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April 8, 2021

Submitted electronically to:
https://rfi.grants.nih.gov/?s=601d737cb50a0000740038a2

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Re: NIH 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

Dear Dr. Bernard, Dr. Johnson, Dr. Tabak, and members of the National Institutes of Health UNITE Initiative Committees:

The Society for Women's Health Research (SWHR) is pleased to offer comments in response to the March 1 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 (NIH NOT-OD-21-066).

SWHR is a 30-year-old national nonprofit dedicated to improving women's health through science, policy, and education. To achieve this goal, we must not only improve diversity within our research participant populations, but within the biomedical workforce. Science benefits from diversity at all levels. For this reason, SWHR appreciates the NIH's recent launch of the UNITE Initiative, established to identify and address structural racism within the NIH-supported scientific community as well as the scientific field writ large.

Society for Women's Health Research

SWHR would like to bring your attention to issues that can cause undue burden for women of color in biomedical careers. The UNITE Initiative must not only address barriers to progress for communities of color, but also must consider how the intersectional influences of race, ethnicity, and gender — along with other demographic factors — can create compounding barriers for individuals in the scientific workforce.

Women account for about half of medical graduates and doctoral recipients in the biological sciences, but are underrepresented at all levels of leadership in the biomedical field.[1] Women in research earn less,[2] receive less funding at the beginning of their careers,[3] and are cited less frequently.[4] Women are more likely to switch to part-time work, change careers, or leave the workforce.[5] Women also disproportionately face sexual harassment and discrimination.[6,7]

Women of color encounter both significant racial and gender biases. These biases can present differently, but have a detrimental impact on those forced to confront them. For example, Black women are significantly more likely to report having to provide more evidence of competence to prove themselves to colleagues, and Latinas are more frequently perceived as "angry" or "emotional." Black women are also more likely to report feeling isolated in their work environment.[8]

Successful diversity programs must take into account race, ethnicity, and gender, and consider how the intersection of these issues can change the nature of the barriers individuals face or create new barriers. Below, SWHR addresses specific barriers to career development for women of color.

ALL ASPECTS OF THE BIOMEDICAL WORKFORCE

Perception and reputation of NIH as an organization, specifically as an employer (e.g., culture), with respect to support of workforce diversity and as an overall advocate for racial and gender equity in NIH-funded research.

Recent scientific communications suggest that racial disparities in NIH R01 funding can significantly and negatively impact the careers of faculty members and scientists of color. While white men and women are about as likely to receive an R01 award, Asian women and Black women are significantly less likely to receive the same funding.[9] Among certain fields, the disparities become even more striking: In 2019, female surgeons received NIH grants at

[1] Clayton et al. Women's Careers in Biomedical Sciences: Implications for the Economy, Scientific Discovery, and Women's Health. Journal of Women's Health, 2017. DOI: 10.1089/jwh.2016.6012
[2] Scientists' salary data highlight US$18,000 gender pay gap. Nature. January 22, 2019.
[3] Sege, Nykiel-Bub, Selk. Sex Differences in Institutional Support for Junior Biomedical Researchers. JAMA. 2015; 314(11): 1175–1177. doi:10.1001/jama.2015.8517
[4] Why women are cited less often in research than men. The Hill. December 17, 2019.
[5] Cech & Blair-Loy. The changing career trajectories of new parents in STEM. National Academy of Sciences Mar 2019, 116 (10) 4182-4187; DOI: 10.1073/pnas.1810862116
[6] Sexual harassment of women: Climate, culture, and consequences. National Academies (2018). https://www.nap.edu/catalog/24994/sexual-harassment-of-women-climate-culture-and-consequences-in-academic
[7] Funk and Parker. Women and Men in STEM Often at Odds Over Workplace Equity. Pew Research Center. January 2018. file:///Users/emily/Downloads/PS_2018.01.09_STEM_FINAL.pdf
[8] Williams, Phillips, & Hall (2014). Tools for change: Boosting the retention of women in the STEM pipeline. UC Hastings College of the Law. https://worklifelaw.org/publications/Double-Jeopardy-Report_v6_full_web-sm.pdf
[9] Ginther, Kahn, & Schaffer (2016). Gender, race/ethnicity, and NIH R01 research awards: Is there evidence of a double bind for women of color? Academic Medicine, 91(8). doi: 10.1097/ACM.0000000000001278

significantly lower rates than male colleagues, and zero Black or Hispanic women surgeons received R01s or equivalents.[10]

We appreciate the NIH's recent acknowledgment of structural racism and its impact on the biomedical research community. SWHR is hopeful that these efforts — as called for in a recent commentary in *Cell*, authored by a national network of women faculty members in biomedical engineering — will lead to greater diversity and equity within review panels and funding awards.[11]

The NIH and the UNITE Initiative must take steps to explicitly investigate, understand, and define the barriers facing scientists of color within the NIH to ultimately create and implement policies that will address these disparities. Regular, public updates on the actions being taken to improve diversity, equity, and inclusion across the agency should be included as part of this work.

