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National Institutes of Health  
9000 Rockville Pike  
Bethesda, Maryland 20892

**Re: Request for Information (RFI): 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 (NOT-OD-21-066)**

*Submitted electronically at <https://rfi.grants.nih.gov/?s=601d737cb50a0000740038a2>*

The Association of American Medical Colleges (AAMC) appreciates the opportunity to provide feedback to the National Institutes of Health (NIH) on the approaches NIH can take to advance racial equity, diversity, and inclusion within all facets of the biomedical research workforce and expand research to eliminate or lessen health disparities and inequities. The AAMC is a not-for-profit association dedicated to transforming health through medical education, patient care, medical research, and community collaborations. Its members are all 155 accredited U.S. and 17 accredited Canadian medical schools; more than 400 teaching hospitals and health systems, including Department of Veterans Affairs medical centers; and more than 70 academic societies. Through these institutions and organizations, the AAMC leads and serves America's medical schools and teaching hospitals and their more than 179,000 full-time faculty members, 92,000 medical students, 115,000 resident physicians, and 60,000 graduate students and postdoctoral researchers in the biomedical sciences.

The AAMC strongly shares the NIH's commitment to end structural racism and racial inequities in biomedical research through the newly launched UNITE initiative and is dedicated to working with the agency on this critical issue. AAMC believes that an inclusive workforce with individuals from historically excluded and underrepresented groups in biomedical research is critical to gather the range of perspectives needed to identify and solve complex scientific problems, including those which disproportionately affect minority populations.

AAMC's recent framework<sup>1</sup> on addressing and eliminating racism in academic medicine includes a number of activities that would facilitate the NIH's goals, including efforts to: explore, identify, collect, and make available effective hiring, promotion, and salary policies and practices at our member institutions; identify effective approaches for achieving safe, inclusive environments and safe reporting systems; identify effective culture and climate assessments of institutional environments; and conduct research on the effectiveness of anti-racism interventions.

Working in collaboration with AAMC-member institutions, we are pleased to provide input on specific areas identified by NIH in the RFI.

*New or existing influence, partnerships, or collaborations NIH could leverage to enhance its outreach and presence with regards to workforce diversity.*

NIH should consider Historically Black Colleges and Universities (HBCUs), Hispanic-Serving Institutions (HSIs), Tribal Colleges and Universities (TCUs), racial equity organizations, and professional societies essential partners to reach its goals of increasing diversity in the biomedical research workforce. Cross-institutional collaborations are time- and resource-intensive endeavors which require dedicated investment from the NIH. This includes continued funding of existing programs such as Bridges to the Doctorate Program, Innovative Programs to Enhance Research Training (IPERT), and Institutional Research and Academic Career Development Awards (IRACDA), which are viewed by the research community as extremely effective at the graduate and postdoctoral level. Additionally, the Research Centers in Minority Institutions (RCMI) program and the Support of Competitive Research (SCORE) program provide key funding to increase institutional research capacity.

As some of these funding mechanisms are limited to a single Institute or Center (IC), we recommend that NIH identify the most successful IC-based programs and consider expanding them across the whole of NIH. AAMC also supports the development of regional alliances between the NIH Intramural Program and academic medical centers, such as the current partnership with Howard University<sup>2</sup>.

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<sup>1</sup> Addressing and Eliminating Racism at the AAMC and Beyond. October 2020. <https://www.aamc.org/addressing-and-eliminating-racism-aamc-and-beyond>

<sup>2</sup> NIH and Howard University Partnership: Building a Foundation for Scientific Collaboration. <https://irp.nih.gov/catalyst/v28i5/nih-and-howard-university-partnership>

HBCUs and other historically minority serving institutions have built the critical cultural infrastructure to better recruit and retain students and support faculty—and NIH should ensure that this knowledge is utilized in a partnership with other research institutions.

A focus on the continuum of science education, starting from K-12 settings, is an important component to building a pipeline for underrepresented students to enter scientific areas of study in college and graduate school. We recommend that the NIH collaborate to fund programs with other federal science agencies such as the National Science Foundation and Department of Energy, whether to develop competitions, curricula development, or specialized training to encourage a diverse range of students to enter the sciences. Additionally, NIH should also look to the many professional societies which have done extensive work in supporting underrepresented students in biomedical research.

