Choosing a Fellow or Fellowship
A Survey of Pediatric Otolaryngologists

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IMPORTANCE The numbers of pediatric otolaryngology fellowship programs and applicants have increased over the past 5 years. However, the qualities desired in programs and applicants have not been explored.

OBJECTIVE To determine the factors that fellowship program directors and applicants believe to be most important in choosing a fellow and the factors most important to fellowship applicants in choosing a program.

DESIGN, SETTING, AND PARTICIPANTS Cohort study using an anonymous online survey of 2012 pediatric otolaryngology fellowship program directors and applicants. Respondents were asked to rank a list of 10 qualities from most to least important for judging the strength of a fellowship applicant. Applicants also assessed the importance of factors in choosing a fellowship.

MAIN OUTCOMES AND MEASURES Rank of each factor by members of each group.

RESULTS Thirty-two of 47 applicants (68%) and 15 of 31 fellowship directors (48%) completed the survey. For applicants, the most important factors when choosing a fellowship program were gaining strong experience in airway management and otology, faculty reputation, and location, whereas Accreditation Council for Graduate Medical Education (ACGME) accreditation, fellowship longevity, and salary were less important. For choosing an applicant, applicants indicated that the interview, prior applicant knowledge (trusted recommendation), and letters of recommendation, sequentially, should be given the greatest weight. Directors reported that they used the same top 3 factors to rank applicants, but knowledge or trusted recommendation of the applicant ranked first. Applicants who successfully matched interviewed at (mean, 9.5 vs 3.0; \( P = .003 \)), applied at (mean, 11.6 vs 4.3; \( P = .02 \)), and ranked (mean, 8.3 vs 2.3; \( P < .001 \)) more fellowship programs than those who did not. United States Medical Licensing Examination scores higher than 230 and AOA membership status did not significantly affect fellowship match.

CONCLUSIONS AND RELEVANCE Personal knowledge or a trusted colleague’s recommendation may be the most important determinant when pediatric otolaryngology fellowship programs choose an applicant. When fellows choose a program, the opportunity to gain surgical experience in both otology and airway management is crucial, but ACGME accreditation status seems less important. Successful applicants ranked and interviewed at more fellowship programs than nonmatching applicants.
What are the factors that pediatric otolaryngology fellowship programs value in applicants, and what do pediatric otolaryngology fellowship applicants value in programs? With the increasing number of pediatric fellowship programs and positions, finding the answer to these questions has become more relevant. In 2012, there were 47 applicants to match at 31 programs participating in the match process. This is the highest number of applicants seen since the pediatric otolaryngology match was established in 1999. A 2011 article examining a cross-sectional survey of otolaryngology residents found that 58% of postgraduate year 5 respondents desired to complete a fellowship; 11% of postgraduate year 5 residents were interested in a pediatric fellowship.1

To our knowledge, the factors that most strongly influence residents in choosing a pediatric fellowship have not been investigated. However, the factors that medical students considered most important in ranking otolaryngology residency programs were recently evaluated.2 In an anonymous survey, program directors and medical students were asked to rank criteria important in choosing a residency candidate and how candidates should be ranked. Program directors considered the interview and personal knowledge of the applicant to be the most important criteria, whereas student applicants perceived the interview and letters of recommendation to be the most important criteria. These findings may translate to pediatric otolaryngology fellowship and applicant rankings, but the qualities of the applicant and program that are most important for selection have not been studied.

To gain insight regarding the attributes of pediatric otolaryngology applicants and programs that affect ranking, an anonymous online survey was conducted. Surveys were sent to pediatric otolaryngology fellowship applicants and program directors with the intent of identifying the qualities considered critical to the applicants’ choice from the perspective of both the applicants and directors. The survey also asked the applicants to rank the most important factors involved in selecting a fellowship program.

