LORI A. DEITTE, MD, PRISCILLA J. SLANETZ, MD, MPH

The Radiology Residency Application Arms Race—Is Preference Signaling the Answer?

Priscilla J. Slanetz, MD, MPH, Michael Ngo, BS, Kamran Ali, MD, Teresa Chapman, MD, MA

The coronavirus disease 2019 (COVID-19) pandemic has made virtual interviews the norm as students seek to secure a residency position. With the United States Medical Licensing Examination (USMLE) Step 1 examination becoming pass-or-fail next year, residency programs are faced with devising a new way to select appropriate candidates from an increasingly overwhelming number of applications for the available positions. In fact, some programs are experiencing a 20% to 25% increase in applications this year alone. Although programs are being encouraged to implement a more "holistic" approach when selecting students for interviews, the increasing number of applications is making this process quite challenging. Recently, the Association of American Medical Colleges introduced a pilot of preference signaling, a process by which applicants applying to specific specialties can indicate, or "signal," their interest to up to five training programs.

FOR RADIOLOGY, IS PREFERENCE SIGNALING THE SOLUTION THAT WILL MAKE THE RESIDENCY SELECTION PROCESS BETTER FOR PROGRAMS AND APPLICANTS OR WILL THIS APPROACH ONLY COMPLICATE THE PROCESS FURTHER?

Response from Michael Ngo, BS, Fourth-Year Medical Student, Boston University School of Medicine

With the switch to virtual interviews and a dramatic increase in applications, radiology residency programs are tasked with finding applicants who are not only qualified but also genuinely interested. Preference signaling has been proposed as a possible solution to help programs with this goal. However, requiring applicants to signal programs could make the application process more complicated without adding substantial benefits for the applicant. In addition, it might not even solve the underlying problem of overapplying.

Signaling will add another level of complexity that applicants would need to navigate. Without a clear understanding of how programs will use signals in their assessment, there will be differing opinions on the best way to leverage these signals to maximize their chances of obtaining an interview, which could disadvantage applicants without strong mentors to help guide them through this new system. Additionally, the benefits of preference signaling seem minimal. Applicants can already express their interest in a program by participating in away rotations, writing letters of interest, and customizing personal statements. Because these methods exist, the incorporation of signaling may only increase the amount of work for applicants.

Furthermore, preference signaling is unlikely to fix the core problem of overapplying. Programs will likely interview applicants who did not signal to their program; thus, overapplying to many programs will increase an applicant's chance of receiving an interview and eventually matching. Rather than implementing a new system that could complicate the application process without addressing the underlying issue of overapplying, efforts should be concentrated on piloting ideas that could minimize the advantage that comes with sending more applications.

Response from Kamran Ali, MD, Program Director-Diagnostic Radiology, University of Kansas School of Medicine-Wichita

Preference signaling is an intriguing concept to a program director of a small or university-affiliated program in the heartland of America. Virtual interviews have been beneficial to our program because more candidates get to "see" our program without the added cost of travel. Yet we are never sure who is genuinely interested in the program or using as a filler on their way to interviews at programs with ivory towers. As Step 1 scores become pass or fail, we anticipate even more applications to our program. With limited resources and limited faculty bandwidth to conduct a rigorous review of applications, the applicant review will certainly be daunting for small programs.

Would preference signaling help a program like ours, which is in a geographically isolated part of the country? We have many applicants

with stellar credentials who interview at numerous other programs. Although many of our matched applicants are from the Midwest, having a coastal applicant preference signal our program would be highly valuable in knowing their genuine interest in relocating to the Midwest. Although a seasoned interview committee can certainly help, many interviewees blend in with an impressive body of work in medical school and polished interview skills. Ranking these candidates can become an educated guessing game into "they are great, but will they really come to Wichita?"

Although preference signaling is not "the" proliferation treaty that will solve the application arms race, it will certainly offer value in the form of another metric small programs can use to facilitate holistic reviews and interview selections. We do not anticipate a deluge of preference signals, but even one or two may help tilt the odds slightly further in a program's favor to a successful match of a small complement of residents.

Response from Teresa Chapman, MD, MA, Diagnostic Radiology Residency Program Director, University of Washington

The goals of a residency program director (PD) during the recruitment season are multifold. We are tasked with recruiting, selecting, and successfully admitting the candidates best suited for our training programs' intended aims. This requires an initial team of qualified, energetic, and dedicated selection members who can conduct holistic reviews of the submitted applications and a second team of interviewers with dedicated time to meet with the selected candidates. Ensuring high-quality holistic reviews of every individual within this ever-enlarging pool of applications is an impossible task.

Some form of cursory screening process is required in this selection process—either a rapid reading of the application by an individual or a filtering system based on data such as USMLE or COMLEX scores. Both methods inevitably risk skipping qualified applicants who, under different circumstances, might have been admitted to our program and thrived. A recent study showed that without available USMLE Step 1 scores, applicant selection is likely to lean more heavily on Step 2 scores and medical school reputation [1]. This has the potentially harmful effect of discounting exceptional individuals with backgrounds from lower socioeconomic resources. Strategies are necessary to reduce the number of applications requiring review.