*Factors that present obstacles to training, mentoring, or career path 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 to address them.*

The dearth of tenure track faculty from underrepresented groups cannot be singularly attributed to obstacles in recruitment, hiring, promotion and retention; but rather, reflect an accumulation of obstacles that underrepresented researchers experience throughout the educational and career continuum.

In addition to the lack of representation and belonging experienced by individuals from underrepresented groups, implicit bias, microaggressions, overt discrimination and unique (and often unmet) cultural needs establish and fortify a sense of isolation throughout their scientific careers. The AAMC applauds the NIH for developing an array of programs across the undergraduate, graduate, postdoctoral, and faculty spectrum to increase diversity in the biomedical workforce. However, NIH must also recognize that a focus on diversity without the integration of solutions that likewise enhance inclusion, community, or equity, will thwart even the most well-strategized and funded initiatives. NIH should implement a mechanism to foster ‘communities’ of trainees from underrepresented backgrounds. Connecting trainees funded by the same mechanism (e.g. establishing a cohort or community of all trainees funded by minority supplements on R01s) could bolster a sense of belonging and community amongst individuals that are typically isolated at their home institutions. The NIH Distinguished Scholars Program is one example of a cohort-building program that could be used as a model to scale up across the country.

While some funding opportunities are largely standardized across ICs (e.g. R01 or T32 grants), various NIH funding mechanisms (e.g. minority supplements on R01s) have guidelines that vary widely between NIH institutes – making the process confusing and cumbersome. Though this flexibility might allow individual Institutes and Centers (ICs) to adapt to their unique research and operational contours and public health missions, the AAMC proposes that standardizing the process would eliminate the need for institutional leaders to “talk to dozens of program officers.” This would in turn close the gap between ‘eligible grants’ and grants with funded diversity supplements; thereby amplifying the number of trainees on these grants. In addition, NIH ICs should align their missions with respect to strengthening diversity, inclusion and equity. Each IC should report on funded underrepresented groups (as defined by the NIH), as they do on support for early career investigators.

Currently, the resources and commitment that it takes to run many of these training grants—which are oftentimes run by faculty members with functioning labs and competing priorities—are misaligned with NIH allotment of time and/or compensation. The AAMC proposes two solutions: providing more flexibility to increase protected time, compensation, and funding for staff commensurate with the commitment it takes to run these programs; and modifying the academic criteria required to spearhead training grants (e.g. the number of R grants that the PI must have). This would make a broader group of faculty at academic institutions available to lead training programs intended to bolster diversity (e.g. emeritus faculty, or faculty that share clinical responsibilities).

Finally, understanding stakeholder experiences through listening and learning is key to empowering individuals from underrepresented groups. We propose that the NIH involve trainees (undergraduates, graduate students, postdoctoral researchers) into panels or groups that discuss critical conversations around a diverse and inclusive research workforce. For individual institutions, asking underrepresented researchers what needs to be improved at their own institutions may another effective way to find problems and make local improvements.

*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, and proven strategies or novel models to overcome and eliminate such barriers.*

Recent studies have shown that while students from underrepresented groups are almost as likely as those from well-represented groups to matriculate into a doctoral program, receive a doctoral degree,

and acquire a postdoctoral position, proportionally fewer transition to tenure-track faculty<sup>3,4</sup>. This issue prompts the needs to improve both retention and promotion of scientists from these groups.

At present, there is vast heterogeneity in how departments, graduate programs and academic medical centers prioritize the recruitment and retention of trainees, postdoctoral fellows and faculty from underrepresented backgrounds. The postdoctoral selection process is particularly vulnerable to the divergence in hiring practices; wherein one individual (and their biases) is likely the only gatekeeper for selection. While training is not sufficient to shift culture towards inclusiveness, such a shift cannot occur without basic knowledge of what bias is and how it affects its victims.

While mentoring is heavily regarded as an evaluative component for some funding mechanisms (e.g. the K series), the emphasis on mentoring is not required uniformly across all funding mechanisms – introducing variability and leaving blind spots in the continuum of mentoring. In particular, the R grant, a key driver of biomedical discovery, does not require a specific mentoring component. High quality mentoring is essential to success in graduate studies and independent research, and mentorship can help underrepresented scientists continue into research-track careers. Studies show that these scientists have unique mentoring needs and may benefit from a culturally sensitive mentor who can help guide them with challenges unique to their background<sup>5,6,7</sup>. The implementation of a mentoring requirement for all grants that support research trainees, regardless of funding mechanism, can boldly reinforce the importance of mentorship at all stages, as well as draw attention to the unique mentoring needs of underrepresented individuals.