Methods

In July 2013, following institutional review board approval from the Medical College of Wisconsin, an anonymous online survey was sent to each fellowship applicant and program director who participated in the 2012 pediatric otolaryngology fellowship match.3 Consent was waived because of the anonymous nature of the study. Fellowship applicants were asked about their gender; ethnicity; United States Medical Licensing Examination (USMLE) scores; AΩA membership status; publications in pediatric otolaryngology; numbers of fellowships applied for, interviewed, and ranked; and whether they matched. Applicants were also asked about their exposure to pediatric otolaryngology during their residency, the location of their residency program, and the number of cогradsates from their residency classes applying to pediatric otolaryngology fellowship programs. The investigators also developed a list of 14 factors that could influence an applicant to choose a pediatric otolaryngology fellowship program, and applicants were asked to rank the importance of these factors using a 5-point Likert scale.

Program directors were surveyed about the size of their pediatric faculty, the number of residents rotating on service, geographical location, and size of the city where the fellowship was located. Both directors and applicants were asked to rank the importance of the same list of 10 qualities that could be used to judge the strength of a fellowship applicant. Data were collected anonymously and analyzed using an exact Wilcoxon rank sum test. A P value of <.05 was used to determine significance.

Results

Fellowship Applicants’ Responses

Thirty-two of 47 applicants (68%) responded to the survey. Sixteen (50%) were women, 16 (50%) were AΩA members, 24 of 30 (80%) had a USMLE step 1 score higher than 230, and 22 of 32 (69%) had at least 1 publication in pediatric otolaryngology. Respondents had a mean (SD; range) of 8.0 (4.9; 0-27) months of exposure to pediatric otolaryngology during their residency training. A mean (SD; range) of 1.16 (0.6; 1-3) residents from the applicant’s otolaryngology residency program applied to a fellowship during the 2012 interview cycle.

Twenty-eight of the 32 respondents (88%) successfully matched to a pediatric otolaryngology fellowship. In 2012, 39 of the 47 pediatric otolaryngology fellowship applicants (83%) successfully matched. Applicants who successfully matched interviewed at more programs (mean [SD]; median [range], 9.5 [3.8]; 9.0 [1-18] vs 3.0 [2.8]; 2.0 [1-7]; P = .003), applied to more programs (11.6 [5.5]; 11.0 [1-28] vs 4.3 [5.3]; 2 [1-12]; P = .02), and ranked more programs (8.3 [3.0]; 9.0 [1-14] vs 2.3 [3.2]; 1.0 [0-7]; P < .001) compared with applicants who did not successfully match. Attainment of USMLE scores higher than 230 and AΩA membership status did not significantly differ between matched and nonmatched applicants.

Ranking Factors in Selecting a Pediatric Otolaryngology Fellowship

Using a 5-point Likert scale with 1 signifying not important and 5 signifying most important, fellowship applicants were asked to evaluate 14 characteristics of pediatric fellowships (Figure 1). The results suggest that a strong opportunity to gain experience in otology and airway management, location, and faculty reputation are the most important to an applicant in choosing a fellowship. Salary, having more than 1 fellow in the program, the opportunity to have a mentor relationship with a member of the same gender, and the presence of a fellow clinic were the factors least important to applicants. Research opportunities and Accreditation Council for Graduate Medical Education (ACGME) accreditation were of moderate importance in choosing a fellowship.

Program Directors’ Responses

Fifteen of 31 directors (48%) completed the survey. Nine of the 15 respondents (60%) were directors of ACGME-accredited programs and located in cities with a population of less than 1 mil-
lion people. The mean number of residents who rotated in pediatric otolaryngology was 2.6, and the mean number of fellows per year was 1.26. Thirteen of the 15 directors (87%) believed that over the past 3 years their graduating fellows had no difficulty obtaining a job of their choice. During the past 5 years, fellowship programs saw a mean 3.64 graduates enter academic medicine, 1.31 graduates enter private tertiary level practice, and 0.57 graduates enter community practices not considered tertiary.

