

# PEER MENTOR DEVELOPMENT PROGRAM: LESSONS LEARNED IN MENTORING RACIAL/ETHNIC MINORITY FACULTY

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**Introduction:** Mentorship is crucial for academic success. And yet, there are few mentoring programs that address the needs of underrepresented, racially/ethnically diverse junior faculty conducting health-related research in the United States.

**Methods:** To expand mentoring capacity for these racially/ethnically diverse faculty, we developed a Peer Mentor Development Program (PMDP) to prepare near-peers, who have similar characteristics and personal experiences, to provide support to participants in an NIH-PRIDE funded Institute. The PMDP program is designed based on the 8-year experience of the Mentor Development Program of the NYU-Health and Hospitals Clinical Translational Science Institute. Annually, up to six alumni are selected into the PMDP, participate in the 12-hour program over 4 days, are paired with 1 to 3 scholar participants to mentor and join monthly PMDP conference calls during the ensuing year.

**Results:** We describe the program, participant experience and lessons learned from our first 18 peer mentors in three PMDP cohorts. Additionally, all 18 peer mentors completed a post-evaluation survey to assess the program. Overall, peers agreed that participating in the PMDP enhanced most of the specific skills targeted. Participants rated 53%-86% of skills as "more than before" participating in PMDP, demonstrating the appreciation and impact of the program.

**Conclusions:** The PMDP may be a model for higher education and academic medicine programs committed to mentoring and retaining racially/ethnically diverse faculty and ultimately contributing to reducing entrenched health disparities between majority and minority populations. *Ethn Dis.* 2020;30(2):321-330; doi:10.18865/ed.30.2.321

## INTRODUCTION

Increasing the number of scientists from racially/ethnically diverse communities is likely to improve patient outcomes and reduce health disparities.<sup>1</sup> However, our ability to achieve this goal is limited by many factors, including an unacceptably low number of individuals from underrepresented racial/ethnic groups and/or who are persons with disabilities who are able to sustain research careers. This underrepresentation is attributed in part to an inadequate pool of well-trained scientists ready and able to serve as role models and mentors.<sup>2</sup> Scientists from racially/ethnically diverse groups do not achieve the

same rates of federal funding and other measures of success (ie, number of publications) compared with colleagues from majority groups. In 2010, non-Hispanic Blacks made up 12.6% of the US population, but only accounted for 1% of principal investigators on National Institutes of Health (NIH) research grants. That number has increased to only 2% in 2016,<sup>3</sup> and non-Hispanic Black scientists are 13% less likely to receive NIH funding relative to White scientists.<sup>4,5</sup> Increasing the number of well-trained minority scientists is achievable via exposure to mentored learning opportunities in an autonomy-supportive academic network.<sup>4,6-9</sup> A comprehensive program that en-

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hances the ability of early career scientists to provide quality mentoring to near-peers – those who are one or more years senior – could address some of these barriers by expanding the capacity for and impact of mentoring in the community of racially/ethnically diverse scientists.

Despite growing interest in enhancing mentoring of racially/

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ethnically diverse junior faculty, programs often neglect to include crucial elements. For example, it is rare to have formal programs to enhance competency and skills in mentoring, although such programs are especially beneficial among racial/ethnic minority faculty.<sup>10</sup> Plausibly, lack of racial/ethnic congru-

ent mentoring may pose a unique barrier, as minority faculty may perceive a lack of ‘fit’ in a majority-minority mentoring relationship.<sup>11,12</sup> This incongruence is an almost insurmountable barrier because of the historical shortage of minority faculty mentors, particularly in academic medical centers.<sup>13–15</sup>