The stated primary goal by the Association of American Medical Colleges for preference signaling is to provide a process for sharing genuine interest in a program that enhances accuracy and fairness [2]. I, and others, believe this will be an important part of the solution to address overapplication—preference signaling is supported by most radiology PDs surveyed about mitigating the overapplication phenomenon [3]. As a PD, I want certainty that our incoming trainees will be happy in their new job. Knowing they are aiming to be in the region or at our university is undeniably reassuring. Key to implementing this feature is the Program Code of Conduct, requiring that (1) programs shall not disclose which applicants signaled or did not signal; (2) programs shall not ask interviewees where they signaled; and (3) programs shall not disclose the number of signals received. The only concern I have about preference signaling is that some programs may make the mistake of limiting their consideration of candidates exclusively to those who

signaled, and this is not the intended design outcome.

SUMMARY

In summary, both graduating medical students and training programs are facing challenges with the residency match related to an exponential increase in applications exacerbated by virtual interview platforms adopted since the COVID-19 pandemic. Given limited interview slots, programs desire to holistically review applicants but realistically need tools to filter and identify the candidates that will excel in the program and are genuinely interested in matching. Students are focused on maximizing their ability to match and often apply broadly to an excessive number of programs to ensure that they match successfully.

Given that virtual interviews are here to stay, several approaches to de-escalate the rise in applications and help programs make more informed interview decisions have been considered, including increasing the cost of applications, setting an application cap, requiring standardized letters of recommendations, implementing secondary application questions, allowing applicants to rank geographic preferences, and asking applicants to "signal" up to six programs of interest. A recent survey of 2021 otolaryngology applicants and PDs showed that signaling statistically increased an applicant's chance of receiving an interview and a majority viewed signaling positively [4]. If selective (limited to a small number of programs), signaling does achieve its intended result of indicating genuine interest [5], although many applicants have accomplished this same effect for years through targeted emails, personalized personal statements, or telephone calls to residency program leadership from faculty or a medical school dean.

Is preference signaling the answer? The data are not in yet. However, in the 2022 match, radiology residency programs will be participating in a pilot that will not only entail preference signaling, but also allow applicants to rank up to three geographic preferences and answer supplemental application questions highlighting up to five meaningful past experiences. The hope is that this approach will make it easier for programs to select applicants and that applicants will focus on targeting fewer training programs. It remains unclear how this tiered approach will help except that it will create two new ERAS filters that programs almost certainly will use—one based on signaling and one on geographic location. That information, in addition to Step 2 scores, may become the next tools by which programs narrow down the applicant pool. Realistically, however, a holistic review is the only sure way that programs and applicants will find the best match for postgraduate training.

REFERENCES

1. Maxfield CM, Montano-Campos JF, Chapman T, et al. Factors influential in the selection of radiology residents in the post-Step 1 world: a discrete choice experiment. J Am Coll Radiol 2021;18:1572-80.
2. Association of American Medical Colleges. Supplemental ERAS application guide. Published 2021. Available at: https://students-residents.aamc.org/media/12326/download. Accessed January 29, 2022.
3. Moran SK, Nguyen JK, Grimm LJ, et al. Should radiology residency interviews remain virtual? Results of a multi-institutional survey inform the debate. Acad Radiol 2021;18 S1076-6332(21)00491-8.
4. Pletcher SD, Chang CWD, Thorne MC, Malekzadeh S. The otolaryngology residency program preference signaling experience. Acad Med 2021. https://doi.org/10.1097/ACM.0000000000004441.
5. Salehi PP, Azizzaseh B, Lee YH. Preference signaling for competitive residency programs in NMRP. J Grad Med Educ 2019;11:733-4.

Priscilla J. Slanetz, MD, MPH, is Vice Chair of Academic Affairs in the Department of Radiology and Associate Program Director of the Diagnostic Radiology Residency at Boston University Medical Center, Boston, Massachusetts; Director of Early Career Faculty Development and Co-Director of the Academic Writing Program for Boston University Medical Group; President of Massachusetts Radiological Society; Vice President of the Association of University Radiologists; and Subspecialty Chair of the ACR Appropriateness Criteria Breast Imaging Panels. Michael Ngo, BS, is from the Department of Radiology, Boston University Medical Center, Boston, Massachusetts. Kamran Ali, MD, is Diagnostic Radiology Residency Program Director, University of Kansas School of Medicine, Wichita, Kansas; President of the Wichita Radiological Group; Chair of the Small/Non-University Committee for APDR; and Councilor for the Kansas Radiological Society. Teresa Chapman, MD, MA, is Diagnostic Radiology Residency Program Director, University of Washington, Seattle, Washington.

Priscilla J. Slanetz, MD, MPH: Boston University Medical Center, Department of Radiology, 820 Harrison Avenue, FGH-4, Boston, MA 02118; e-mail: priscilla.slanetz@bmc.org.