

Research Article

Leadership Trends in Rhinology Fellowship Directors

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Abstract

Background: Otolaryngology Fellowship Directors (FDs) have a significant educational impact on future leaders in the field. This study aims to describe the demographic and professional backgrounds of rhinology FDs.

Methods: Rhinology fellowship programs were identified using the American Rhinologic Society (ARS) website. Data collection was conducted via IRB-approved email survey to all identified rhinology FDs. Demographic characteristics, residency/fellowship training, leadership roles, and research output as measured by Hirsch index (H-index) were collected.

Results: Across 35 institutions, we identified 37 programs with 38 primary FDs. Survey response rate was 94.7%. The majority were male (n=34, 94%) and Caucasian (n=15, 42%). Most FDs were between the ages of 41-45 (n=11, 31%). The mean H-index was 28.75 ± 15.11 . Age was significantly correlated with H-index ($r=0.678$, $p=0.002$). The majority of FDs completed fellowship training (n=32, 89%). The mean duration between fellowship completion to FD appointment was 9.44 ± 5.29 years. The residency program most frequently attended by FDs was Mount Sinai (n=5, 14%), and the fellowship institution most frequently attended was the University of Pennsylvania (n=9, 25%). FDs held, on average, 5.2 leadership positions. National society leadership positions were most common, followed by departmental leadership roles, leadership positions in academic journals, and broader institution leadership roles.

Conclusion: Most rhinology FDs have a strong research background, completed fellowship training, and hold leadership positions in national societies or in their department. Most FDs are Caucasian

males, which highlights an opportunity to promote diversity among leaders of the field.

keywords: Rhinology; Otolaryngology; Leadership

Introduction

Fellowship training is common following otolaryngology residency, particularly when academic practice and leadership are career goals [1]. In academic otolaryngology broadly, some studies highlight factors associated with leadership promotion, including fellowship training and research output [2,3]. Such studies are vital in providing otolaryngologists with a roadmap to navigating medical academia. However, these studies combine data across multiple subspecialties rather than evaluating each subspecialty and its leaders' characteristics individually. Thus, the purpose of our study was to evaluate demographic and educational backgrounds of current Fellowship Directors (FDs) within rhinology. Secondary aims were to identify patterns in employment, research productivity, training institutions, and leadership among rhinology.

Methods

The American Rhinologic Society online rhinology fellowship directory was reviewed for a listing of current FDs. Institutional Review Board approval was obtained (STUDY00003237). FDs were contacted via email and invited to complete a REDCap survey containing demographic, educational, and professional queries. Demographic information included age range, sex, and race/ethnicity. Educational background included institutions attended for medical school, residency, and fellowship as well as dates of degrees conferred. Year of employment at current institution and year appointed to FD position were both noted. Leadership positions within an institution, otolaryngology academic society, or scientific journals as well as information on research grant funding were also obtained. Lastly, the online Scopus (Elsevier BV, Waltham, MA) database was queried to obtain FDs' H-indexes as a metric for research productivity (accessed September 2022). Demographics were characterized by percentages. Mean intervals and standard deviations between fellowship completion, employment at current institution, and FD appointment were calculated. Correlation between years as FD, age, and H-index were calculated using the Pearson correlation coefficient.

Results

Thirty-five rhinology fellowship institutions and 38 FDs were identified. Thirty-six FDs (94.7%) consented to providing the requested information. Demographic information (Table 1) revealed that 34 (94.4%) FDs were male, 15 (41.7%) were White/Caucasian, and 11 (30.6%) were 41-45 years old when surveyed. Mean calendar years for residency and fellowship completion were 2002 ± 8.6 and 2003 ± 9.0 , respectively. Average duration from fellowship completion to FD appointment was 9.4 ± 5.3 years. Mean time from institutional hire to FD appointment was 5.9 ± 4.9 years (Figure1).

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Demographics	n (%)
Sex	
Male	34 (94.4)
Female	2 (5.6)
Race/Ethnicity	
Asian	6 (16.6)
Black / African American	2 (5.6)
Latino, or Spanish Origin	2 (5.6)
Native American	1 (2.8)
Other	1 (2.8)
Prefer Not to Answer	3 (8.3)
South Asian	6 (16.6)
White / Caucasian	15 (41.7)
Age	
41-45	11 (30.6)
46-50	7 (19.4)
66-70	5 (13.9)
51-55	6 (16.6)
56-60	5 (13.9)
61-65	2 (5.6)

Table 1: Demographic characteristics. Data is reported as n (%). Sample size consisted of 36 FDs.

