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Editorial

Engage me: Will residency program directors listen?

The rapidly increasing diversification of the United States' population brings forwards the need to cultivate a more diverse physician workforce that is equipped to provide care for patients of varying cultures and backgrounds. Mismatch between provider and patient populations can be detrimental to patients' access to health care as well as the development of meaningful physician-patient relationships. Abelson et al. notes that in 2014–2015, Black/African American and Hispanic individuals constituted only 6.2% and 8.5% of general surgery trainees despite representing 12.4% and 17.4% of the U.S. population, respectively [1]. Diversity and inclusion go beyond just race, however. Gender imbalance is a problematic issue that is seen in many specialties, especially orthopedics (84.6% males), neurosurgery (82.5% males), and interventional radiology (80.8% males) [2]. One study notes that Black/African American women make up only 0.79% of the US medical school surgical faculty and are recipients to just 0.34% of NIH grants awarded to academic surgeons [3]. Program Directors (PDs) have a responsibility to develop a more diverse physician workforce through recruitment and have played integral roles in the movement towards closing this gap in diversity within surgical training. Acknowledgement of the current gap as well as recognition of current interventions and suggestions is crucial to further improvements. In recent years, implementation of multi-level modifications, including outreach initiatives, diversity within faculty and leadership, and the development of a holistic review approach, have been shown to be potentially successful strategies in achieving greater diversity and inclusivity in resident recruitment.

Increased outreach efforts and recruitment strategies to target applicants of varying backgrounds is a key step in improving training diversity. Dinh et al. studied the prioritization of diversity during the residency match by analyzing NRMP data, and they found that the respondents' rating of both geographic diversity (27.8% vs. 33.2%) and institutional diversity (22.3%–33.8%) increased in priority between 2008 and 2017 [4]. Increased emphasis on commitment to underserved communities and diverse recruitment teams at events and conferences resulted in an 80% increase in underrepresented minority applicants [5]. Given this data, we strongly encourage PDs to emphasize diversity as a priority in their program through outreach measures. The Association of Program Directors in Surgery suggest that PDs develop strategic partnerships with local medical schools, undergraduate institutions, and underrepresented minority (URM)-oriented organizations to improve outreach and showcase their programs. In this way, they can also foster students' interests in surgical specialties by hosting a variety of information panels and workshops (i.e. suturing, case presentations, externships), and by promoting participation in research-focused and clinically relevant summer opportunities [6]. While these outreach programs already exist in many institutions, we urge PDs to place a stronger emphasis on the recruitment of URMs.

While there has been significant progress towards diversity in the physician workforce, women and URMs still hold disproportionately fewer positions in academic and clinical leadership. In one survey among orthopedic surgery PDs, 69.2% of respondents claimed that a lower number of minority faculty is a barrier to diversity and deters applicants. The authors' showed a correlation between higher numbers of underrepresented minority faculty and higher minority representation among residents, and institutions with more female faculty have been shown to have a higher number of female residents [7]. Given these statistics, increased recruitment of URM faculty would be greatly beneficial in fostering a more inclusive environment for future surgery residents. We acknowledge that this diversity within faculty might be better suited for a call to action of Surgical Chairs or Deans of medical schools, and we encourage PDs to have open discussions with their colleagues on this topic.

Many residency programs have started to re-evaluate their approach to interviews and selection, and we strongly encourage PDs to continue making these changes to improve diversity and inclusivity among surgical trainees. Gonzaga et al. proposes a 5-point inclusive recruitment framework for the diversification of GME training programs: (1) setting diversity as a priority, (2) seeking out candidates via holistic review, (3) implementing inclusive recruitment practices, (4) investing in trainee success, and (5) building the pipeline [8]. By investing time and effort towards these initiatives, PDs can continue to play a crucial role in improving healthcare education, patient-physician relations, and expanding healthcare access and support to more communities.

Given the competitive nature of the residency matching process, PDs and selection committees often utilize standardized metrics such as the USMLE Step 1 and 2 as performance measures for candidates. However, the high influence of these test-based criteria on the residency match process has unintendedly become a form of structural bias and a barrier to diversity [9]. Preparation for these standardized tests often involve extensive financial expenses and students of lower socioeconomic background may not be in a position to make use of these resources [9]. In addition, studies have reported that an applicant's performance in the USMLE exams is not necessarily related to their clinical skillset.

PDs should explore alternative screening methods that assess both the candidates' academic and clinical performances beyond the standardized metrics. Aibana et al. discuss the PD and selection committee's efforts to promote a holistic review process by placing more significance on applicants' life experiences. Following implementation of this holistic approach, this study reported an increase from 14.1% to 20.4% in the number of minority

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Table 1
Setting diversity as a priority – suggested interventions.

