The Laryngoscope

Editorial

Preference Signaling in Otolaryngology—Past, Present, and Future: A Comment From the Society of University Otolaryngologists (SUO), Association of Academic Departments in Otolaryngology (AADO), and the Otolaryngology Program Directors Organization (OPDO)

The year 2020 was a year of change. The residency application process, already suffering from spiraling application numbers,[1] now faced the COVID-19 pandemic with a loss of away rotations and apprehension about virtual interviews. In the face of change, the Otolaryngology Program Directors Organization Council (OPDO) approached the leadership of the Association of Academic Departments in Otolaryngology (AADO) and the Society of University Otolaryngologists (SUO) with a recommendation to implement preference signaling. This system, originally described in the economics PhD marketplace,[2] allows students a set number of signals (Otolaryngology used 5 in its inaugural year) to send to programs of particular interest. Signals are unranked and programs receive only a list of applicants who have sent a signal. The goal was to provide a credible and equitable system for students to receive special attention from their programs of interest.[3] Sporadic advocacy for the use of signaling in residency application had appeared in several medical specialties.[4–7] Prior to 2021, however, risk aversion and inertia resulted in a stagnant residency application process with progressive dysfunction due to overwhelming application numbers.

Within academic Otolaryngology the close relationship between SUO, AADO, and OPDO facilitated open dialogue with trust and value assigned to the opinions of OPDO, the most junior leadership organization but the closest to the application process. The group formed a shared commitment to implement an innovative approach to overcome the loss of away rotations and concerns about interview hoarding: concentration of interview offers to a select group of high-achieving applicants newly unencumbered by travel, expense, and conflicts inherent in the in-person interview process. With specialty leadership united, OPDO approached national organizations including the American Association of Medical Colleges (AAMC) and National Resident Matching Program (NRMP) ultimately resulting in the first implementation of preference signaling in Medicine and future collaborations to study the outcomes of signaling.

Following the lead of Otolaryngology, Urology, General Surgery, Internal Medicine, and Dermatology implemented preference signaling the following year. Since that time, signaling has grown exponentially and is now utilized in the residency application process of nearly every specialty. Signals have been demonstrated to markedly improve the likelihood of receiving an interview offer at the applicants' programs of choice with the greatest impact for students who struggle most to receive interview offers.[8,9] Signals have proved beneficial in combating interview hoarding—improving the distribution of interview offers across the candidate pool.[10] Importantly, the benefits of signaling are seen across demographic groups,[9,11] replacing communication of informal signals that has been shown to disadvantage Black and Latinx students.[12] After 2 years of signaling, 90% of both applicants and program directors in Otolaryngology favored continuing the program.[13]

In the 2024-2025 residency application cycle, the evolution of preference signaling continues. Building on Otolaryngology's experience, in the 2023 application cycle Orthopaedic Surgery implemented a high-signal approach, providing applicants with 30 signals. This transition shows promise for reversing the vexing problem of spiraling application numbers—"Big Signaling" has now been adopted by Otolaryngology and four additional specialties the majority of whom have shown a 25%–30% decrease in applications submitted per student saving students a combined $2.5 million in application fees alone.[14] Obstetrics and Gynecology has piloted a tiered signaling system, providing three gold and 15 silver signals to their students. This approach provides the potential benefits of both the low and high signal approach: applicants receive particular attention from their gold programs with potential to decrease pressure to apply beyond signaled programs due to a devaluation of non-signal applications.

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The rapid expansion and overall positive impacts of preference signaling suggest that this program will be a long-term addition to the residency application process. As of today, every specialty that has adopted preference signaling has continued with signaling. Alterations to the structure of signaling, however, have been common and are likely to continue. Clear communication of signaling program details between specialties, medical schools, advisors, and students may help reduce anxiety among applicants and facilitate guidance from medical school advisors. To this end, the Organization of Program Directors Association working with the AAMC's Group on Student Affairs (GSA) has developed a prototype specialty information form to provide structured information on signaling and other aspects of the residency application process to all students and advisors which is now posted on the OPDO website and linked to AAMC guidance.

Students have raised concerns that they have little transparency regarding how programs will value signals.[15] Because the number of signals received by programs is not publicized, students are unable to reliably target programs where their signals are less likely to be diluted by competing signals. Specialties should consider providing voluntary "signal cohort" (i.e., my program received between 75 and 100 signals in the 2024 application cycle) data to help applicants make more informed signal decisions and programs with low signal numbers will likely attract additional candidates. Programs should also publicize any specific application requirements so that applicants can avoid sending signals in scenarios where applications will be screened out.

Inconsistent compliance with guidelines for signaling home and away programs confuses applicants and confounds signal data analysis. Administrative agencies, specialties, programs, and advisors should provide clear and consistent guidance from specialty-wide announcements through individual mentorship conversations. In Otolaryngology, the clear and consistent message should be "applicants are expected to signal home and away rotation programs (unless applicants wish to prioritize other programs)."

Future research should focus on critical issues for optimizing preference signaling. One of the key statistics to guide applicants in high signal specialties is the interview offer rate for non-signal applications: this helps define the value of applications beyond the set number of signals. Accurate reporting of these data requires clear delineation of non-signal applicants who have specific program connections; inconsistent compliance with guidelines to signal home and away rotation students can easily skew reported non-signal interview offer rates. Future research to clarify which applicants receive non-signal interview offers and incorporate Match results could help further clarify the utility of non-signal applications.

Preference signaling has had a significant positive impact on the residency application process—a change made possible by the close collaboration and working relationships between OPDO, AADO, and SUO. This collaboration has benefitted not only Otolaryngology, but also residency programs across the spectrum of medicine and the >40,000 medical students who apply to residency programs each year.

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