Opinion and Special Articles: Creation of a diversity and inclusion certificate program for neurology residents

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Neurologists must provide excellent care to an increasingly diverse patient population. According to census projections, the United States will become a majority-minority nation by 2060, with no single ethnic or racial group making up a majority of the population.¹ Diversity of gender, sex, sexual orientation, race, ethnicity, socioeconomic status, age, ability, and religion must be acknowledged and understood in order to provide equitable patient care.

Patients with neurologic disorders experience racial, socioeconomic, and geographic disparities in care and outcomes.^{2,3} Furthermore, women and several racial and ethnic groups remain underrepresented in academic neurology (figure),^{4,5} and experience inequity in compensation and professional advancement across academic medicine.^{6,7}

Academic medicine is uniquely positioned to improve the understanding and promotion of equity, diversity, and inclusion (EDI).⁸ Neurology residency training provides a valuable opportunity to educate and engage future neurologists to understand and promote EDI. To our knowledge, there are no structured opportunities for neurology trainees to study these topics.

We created a certificate program focused on EDI within the Harvard Medical School, Brigham and Women's Hospital, and Massachusetts General Hospital Partners Neurology Residency Program. Prior to 2016, certificate programs existed within the residency program to provide training and mentorship for residents interested in basic science or clinical research, quality improvement, global health, and medical education, but not EDI. By explicitly structuring opportunities for trainees to validate and encourage EDI scholarship, rather than passively acknowledging diversity within the residency, we aimed to more fully realize the goal of advancing EDI.

CREATING A DIVERSITY AND INCLUSION CERTIFICATE PROGRAM Kern⁹ proposed an approach to curriculum development for medical trainees, including residents. The 6 steps are (1) problem identification, (2) assessing the needs of the specific

learners to be targeted, (3) determining goals and objectives, (4) choosing an educational strategy, (5) implementation, and (6) evaluation and feedback. Although the initial idea for the certificate program arose informally during discussions among residents and faculty members, all 6 steps were ultimately addressed over the course of the program's creation.

First, residents and faculty identified the problem: gaps in diversity among trainees that included but were not limited to gender and racial diversity, along with often unconscious barriers to inclusion and success for all trainees. Residents, the specific learners to be targeted by the program, identified a need for more formal training in the study and promotion of EDI, both within residency training and within academic neurology. Our goal was to offer a structured educational opportunity that would allow interested residents to connect with mentors and develop the skills necessary to advocate for EDI within their current training environment and over the course of their careers. This structured mentorship and training framework considered the reality of academic medicine's reliance on sponsorship and patronage in all areas, including EDI.

Certificate programs in research, quality improvement, global health, and medical education have been well-received within the residency program since 2014 and thus we chose a certificate program as the educational strategy for this initiative. As with the existing certificate programs, proposed requirements included choosing a mentor, joining a relevant institutional or departmental committee, designing a scholarly project, submitting an abstract or manuscript for presentation or publication, and presenting the results to peers and faculty.

The certificate program was launched in the spring of 2016. Evaluation and feedback mechanisms for the existing certificate programs, including online evaluations and semiannual meetings, will be used to track future outcomes.

PRELIMINARY OUTCOMES OF THE CERTIFICATE PROGRAM As of October 2016, 4/34 (11.8%) of eligible PGY-3 and PGY-4 residents enrolled in the new

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Figure Composition of the academic neurology workforce in 2015

Composition of the US academic neurology workforce (MDs and MD/PhDs) in 2015 relative to the US population by race (A), Hispanic or Latino ethnicity (B), and sex (C) in 2010. *Source data from 2010 United States Census. Available at: factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_DP_DPDP1&src=pt. **Source data from 2015 Association of American Medical Colleges Faculty Roster. Available at: aamc.org/data/facultyroster/reports/453490/usmsf15.html.

certificate program. This is comparable to the number of residents enrolled in the first year of other certificate programs (research = 3; medical education = 4; quality and safety = 4; global and humanitarian health = 2), and is expected to similarly increase.

CASE STUDIES **Case study 1.** One of the certificate program participants (A.S.) was mentored by one of the coauthors (N.I.M.). With other collaborators, they wrote an article about disparities in neurologic health care access among black, Hispanic, uninsured, and low-income patients, which was published in *Neurology*[®] and was presented at the 2017 American Academy of Neurology annual meeting. Within the residency, the participant organized a monthly lecture series on EDI issues, including lectures on unconscious bias, caring for the Boston homeless population and patients with limited English proficiency, and physician advocacy. The resident also served on the Massachusetts General Hospital (MGH) Neurology Diversity Committee, which meets monthly to discuss community and department-based diversity-related initiatives, and attended sessions organized by the MGH Center for Diversity and Inclusion.

Case study 2. Another certificate program participant (A.M.B.) was mentored by a physical medicine and rehabilitation physician who directs a Harvard

Medical School Continuing Medical Education course titled “Career Advancement and Leadership for Women in Healthcare.” The resident attended the course, assisted with organizational tasks, and networked with the course speakers. Together with an interdisciplinary team of coauthors, she and her mentor published an article in the journal *PM&R* about the role of gender in academic medicine. In conjunction with the residency program directors and chief residents, she also worked to increase the visibility of female faculty members during residency applicant interview days, both during didactic lectures and through individual meetings with applicants. Along with 2 of the coauthors (K.E.M., J.L.L.), she secured funding from the residency and the American Academy of Neurology (AAN) to send 11 residents to the AAN’s Women’s Leadership course at the 2016 Breakthroughs in Neurology Conference.

As these case studies demonstrate, residents and mentors alike have benefited from this program. In the words of a resident participant:

This program is important to me because not only does its mere existence acknowledge that there are many issues with diversity and inclusion among our hospitals, but also it provides a platform to address these issues.

According to one of the mentors:

Developing and launching the program gave me an opportunity to partner with trainees. Together, we developed an idea that seemed meaningful to both faculty and residents. The new format has formalized relationships and brought greater accountability with regards to the outcomes of our collaborations. In a short time, fruitful projects have emerged and led to new programs, research presentations, and publications.

IMPLICATIONS AND FUTURE DIRECTIONS The creation of an EDI program for neurology trainees is feasible. Initial enrollment and outcomes suggest that the program responds to neurology trainee needs and interests. Immediate results of this educational initiative have already led to positive changes. An added benefit of this program is its contribution to meeting Accreditation Council for Graduate Medical Education Program Requirements for Graduate Medical Education in Neurology that advocate for “sensitivity and responsiveness to a diverse patient population” and “an awareness of and responsiveness to the larger context and system of health care.”¹⁰ Scholarly activity promoting EDI as an essential part of academic neurology can nurture a skilled, impassioned, and increasingly diverse workforce committed to eliminating disparities affecting patients and physicians. We encourage implementation of similar initiatives in neurology training programs throughout the country.

AUTHOR CONTRIBUTIONS

Anna M. Bank and Altaf Saadi contributed equally to design, conception, and drafting of this manuscript and critical revision of the article. Kathleen E. McKee, Nite I. Mejia, and Jennifer L. Lyons provided critical revision of the article. All authors approved the final submitted version.

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