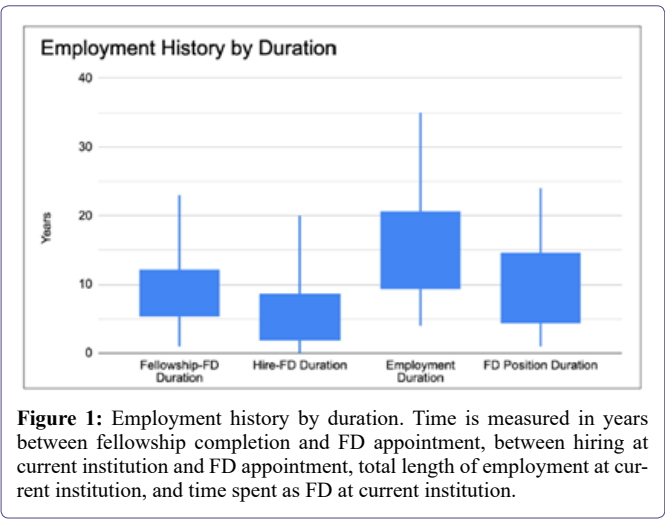


Figure 1: Employment history by duration. Time is measured in years between fellowship completion and FD appointment, between hiring at current institution and FD appointment, total length of employment at current institution, and time spent as FD at current institution.

Average H-index was 28.8 ± 15.2 (range 6-78). Most FDs had an H-index between 15-35 (61.1%). Number of years as FD correlated positively with H-index ($r=0.63$, $p<0.01$). Age also correlated positively with H-index ($r=0.68$, $p<0.01$). The top five residency programs for producing FDs were Mount Sinai (n=5), University of California Los Angeles (n=3), University of North Carolina (n=3), Northwestern University (n=2), and University of Florida (n=2). Among FDs, University of Pennsylvania was the most frequently attended fellowship program (n=9), followed by Augusta University (n=5), no fellowship program (n=4), Stanford University (n=3), Medical University of South Carolina (n=2), and Massachusetts Eye and Ear Infirmary (n=2). FDs that serve at the institutions where they completed residency or fellowship numbered six (16.7%) and five (13.9%), respectively. FDs held an average 5.2 leadership positions, including an average of 0.4 hospital leadership positions, 1.3 department/

division titles, 1.9 major national/international society leadership roles, 0.5 major academic journal leadership positions, and 21 FDs attained research grant funding of $>\$25,000$ as principal investigator.

Discussion

While many young physicians desire academic careers, there is little descriptive data regarding typical levels of training, leadership, and research productivity of current field leaders. This study indicates that rhinology FDs are primarily White/Caucasian, males, aged 41-45 years with multiple leadership positions and relatively high research output. The mean H-index of rhinology FDs in this study was 28.8, whereas the mean H-index of all otolaryngological residency and fellowship directors was 17.5.4 additionally, a significant proportion of rhinology FDs hail from a limited subset of residency and fellowship programs. This pipeline effect is also present within other specialties. Similar to rhinology, 43% of pediatric orthopaedic surgery FDs trained at three fellowship programs [4]. This may be due to strength of mentoring and leadership in these programs, encouraging residents and fellows to progress to academic leadership. Considering rhinology fellowships, it is also notable that University of Pennsylvania and Augusta University were some of the first rhinology fellowship programs and thus have trained more fellows. Nearly all rhinology FDs are male. Only 5.6% of respondents identified as female. Domestically, 32% of practicing otolaryngologists are female [5]. Across otolaryngology academic leadership roles, women occupy 15.3% of positions.4 This underrepresentation of women is not uncommon, particularly within surgical subspecialties. However, having broader representation is important to future generations. Goosmann et al., found that 82.2% of female otolaryngology residents noted it was ‘very important’ or ‘important’ to have female attendings and senior residents for their career development [6]. One limitation of this study is its cross-sectional design. Only the current cohort of rhinology FDs was surveyed which limits insights into developing trends. Additional limitations include sampling bias (although mitigated by the 94.7% response rate) and recall bias. Also, the pathway through surgical academia has changed since many FDs were residents-completing rhinology fellowship has become more common for newly hired academic rhinologists today. This study demonstrates that research productivity, funding, and leadership are strengths of rhinology FDs. Nearly all rhinology FDs are men, and a majority are White/Caucasian. About half of FDs are in their fifth decade of life and have worked for approximately a decade after training before becoming an FD. Our study underscores the need for continued efforts to promote diversity and equity in academic medicine leadership positions.

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