Creative solutions and resources are necessary to overcome these challenges. One such approach is the National Heart, Lung, and Blood Institute (NHLBI) Summer Institute Program to Increase Diversity in Health-Related Research (SIPID), which, after four years, evolved into the NHLBI Program to Increase Diversity among Individuals Engaged in Health-Related-Research (PRIDE). In fiscal year 2014, NHLBI, through a competitive process, funded seven training institutes and one coordinating center, each encouraged to enroll up to 14 participants. Although the basic design is similar across all programs (ie, didactic teaching, mentoring), each program can develop unique design components. In 2015, based on the emerging needs expressed by graduates of the program, we incorporated the Peer Mentor Development Program (PMDP), aimed at expanding the pool of minority faculty mentors. Our program is the first training institute to formally implement such a program, in which current junior faculty (hereafter referred to as mentees) are matched with graduates of the training institute who serve as peer mentors (PMs). The goals of the PMDP are to: 1) increase knowledge, skills, and competency of

mentoring; 2) provide continuous congruent mentorship to mentees; and 3) provide a supportive network of underrepresented faculty. The purpose of this article is to describe the program and our first 3-year experience of the PMDP.

## METHODS

### PRIDE Summer Institute

While the PRIDE Summer Institute has been previously described in detail,<sup>11</sup> we provide an overview of the major components. After a competitive peer-review process conducted by a review committee led by the principal investigator (JL), up to 14 mentees from across the United States are accepted to participate. Over the course of two weeks, mentees participate in didactic coursework on topics including, but not limited to, community engagement, biostatistics, epidemiology, grant writing and funding, and ethics in human research. Additionally, mentees meet with NIH program staff, network one-on-one with nationally and internationally acclaimed senior research scientists and engage in other informal social events to build and expand their mentoring network. Upon completion of the two-week institute, mentees return to their home institutions and participate in a one-hour, monthly webinar during the following 12 months. The purpose of the webinar is to provide mentees guidance and feedback on their research questions and hypotheses, individual development plans, mentoring teams, and/

or scientific collaborators (for non-Career Award applicants). Mentees are expected to dedicate a minimum of 5% of their time (average of two hours per week) to one-on-one sessions with their mentors and preparing their grant applications.

### Peer Mentor Selection

Based on their experience in mentoring relationships with program participants, the leadership identifies graduates of the institute with the goal of recruiting six PMs each year. Graduates who are ideal PMs are those who have expressed interest in extending their involvement in the program and demonstrated success in one or more of the following academic metrics: publications, extramural funding, and institutional leadership. PMs receive an honorarium for providing mentorship for 12 months, plus hotel lodging and transportation expenses to attend the one-week PMDP. Additionally, PMs have the opportunity to participate in any of the PRIDE didactic sessions and receive structured feedback from senior faculty on pending grant applications during their week at the Institute.

### Mentor-Mentee Matching

During the final week of the Summer Institute, in addition to the PMDP seminars, the PMs are matched and have initial meetings with their mentees. While matching is based on shared research interests and disciplines, other factors, including career goals and experience, are also considered. First, PMs receive a written biographical synopsis of each of the mentees to review

prior to the meeting. Then, during the Institute, PMs and mentees participate in a "Speed Research Dating" session, during which mentees and PMs break out into small groups to discuss expectations and individual mentoring needs. Mentors and mentees record their 1st and 2nd choice for a mentor/mentee. If the selection is not mutual, other factors are taken into account in order to enhance the match. Overall, mentees and mentors are encouraged to consider areas of importance when making their selections, including physical distance between academic institutions and similarity in academic tracks. Tailoring the match to individual preferences improves the mentor-mentee relationship. However, if the match is not perceived as a good fit, mentees and the PMs can select another mentor/mentee. After the match, mentees and PMs agree to hold regularly scheduled meetings, usually by telephone. The frequency of the meetings, goals, and expectations are included in a signed contract (separate from the learning contract the mentees sign upon agreeing to participate in the training institute).

### Peer Mentor (PM) Community

Peer mentors participate in quarterly conference calls to leverage the community and provide both social support and establish a network of mentors for the PMs. The primary goal of the conference calls is to discuss successes and challenges that PMs have with their mentees and engage the group in problem solving. Some of the calls focus on assisting PMs with prepar-

ing their own tenure dossier and identifying a senior mentor. PMs are encouraged to discuss professional and personal milestones and other concerns that may be important among minority faculty.