Holistic review of candidates [6,8]	De-emphasizing the significance of USMLE scores [6,9,11]
	Use of adjunct screening tools (i.e., situational judgement tests, character-based questions) [6,9–11] to assess candidates' attributes and personal qualities
	Selection of an inclusive and diverse interviewing committee [6,10,11]
	Development of structured interview questions to eliminate possible biases [6,10]
	Withholding applicants' names, photos, and ethnicities from the application review process
Inclusive recruitment strategies [6,8]	Strategic partnership with local medical schools and/or undergraduate institutions [6]
	Organization of information panels and workshops (i.e. case presentations, suture clinics, etc.) [6]
	Developing research-focused and clinically relevant summer opportunities with emphasis for URM participants
	Residency interview workshops and mentored clerkships to increase applicants' exposure to the program [6]
Investing in trainee success [6,8]	Focus on employee retention strategies through continued mentorship opportunities, networking, and positive institutional culture [6,12]
	Acknowledge existing biases within the program and work towards eliminating discriminatory culture [6,8]
	Development and enforcement of strict policies against microaggressions and bias incidents [6,8]
	Encourage open communication between trainees and faculty to foster a positive and supportive environment [6]
	Training faculty and residents on implicit bias and organization of workshops to continue raising awareness of existing issues [6,8]

applicants reviewed, and they saw a significant increase in the matriculation of minority residents [10]. Nehemiah et al. compare the impact of "traditional" versus holistic approach to general surgery recruitment and report a statistically significant increase in the proportion of URM students (14% vs 20%, $p = 0.046$) and women (42% vs. 61%, $p < 0.01$) ranked in the program when using the holistic approach. While the matching statistics did not show statistical significance, they noted that there was an increased proportion of women (33% vs. 54%) and URM (14% vs. 21%) applicants who matched when the holistic approach was employed [11]. In one study, Gardner et al. suggest the recruitment and partnership with experts outside of medicine to create applicant screening activities suited to the program's individual mission. In their study, the authors recruited industrial organizational psychologists who analyzed the values and desired competencies of the PD and other critical members of the program's selection committee to develop a situational judgement test (SJT) as a selection tool that could serve as a more valid measure to predict on-the-job performance of candidates [9]. This form of evaluation could serve as an adjunct to interviews and may serve as the residency equivalent of multiple mini interviews (MMI), which are growing in recognition in medical school recruitment.

PDs and key stakeholders in the residency training programs are encouraged to discuss and reach a consensus on a framework and standardized strategy to support diversity in GME recruitment (Table 1). Suggestions to develop a holistic application process include the recruitment of an inclusive and diverse interview selection committee, the implementation of implicit bias training among all faculty and residents participating in the selection process, appropriate (I think "measured" might be a better word here) emphasis on USMLE scores, promotion of applicant characteristics and valuable attributes that resonate with the program's mission statement (i.e. leadership, quality patient care, research, intellectual curiosity, etc.), and the withholding of applicants' photos, names, and ethnicities throughout the application process [6,8,9,11]. PDs may also work with their committees to develop standardized interview questions [1] to streamline the process and avoid additional bias during interviews. The development of standardized interviews and the holistic review process should be done with the engagement of PDs, core faculty, and other key stakeholders in the GME program.

Implicit bias - the negative evaluation of an individual based on irrelevant or immutable characteristics (race/ethnicity, gender) that is done outside of conscious awareness - is a significant barrier to diversity; however, reforms on both systematic and individual levels can reduce the impact of implicit bias in the selection process. Unconscious bias training prior to the interview season can foster meaningful discussion regarding implicit bias and its effect on recruitment, and this may assist the PDs in continuing their efforts to promote diversity within their institutions. Additionally, the long-term achievement of diversity, equity, and inclusivity within any training program requires active retention efforts beyond just the recruitment phase [12]. The absence of mentoring disproportionately affects women and faculty of color and may adversely affect the long-term achievement of diversity within a program [12]. Ongoing mentorship between faculty, residents, and medical students are significant factors that may contribute to recruitment and retention. Furthermore, PDs must be aware that the issues of microaggressions and discriminatory culture within the program may exist. PDs can make ongoing efforts towards eliminating this discriminatory culture through the establishment of strict and enforced policies to address and correct bias, promotion of a sense of accountability among faculty, enhancement of prompt and appropriate responses to bias incidents, and regular evaluations of the program.

Numerous interventions and strategies within surgical graduate medical education have been put to action in the recent years to develop a more diverse, equitable, and inclusive training program for the new generation of physicians, and we appreciate the efforts of PDs in addressing this gap in health education. Our hope is that further implementation of multi-modal interventions, including but not limited to outreach and community education, URM mentorship, summer opportunities, holistic approach to the evaluation of candidates, and the establishment of strict policies against bias incidents will assist PDs and faculty in continuing to make a positive impact on the future of GME.

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