Mitigating Bias in the Era of Virtual Residency and Fellowship Interviews

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The COVID-19 pandemic has necessitated a shift from in-person to virtual for many experiences in graduate medical education. These alterations will affect the residency and fellowship application cycles, with the Association of American Medical Colleges (AAMC) recommending that residency programs conduct all interviews in a virtual setting.[1] While this will serve as an opportunity for residency and fellowship programs to trial a new mode of interviews, we believe mindfulness is prudent as this new mode will likely be subject to bias that can further disadvantage medical student and resident applicants from underrepresented racial backgrounds and lower socioeconomic status. Here, we explore strategies for bias mitigation and recommend some tips (BOX) for residency applicants and programs to mitigate bias.

Over the past 10 years, interest in the use of virtual interviewing for residency and fellowship applications has increased.[2–10] Virtual interviews offer several advantages over traditional in-person interviews, including greater convenience, lower costs for applicants and programs, increased scheduling flexibility, and mitigation of geographic constraints for applicants.[2,11] Disadvantages of this interview approach include missing out on often intangible indicators such as body language; applicants not being able to get to know faculty, residents, and fellows at a given program to assess fit; and the potential for blunted interactions between staff and applicants. Establishing best practices from available data, the AAMC has offered guidance for residency programs and medical students in planning for virtual interviews.[11] While practical and comprehensive, a discussion of bias is needed.

It is well established that bias permeates many aspects of medicine.[12] The ways in which bias may be mitigated, specifically for virtual interviews, are myriad. Bias reduction starts with acknowledging that implicit bias exists within us all. Promoting awareness of one's implicit bias can be a first step toward addressing it.[13] The Implicit Association Test (IAT) has been shown to affect attitudes of admissions teams at the medical school level.[14] Encouraging all members of the selection committee for residency and fellowship to perform at least one IAT prior to interviewing candidates would serve as a means to raise this awareness.

In addition to establishing awareness of implicit bias, the mechanics of the interview process itself has opportunities for bias mitigation. The traditional interview approach is unstructured, where each interviewer chooses academic criteria and application information to formulate questions for applicants.[15] This can introduce bias as interviewers bring their preconceived perceptions to the interaction. In contrast, a structured interview consists of questions established by the selection committee which are asked of every applicant. Utilizing a structured interview format with a standardized rubric could be especially helpful in the virtual interview setting because the agenda of the selection committee would be carried out for all applicants equitably. Bias can be introduced even in structured interviews. Multiple mini interviews are a way for programs to dilute the biases of one or a handful of interviewers and also allow applicants to meet and interact with more faculty members.[15]

While assessing applicants, interviewers will be trying to assess for interpersonal attributes that hopefully predict success both in the specialty of interest and the residency/fellowship program. Studies have shown that unblinded interviews, those in which the interviewer can view cognitive data like United States Medical Licensing Examination (USMLE) Step 1 scores and clerkship grades, can bias the interviewers toward scores like USMLE Step 1.[6] Therefore, a fourth recommendation is to blind the interviewers to this cognitive data so that they can assess applicants without the influence of these factors. This is especially important when recognizing that underrepresented in medicine (UiM) students historically score lower on standardized tests like the USMLE Step 1.[16]

While these strategies are employed, it is important that applicants and programs alike consider 3 broader sources of bias: interview environment, assessment of "fit," and application inflation.

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BOX Recommendations for Program Directors to Mitigate Bias in Virtual Residency Interviews

1. Encourage Implicit Association Test (IAT) for all interviewers participating in the process.
2. Develop structured interviews with a standardized rubric.
3. Utilize multiple mini interviews.
4. Blind interviewers to applicants' cognitive application data.
5. Encourage virtual meet ups of underrepresented in medicine (UiM) faculty, staff, and applicants.
6. Evaluate diversity representation at the end of the interview cycle to identify areas for improvement.

Effect of Interview Environment

Virtual interviews will be the first time that residency and fellowship programs may be invited into the personal residences of applicants. For applicants who live in spaces that are private, well-lit, and without distractions within a backdrop that is "clean and neat" as recommended by the AAMC, the virtual interviewing process may be comfortable and even preferred.[17] However, for applicants who cannot afford this type of environment, it may add further stress and present a challenge for interviews. Although there has been recognition of the potential for distraction due to the applicant interview environment as mentioned in guidance from the AAMC, there have been no formal recommendations for standardization of the interview environment.[18] To combat this potential bias, it is essential that governing bodies provide recommendations for standardized backgrounds like a neutral colored wall that is devoid of belongings. Standardizing the virtual interview environment is a straightforward process that may limit unintended effects on applicants of lower socioeconomic status.

Assessing "Fit" in Virtual Interviews

Another challenge of virtual interviewing is the loss of opportunity to form personal connections with residency and fellowship programs. While in-person interviews allow applicants to develop relationships with faculty and residents over the course of the interview period, virtual interviewing may lead to less interaction with faculty and trainees. The National Resident Matching Program 2018 Program Director Survey found that the 3 highest rated factors in programs' ranking of applicants for all specialties were interactions with faculty and residents during the interview visit and interpersonal skills.[19] Applicants have rated how well they perceive that they will "fit" with the program as the second most important factor.[20]

Virtual interviews may pose a challenge for all applicants in this regard as interaction with faculty and residents will be limited. However, UiM students may be particularly disadvantaged. Recent studies have found that while a growing number of applicants consider institutional diversity when applying to residency programs, UiM students find diversity of programs more important than their non-UiM counterparts when creating their rank lists.[18,19] If UiM students are unable to interact with representative faculty and residents, they may be less inclined to rank a program highly that may be a good fit. In order to mitigate this, programs should include a diverse group of faculty and residents for interviews and consider regular virtual meetups during which UiM applicants can interact with UiM residents and faculty in a more informal environment. While this will help UiM applicants assess fit, we must be mindful that this approach will contribute to the "minority tax" of faculty and trainees who will be burdened by these additional requests.

Effect of Application Inflation on UiM Applicants

Finally, the potential increase in applications to each residency and fellowship program could be detrimental to efforts to diversify programs. Over the past decade the number of residency applications has increased consistently.[21,22] Although virtual interviewing could give students of lower socioeconomic status opportunities to interview at programs that they might not otherwise due to travel constraints, the overall number of applications, and potentially interviews, will also likely increase. This could heighten the already burdensome task of screening applicants for interview. Holistic review becomes even more important in this landscape. Increasingly, programs should use strategies to mitigate implicit bias and identify attributes in applicants that make for an excellent physician. Programs can look to the AAMC's Holistic Admissions Process as a guide.[23] Moreover, if programs consider limiting the number of interviews further to stem application inflation, special attention should be paid to ensure that those who are offered interviews reflect the diversity in the population served by the program and the increasing diversity of the US population.

Conclusions

In this time of uncertainty and changing standards in the residency and fellowship application process, it is

imperative that we use virtual interviews and other virtual contacts in ways that level the playing field for all. Taking these steps to mitigate bias may improve program diversity. In doing so, we will harness the benefits of technology to ensure an equitable application cycle.

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