### Ranking Most Important Factors in Choosing an Applicant for a Program (Program Director and Fellowship Applicant Responses)

Applicants and directors were asked to sequentially rank 10 factors in an application that can influence how an applicant is ranked (Figure 2). Applicants ranked factors according to how they believed applicants should be ranked, whereas program directors ranked factors according to how they actually rank applicants. No 2 factors could have the same ranking.

Applicants ranked the interview (mean, 1.6; median, 1.0), personal knowledge and/or recommendation of the applicant (mean, 2.5; median, 2.4), and letter of recommendation (LOR) (mean, 3.0; median, 3.2) as the top 3 factors that should be used to rank a fellowship candidate. Applicants thought that likelihood of ranking the fellowship highly, AΩA membership status, and ethnicity and/or gender should be the least important factors on the list in ranking a fellowship candidate.

Program directors ranked personal knowledge and/or recommendation of the applicant (mean, 1.7; median, 1.5), the interview (mean, 2.0; median, 2.1), and LOR (mean, 3.0; median, 3.0; median, 2.9) as the top 3 factors, respectively, that they use to rank a fellowship candidate. Directors ranked USMLE scores, AΩA membership status, ethnicity and/or gender, and likelihood of ranking the program highly as the least important factors on
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Discussion

Published studies looking at candidate selection in otolaryngology have polled both residency applicants and program directors and show that there are disparities in the perception of the most important criteria in ranking otolaryngology residency candidates.6-9 This survey suggests that this same disparity in perception of the most important criteria in ranking pediatric otolaryngology fellowship applicants may occur. Although applicants believed that the interview should be the most important factor, fellowship program directors may rely more on trusted recommendations from colleagues who have interacted with applicants during their residency. Factors important for residency applications, such as USMLE scores and AΩA membership status, are unimportant in choosing a fellowship applicant. Whereas LORs are already viewed as 1 of the top 3 important factors in choosing a fellowship applicant, a proposed standardized LOR for pediatric fellowship selection may increase the importance of the LOR.6 This standardized LOR evaluates exposure of the recommender to the applicant, communication skills, compassion, work ethic, and surgical skills.

In the context of an increasing number of applicants, the results of this survey suggest that applicants who interview and rank more programs may have more success matching with a fellowship program. Applicants also believed that the opportunity to gain both airway management and otologic experience were important in choosing a program. Faculty reputation, as well, was ranked highly, which may allude to a desire for professional development opportunities and mentorship; however, these were not specifically mentioned in the survey. Accreditation by the ACGME was ranked less important by applicants in choosing a fellowship in our survey. However, a recent survey of pediatric otolaryngologists found agreement that standardizing the pediatric fellowship curriculum through ACGME accreditation is a worthwhile goal to pursue.7 Graduates from ACGME-accredited fellowships agreed that their fellowship provided adequate preparation for a career in academic medicine and protected time for research.

The study was limited by a low response rate. Surveys are also subject to bias, particularly bias in survey construction by the investigators and bias in recall by the respondents. The response rates for fellowship applicants (68%) and program directors (48%) warranted the reporting of means and medians. The means and medians were similar for the number of programs applied for, interviewed at, and ranked within the matched applicant group and within the nonmatched applicant group. The means and medians were also similar for the top 3 factors in choosing an applicant. These similar means and medians may represent the population as a whole despite the low overall numbers, which are a reflection of the number of programs in existence at the time of polling.

As the numbers of fellowships and fellows increase over time, an understanding of the factors that drive selection of fellows or fellowship programs in a competitive field becomes increasingly important. The future workforce demand for pediatric otolaryngologists and how this will affect fellowships are unknown. Knowledge of what is most important to both candidates and programs may lead our pediatric fellowships to improve what the programs emphasize and how interviews and letters of recommendation are conducted, as well as possibly aligning with future workforce needs in programs and graduating fellows.

REFERENCES