SUBSPECIALTY FOCUS:
Pediatric Otolaryngology

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THE 2023 OTOLARYNGOLOGY WORKFORCE

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American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS)

American Academy of Otolaryngology–Head and Neck Surgery,
The 2023 Otolaryngology Workforce

Alexandria, Virginia, United States, September 12, 2024

Retrieved on (date of download) from
https://www.entnet.org/business-of-medicine/workforce-survey

AMERICAN ACADEMY OF OTOLARYNGOLOGY–HEAD AND NECK SURGERY®

THANK YOU

This work is dedicated to all readers whose lives this may shape so we may better serve our patients. A special thanks to those members who completed this survey. Without you, none of this would be possible.

American Academy of Otolaryngology–Head and Neck Surgery

LEADERSHIP TEAM AND WORKFORCE AND SOCIOECONOMIC SURVEY TASK FORCE

2023 Workforce and Socioeconomic Survey Task Force

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HOW TO CITE FIGURES AND TABLES

When citing figures from this document, please use the following format:

Figures: Figure [number], [Title], from *The 2023 Otolaryngology Workforce*, published by the American Academy of Otolaryngology–Head and Neck Surgery, 2024.

Tables: Table [number], [Title], from *The 2023 Otolaryngology Workforce*, published by the American Academy of Otolaryngology–Head and Neck Surgery, 2024.

Example:

Figure 1.3, "Resident Responses by Postgraduate Year (PGY)," from *The 2023 Otolaryngology Workforce*, published by the American Academy of Otolaryngology–Head and Neck Surgery, 2024.

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BACKGROUND

Otolaryngology-head and neck surgery is a dynamic, continually evolving specialty that provides primary expertise in disease processes essential to daily living as well as directly affecting quality of life from birth until death.

As the healthcare delivery system moves toward imminent reform in the United States with stated goals of equitable access and affordability for all patients as well as the system in general, it is critical to have an accurate accounting of resources available to achieve these goals. Last year the American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS) reported on the 2022 workforce survey that was designed by the AAO-HNS Workforce and Socioeconomic Survey Task Force. The 2022 Otolaryngology Workforce Report resulted in the most comprehensive information gathering and analysis since 1975.

The information obtained in the 2022 study serves as a baseline for future iterations of this project. The 2022 study also revealed additional opportunities to look at more specific areas in greater detail within the survey instrument that can focus on areas of identified need that may vary with time.

The Task Force, chaired by Andrew J. Tompkins, MD, MBA, reviewed and analyzed the results of the 2022 study and explored ideas to increase participation, particularly in the residents-in-training category. The 2023 study serves as a valuable follow-up to last year's demographics and practice-related data that will be cumulative. Additional questions were designed in several areas to help expand and clarify information gained last year. With the support of ASPO, a subspecialty focus on pediatric otolaryngology was performed that reviewed fellowship training, overall pediatric workforce, practice environment, geographic mapping, retirement data, and workforce supply projections.

This year's study also looks at training and resident experiences and preferences, including perceived training exposure gaps, fellowship interest, and job search and expectations. There is a section on recruitment of new physicians to both academic and private practice that highlights recruiting difficulties and possible methods to improve recruitment process. The section on practice details includes the use of advanced practice providers (APPs), productivity statistics, call, income analysis, an expanded section on in-office procedures, and the use of biologics and other new technologies. The 2023 study also contains additional information on retirement plans and influencing factors.

The results of the survey should be valuable for all otolaryngologists. Medical students and residents should be able to gather information as they plan their training and future practice model by reviewing this information about subspecialty needs and geographic opportunities in the comparative review of practice settings. For those already in academic or private practice, this study provides the opportunity to compare your current situation with colleagues across the country with useful information on patients seen, number of U.S. locations, utilization of APPs, income, and the local supply of otolaryngologist as well as fellowship-trained subspecialists. This information will hopefully provide guidance for future planning needs for your practice.

When the healthcare delivery system begins reform, information provided in this study, along with other similar studies, will be critical to funding GME, formation of private payer networks, debating alternative practice strategies, and determination of payment models. I offer my sincere thanks to all who have worked on this study and those who have taken the time to carefully review and participate in the study. You have done a great service to the specialty for both today and in the future.

Sincerely,

James C. Denneny III, MD
AAO-HNS Executive Vice President and CEO

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METHODOLOGY

The 2023 Otolaryngology Workforce Survey questions were designed by the Task Force in spring 2023 and separated into module categories of interest. The Academy partnered with Cvent in summer 2023, which programmed the questions into an online survey with logic formatting.

The 2023 Workforce Survey was released to the Academy membership on September 20, 2023, and was closed on November 13, 2023. During this time, five notification emails were sent to members who had not completed the survey. Other marketing efforts included posts on the *Bulletin* and *OTO News*. In an attempt to capture more resident responses this year, we partnered with the Society of University Otolaryngologists (SUO), that disseminated a survey reminder with the survey link to its members for broader resident dissemination. Further, each program director was individually emailed with a survey reminder and link to forward to residents/fellows for completion.

The raw data were downloaded after the survey was closed and stored on a secured server with password protection. 2,081 responses were logged, but these included redundant responses and those who clicked on the link and entered no information. After eliminating responses from those clicking on the survey link and entering no information, this yielded 1,797 responses. Redundancy checks were then performed using a combination of demographic information to ensure a single survey response per individual. The prioritization of redundancy checks was to first keep the record with the most questions answered followed by keeping the first recorded response where question completion rates were the same/similar. Those selecting "Other" in the demographics description category of work were recategorized as active practice or retired if clearly indicating this in their "Other" description.

This process yielded a total of **1,650 unique responses,** which is broken down as follows:

- **2** *In Industry*
- **4** *International*
- **6** *Administrative*
- **7** *Did Not Specify*
- **13** *Other*
- **28** *Fellows*
- **103** *Retirees*
- **272** *Residents*
- **1,215** *Actively Practicing Otolaryngologists in the United States/Protectorates*

Once the redundancy checks were performed, all identifiable data were deleted and the file was saved for further modifications and analysis. Not all unique responses indicated fully completed surveys. When analyzing each question, blank/no responses were excluded. This allowed us to capture data from partially completed surveys for any question that was answered. From the above categories we only performed analyses on Retirees, Residents, and those in Active Practice. Despite having 28 Fellow responses, we did not have robust data to describe each fellowship further. Generally speaking, 10 responses was used as a cut-off for inclusion in a chart/table.

Where free text responses were allowed, categories were manually created by one of the study's authors, Andrew J. Tompkins, MD, MBA, based on those responses, and all responses were then reviewed and placed into either a predetermined category or newly created category. Where income amounts were described, if median or 25th/75th percentiles did not fall cleanly on an income boundary of the $25K ranges, the midpoint was used within that $25K range.

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For the recruitment time questions, months were converted to decimals based on years and added to the years column to have a single time column for analysis. Where "0" months were given, these were deleted and left blank since the majority of those selecting "0" for both years and months reported a moderate-to-significant level of difficulty with recruitment, indicating that these "0" responses were selected as "fill-in" responses.

Regarding fellowship type, 4 "Other" responses indicated "Craniofacial and Skull Base," which were changed to this new category. One "Other" response indicated rhinology, which was re-categorized to "Rhinology." Two "Other" responses indicated facial plastics, which were changed to "Facial Plastic and Reconstructive Surgery."

Regarding primary practice setting categories, the 19 "Other" responses were reviewed and if clearly belonging in one of the other provided categories, the primary practice was changed from "Other" to one of the larger categories. An example: "Other: Academic children's hospital" was changed to "Academics."

For the urban/rural geographic analysis, this was done using Rural-Urban Commuting Area (RUCA) codes generated by the U.S. Department of Agriculture (USDA) and a zip code-to-RUCA crosswalk data file provided by the USDA. This file was based on the most recently available (2010) U.S. Census. RUCA codes 1-3 were coded as "urban," whereas codes 4-10 were coded as "rural," per USDA guidance.

The graduating resident and program analyses were conducted separately and have been part of an ongoing effort by one of the Task Force members, Andrew J. Tompkins, MD, MBA, to account for resident and program growth. In the springs of years 2021-2024, ever since the osteopathic programs were included in the National Residency Match Program (NRMP) and Accreditation Council for Graduate Medical Education (ACGME), each program and its residents were checked using a combination of departmental websites, the ACGME page for that program, Doximity, and Otomatch.com. Where the departmental site did not describe specific graduation years or account for the research track with specificity, the latter two websites were used to augment this understanding. This allowed a full accounting of both a resident complement by year and accounted for research years. New programs were regarded as those accredited since 2017, and accreditation was derived from the ACGME website for otolaryngology programs.

PEDIATRIC OTOLARYNGOLOGY ANALYSIS METHODOLOGY

In preparation for a talk given by Andrew J. Tompkins, MD, MBA, at the American Society of Pediatric Otolaryngology (ASPO) meeting in May 2024, the following methodology was employed to describe the pediatric otolaryngology workforce. Leadership subsequently agreed to have this analysis included as a subspecialty focus in our 2023 report. Further subspecialty analyses were performed based on data derived from *The 2023 Otolaryngology Workforce* and from San Francisco Match data (https://www.sfmatch.org/specialty/pediatric-otolaryngology-fellowship/Statistics).

During December 2023 and January 2024, each pediatric otolaryngology fellowship listed on the ASPO fellowship listing site (both ACGME and non-ACGME, https://aspo.us/page/fellowshiplisting) were contacted via email and/or phone to gather fellowship graduate names since the inception of their programs (not accreditation). ASPO member roles and fellowship match data from 2021-2024 were also used to capture any additional trainees. ASPO member roles led to the discovery of other programs (historical and international) that had produced a U.S.-based trainee. These too

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were investigated with attempts made to contact. The ACGME-accredited programs were verified through the ACGME program listing website.

Complete training lists were obtained from 34/35 ACGME-accredited programs with the remaining program of unknown completion (full to 2018 and the remaining years filled in from ASPO member roles). Five full training complements were obtained from international programs. Ten additional historical or international program training roles were of unknown completion based on lack of contact ability and the need to solely rely on ASPO member roles.