New or existing influence, partnerships, or collaborations NIH could leverage to enhance its outreach and presence with regard to workforce diversity, including engagement with academic institutions that have shown a historical commitment to educating students from underrepresented populations, as well as racial equity organizations, professional societies, or other federal agencies.

Public-private partnerships are crucial to advancing the biomedical field and ultimately lead to better results across sectors. We support the UNITE Initiative's goal to collaborate with organizations with stated commitments to support scientists from underrepresented backgrounds. SWHR recommends outreach to the following types of organizations:

- Organizations that focus on addressing cross-sectional health disparities
- Organizations that focus on the needs of women of color in the scientific workforce
- Medical societies that focus on the needs of women of color in the medical field

Additionally, we ask the NIH to consider outreach to sections or affinity groups within larger medical or scientific societies that specifically address the needs of women of color.

Factors that present obstacles to training, mentoring, or career path, leading to underrepresentation of racial and ethnic groups in the biomedical research enterprise throughout the educational and career continuum and proposed solutions to address them.

Women of color face barriers to career advancement in the biomedical workforce that are amplified by both gender and racial or ethnic identity. In a 2019 paper, Alfred, Ray, and Johnson highlight broad barriers that affect women and women of color in STEM.[12] The UNITE Initiative should take these into account as policies are created. Major identified areas of need include, but are certainly not limited to:

[10] Lewit, Black, & Camp. (2020). Association of sex and race/ethnicity with National Institutes of Health funding of surgeon-scientists. *JAMA Surg.* 2021; 156(21), 195-7. doi: 10.1001/jamasurg.2020.5016
[11] Stevens et al. (2021). Fund Black scientists. *Cell.* doi: 10.1016/j.cell/2021.01.011
[12] Alfred, Ray, & Johnson (2019). Advancing women of color in STEM: An imperative for US global competitiveness. *Advances in Developing Human Resources,* 21(1), 114-32. doi: 10.1177/1523422318814551

The effect of stereotyping, societal influences, and institutional influences throughout pre-college, college, and postgraduate studies. Early prejudices against women and women of color hold weight throughout the full course of an individual's career. After college, women of color continue to feel isolated within advanced degree programs. Traditional models of mentorship can be helpful, but may also underscore systemic inequalities and feelings of "otherness."

Isolation within the workforce and lack of inherent support systems. Continued feelings of tokenism, alienation, and a lack of support persist once women begin their careers. Negative experiences can derail long-term aspirations and cause some women to leave the field entirely. Women who stay in the workforce are vulnerable to harassment and discrimination. This is true both within academia and industry. Peer networks are often found to be unwelcoming, which can prevent development of crucial relationships that lead to collaboration and advancement.

Disproportionate burdens from balancing career path and caregiving responsibilities. Women tend to bear the brunt of emotional labor and caregiving, both at home and in their chosen career. At work, women are expected to take on more service hours, provide more student mentorship, and engage in more administrative duties than their male colleagues, only to face heightened caregiving responsibilities at home as well. The COVID-19 pandemic has exacerbated these stressors. Emotional support, mentorship, and administrative responsibilities are not often reflected on a CV and not incorporated in reviews, despite the fact that training the next generation is viewed as a key role for academics. Moreover, workplaces are not realistically accounting for lost productivity due to the pandemic or providing useful support.

SWHR urges the NIH to carefully consider systemic barriers that affect women of color at each step of their careers, and to implement methods at each stage aimed at overcoming these obstacles. The NIH must also foster safe training and work environments by creating and sustaining a safe and productive work environment. This includes preventing and addressing harassment based on sex, gender, or race/ethnicity. Further, clear policies that outline reporting mechanisms, independent investigations on complaints, and consequences for harassment are necessary.

Mentorship and training for women and people of color is critical; however, programs should be careful not to exacerbate feelings of isolation by highlighting individual or group status as a minority (with the implication being that these groups may be in need of more intensive support solely because of their minority status). Successful interventions will not only provide additional support to members of marginalized communities, but will incorporate initiatives that target pervasive biases throughout the biomedical field on a systems level.