*Successful actions NIH and other institutions and organizations are currently taking to improve representation, equity, and inclusion and/or reduce barriers within the internal NIH workforce and across the broader funded biomedical research enterprise.*

Building and utilizing a ‘cohort’ model to connect underrepresented trainees funded by the same mechanism (e.g. F31) can promote a sense of community and mitigate the isolation experienced by

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<sup>3</sup> Meyers, et al. Survey of checkpoints along the pathway to diverse biomedical research faculty. *PLoS One*, 2018. <https://doi.org/10.1371/journal.pone.0190606>

<sup>4</sup> Hassouneh, et al. The experiences of underrepresented minority faculty in schools of medicine. *Medical Education Online*, 2014. <https://doi.org/10.3402/meo.v19.24768>

<sup>5</sup> The Science of Effective Mentorship in STEMM. National Academies of Sciences, Engineering, and Medicine, 2019. <https://doi.org/10.17226/25568>

<sup>6</sup> Williams, et al. Peer Mentor Development Program: Lessons Learned in Mentoring Racial/Ethnic Minority Faculty. *Ethnicity & Disease*, 2020. doi: 10.18865/ed.30.2.321

<sup>7</sup> Womack, et al. Culturally aware mentorship: Lasting impacts of a novel intervention on academic administrators and faculty. *PLoS One*, 2020. <https://doi.org/10.1371/journal.pone.0236983>

scarce racial and/or ethnic representation at home institutions. The AAMC commends the NIH for the newly created MOSAIC program, which is testing the added value of building a cohort to the successful transition to and retention in research faculty positions. The AAMC is excited to be one of NIH's inaugural institutionally-focused, research education cooperative agreement (UE5) awardees, to engage the MOSAIC scholars in a curriculum that includes skills-building, mentorship, and other leadership and professional development activities. Other successful programs that integrate this national community-based 'cohort' model are the Gilliam Fellowships for Advanced Study and the Hanna H. Gray Fellow Programs sponsored by the Howard Hughes Medical Institute, targeted to promote diversity in the trainee and early career scientific workforce, respectively.

The AAMC recommends increasing the diversity and representation of all scientists in groups that evaluate and reward science (including institutional promotion and tenure committees). Not only are diversity and inclusion ethical goals to achieve, they are measures of excellence. The multiple viewpoints of a diverse team will usually have greater creativity and may be more effective at forming inclusive and equitable evaluative surrounding scientific recognition, promotion, and tenure.

Regarding unconscious bias in the recruitment, retention and promotion process, the AAMC suggests that the NIH consider creating a grant mechanism to help institutions establish and continue the work of mitigating unconscious bias at academic institutions, and additionally request that applicants for training grants address how potential bias in the recruitment process will be addressed. The NIH should look to the example of the University of California at Davis's Center for the Advancement of Multicultural Perspectives on Science (CAMPOS) initiative. This program was originally housed in their NSF-funded ADVANCE program and has been successful in recruiting and retaining minority women across STEM fields within their institution. In addition, the AAMC piloted a framework and toolkit for holistic faculty recruitment at seven academic health centers that could be scaled up in the future. Common themes from pilot institutions included the importance of achieving "buy in," having a dedicated implementation team, and being explicit about core values<sup>8</sup>.

Inter-institutional partnerships could help provide resources and networks to underrepresented faculty at all institutions, particularly smaller institutions or institutions that have fewer resources. Establishing these types of partnerships, particularly with HBCU's, promotes engagement with local communities and provides recruiting and mentoring tools that build and model representation. While institutions must spearhead such partnerships, both the NIH and professional societies should play a

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<sup>8</sup> Harris, et al. Advancing Holistic Review for Faculty Recruitment and Advancement. *Academic Medicine*, 2018. doi: 10.1097/ACM.0000000000002364

key role in bringing institutions together. The NIH should also continue to foster and fund the creation of inter-institutional consortiums, such as the existing Diversity Program Consortium.

*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.*

There are well documented<sup>9,10</sup> inequities in the outcomes of the peer review process at NIH as well as the agency's resulting distribution of extramural funding, both on the institutional and individual level. Additionally, the composition of study sections is largely homogenous, and lacking in representation. Less diverse perspectives may contribute to a narrower set of criteria around the evaluation and selection of awarded grants and may also place less value on certain fields of study (e.g. community-based or health disparities research), which often attract underrepresented scientists.

