Opinion & Special Articles: Maximizing Inclusiveness and Diversity Through Virtual Residency Applications and Interviews

Joshua A. Budhu, MD, Ana I. Velazquez, MD, MSc, Rana R. Said, MD, and Justin T. Jordan, MD, MPH

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Correspondence

Dr. Budhu

jbudhu@mgh.harvard.edu

A diverse workforce is critical to providing high-quality, equitable neurologic care. Many neurologic conditions disproportionately affect Black and Latinx people, but these populations have limited access to neurologic care.^{1,2} Although healthcare disparities can be reduced with a diverse workforce,³⁻⁷ just 2.8% of neurologists are Black and 7.2% are Latinx, compared with the most recent US census with 12.8% of individuals identifying as Black and 18.4% as Latinx.^{8,9} The gap also exists at the trainee level; 4.4% of neurology residents are Black and 7.2% are Latinx.¹⁰ Recruitment of an inclusive residency class is paramount to addressing these inequities.^{3,5,7,11} A record of 42,508 medical students and physicians applied for residency positions in the United States in 2020–2021, as the application season moved to a virtual format because of the COVID-19¹² pandemic. Future residency application seasons will likely be a hybrid of in-person and virtual recruitment. This change presents both unique opportunities and challenges for the recruitment of a diverse and inclusive residency class.¹³

With careful planning, virtual recruitment and interviewing could be a powerful tool for improving equity, although virtual interviewing also carries the risk of exacerbating both conscious and unconscious bias. Residency programs, program directors, and interviewers must proactively plan to maximize inclusiveness and address bias, which otherwise could further increase gender and racial disparities in medicine. Here, we provide a number of recommendations for recruiting, interviewing, and ranking applicants in today's virtual landscape. These recommendations mainly focus on virtual recruitment, but some, such as moving to a holistic application review rather than strict United States Medical Licensing Examination (USMLE) scores or grade-point average (GPA) cutoffs, will help to improve overall diversity and inclusiveness, consistent with our field's goals.^{14,15}

Challenges

The process of residency recruitment is fundamentally different for a virtual application season. Although these changes affect all candidates, it is important to note that in-person recruitment activities have historically been helpful toward the goal of inclusion and diversity in residency programs,¹⁶ overcoming risk of bias (in part) through relationship building. Although visiting clerkships can be a financial hardship for some,¹⁷ many programs and medical schools offer fully funded visiting clerkships for applicants who are underrepresented in medicine (UIM). Because visiting away rotations were canceled for the 2020–2021 academic year,¹⁸ UIM applicants were disproportionately affected by such closures, decreasing opportunities to obtain letters of recommendation and decreasing exposure to subspecialized fields that may be unavailable in their medical schools.

In the current era, there is an increased number of applicants—especially previously unknown applicants, which amplifies the challenge of selecting whom to interview. Many programs use USMLE and GPA cutoffs in the decision to interview applicants; however, standardized tests are notoriously biased against UIM applicants, and such cutoffs disproportionately screen out

From the Department of Neurology (J.B., J.T.J.), Massachusetts General Hospital, Harvard Medical School, Boston; Department of Medicine (A.I.V.), Division of Hematology/Oncology, University of California San Francisco; and Department of Pediatric Neurology (R.R.S.), University of Texas Southwestern Medical Center, Dallas.

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Table Key Recommendations to Maximize Inclusiveness and Diversity in Virtual Recruitment

Increase intentional outreach

- Leverage social media to highlight program's strengths, resident experiences, and life in program's location
- Participate in virtual conferences and exhibits from minority medical student associations
- Create virtual rotations for UIM medical students
- Host virtual open houses and networking events

Minimize bias in reviews and evaluations

- Eliminate score cutoffs and application filters
- Adopt a holistic application review and ranking process
- Provide implicit bias training to interviewers and application reviewers
- Develop structured interview guides

Create inclusive virtual interview environments

- Adopt accessible videoconferencing platforms
- Allocate time and resources for technology testing and troubleshooting
- Highlight program's commitment to diversity and ongoing efforts to ensure an inclusive environment
- Engage diverse groups of faculty, trainees, and staff during the interview day

otherwise qualified and diverse applicants.^{11,19-21} With the increase in the number of applications and interviewees, the reliance on older algorithms for interviewing and ranking needs to be reevaluated.

Finally, the virtual interview format also has unique challenges that need to be addressed.²² Not every applicant has access to ideal lighting, Internet, and environment for the interview day. Virtual or video interviews inevitably lose some of the richness of human interaction, such as the loss of nonverbal cues and the addition of lag time,²³ and create risk of bias. As such, finding the right program “fit” and program culture is tougher with virtual-only interviewing.

Opportunities

Although the COVID-19 pandemic has produced new challenges, it has opened many possibilities for improving diversity and inclusion. For instance, improving accessibility to educational content through virtual offerings may overcome access discrepancies for UIM students. Informational showcases that were traditionally held in person, including those of the Student National Medical Association (SNMA) and Latino Medical Student Association (LMSA), are now widely accessible in an online format (real-time and prerecordings).²⁴⁻²⁶ Virtual shadowing experiences reduce financial and logistical hurdles to students gaining exposure to specialties, even if the full breadth of an away rotation is not fully recapitulated.²⁷ Finally, creation of online educational content, such as a repository of case videos,²⁸ may both improve house staff education and showcase the educational commitment of a program.