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.

Women and people of color — in part due to their underrepresentation — are frequently left feeling as though they must compete for limited opportunities. While the barriers listed previously influence career development, they also play a significant role in hiring and

advancement. To expand hiring and promotion opportunities, both within the NIH and the biomedical field more broadly, SWHR recommends the following:[13]

- Establish, sustain, and enhance partnerships with higher education institutions to improve talent pipeline initiatives.
- Expand partnerships to community college, technical colleges, and historically-black colleges & universities (HBCUs) to enhance training and credentials and recruit from traditionally underrepresented populations.
- Establish and/or encourage employer-institution partnerships — including networking, mentorship, and job shadowing programs — at non-traditional institutions to enhance exposure opportunities for workers.
- Create goals and metrics to fully understand successes, failures, and opportunities for change across all partnerships.
- Engage in thorough program planning, development, and analysis across all partnerships of this nature, with the ultimate goal of disseminating learning to inspire replication and scale through the scientific community.

Across all areas, employers should work to build welcoming, thoughtful work environments that are diverse, inclusive, safe, and productive. This should include prioritizing equitable pay, flexible family and medical leave policies, inclusion and anti-bias training, networking and mentorship programs, and strong anti-harassment and anti-discrimination policies.[14]

RESEARCH AREAS

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.

SWHR supports programs and initiatives that recognize certain communities are disproportionately or unjustly affected by issues of systemic bias and seek to address sexism, racism, and other forms of prejudice or institutional bias as public health issues.[15] We encourage the NIH to prioritize dedicated funding or programming that evaluates the nature of these disparities and best practices for addressing them. We particularly encourage prioritization of research that takes an intersectional approach, i.e., that explores the influence of multiple factors on a given health disparity and attempts to understand or explain the individual influences as well as the intersectional influences of multiple factors.

Recent NIH research suggests one cause of racial funding disparities within federally funded grants is that Black scientists are more likely to submit grants related to health disparities and community interventions, as well as other topics that tend to receive less competitive scores.[16] We encourage the NIH to build on this work and identify reasons these topics receive less

[13] Business-Higher Education Forum (2020). Building bridges to success: Regional business-higher education partnerships to grow and diversity the STEM workforce. https://www.bhef.com/sites/default/files/BHEF_2020_Building_Bridges.pdf
[14] American Association of University Women (2015). The STEM Gap: Women and Girls in Science, Technology, Engineering and Math. https://www.aauw.org/resources/research/the-stem-gap/
[15] SWHR. (2021). Improving women's health equity. https://swhr.org/wp-content/uploads/2021/03/SWHR_Position_Statement_Health_Equity.pdf
[16] Hoppe, TA et al. (2019). Topic choice contributes to the lower rate of NIH awards to African-American/black scientists. *Science Advances, 5*(10, eaaw7238. doi: 10.1126/sciadv.aaw7238

attention and lower scores. Community-based work, disparities research, and practical applications of theoretical work will be of crucial importance in addressing public health issues over the coming decades. The NIH must follow up on its initial efforts to investigate how best to prioritize these important grants at the institutional level, and also to understand why reviewers are less excited about proposals on topics that interest Black researchers.[17]

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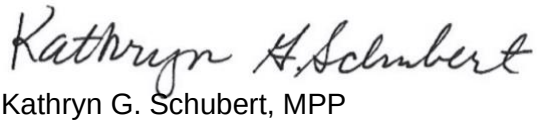
SWHR strongly supports policies and programs that foster and promote women of color in the biomedical workforce and remove systemic barriers to their advancement.[18] Changing the culture of biomedical research is imperative for the field to continue to advance and grow.

We are grateful for the opportunity to provide feedback to the NIH on improving the diversity of our biomedical workforce. We look forward to continued opportunities to collaborate with the NIH on this topic. If you have any questions, please do not hesitate to contact SWHR's Director of Director of Public Policy & Government Affairs, Melissa Laitner, PhD, MPH, at melissa@swhr.org.

Sincerely,



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[17] Mervis, J (2019). Study identifies a key reason black scientists are less likely to receive NIH funding. *Science Magainze.* https://www.sciencemag.org/news/2019/10/study-identifies-key-reason-black-scientists-are-less-likely-receive-nih-funding
[18] SWHR (2021). Advancement of women in the biomedical workforce: An official position statement of the Society for Women's Health Research. https://swhr.org/wp-content/uploads/2021/03/SWHR_Position_Statement_Biomedical_Workforce.pdf