The AAMC appreciates efforts from the NIH to study inequities in the grant review process, but more needs to be done to close the current funding gap. Attempts to reform this peer review must also take into consideration the cumulative effects of systemic racism that impact applicants in other aspects of their career, including bias in journal review and publications.

There is an urgent need to change the study section selection process such that it represents a significantly broader pool of researchers, beyond those who have received significant funding/R01 grants from the agency. Not only does the make-up of the section affect decision-making, but the act of serving on a review panel itself is a training opportunity that improves a scientist's understanding of the process and ability to write and be successful in their own applications. Study sections should have several slots available to junior investigators, particularly those who belong to groups that are underrepresented in the funding pool. NIH should study whether shorter terms of service or "observational" reviewing should be available options, and additionally consider the concept of term-limits so that the same reviewers are not continually making funding decisions.

The AAMC recommends that the NIH develop a working group, primarily comprised of underrepresented researchers from the extramural community, and/or release a request for

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<sup>9</sup> Hoppe, et al. Topic choice contributes to the lower rate of NIH awards to African-American/black scientists. *Science Advances*, 2019. DOI: 10.1126/sciadv.aaw7238

<sup>10</sup> The Advisory Committee to the Director Working Group on Diversity, Racism in Science Report. National Institutes of Health, 2021. <https://acd.od.nih.gov/documents/presentations/02262021DiversityReport.pdf>

information to examine the peer review process and scoring system and identify opportunities for reform. A working group should consider: the requirement for a scientific review officer at every section specifically trained in diversity, equity, and inclusion issues; more training and education on bias for all study section members; the need to sufficiently justify any weaknesses identified in a submission, particularly when dealing with research regarding inequities or health disparities; redefining impact so that particular areas of study are not penalized; targeted recruitment of reviewers who have the necessary expertise to evaluate the research under review; and changing scoring criteria so that investigator or intuitional reputation (“environment”) do not override scientific merit.

Many of the issues in peer review are mirrored in the grant application process. NIH should ensure that it is providing sufficient support and guidance to underrepresented researchers and implement measures that would be effective in diversifying the pool of funded scientists by applying some of the same tactics used to increase awards to early stage investigators.

*Significant research gaps or barriers to expanding and advancing the science of health disparities/health inequities research and proposed approaches to address them, particularly those beyond additional funding.*

Historically, health disparities and inequities research has focused on patterns and interventions within health care, with limited regard to the multiple sectors which influence health, such as education, work, housing, and transportation among many others. A multi-sector approach would provide a more comprehensive understanding of the root causes and potential solutions to health disparities and provide an opportunity to center a discussion of human rights in the context of health justice.

The NIH should fund basic science research focused on health disparities, especially health disparities experienced by racial minority populations. Similar efforts have been made to accomplish this in the context of gender disparities and basic science research. Research that focuses on racial disparities should reflect the reality of race as a social phenomenon rather than a biological one, re-orienting away from White race as normative, and fund frameworks that are strengths-oriented and resiliency-focused. The NIH should improve the NIH RePORTER database to distinguish between studies which address health disparities and minority health, two related but distinct areas of research, to accurately assess the scope and impact of funding.

The AAMC greatly appreciates the NIH’s engagement during its efforts to address the systemic challenges and barriers that lead to ongoing inequities in biomedical research and healthcare. While



this RFI and the response here is primarily focused on racial equity, we note the importance of intersectionality in properly addressing structural racism and discrimination, and hope the agency will consider in its work all groups facing inequities in the biomedical research workforce, including racial and ethnic minorities, women, persons with disabilities, LGBTQ individuals, and first-generation college students as well as other individuals from diverse backgrounds.

More broadly, we also urge all of the Department of Health and Human Services (HHS) to adopt an anti-racist agenda developed through the input received through this RFI and the significant scholarship currently available. AAMC encourages the NIH to advise other funding agencies within and beyond HHS on strategies to make their own organizations and grantmaking activities explicitly anti-racist and oriented toward equity.

We are committed to working with the NIH on these priorities and identifying and implementing strategies to create a more diverse and inclusive research workforce and a more robust portfolio of research. Please feel free to contact me with any questions about these comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ross McKinney, Jr., MD". The signature is stylized and cursive.

Ross McKinney, Jr., MD  
Chief Scientific Officer