

# Enhancing Diversity in the Public Health Research Workforce The Research and Mentorship Program for Future HIV Vaccine Scientists

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African Americans and Hispanics are underrepresented in the research workforce, but these groups are disproportionately affected by a number of conditions and diseases, in particular the HIV/AIDS epidemic in the United States.<sup>1</sup> African Americans account for approximately 13% of the US population<sup>2</sup> and 44% of new HIV infections<sup>3</sup> but only represent 7% of newly enrolled US medical students<sup>4</sup> and 1% of US medical school full professors.<sup>5</sup> Likewise, Hispanics represent 16% of the US population<sup>6</sup> and 21% of new HIV infections,<sup>3</sup> but only 9% of newly enrolled medical students,<sup>4</sup> and 3% of medical school full professors.<sup>5</sup> In addition, the low success rate for many minority subpopulations in securing research funding is thought to be associated with inadequate mentoring as determined by sophisticated methods of statistical concept mapping.<sup>7</sup> A key goal of the pilot program described herein is to develop mentoring strategies to enhance HIV science and career development of medical students early in their training.

Despite high HIV/AIDS rates among African Americans and Hispanics, these groups are underrepresented in clinical trials of HIV prevention and treatment strategies.<sup>8–10</sup> Including African Americans and Hispanics in clinical trials is important because it is possible that immune responses to an HIV vaccine may vary according to race and ethnicity and underrepresentation may limit the generalizability of trial results in these populations.<sup>11–14</sup> In addition, increased participation may ultimately translate to greater acceptability and uptake of newly available products for the prevention and treatment of HIV/AIDS.

One way to address the lack of African American and Hispanic participation in clinical trials is to increase representation of physician scientists from these communities. In one survey, 51% of African American and 57% of Hispanic

**Objectives** We developed and evaluated a novel National Institutes of Health-sponsored Research and Mentorship Program for African American and Hispanic medical students embedded within the international, multisite HIV Vaccine Trials Network, and explored its impact on scientific knowledge, acquired skills, and future career plans.

**Methods** Scholars conducted social, behavioral, clinical, or laboratory-based research projects with HIV Vaccine Trials Network investigators over 8 to 16 weeks (track 1) or 9 to 12 months (track 2). We conducted an in-depth, mixed-methods evaluation of the first 2 cohorts (2011–2013) to identify program strengths, areas for improvement, and influence on professional development.

**Results** A pre-post program assessment demonstrated increases in self-reported knowledge, professional skills, and interest in future HIV vaccine research. During in-depth interviews, scholars reported that a supportive, centrally administered program; available funding; and highly involved mentors and staff were keys to the program's early success.

**Conclusions** A multicomponent, mentored research experience that engages medical students from underrepresented communities and is organized within a clinical trials network may expand the pool of diverse public health scientists. Efforts to sustain scholar interest over time and track career trajectories are warranted. (*Am J Public Health* 2015;105:823–830. doi:10.2105/AJPH.2014.302076)

physicians considered their race/ethnicity an important factor in helping patients overcome their reluctance to participate in clinical trials, compared with only 9% of Whites and 21% of Asians.<sup>15</sup> Underrepresented minority researchers are in a unique position to help address health disparities, enhance results dissemination strategies, and strengthen the public health impact of HIV/AIDS research. They may also have a better understanding of the participation barriers specific to underserved communities and may be more likely than their White counterparts to focus on issues that have disproportionate impacts on minority populations. In addition, these researchers are more likely to serve underrepresented minority populations in their careers<sup>15</sup> and are important role models for future minority physicians and scientists. Minority researchers are often able to identify pertinent research topics and

unique interventions for their communities of origin<sup>16</sup> and can bring diverse perspectives, experiences, and values to research. There is evidence suggesting that diverse groups comprising members with varying perspectives outperform those that have members with more similar backgrounds and perspectives.<sup>17</sup> Capitalizing on the advantages that a diverse group of scientists can provide is particularly important in a field like HIV vaccine research because of its various challenges and complexities.

Because racial and ethnic minorities are underrepresented in medical schools, health professions,<sup>18</sup> and in research careers,<sup>19</sup> scientists, educators, and policymakers have addressed potential barriers and possible solutions to overcome them to build the pipeline toward career development.<sup>20</sup> Despite recent improvements, research indicates that underrepresented minority students are still lost at every