This process produced 1,172 pediatric otolaryngology fellows, not all of whom were trained in the U.S. or worked in the U.S. In order to establish a database to describe training and the U.S. pediatric otolaryngology workforce, each of the 1,172 individuals were analyzed to create a database with the following information:

- *Name*
- *Sex*
- *Fellowship Graduation Year*
- *Fellowship Name*
- *Fellowship Country*
- *Practice Country*
- *Practice Status (Active, Retired, Unknown)*
- *Practice Type (Academic, Nonacademic Hospital, Private Practice, etc.)*
- *Specific Practice Environment (Children's Hospital, Pediatric Division, Hospital, etc.)*
- *Zip Codes of Office Locations (up to 5)*

These data were obtained starting with a Google search of the physician's name followed by "pediatric otolaryngology," with the final data coming from dozens of unique websites to include the following specific and broader categories:

- *Department/Practice Websites*
- *ASPO Data*
- *AAO-HNS Search*
- *State License Databases*
- *Facebook/Instagram Announcements*
- *LinkedIn*
- *Doximity*
- *Healthgrades*
- *Castle Connolly*
- *Sharecare*
- *Vitals*
- *Medicare Physician Database*
- *NPI Database*
- *Google Reviews*
- *Google Maps (street view)*
- *News Clippings*
- *Obituaries*

The practice country was determined based on evidence of active practice in a given country, or in the cases of non-active/known practice historical evidence of having worked in a given location. Practice status was deemed active if the practitioner could be found on a practice website, showed evidence of recent activity (reviews less than three months old, Medicare billing, news article), or were personally known to be actively practicing (rare, mainly applicable to military members). Academic practice type was based on hospital-based employment and with a defined role in otolaryngology resident education. Children's hospital specific practice environment was determined based on whether that was explicitly stated on the practice website or if their hospital system had a children's hospital that was integrated and proximal to the provider's practice.

Workforce projections were performed with the input variables and retirement glide path described in this report section as well as U.S. pediatric population (0-17 years of age) projections from the U.S. Census Bureau. Each projected graduation cohort and historical graduation cohorts, where active practice is known, were "retired" separately along the new retirement glidepath described

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in this report section. Historical years where physicians were in active practice in greater numbers than the retirement glidepath were brought onto this glidepath within two years. Those years where physicians were in active practice in lower numbers were maintained until meeting the retirement glidepath and then placed onto the retirement glidepath. Since population projections beyond 2022 were based on older 2018 projections, a nearly two million population jump occurred between 2022 (known) and 2023 (predicted based on 2018 estimates).

To account for this estimation error, the average annual pediatric population growth between 2023 and 2050 was used and applied to each year, starting in 2022. Current population estimates both nationally and by state were downloaded from the Kid Count Data Center at The Annie Casey Foundation website (https://datacenter.aecf.org/data#USA/1/0/char/1). The downloaded file for pediatric population projections came from ChildStats.gov (https://www.childstats.gov/americaschildren/tables/pop1.asp) and cited the following sources:

U.S. Census Bureau, Current Population Reports, Estimates of the population of the United States by single years of age, color, and sex: 1900 to 1959 (Series P-25, No. 311)

Estimates of the population of the United States, by age, sex, and race: April 1, 1960, to July 1, 1973 (Series P-25, No. 519)

Preliminary estimates of the population of the United States by age, sex, and race: 1970 to 1981 (Series P-25, No. 917)

Intercensal estimates for 1980–1989, 1990–1999, and 2000–2009

The data for 2010 to 2019 are based on the population estimates released for July 1, 2020. The data for 2020 to 2022 are based on the population estimates released for July 1, 2022. Data beyond 2022 are derived from the national population projections released in September 2018.

GLOSSARY OF TERMS

Accreditation Council for Graduate Medical Education	ACGME
Advanced Practice Provider(s)	APP(s)
Ambulatory Surgical Center	ASC
American Academy of Otolaryngology–Head and Neck Surgery	AAO-HNS
American Society of Pediatric Otolaryngology	ASPO
Multispecialty Group	MSG
Postgraduate Year	PGY
Rural-Urban Commuting Area	RUCA
Single-specialty Group	SSG
Veterans Affairs	VA

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TRAINING AND RESIDENTS

Building off the graduation analysis from *The 2022 Otolaryngology Workforce*, we were able to see continued growth in expected graduates. This represents a 16% growth in graduates per year over seven years (Figure 1.1). While 13 new programs have started since 2017, as noted in the 2022 report, these did not drive the majority of graduation growth. Established programs (starting prior to 2017) contributed over twice the growth as new programs, growing in size by 11% over seven years (Figure 1.2). Given that the graduate medical education funding formula doesn't incentivize growth with additional funding for these programs, other motivating factors seem to be at play that are driving this expansion.

We significantly improved our resident responses this year, but unfortunately 38% of residents did not select a PGY (Figure 1.3). This may limit the interpretability of later charts, such as fellowship and practice environment interest by PGY. Further efforts will be made in the future to not only gather more responses but ensure completion of the PGY question.

Predictably, we see an upward trend in confidence with entering a general otolaryngology practice right now with increasing postgraduate year, with a more significant increase in confidence between PGY-3 and PGY-4 levels (Figure 1.5). PGY-5 residents feel the most confident entering general otolaryngology practice, with a mean confidence level of 4.2 out of 5, though even within this PGY-5 year we saw significant variation (Figure 1.6). While the ideal confidence level is 5 at the PGY-5 level, the survey was administered earlier in the training year, leaving more opportunity for development. Graduating levels of confidence and how this correlates with objective metrics of competency are worthy of future research.

Approximately half of resident respondents reported having any private practice exposure during residency. Of the nearly half who did have exposure, almost 60% noted exposure duration of four months or less (Figure 1.7). Of those without private practice exposure, 83% desire more exposure and still 50% of those who had exposure want more (Figure 1.8). Similarly, 88% expressed a desire for more exposure to the business of medicine (Table 1.3). These represent significant opportunities for improvement and growth by training programs, and residents may benefit from earlier, structured exposure to alternative practice models/settings to make informed career decisions in their formative training years.

We added a category of "Not Sure" this year for fellowship consideration. These results reveal that the most significant years in which trainees determine fellowship pursuit are PGY-1 through PGY-3. By the PGY-4 year most trainees seem to have their minds made up, as reflected in the relative stability between the PGY-4 and PGY-5 years (Figure 1.9). Notably, the 56% of PGY-5 trainees planning on pursuing a fellowship represents a marked decline from the 2022 survey report, which stood at 75%. This decline could be representative of true declines, the addition of the "Not Sure" category, or the fact that we had more robust responses this year. Further analysis with required postgraduate year selection will help describe this trend more accurately.

The most common reason for fellowship pursuit was to see a specific patient type or pathology of interest. Exposures to procedures in training, desired practice type, and attending surgeon influence were also significant factors (Figure 1.12). Most resident respondents seeking fellowship subspecialty training are interested in facial plastic and reconstructive surgery

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(29%) and head and neck oncology (23%), which was consistent with the 2022 report (Figure 1.11). Some shifts occurred elsewhere compared to 2022, namely with an increased interest in pediatric otolaryngology and decrease in neurotology.

Nearly half (48%) of graduating residents expressed an interest in pursuing an academic practice environment, followed by 24% planning to pursue employment in private practice (Figure 1.13). This trend was similar across postgraduate years, with slightly higher rates of private practice interest reported for PGY-1 through PGY-4. Work-life balance and career goals were the top two factors reported as impacting practice environment decisions (Figure 1.14).

We saw some differences between males and females as it pertains to practice environment choice and location of job choice. Women were more likely to rank career goals as a motivating factor for practice environment choice, while males were more likely to rank income as a motivating factor (Figure 1.15). In terms of job location influence factors, females were more likely to rank proximity to family and leisure activities while males ranked income and work-like balance more commonly (Figure 1.19). Income seems to be a broader priority among male trainees, perhaps explaining the differences seen in the income expectations seen in the data that follow.

Given when this survey was administered, job searching seems to start in the third year of training and picks up in the fourth year. Just over half (56%) of fifth year residents had found a job or were looking for a job in the past 12 months (Figure 1.16). Proximity to family was the first priority in evaluating job location, followed by region/state, and specific practice type preference (Figure 1.18 and Table 1.5).

Residents expect to do clinical work between four and five days per week once fully established in their practice (Table 1.6). The majority of residents expect between three and five weeks of paid time off, with an expectation for an increase in paid time off after more years in practice (Figure 1.22 and Figure 1.23). In terms of expected salary, trainees expected a median annual salary of $362,000 during the first 12 months of practice, with males notably anticipating $50,000 more per year ($387,000) compared to females (Figure 1.20). Five years after graduation, the median expected annual salary rose substantially to $487,000, demonstrating an expectation of significant increase in compensation within five years (Figure 1.21). Trainees should take note of the starting base salary for new recruits discussed later in this report, with a median annual base salary reported between $262,000 to $412,000 (Figure 9.1). Also, the median expectation of clinical income just 5 years out of training is on par with the peak clinical income decade (50-59) among practicing otolaryngologists (Figure 9.4). This suggests that trainees' clinical income expectations may be slightly inflated compared to reality.

