

Chang Chia-Wai (Orcid ID: 0000-0002-0141-7583)
Pletcher Steven (Orcid ID: 0000-0003-0127-927X)
Malekzadeh Sonya (Orcid ID: 0000-0002-1631-4392)

Manuscript title: Preference Signaling for the Otolaryngology Interview Market

A short running title of 40 characters; Preference Signaling

The full names of the authors and highest degrees;

C.W. David Chang, MD, University of Missouri

Steven D. Pletcher, MD, University of California San Francisco

Marc C. Thorne, MD, MPH, University of Michigan

Sonya Malekzadeh, MD, Georgetown University Medical Center

Funding and Conflict of Interests (see Funding and Conflicts of Interest); authors have no pertinent conflicts of interest to disclose.

Corresponding author: C.W. David Chang, One Hospital Dr., MA314, Columbia, MO 65212,
573.882.6737. changda@health.missouri.edu.

Level of Evidence 5

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as doi: [10.1002/lary.29151](https://doi.org/10.1002/lary.29151)

The impact of the COVID-19 pandemic extends beyond patient care and into graduate medical education (GME). The pandemic has created disarray in the residency application process. Visiting rotations and residency interviews—two cornerstones of the application cycle—are gone.

Just as the pandemic has exposed health care disparities in medical care, it also shines a light on inequalities with GME. Even before the pandemic, many residency specialties observed a meteoric rise in the number of applications submitted by each applicant. In 2019 otolaryngology applicants submitted an average of 72 applications, an 80% rise over 15 years.¹ This increase drives a cycle of programs receiving more applications and students feeling the need to apply more broadly to maintain competitiveness. Students with resources are able to manage the financial burden of increased applications as well as mitigate the risk of failing to match by traveling for away rotations and cultivating faculty advocates to promote their application. Students without resources are disadvantaged.

With the deluge of applications, applicants are unable to distinguish themselves from the crowd, losing the ability to convey interest in the program. Similarly, the program director has a hard time selecting candidates from a pool of excellent applicants for interview. The interview is a limited resource. Selection committees often react to this scarcity by declining to interview qualified candidates they *think* (but don't really know) are unlikely to choose their program and instead interview candidates who they *think* (but don't really know) are more likely to accept an offer. This approach is inefficient.

Preference Signaling is an intriguing solution. Since 2006, the American Economic Association has operated a signaling service to facilitate job interviews for graduate students. This applicant initiated concept aligns goals of interested applicants with programs. Students send signals to up to two employers to indicate their interest in receiving an interview. In reviewing their outcomes, signals were found to increase probability of interview, especially for niche scenarios (non-graduate applicants, applications to liberal arts colleges and small city locations).² Signaling has received interest among medical residency specialties as well.^{3,4}

Signaling could be adopted in residency interview selection because:

- The fixed number of signals per applicant establishes a defined value to each signal, and likewise credibility.
- Programs are better able to discern potential interest and fit as signals are a better marker of sincerity.
- Absence of a signal is not a sign of disinterest. Programs should consider all applications, regardless of signal accompaniment.
- Signals are not a substitute for application review but may provide insight into applicant interest and spark holistic review. Programs should extend interviews to interested and highly-qualified applicants, even in the absence of a signal. Applicants likewise should expect to receive interviews from programs they did not signal.
- Signaling empowers the applicant. Applicants will weigh personal considerations including alignment of departmental interests with their interests when determining where to send

signals. Signals can bring attention to unique circumstances and qualities not initially recognized by programs. Strategically, applicants may benefit more from signaling programs in niche markets.

- Signaling does not violate Match rules as both applicants and programs are free to express interest in each other; however, they shall not solicit verbal or written statements implying a commitment.⁵
- Participating programs agree to a Code of Conduct:
 - **Programs shall NOT divulge identification of applicants who have signaled.**
 - **Programs shall NOT ask interviewees where they have signaled.**
 - **Programs shall NOT divulge number of signals received.**

The Otolaryngology Program Directors Organization (OPDO) Council has worked diligently with stakeholders to incorporate their input throughout the development process. We thank members and leaders of the academic otolaryngology community including the Association of Academic Departments in Otolaryngology (AADO), the Society of University Otolaryngologists (SUO), and the greater community of Program Directors for their support. We appreciate the guidance and valuable insight from the Association of American Medical Colleges (AAMC)—specifically the Group on Student Affairs (GSA), the Committee on Student Affairs (COSA), and the Electronic Residency Application Service (ERAS)—along with the National Resident Matching Program (NRMP). We are hopeful that signaling will improve the residency interview selection process by facilitating successful pairing of applicants with programs.

1. Bowe SN, Roy S, Chang CWD. Otolaryngology Match Trends: Considerations for Proper Data Interpretation. *Otolaryngol Neck Surg.* 2020(2):185-187.
2. Coles P, Cawley J, Levine PB, Niederle M, Roth AE, Siegfried JJ. The job market for new economists: A market design perspective. *J Econ Perspect.* 2010;24(4):187-206. doi:10.1257/jep.24.4.187
3. Salehi P, Benito B, Michaelides E. A Novel Approach to the National Resident Matching Program-The Star System. *JAMA Otolaryngol Head Neck Surg.* 2018 May 1;144(5):397-398
4. Bernstein J. Not the Last Word: Want to Match in an Orthopaedic Surgery Residency? Send a Rose to the Program Director. *Clin Orthop Relat Res.* 2017;475(12):2845-2849.
5. 2020 Main Residency Match Participation Agreement for Applicants and Programs. National Resident Matching Program website. <https://mk0nrmp3oyqui6wqfm.kinstacdn.com/wp-content/uploads/2019/09/2020-MPA-Main-Residency-Match-for-Applicants-and-Programs.pdf>.

Accessed 8/9/2020.