### Peer Mentor Development Program (PMDP): Goals, Objectives and Instructional Design

The PMDP takes place during the second week of the PRIDE Summer Institute. The six PMs spend 12 hours together over the week-long program to complete a structured curriculum. The director of mentor development education (AK) facilitates all sessions in the Summer Institute with assistance from PMDP program leaders (JR and NW) who are responsible for leading the PMDP during the year. The program, which is a component of the Institute, is based on the Mentor Development Program (developed by AK) of the NYU-Health and Hospitals Clinical Translational Science Institute (CTSI) started in 2010 to prepare mentors to support early career scientists who have CTSI career development awards.

Three weeks before the program begins, PMs are introduced to the program and each other by email and receive assignments due prior to arriving to the Institute (curriculum and assignment details are available from AK). The assignments address fundamental concepts and provide an educational needs assessment to guide curriculum tailoring for the face-to-face sessions. The face-to-face sessions are highly interactive, giving participants experience

with a variety of tools that enable effective mentoring. The program also attends to community-building among the PMs to ensure that participants leave not only with a new understanding of their role as mentors, but also with an expanded network of peer mentors. This peer support is especially impactful at reducing isolation for racial/ethnic minority faculty who are located in small academic institutions with few minority colleagues.

### **Individual Mentoring Development Plan (IMDP)**

A learning contract is a tool that provides a framework for setting expectations between mentee and mentor.<sup>16</sup> This method has been applied extensively and effectively across a broad range of academic fields and levels of trainees. Based on adult learning theory, which contends that self-regulation and individual goal setting are critical to deep learning, a learning contract is a formal agreement written by the mentee and signed by both mentee and mentor. Ideally, it is a dynamic document that is updated regularly and captures decisions made during mentoring meetings, keeping it live and useful rather than simply a bureaucratic burden. This method, to a lesser extent, has been implemented widely in mentor development training in the biomedical sciences.<sup>8,16</sup> In the PMDP, PMs write simple learning contracts and, with feedback from AK, refine them over the week-long course in order to experience the process. Then, they are encouraged to use this framework with their mentees. An example

IMDP written by a PM is available from the corresponding author.

### **Seminar Topics**

We selected the seminar topics with explicit sensitivity to the fact that the PMs need support navigating their own careers and many personal and professional roles while they mentor others through a similar process.

### **Time Management and Organization**

A time management expert spends individual and group time guiding PMs through personal time management principles and strategies (eg, managing email, calendaring and meetings) and introduces them to state-of-the-art team and project management tools (eg, visual project management).<sup>17</sup>

### **Academic Writing**

Academic writing is an essential skill for success. Yet many academics do not devote time to learning how to be productive writers, much less teaching others to do so. Racial/ethnic minority faculty may be particularly insecure about the quality of their writing because of lack of confidence in their foundational education or, for immigrants, a lack of English fluency. Therefore, in the PMDP we discuss effective strategies (eg, writing daily, negotiating writing tasks among multiple authors, reading about writing) and efficient mentoring processes that help mentees learn to increase their writing output (eg, “yoked pair” writing,<sup>18</sup> digital collaborative writing tools, demystifying the peer re-

view process). As a group, we spend at least two hours editing pieces of writing-in-progress volunteered by the PMs, projected on a screen, reading out loud and discussing how we would work with our mentees in this fashion to sharpen their skills and teach them how academic writing is accomplished. Topics covered include: crafting an impactful title, using strong verbs, writing persuasive opening paragraphs<sup>19</sup> and topic sentences, reducing the number of modifying clauses and unneeded adjectives.

