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Greater representation of African-American/Black scientists in the NIH review process will improve adolescent health.

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Adolescents (10-19 years) constituted 12.9% of the US population in 2016 and are expected to constitute 11.3% by 2050, when almost 60% of them will be non-White.¹ There are stark disparities in health outcomes, and their social determinants, between non-Hispanic White and non-Hispanic Black adolescents. In 2017, the death rate among non-Hispanic Blacks aged 15-19 was 66% higher than among non-Hispanic Whites, while their life expectancy at age 15 was three years less.² In 2014, 60% of Blacks aged 12-17 lived in low-income families as compared to 27% of Whites.³ These disparities all result from social institutions that marginalize minoritized groups through inequitable access to education, employment, health care, and wealth. Systemic racism is woven into society's fabric and pervades all institutions, including those intended to improve the lives of the most vulnerable.

Research that interrogates racial inequities is critical for the development of evidence-based interventions that can reverse them. To maximize effectiveness, within-group approaches that emphasize context (e.g., historical, cultural) are needed.⁴ Specifically, scientists whose lived experience and expertise includes relevant context are more able to posit important questions, engage communities, and develop, implement, and evaluate interventions. These

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“insiders” have a distinct ability to understand the lived experience of research participants, to gain trust,⁵ and therefore to collect robust data. Strong science that addresses the health of an increasingly diverse adolescent population requires the involvement of researchers who match that diversity and who are thus positioned uniquely to lead an empirically informed reversal of generations of inequity.

The US National Institutes of Health (NIH) provides tremendous financial support for science. Obtaining an NIH grant is an important professional achievement because these awards provide support for investigators to focus on a research topic that is critical to the nation’s health and compelling to them personally. NIH grants are competitive, and applications undergo a two-tier review process. The first tier involves review for scientific/technical merit by a “Scientific Review Group” (SRG) ostensibly comprised of researchers with relevant expertise, while the second tier involves a National Advisory Council that helps to make final funding decisions. Despite “impartiality” and “fairness” being two of seven core values of NIH peer review,⁶ the process replicates broader functionalist systems that maintain structural racism in academic science. That is, several studies demonstrate unequivocally that African-American/Black (AA/B) scientists are less likely to receive NIH grants than their White counterparts.⁷⁻⁹

In October 2019 a comprehensive analysis of the mechanisms underlying the systemic racism in NIH’s peer review process was published.¹⁰ Of six decision points considered, disparate outcomes were identified in three: one that appears to be related to investigator behavior (topic choice) and another two related to SRG behavior (decision to discuss; impact score). With regard to topic choice, a thematic analysis revealed several topics that were favored by AA/B applicants but not by reviewers, including disparities, obesity, risk factors, youth/child substance use, and adolescent risk-taking.¹⁰ AA/B applicants seldom submitted applications with reviewer- favored topics such as aortic valve calcification, cartilage, corneal epithelium, melanocytes, or prions.¹⁰ Importantly, AA/B applicants’ favored topics are relevant to the communities with which they identify, and empirical and robust study of these topics is necessary to eliminate long-standing health disparities. With regard to SRG behavior, AA/B applicants were more likely to have an application triaged (i.e., not discussed) and more likely to have a worse reviewer-assigned impact score. Together these three decision points – applicant’s topic choice, SRG’s decision to discuss, reviewer impact score – explain the majority of variance in the observation that White NIH grant applicants are 1.7 times more likely to be funded than AA/B applicants.

Importantly, all three decision points revolve around SRGs and the reviewers that are in them. That is, during 2011-2015 when the data analyzed by Hoppe et al. (2019) were generated, there were 103,827 SRG reviewers, and over 80,000 of them (i.e., 77.8%) were White. In contrast, of those 103,827 reviewers in 2011-2015, *only 2,491* (i.e., 2.4%) were AA/B. Thus, when AA/B scientists prepare an NIH grant application on a topic that is critical to the nation (e.g., health disparities, obesity, and youth/child substance abuse) and also personally compelling to them, their application is sent to a majority White SRG with very little representation from scientists who share the AA/B scientists’ lived experiences and expertise.

Taken together, the data provided by Hoppe et al (2019) make clear that ending systemic racism at NIH will require, at the least, more AA/B scientists and fewer White scientists as reviewers in all NIH SRGs. The racial composition of SRGs must reflect the broader population, necessitating a minimum 11% increase in AA/B reviewers to match the 13% of the AA/B population nationwide. The focus should be on population-level representation because, over the past 20 years, the percentage of AA/B faculty has remained low, at ~6% of all full-time faculty at degree granting institutions. Historically, structural inequities consistently have produced unequal educational opportunities that, in turn, have resulted in fewer AA/B doctorates and research faculty. A focus on population-level representation within SRGs will help to ensure that these structural inequities are not reproduced in the NIH review process. Moreover, NIH must prioritize topics that are relevant to AA/B scientists and that reflect their justified concern for their communities. Also, similar analyses should be conducted for other minoritized groups, and these analyses should be iterative, such that NIH SRG reviewer inclusion consistently is representative of the general population over time.

NIH must do much more to end systemic racism within its walls. The solutions articulated here are not exhaustive, but they can be implemented immediately. Doing so will increase the quantity and quality of adolescent health research, particularly adolescent health research designed to reverse racial inequity. Now is the time for the NIH to address systemic racism by including at least 13% AA/B scientists as reviewers in every SRG, prioritizing topics of relevance to AA/B scientists, and committing to ongoing analysis of factors contributing to systemic racism in academic science. To do otherwise ensures the continuation of an intolerable status quo and the unacceptable disparities in research funding that adversely affect the health of our nation.

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