data](#) on the demographics of reviewers is a welcome act of transparency that should serve as a model and aid in helping to solve this problem.

Thank you for the opportunity to comment. ASPET stands ready to partner with NIH to address these issues to ensure a diverse biomedical research workforce.

Respectfully,

A handwritten signature in black ink, appearing to read 'C. P. France', enclosed in a thin black rectangular border.

Charles P. France, Ph.D.
President
ASPET