### **Leadership**

We discuss mentoring as a leadership skill. In the style of a journal club, the group reads about models of leadership and talks about how these models apply to their work.<sup>20-22</sup> In this session, we aim to provide the PMs with a variety of lenses through which to view their mentoring. We discuss the importance of clarifying roles and expectations, being adaptive and agile, the components of emotional intelligence, and the different nature of relational compared with transactional leadership.

### **Safe Space**

Throughout the PMDP, we intentionally create an environment in which participants can feel it is both safe and productive to describe their experiences and discuss their own thoughts and feelings. It is essential that mentors of racial/ethnic minority backgrounds are knowledgeable and skillful in speaking about perceived and unconscious bias, stereotype threat, discrimination as well as the concerns common

among underrepresented minority professionals in a predominantly White academic setting. These concerns include what is often referred to as the “minority tax,” or the additive responsibilities shouldered by a very small number of minority faculty members (eg, serving on diversity committees at multiple levels of

the organization, mentoring a large number of very junior trainees).<sup>23-26</sup>

### Program Evaluation

In fall 2019, all 18 PMDP participants in the first three cohorts received a 35-item digital survey designed to assess seven core competencies explicitly addressed in the

program: 1) mentoring; 2) academic writing; 3) organization and time management; 4) leadership; 5) mentoring tools; 6) personal learning and development; and 7) communication. Survey items were written to directly reflect stated goals for the sessions with retrospective pre/post response options (more than before

**Table 1. Characteristics of peer mentors**

Gender	Race/Ethnicity	Academic Rank	Area of Research	Notable Accomplishments
<b>Cohort 1</b>				
Female	Black/African American	Associate	Health disparities in cardiovascular disease and type 2 diabetes	Director, Office of Health Equity, NIH K01
Female	Black/African American	Assistant	Psychosocial determinants of medication adherence in Blacks with high blood pressure	Tenured, Asst. Dean for Diversity, NIH K01
Female	Black/African American	Associate	Psychosocial epidemiology and cardiovascular disease	Tenured, NIH R01, NIH K01
Female	Black/African American	Assistant	Psychobiological pathways, chronic stress and health outcomes	Non-Federal Funding (PI)
Male	Hispanic/Latino	Assistant	Epidemiological associations between sleep disorders and cerebrovascular disease in Hispanics	CTSI K12, NIH LRP, NIH R21
Female	Black/African American	Assistant	Health disparities in military and veteran health care systems	NIH K01
<b>Cohort 2</b>				
Female	Black/African American	Associate	Racial inequalities in health	Tenured, NIH LRP
Male	Black/African American	Assistant	Sociocultural and environmental determinants of chronic diseases	NIH K01, Diversity Supplement
Female	Black/African American	Adjunct Assistant	Psychosocial stressors, obesity, sleep, type 2 diabetes, and cardiovascular disease	Graduate Training Program Director
Female	Black/African American	Assistant	Stroke and behaviors to reduce stroke risk	NIH K01
Male	Hispanic/Latino	Associate	Race-ethnic differences in positive airway pressure adherence	Scientific Reviewer, Federal Grants
Female	Hispanic/Latino	Associate	Prevention and treatment of obesity in Latino families	Scientific Reviewer, Federal Grants, Diversity Supplement
<b>Cohort 3</b>				
Female	Black/African American	Associate	Long-term medical and cognitive outcomes of children born preterm	NIH Reviewer, Permanent, NIH U01 Grant
Male	Black/African American	Associate	Neighborhood characteristic influences on population health and health disparities	NIH R01, NIH R21
Female	Black/African American	Associate	Social, cultural, behavioral, and policy factors of	NIH R03
Female	Black/African American	Assistant	Obesity induced hypertension	NIH K01
Female	White/Hispanic	Assistant	Environmental and social factors associated with obesity, food marketing, and health disparities	NIH Innovator Award
Female	Asian	Associate	Neurological injuries and motor skills in upper extremities	NIH K23, R21, R01, Vice Chair for Research