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TRAINING

FIGURE 1.1:

Graduating Residents per Year

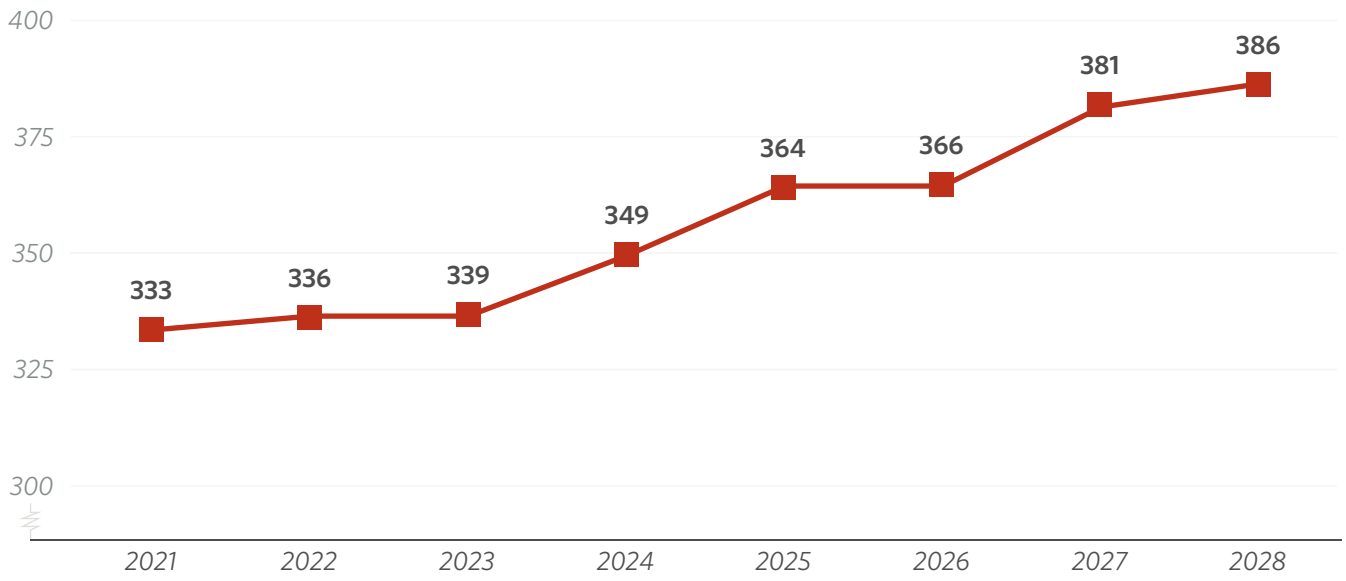
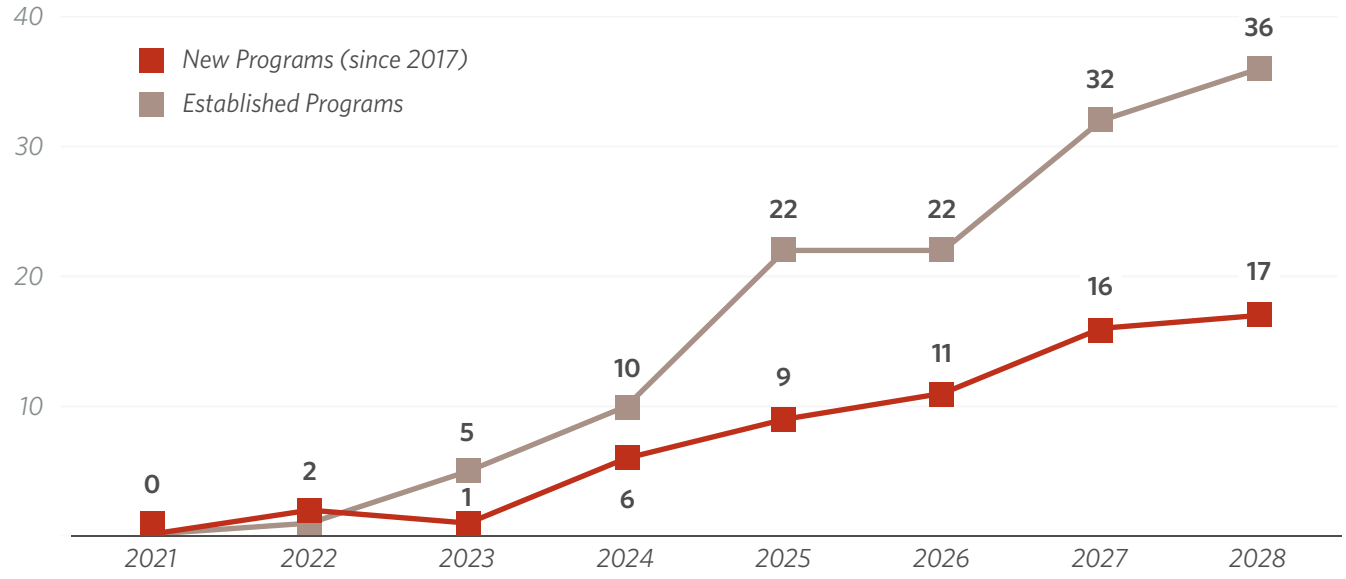


FIGURE 1.2:

New versus Established Program Graduate Increases per Year



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RESPONSES AND DEMOGRAPHICS

FIGURE 1.3:

Resident Responses by Postgraduate Year (PGY)

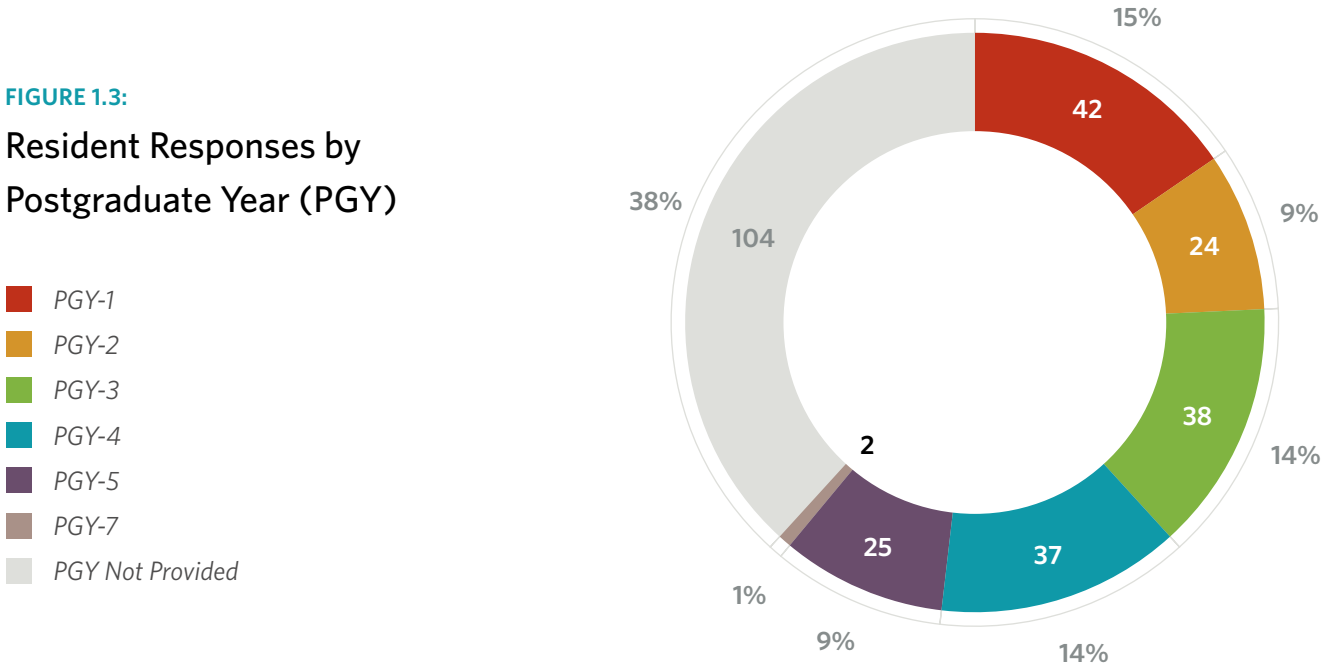


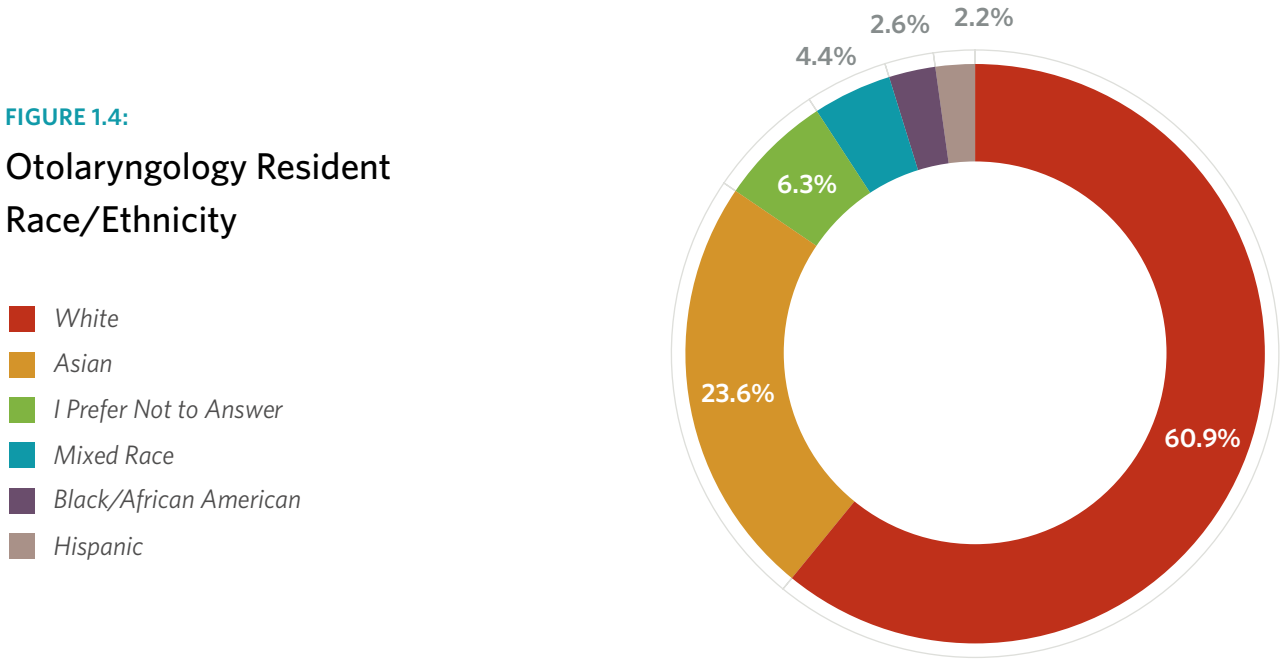
TABLE 1.1:

Sex of Resident Respondents

Male	Female	Other
53.3%	46.0%	0.7%

FIGURE 1.4:

Otolaryngology Resident Race/Ethnicity



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CONFIDENCE IN GENERAL OTOLARYNGOLOGY TRAINING

FIGURE 1.5:

Mean Confidence with Entering General Otolaryngology Practice Right Now by PGY and Sex

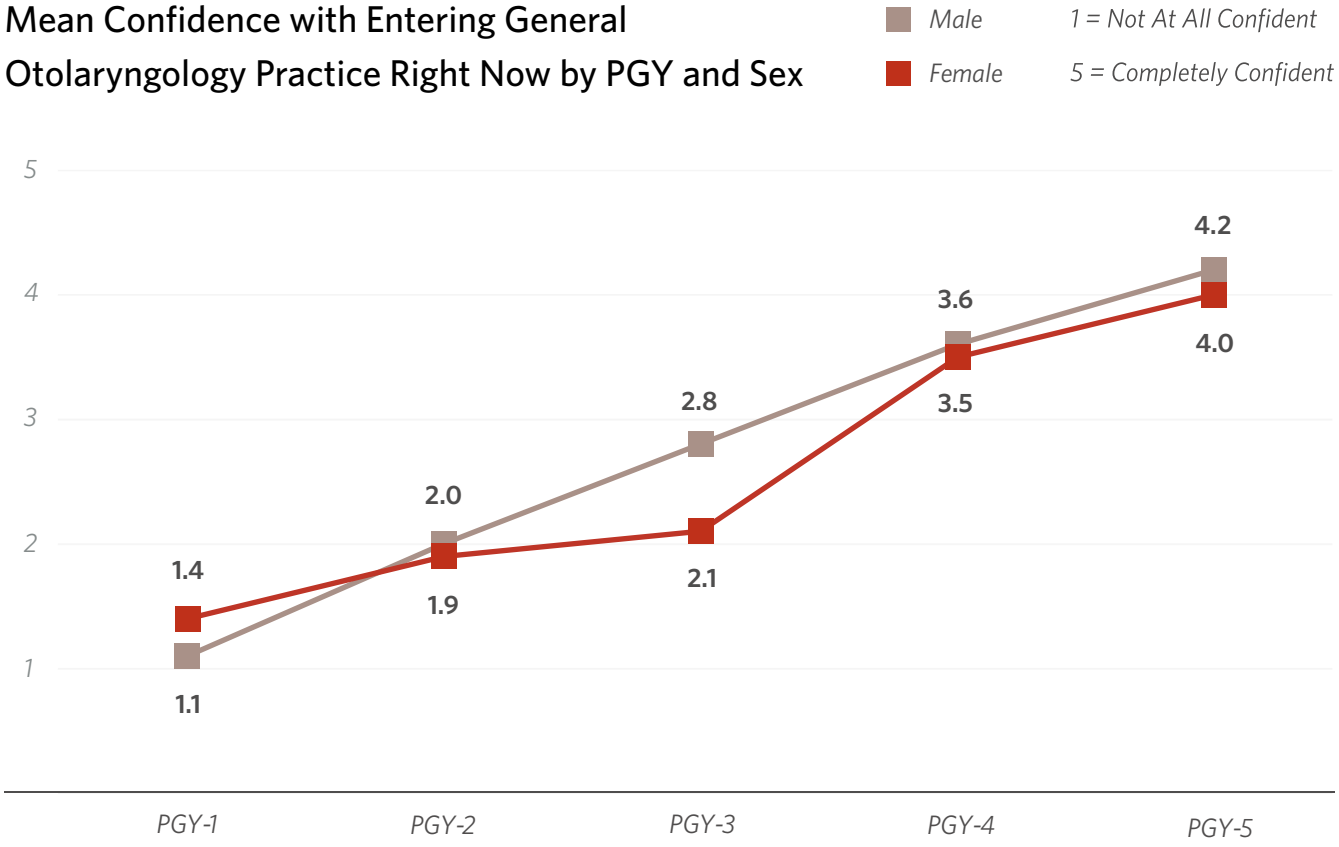
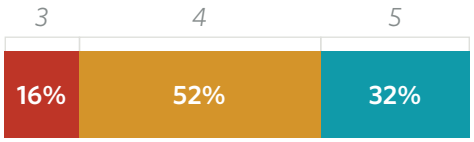


FIGURE 1.6:

PGY-5 Confidence with Entering General Otolaryngology Practice Right Now (1-5)



1 = Not At All Confident *5 = Completely Confident*

Likert Confidence Scale

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TRAINING EXPOSURE GAPS

TABLE 1.2:

Residents in Training: Do You Have Any Private Practice Exposure in Your Training?

Yes	No
49%	51%

FIGURE 1.7:

Amount of Private Practice Exposure, When Included in Training

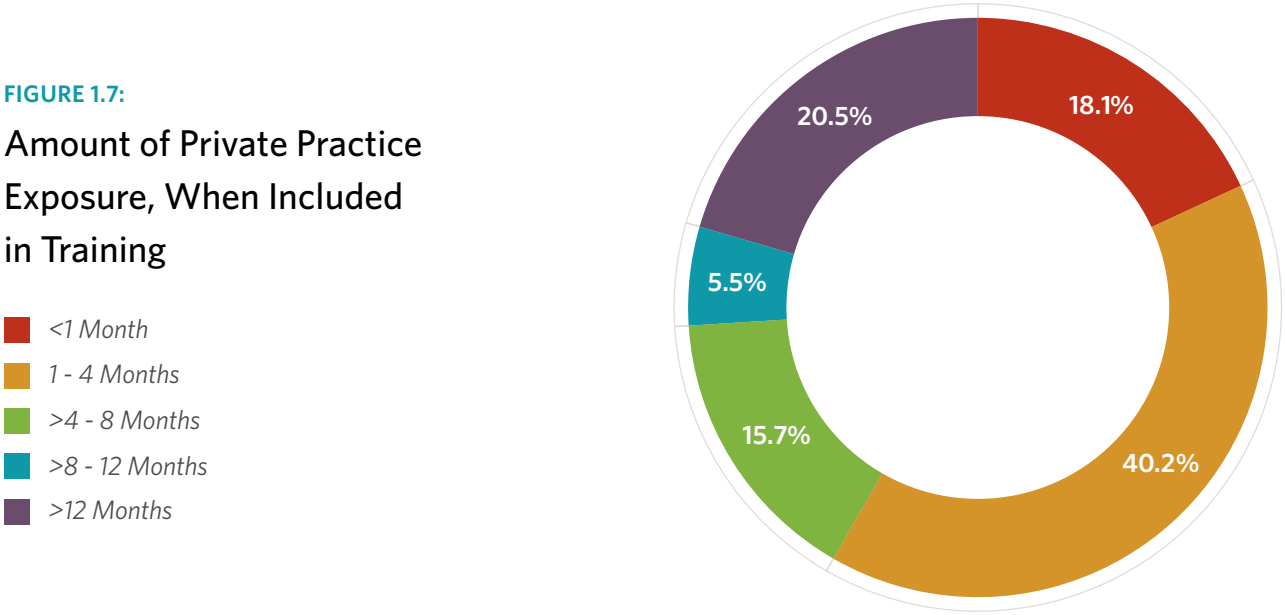

FIGURE 1.8:

Desire for More Exposure to Private Practice by Current Exposure

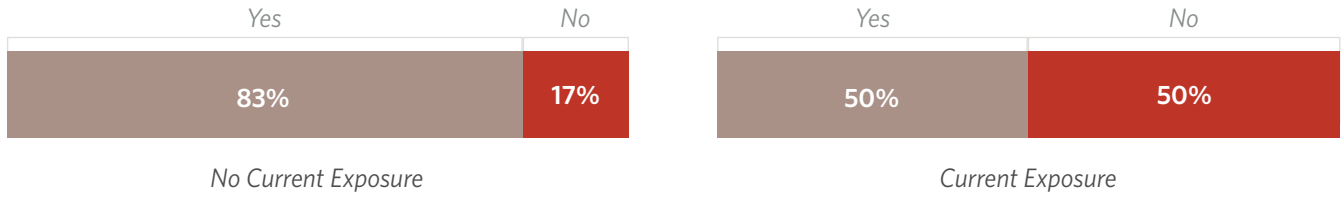

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TABLE 1.3:

Do You Desire More Exposure to the Business of Medicine?

Yes	No
88%	12%

FELLOWSHIP INTEREST

FIGURE 1.9:

Plans on Fellowship Pursuit by PGY

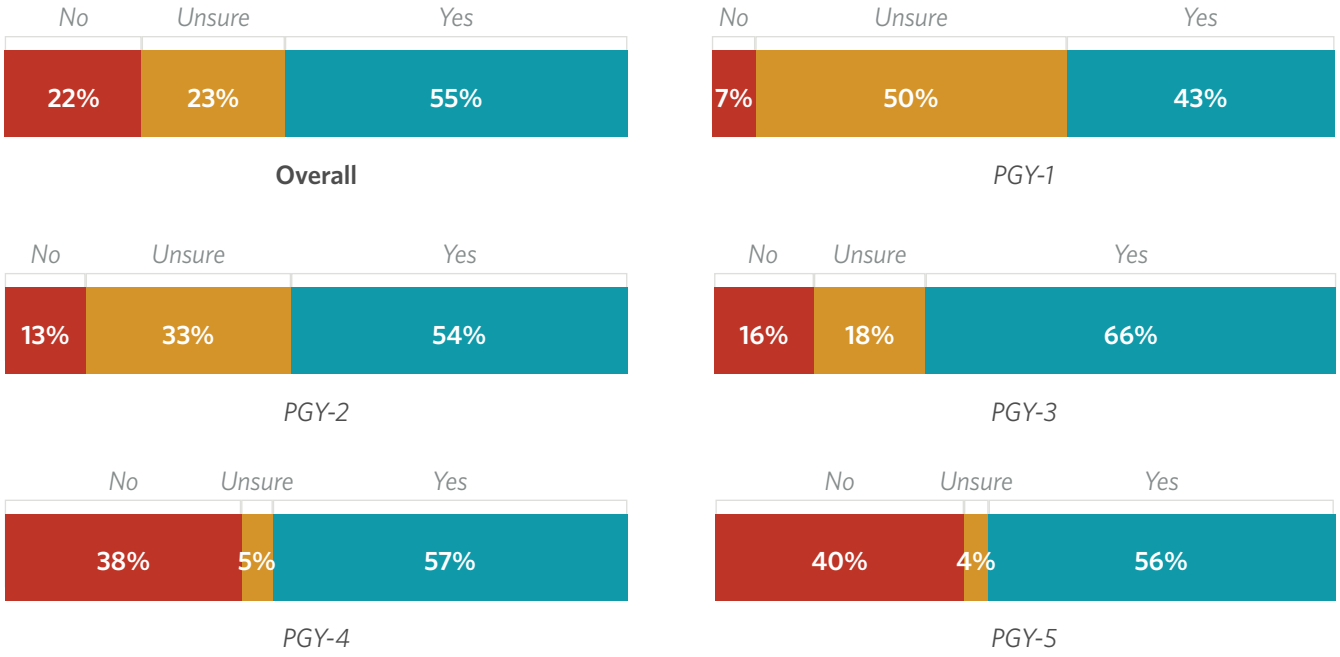

FIGURE 1.10:

Plans on Fellowship Pursuit by Sex

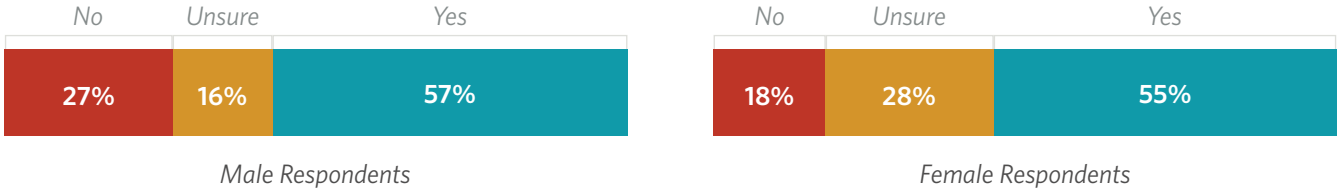

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FIGURE 1.11:

Distribution of Specialty Interest among Those Planning on Pursuing a Fellowship

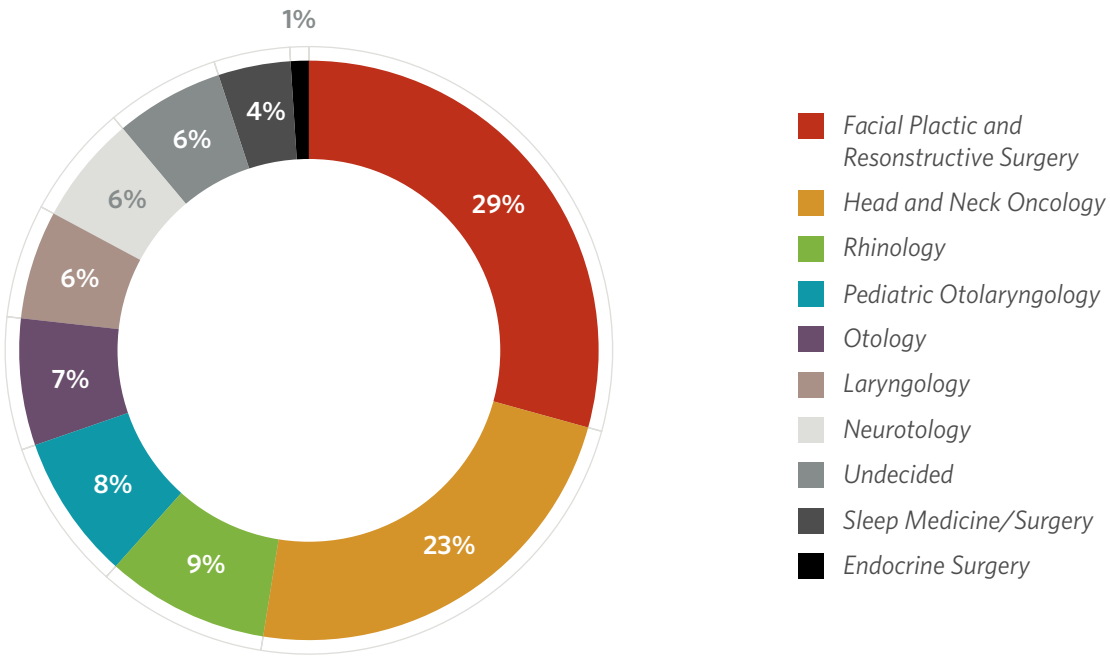
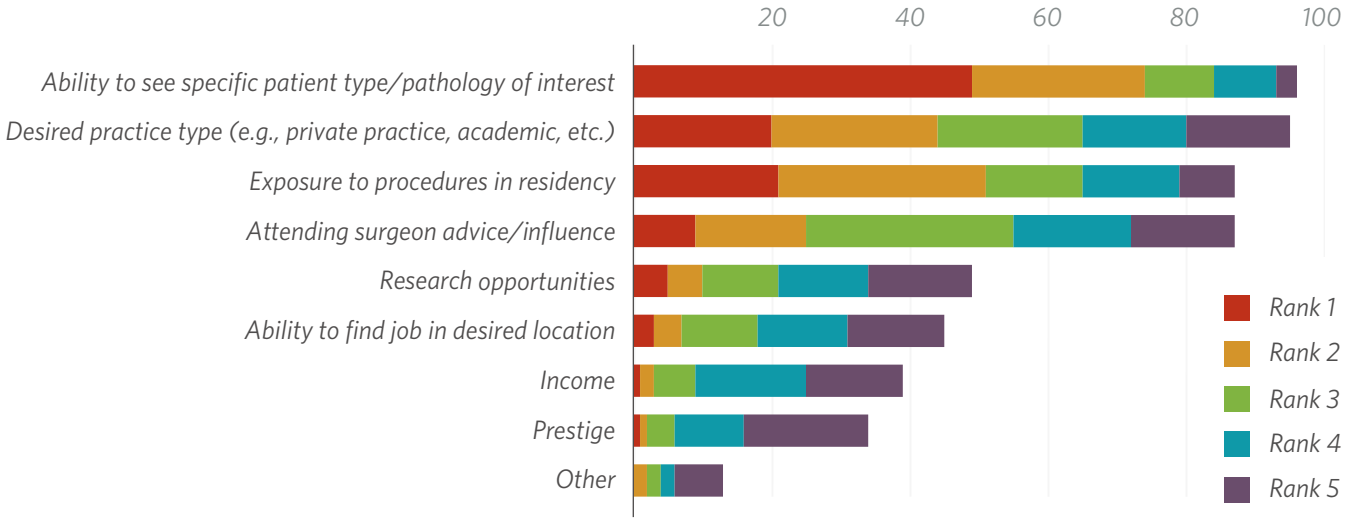


FIGURE 1.12:

Top Five Reasons for Fellowship Pursuit by Response Count



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JOB SEARCH AND EXPECTATIONS

FIGURE 1.13:

What Practice Type Do You Plan to Pursue after Residency/Fellowship?

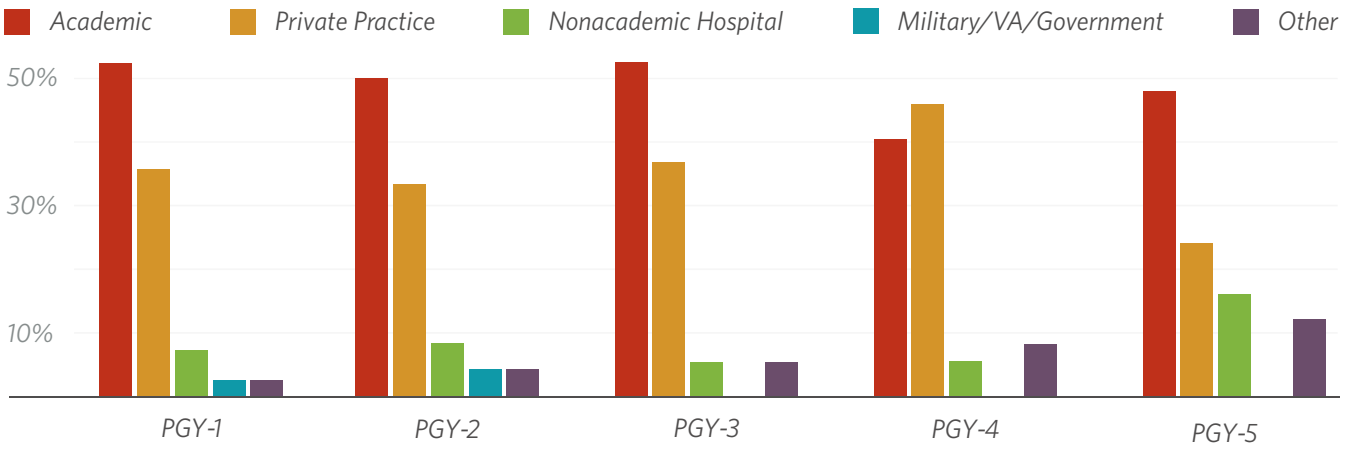

FIGURE 1.14:

Influences on Resident Practice Environment (Academic, Private Practice, etc.) Preferences by Response Count