Virtual events and outreach to encourage relationship building and mentoring can have many more attendees now, serving as

opportunities to provide more context to both programs and applicants. Although these events may provide a first glimpse of the possibility of a career in neurology for medical students at any institution, invitations should be especially directed to schools with high proportions of students who are UIM, such as historically black colleges and universities, Hispanic-serving institutions, and medical schools in Puerto Rico.^{14,15}

One opportunity that cannot be overstated for virtual recruitment is the mitigation of financial hurdles to becoming a neurologist. Most fourth-year medical students spend between \$1,000 and \$5,000 on residency interviews, and more than 20% of students spend >\$5,000.¹⁷ Therefore, the switch to virtual interviews abrogates one of the most common financial barriers to medical student applicants. This is especially helpful for students who are UIM because they are more likely to carry student debt and less likely to have financial security and resources available for interviews.^{29,30} The ability to successfully match to a residency program should be based on academic merit and holistic value, not the financial ability to navigate the interview process.

Recommendations

First, programs should maintain robust outreach programs, with a focus on minority applicants. Programs should send representatives virtually to SNMA and LMSA conferences, and participate in virtual residency showcases aimed at recruiting and supporting UIM students.²⁶ Multi-institutional educational seminars should continue, showing unity throughout our specialty. We encourage programs to use social media actively and professionally. Social media is a valuable tool for outreach toward UIM applicants, and in the absence of in-person experiences, social media helps to convey a flavor of both the location of the program and resident experiences. Groups such as the #NeuroTwitterNetwork provide a centralized means of accessing perspective neurology trainees, whereas other groups such as #BlackInMedicine, #LatinxInNeuro, #DiversityInMedicine, and @Neuro_Equity offer even more direct access to important populations.³¹

Next, we recommend revising interviewee selection and rank list creation, removing cutoffs for USMLE test scores or Alpha Omega Alpha membership. Instead of such heuristics, programs should develop new ways to evaluate the totality of an applicant's experience, resilience, knowledge, professionalism, enthusiasm, and willingness to work. There is evidence of reduced racial discrepancy in interview offers by eliminating a USMLE Step 1 cutoff score²⁰ and of increased diversity in interviews and residency classes by initiating a holistic review process, focusing on applicants' diverse life experiences and commitments to the underserved.^{11,32} These measures ensure that qualified candidates are not “screened out” based on outdated metrics and biased admissions policies. Every application should be reviewed, and programs should move toward a mission-aligned selection process to promote equity.

With the move to virtual interviews, many additional opportunities arise to reduce disparity and bias. We recommend that medical schools provide students with a professional virtual background. In addition, medical schools should provide virtual interview training sessions and mock interviews to decrease student anxiety and unfamiliarity with the virtual format, providing feedback on verbal and nonverbal communication. Schools should provide their applicants with suitable space on campus or access to shareable commercial space to help prevent Internet or location insecurity. It is important for interviewing residency programs to use commonly available videoconferencing platforms and provide backup telephone access to interviews in case of Internet malfunction. Programs should have staff available for troubleshooting and must ensure that interviewing faculty does not hold access issues unfavorably on scoring or recounting the interview.

Interviewers and programs should structure interviews with standardized questions to minimize variability. Unstructured interviews have been shown to incorporate bias because interviewers tend to demonstrate preferences for individuals of the same ethnic and gender background.^{33,34} Structured interviews with standardized questions have been shown to correlate with job performance more than unstructured interviews.³⁵ An alternative to standardized questions would be using multiple mini-interviews, which combine traditional interviews with clinical scenarios and have been found to be a predictor of performance in medical school³⁶ while also decreasing bias in the interview process.³⁷ Interviewers should undergo implicit and unconscious bias training. In addition, residency programs that plan to return to in-person interviews should explore hybrid models that offer both virtual and in-person interviews as options to prospective applicants. Programs must ensure that the choice of virtual vs in-person format does not affect applicant scoring or ranking.

Finally, while bearing in mind the risk of burdening faculty with additional diversity tax,³⁸ a demonstration of faculty and resident diversity through interview panel members, social events, informational pamphlets, and a clear mission statement will be critical to promote inclusivity in the interview season. The Association of American Medical Colleges has published recommendations for virtual interviewing medical students; these can easily be applied as a baseline guide for residency programs.³⁹

Lessons learned during the 2021 virtual residency recruitment and interview season have the opportunity to positively affect future generations. An intentional and purposeful virtual approach to recruitment, interviews, and ranking—with a major focus on inclusivity and diversity—has the potential to supplement the traditional interview process in perpetuity. We encourage residency programs and applicants to share challenges and successes during virtual and hybrid application seasons. Removing barriers and increasing diversity will benefit our patients, our profession, and our future (Table).

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Appendix Authors

Name	Location	Contribution
Joshua A. Budhu, MD	Massachusetts General Hospital, Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA	Conception, writing, critical revision, and final approval of the text
Ana I. Velazquez, MD, MSc	University of California, San Francisco	Conception, writing, critical revision, and final approval of the text
Rana R. Said, MD	University of Texas Southwestern Medical Center, Dallas	Critical revision and final approval of all text
Justin Jordan, MD, MPH	Massachusetts General Hospital, Harvard Medical School, Boston	Conception, writing, critical revision, and final approval of all text and images

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