Table 2. Post PMDP evaluation

Competencies	Total	More than before participating in the PMDP	The same as before participating in the PMDP	Less than before participating in the PMDP
	N	N(%)	N(%)	N(%)
<b>I. Mentoring styles and philosophy</b>				
1. How do you understand the role of a mentor?	15	11 (73.3%)	4 (26.7%)	0 (0%)
2. How well can you describe the function of good mentoring?	15	13 (86.7%)	2 (13.3%)	0 (0%)
3. How well can you articulate your own mentoring philosophy?	15	11 (73.3%)	4 (26.7%)	0 (0%)
4. How well do you understand how your own personality/preferences impact your mentoring success?	15	11 (73.3%)	4 (26.7%)	0 (0%)
5. How do you adjust mentoring strategies to the personality/preferences of your mentee?	14	10 (71.4%)	4 (28.6%)	0 (0%)
6. How do you use self-assessments to help your mentees understand their own personality/preferences?	15	11 (73.3%)	4 (26.7%)	0 (0%)
7. Do you remain aware of your own areas of strength as a mentor?	15	11 (73.3%)	4 (26.7%)	0 (0%)
8. Do you motivate mentees to enhance their own self-awareness?	15	10 (66.7%)	5 (33.3%)	0 (0%)
<b>II. Communication</b>				
9. Do you set explicit expectations for mentees on first meeting?	15	12 (80.0%)	3 (20.0%)	0 (0%)
10. Do you hold your mentee accountable to your expectations?	15	11 (73.3%)	4 (26.7%)	0 (0%)
11. Are you comfortable in giving your mentee feedback when he/she is not meeting expectations?	15	11 (73.3%)	4 (26.7%)	0 (0%)
12. Do you give effective feedback to your mentee when he/she is not meeting expectations?	15	10 (66.7%)	5 (33.3%)	0 (0%)
13. Do you try to remain aware of your own "blind spots" as a mentor?	15	12 (80.0%)	3 (20.0%)	0 (0%)
14. Do you work on enhancing your self-awareness?	15	10 (66.7%)	5 (33.3%)	0 (0%)
15. Do you engage in deliberate active listening?	15	8 (50.0%)	6 (37.5%)	1 (6.7%)
16. Do you practice getting to the "heart of the matter" using 5 Whys?	15	8 (53.3%)	6 (40.0%)	1 (6.7%)
<b>III. Mentoring aids and tools</b>				
15. Do you use formal learning contracts with mentees (eg written contracts)?	15	10 (66.7%)	5 (33.3%)	0 (0%)
16. Do you use informal learning contracts with mentees (eg verbal agreements)?	15	7 (46.7%)	8 (53.3%)	0 (0%)
<b>IV. Personal learning and development</b>				
17. Do you keep your own personal learning contract?	15	4 (26.7%)	10 (66.7%)	0 (0%)
18. Do you collect books related to mentoring and leadership?	15	7 (46.7%)	8 (53.3%)	0 (0%)
<b>V. Organization and time management</b>				
19. Do you create a functional and sustainable system for organizing paper and electronic information?	15	4 (26.7%)	11 (73.3%)	0 (0%)
20. Do you maintain a functional and sustainable system for organizing paper and electronic information?	15	4 (26.7%)	11 (73.3%)	0 (0%)
21. Do you reduce multitasking and interruptions so as to increase the speed and quality of your work?	15	8 (53.3%)	7 (46.7%)	0 (0%)
22. Do you create a visual management system for ongoing tasks and commitments?	14	8 (57.1%)	6 (42.9%)	0 (0%)
23. Do you identify the repetitive, routine work that can be standardized for greater efficiency?	15	7 (46.7%)	8 (53.3%)	0 (0%)
<b>VI. Academic writing</b>				
24. Do you coach your mentees to understand why writing is so important for academic success?	14	9 (64.3%)	5 (35.7%)	0 (0%)
25. Do you discuss the common challenges, blind spots and barriers to writing quality and productivity with mentees?	15	8 (53.3%)	7 (46.7%)	0 (0%)
26. Do you share tips and techniques to address common writing blocks?	15	8 (53.3%)	7 (46.7%)	0 (0%)
27. Do you engage in writing with a group?	15	8 (53.3%)	7 (46.7%)	0 (0%)
28. Do you edit mentee's writing so they learn to write more clearly?	15	7 (46.7%)	8 (53.3%)	0 (0%)
29. Do you collect books or other resources about writing to share with mentees?	15	4 (26.7%)	11 (73.3%)	0 (0%)
<b>VII. Leadership</b>				
32. Do you conduct a "history of the future" exercise?	14	7 (50.0%)	6 (42.9%)	1 (7.1%)
33. How often do you read about models of leadership?	15	7 (46.7%)	8 (53.3%)	0 (0%)
34. Do you consider working on your own leadership skills?	15	10 (66.7%)	5 (33.3%)	0 (0%)
35. Do you experience an appreciative and inclusive culture?	15	9 (60.0%)	6 (40.0%)	0 (0%)

