Rising Residency Applications: How High Will It Go?

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Abstract

Otolaryngology is viewed as a competitive residency program, and as a result, a high number of applications are submitted by each applicant. A look at the data quantifies the cost and the challenges.

Keywords

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The Electronic Residency Application Service (ERAS) updates data monthly during the match season. The following is taken from February data, which compare application data collected by February of each match year.1 The featured data are based on the number of applications to each specialty by US/Canada applicants (international medical graduates were removed from analysis). This data set is more reflective of the application burden experienced prior to interview season. The end-of-match data more formally published by the ERAS2 (as used in previous publications3) are polluted by additional applications submitted in the Supplemental Offer and Acceptance Program.

Figure 1 shows the charted mean number of submitted applications from US/Canada medical school graduates from 2006 to 2015. To provide another perspective, raw data from Figure 1 were divided by number of programs within each specialty participating in the match each year as provided by the National Resident Matching Program (NRMP)4 and the American Urological Association.5 This then represents the ratio of programs in each specialty to which applicants applied (Figure 2).

Otolaryngology is not alone in the application “arms race.” In 2014, the specialties dermatology, neurologic surgery, orthopaedic surgery, otolaryngology, plastic surgery, radiation oncology, and urology did not have enough positions to accommodate all US seniors who preferred that specialty.4,5 These specialties also top the list in Figures 1 and 2. Applicants from the previously mentioned specialties applied to 40% to 60% of programs within their desired specialty.

Studies suggest that the increase in applications may be unwarranted. Despite the increase in applications, the acceptance rate has no relationship with mean applications either within specialties or among the entire match as a whole.3 Trends over time within otolaryngology and orthopaedic surgery demonstrate that the competitiveness of candidates has not changed.6,7 These data suggest that the increase in applications is occurring without much influence on the match process. Therefore, if all applicants reduced the number of applications submitted, it would not affect their match potential. However, because of perceived competition, candidates overinsure their match by applying broadly.

The increase in applications has many costs. For the applicant, it escalates application expenses. While the ERAS raises the cost of each additional application over 10, this is not a sufficient deterrent. In the 2015 match, the aggregate otolaryngology application cost was approximately $560,395. Table 1 shows the hypothetical cost of applications in the otolaryngology match at various application caps, holding the total number of applicants steady at the 2015 level. For programs, the application increase results in increased time expenditure. To provide a more tangible understanding, let us assume that faculty collectively invest 8 minutes per application in the interview selection process. Accordingly in 2015, 35.9 hours were spent per program on average to review applications (Table 1). Theoretically, an application cap of 30 programs per applicant would save over $400,000 in application cost and 19.3 hours per otolaryngology program. Weissbart et al,3 who looked at aggregate cost over 13 specialties, calculated that a cap of 20 programs per applicant would save $4.7 million yearly in application costs.

Several leaders in otolaryngology have called for change and have advocated the following:

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Mentors should counsel advisees to limit applications. However, applicants will not heed this advice, as even a “star” candidate’s application could be overlooked when drowned by a sea of other applications.

A secondary essay should be required from applicants. This has been shown by 1 program to eliminate 25% of candidates, by eliminating those who failed to submit the secondary essay. The magnitude of this effect may be due in part to the “principle of least effort,” in which the market seeks pathways of less resistance. Therefore, candidates may abandon their applications to an individual program if the process is too onerous. However, if resistance is equally applied to all paths (ie, all programs requiring a supplemental essay), an overall 25% attrition rate as seen above may not be realized. Otolaryngology applicants are all extremely motivated. They would likely increase their effort to meet the hurdle if the requirement were widely adopted.

An application cap should be imposed. There is an economic disincentive for the ERAS to act in this direction. The application boom translates to a financial gain for ERAS but a cost for programs and applicants. If the ERAS is unwilling to place application limits, an otolaryngology-operated application system (independent of the ERAS) could be created, allowing better control of application input. Ideally, an arrangement would be negotiated with the NRMP to permit candidates to participate in the NRMP match. Note of caution: With a cap, diversity could be stifled, as applicants may not stray too far from the familiar; thus, programs may not get diverse exposure.

Implicit in advocating for reduced applications is the assumption that the time savings would enable programs more opportunity to vet the applications that they receive. Would better application scrutiny enable programs to better pick candidates for interview based on their ERAS information alone? Anecdotally, we have encountered “great” applicants that somehow slip unmatched through the process. Is this a result of an imperfect system, or the lack of adequate time for accurate application review, or rather the poor ability to predict successful residents based on the application process?

As the debate for a solution continues, we realize that answers may not be straightforward. While the real costs and opportunity costs of the current application process are high, any change implemented has benefits and potential unintended consequences.

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C. W. David Chang, substantial contributions to the conception and design of the work; the acquisition, analysis, and interpretation of data for the work; drafting the work and revising it critically for important intellectual content; final approval of the version to be published; Benjamin F. Erhardt, the acquisition, analysis, and interpretation of data for the work; revising it critically for important intellectual content; final approval of the version to be published.
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