the PMDP, the same, less than before the PMDP) because peers were surveyed from 6 months to 2 years after they completed the training.

## RESULTS

Each PM was matched with between one and three mentees. Table 1 includes the characteristics, area of research interest and selected accomplishments of the PMs. Table 2 provides the results of the evaluation. Overall, peers agreed that participating in the PMDP enhanced most of the specific skills targeted. Participants rated 53%-86% of skills as “*more than before*” demonstrating the impact and appreciation of the program. The specific skills that only <30% of the PMs thought were improved were: use of informal learning contracts; establishing functional and sustainable systems for time management and organization; and collecting books about academic writing. Importantly, four PMs continue to maintain a relationship with their assigned mentee, working together on manuscripts, abstracts; one peer mentor-mentee match was planning a grant submission. Additionally, four PMs provided open text responses regarding their experience of the program; these were uniformly positive with comments such as: “it’s a great program” and “I found it helpful.”

## DISCUSSION

We describe our early experience implementing a structured

PMDP that prepares near-peers as mentors for early career racial/ethnic minority faculty participating in the NIH sponsored PRIDE Institute. Although it is a significant time commitment, the program is acceptable to participants, feasible, and attractive to peer mentors, who volunteer their time to participate in this year-long commitment.

It is too early to determine the long-term impact of the program on career trajectories or on concrete, measurable outcomes, such as collaborative grants awarded. We are delighted to know of one paper published by a peer mentor and mentee and expect there will be more as mentoring relationships mature. Additionally, we know that four of the PM-mentee pairs are continuing to meet regularly and are discussing topics of importance. Similarly, findings of a carefully controlled study of mentoring of racial/ethnic minority faculty in biomedical sciences found that mentor training and peer mentoring independently and combined were associated with a greater likelihood of having discussed more academic topics or professional/personal development topics. And both interventions were associated with mentors’ perceptions of having spent adequate and high-quality time with their mentees compared with a usual mentoring control group.<sup>27</sup> Long-term follow-up is clearly needed to determine whether our mentor training and structured peer-mentoring program provides important support for both parties. Importantly, the program engages junior faculty at a critical time in their careers when

faculty obligations may become overwhelming if poorly managed.<sup>28</sup>

## Lessons Learned

Traditionally, mentoring has been ubiquitously required and lauded as an essential component of the career development of scientists. However, in most cases mentoring is not formally structured, defined, remunerated or otherwise valued by institutions. There is a growing consensus that structure and clear expectations are important in effective mentoring programs. Such mentoring programs may be particularly important

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for racially/ethnically diverse faculty members who have less access to informal mentoring networks<sup>29</sup> than do their White peers. Our experience supports the value of both structured mentoring and mentor training.

Effective mentoring, although it can be done efficiently, requires a significant amount of resources and time. Creating this structure is valuable in several important ways since it supports busy people in making a time commitment to mentoring. Training provides mentors

with strategies and skills to make the most of time spent mentoring, through learning the empathic communication skills needed to “get to the heart of the matter” quickly, helping the mentee set short- and long-term goals and be accountable to those goals, learning to manage time and write effectively, and establishing a mentoring network. Training mentors demystifies effective mentoring, which, like parenting, may appear magical if not deconstructed and examined carefully.

Effective mentors have certain knowledge, characteristics, and abilities. They are experienced in a field of science, sensitive to differences between their own experiences and those of their mentees, aware of differences among “academic cultures,” able to discuss issues of racism, sexism, and special challenges of mentees with children or mentees caring for ailing elders, when necessary. Effective mentors also understand that, unlike parenting, mentoring is reciprocal and not entirely altruistic. Effective mentors are aware of their privileges (eg, majority culture, successful academic status, charisma, gender, luck), can acknowledge them, and turn them into opportunities to champion a mentee’s developing “organizational savvy.” Effective mentors can share their own career challenges and stories of resilience without disempowering their mentees. These are characteristics we discuss and explicitly practice in the PMDP.

### **Administrative Support**

Staff support for scheduling and enabling communications is critical

to an effective program. The PMDP benefits from a program administrator to schedule meetings, create the agenda, and perform other administrative responsibilities, which are essential to keep the program on track.

### **Program Impact**

Short-term and long-term programmatic outcomes have not been studied extensively enough, but our preliminary data are promising with PMs having a favorable response to the program and reporting enhanced skills post-training in the essential competencies. Additionally, four of the PMs maintain relationships with their mentees and collaborate on abstracts, manuscripts and grants. Reduction in levels of burnout, internalized stereotype threat, resilience in the face of adversity, and networking for the mentor are also key indicators to assess. We also would like to study the impact of the mentoring program on likelihood of self-described success. It has been widely reported that there is high turnover rate among minority faculty,<sup>30</sup> and minority faculty are less likely to be in tenured positions. It would be interesting to learn the extent to which the peer mentorship helps to enhance retention in academia. Other studies have shown that mentorship more broadly is an effective approach for promoting retention of minority faculty.<sup>31</sup>

After the one-year commitment, peer mentors are no longer incentivized to maintain the peer mentor relationship. We will track the overall productivity and relationship beyond the one-year program, but funding is limited. Ongoing fund-

ing would enable researchers to better understand whether participating in mentoring programs such as the one described here will lead to new or strengthened scientific collaborations for racial/ethnic minority faculty and prompt participants to implement similar programs in their own academic institutions. We surmise that this will occur through the establishment of significant social networks sustained overtime.

### **Generalizability**

Beyond the concrete resources needed to run the PMDP, we believe it is critical that the program is embedded in rigorous non-NIH-funded mentoring programs. PMDP leaders are highly experienced in conducting mentoring training and peer mentors were carefully selected and recruited to participate based on their career track record and motivation. These are key elements to address when considering implementing this model elsewhere.

## **CONCLUSIONS**

Tailored mentoring for racially/ethnically diverse faculty is necessary. Near-peer mentoring alone is not the answer. Senior scientists provide the critical sponsorship and advocacy needed to guide mentees toward success in academia. However, if formally structured and enhanced through training, near-peers can provide significant support and leverage the valuable and limited mentoring resources available to racial/ethnic minority scientists and increase opportuni-

ties for productive collaborations. Through this model, increasing the pipeline of scientists needed to address health equity and health for all Americans could be achieved.

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#### CONFLICT OF INTEREST

No conflicts of interest to report.

#### AUTHOR CONTRIBUTIONS

Research concept and design: Williams, Ravenell, Jean-Louis, Kalet; Acquisition of data: Williams; Data analysis and interpretation: Williams, Butler, Ravenell, Kalet; Manuscript draft: Williams, Ravenell, Duncan, Jean-Louis, Kalet; Acquisition of funding: Jean-Louis; Administrative: Williams; Supervision: Kalet

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