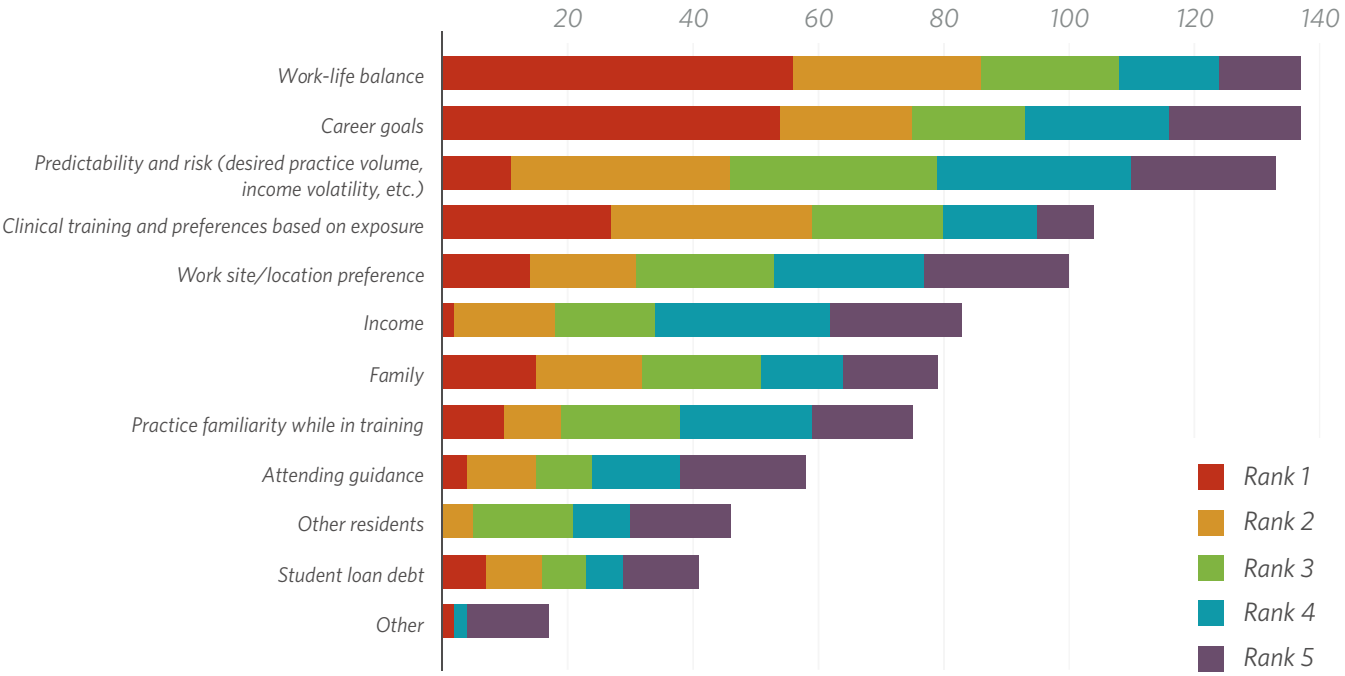

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FIGURE 1.15:

Male and Female Influences on Resident Practice Environment (Academic, Private Practice, etc.) Preferences by Response Count

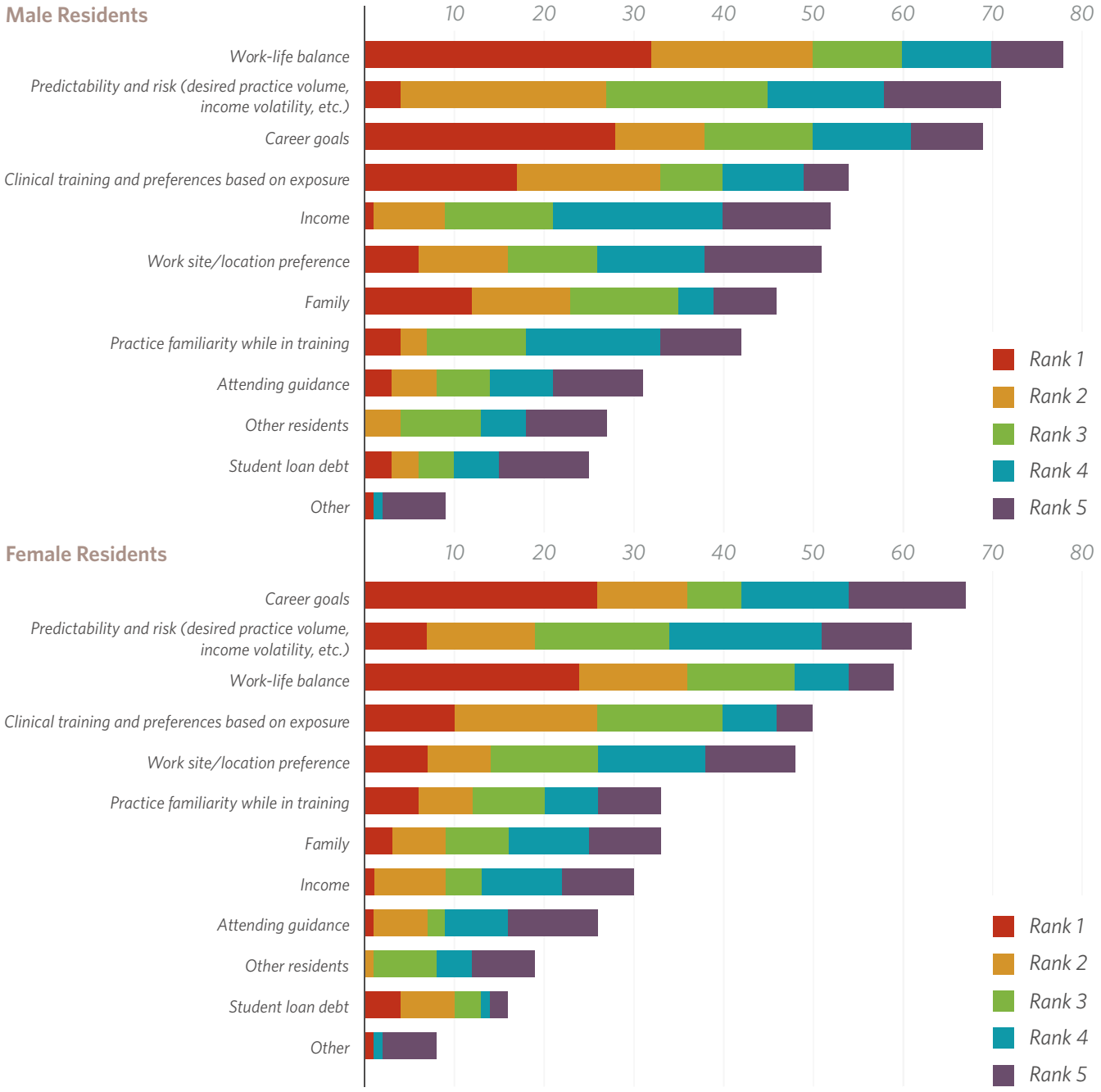

TABLE 1.4:

Male and Female Influences on Resident Practice Environment (Academic, Private Practice, etc.) Preferences

Practice Environment (Academic, Private Practice, etc.) Preference Influences	Male		Female	
	% in Top 5	Mean Rank	% in Top 5	Mean Rank
Work-life balance	70%	2.28	66%	2.25
Predictability and risk	64%	3.11	68%	3.18
Career goals	62%	2.43	74%	2.64
Clinical training and preferences based on exposure	49%	2.43	56%	2.56
Income	47%	3.63	33%	3.50
Work site/location preference	46%	3.31	53%	3.23
Family	41%	2.63	37%	3.39
Practice familiarity while in training	38%	3.52	37%	3.06
Attending guidance	28%	3.52	29%	3.73
Other residents	24%	3.70	21%	3.89
Student loan debt	23%	3.64	18%	2.44
Other	8%	4.44	9%	4.38

FIGURE 1.16:

Residents Looking for or Having Found a Job in Past 12 Months by PGY

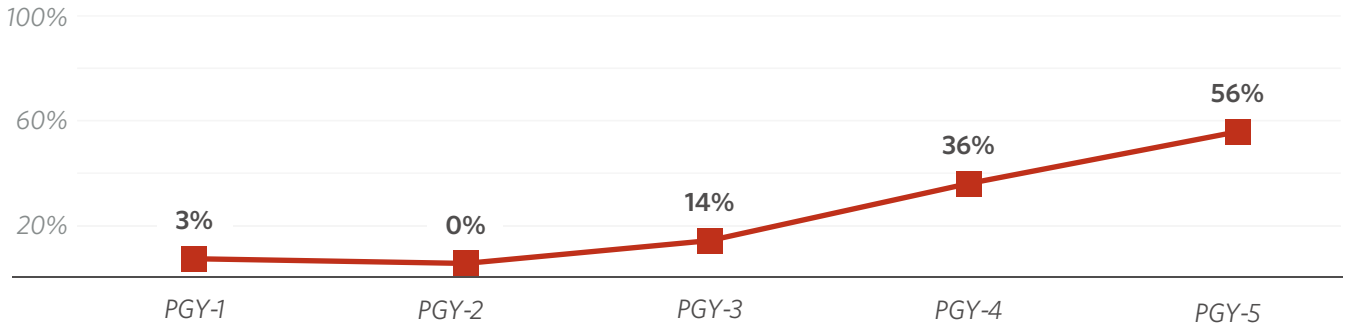

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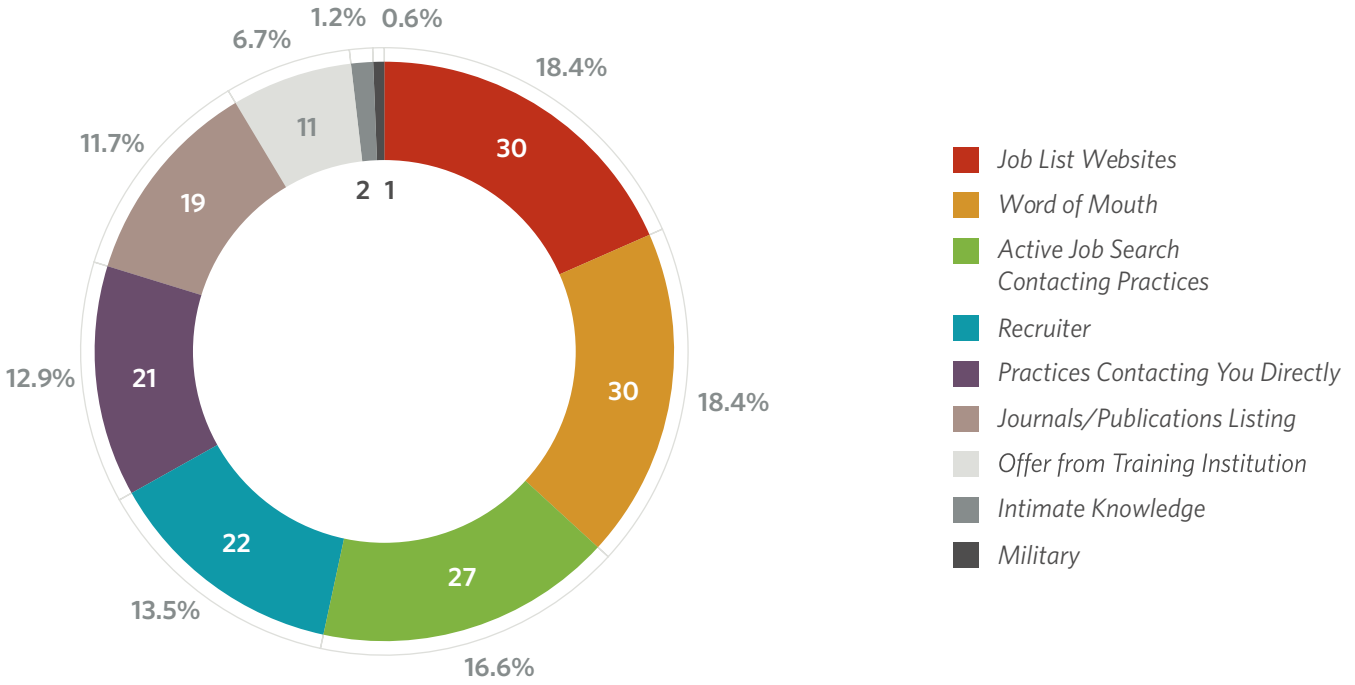
FIGURE 1.17:

Of Residents Having Found a Job or Looking in the Past 12 Months, Methods of Search



Multiple selections were allowed

FIGURE 1.18:

Job Location Priorities for Residents by Response Count

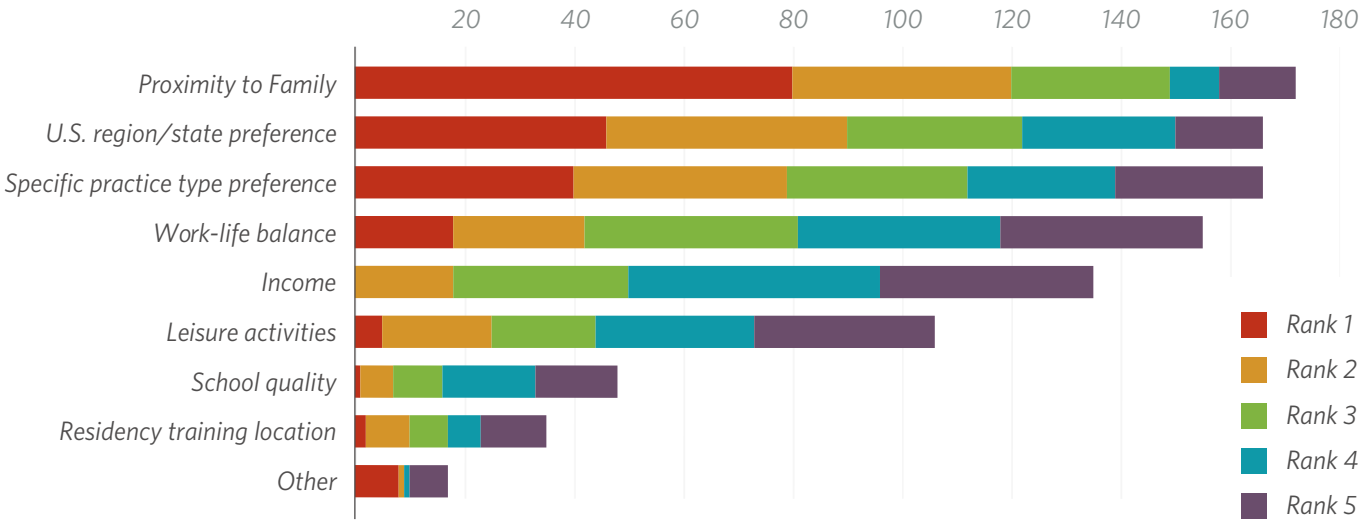


FIGURE 1.19:

Male and Female Job Location Priorities for Residents by Response Count

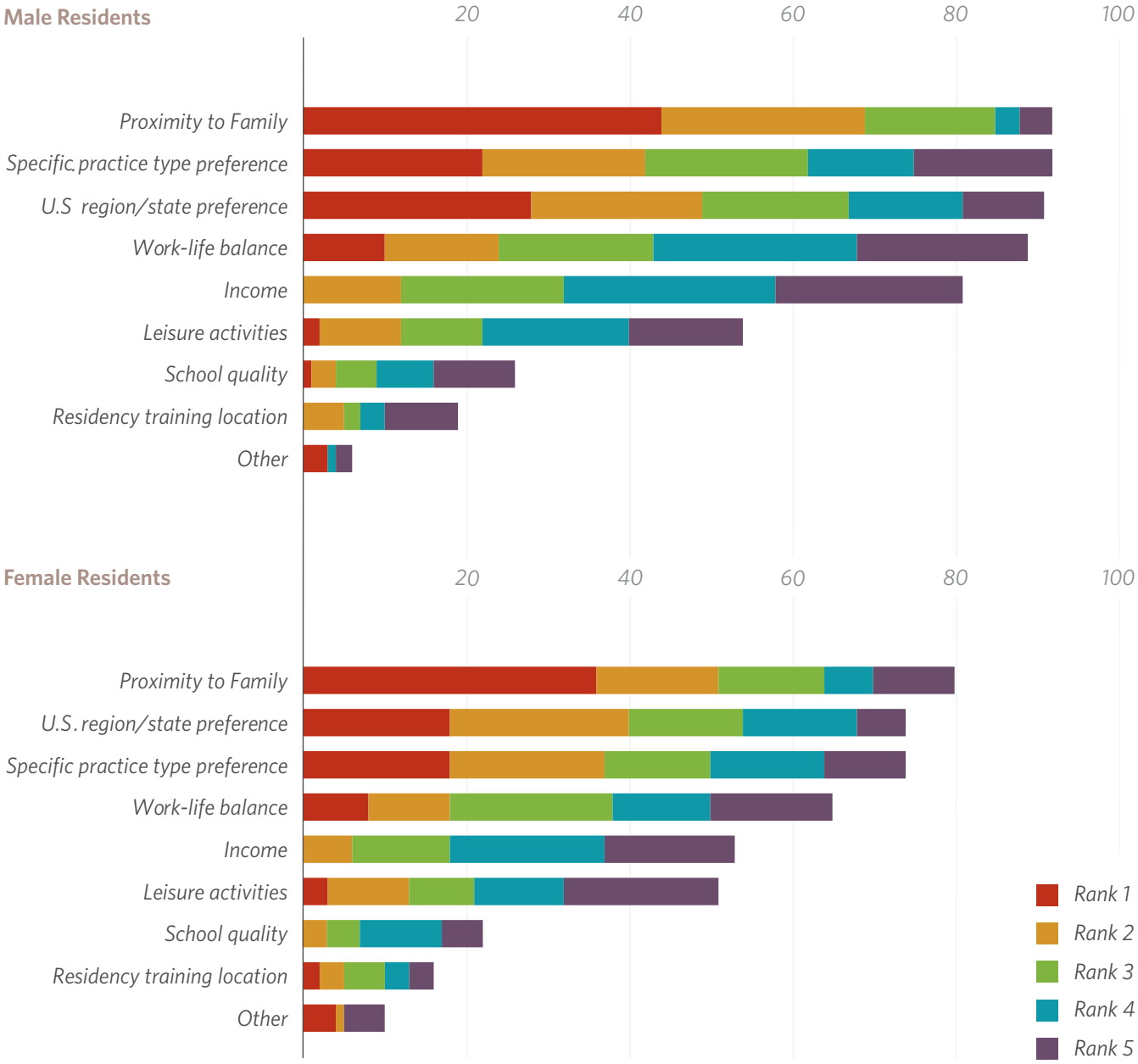


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TABLE 1.5:

Job Location Priorities for Male and Female Residents

Job Location Priorities	Male		Female	
	% in Top 5	Mean Rank	% in Top 5	Mean Rank
Proximity to family	84%	1.89	90%	2.24
U.S. region/state preference	83%	2.53	83%	2.57
Specific practice type preference	84%	2.82	83%	2.72
Work-life balance	81%	3.37	73%	3.25
Income	74%	3.74	60%	3.85
Leisure activities	49%	3.59	57%	3.65
School quality	24%	3.85	25%	3.77
Residency training location	17%	3.84	18%	3.13
Other	5%	2.83	11%	3.10

TABLE 1.6:

Resident Planned Days of Clinical Work When Fully Established, Overall and by Sex

	Overall	Male	Female
Mean	4.32	4.34	4.30
Median	4.50	4.50	4.00

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FIGURE 1.20:

Expected First 12 Months Salary/Clinical Income (Non-Ancillary) of Current Residents, Overall and by Sex (Median, 25th/75th Percentile Shown)

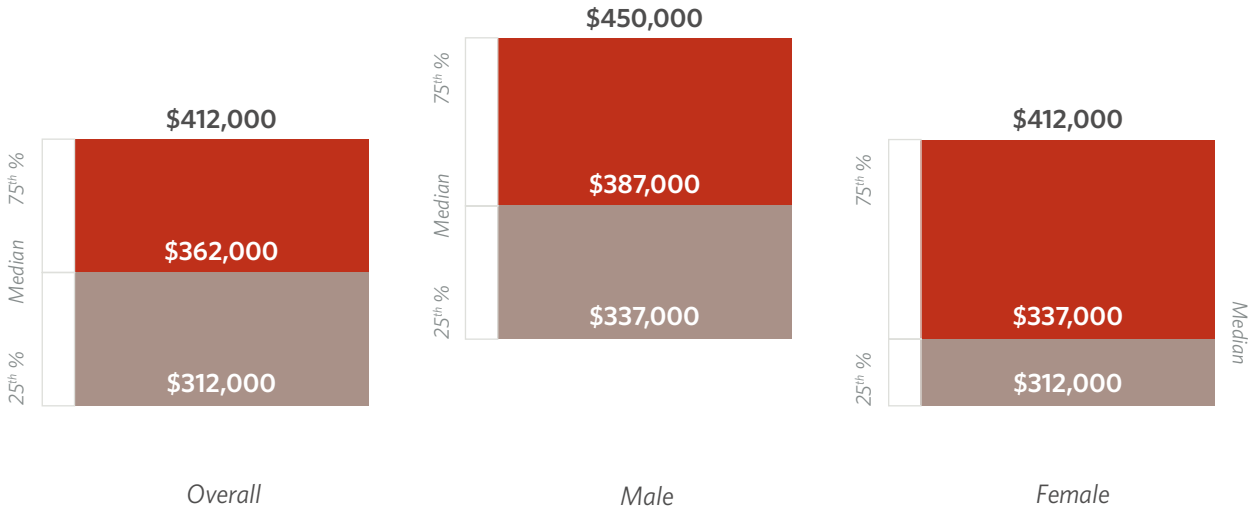

FIGURE 1.21:

Expected Full-Time Salary/Clinical Income (Non-Ancillary) Expectations 5 Years Post-Graduation, Overall and by Sex (Median, 25th/75th Percentile Shown)

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FIGURE 1.22:

Resident Expectations of Paid Time Off in First Year of Practice

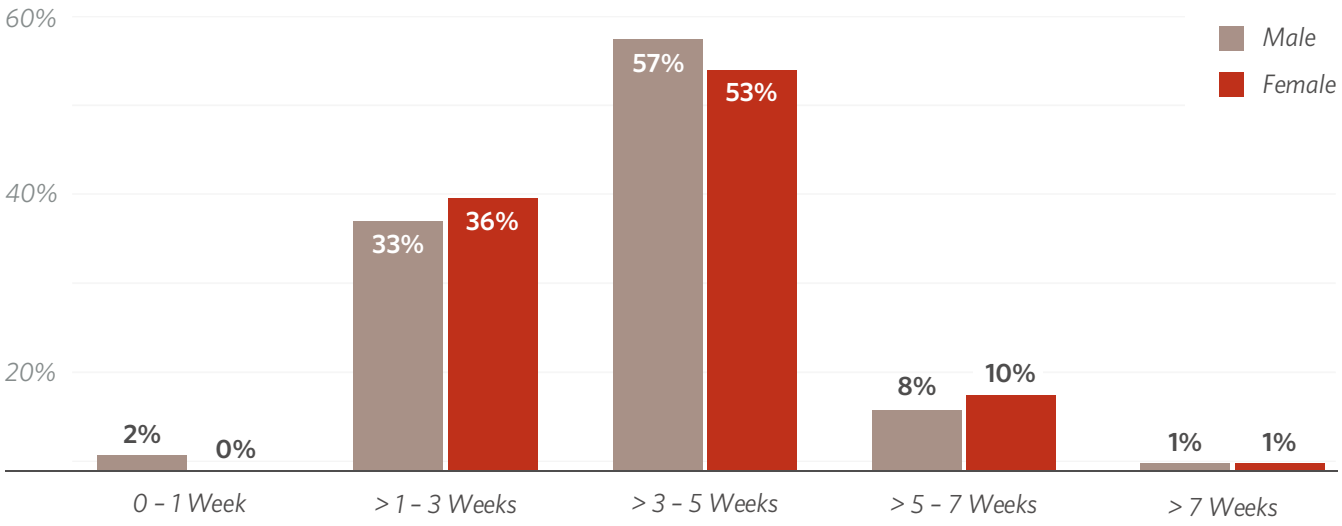
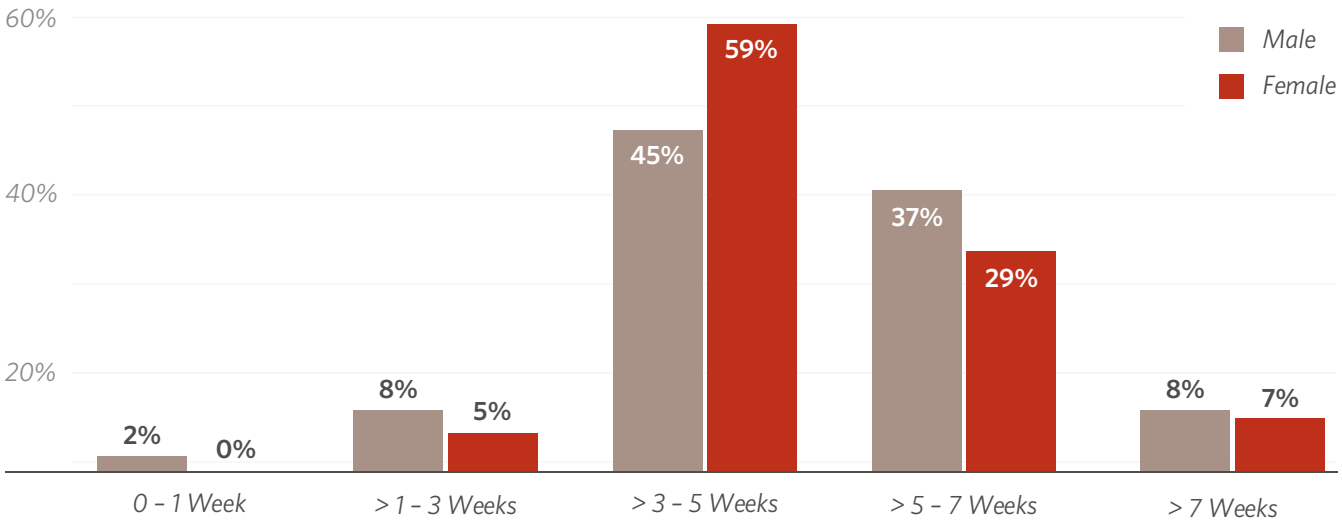


FIGURE 1.23:

Resident Expectations of Paid Time Off Five Years after Graduation



PRACTICING OTOLARYNGOLOGIST DEMOGRAPHICS

The workforce demographics reported in this report are a reflection of AAO-HNS respondents, and is therefore skewed to the makeup of Academy members, which may not perfectly describe the overall otolaryngology workforce. The AAO-HNS membership is more heavily weighted toward academic otolaryngologists, which skew the age to a younger demographic as more residents and fellows tend to enter an academic practice. The median age of respondents was 52, which was consistent with the median age of 51 years reported in *The 2022 Otolaryngology Workforce* (Table 2.1).

Most respondents were male (75%) and white (70%), which is also consistent with the 2022 survey (77% and 72% respectively) (Table 2.2). A "Mixed-Race" category was added to simplify the ethnicity/race data. These demographics will change in the coming years, as the sex and ethnicity/race of graduating residents continues to differ from current survey respondents.

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PRACTICING OTOLARYNGOLOGIST DEMOGRAPHICS

TABLE 2.1:

Average Age of Practicing Otolaryngologists

Mean	Median
51.7	52

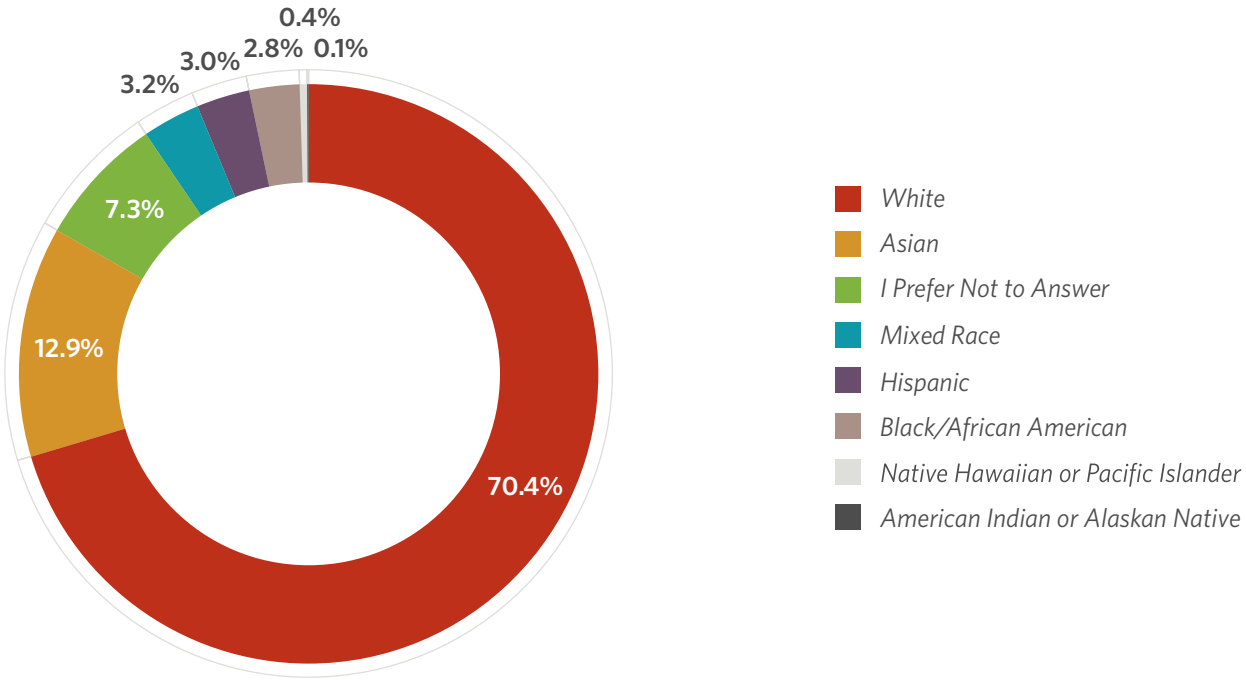
TABLE 2.2:

Sex of Practicing Otolaryngologists

Sex	Percentage
Male	74.7%
Female	25.1%
Other	0.2%
Total	100%

FIGURE 2.1:

Ethnicity/Race of Practicing Otolaryngologists



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TRAINING ASSESSMENT AND FELLOWSHIP UTILIZATION

We were able to show mean levels of preparedness ratings for general otolaryngology practice by graduation cohorts. The mean ratings varied from approximately 4.5 to 4.9 (Figure 3.1). While slight variations exist in the mean ratings between cohorts, no consistent trend of improvement or decline over time was observed. Interestingly, the level of preparedness did not significantly drop in the years after 2003 when the Accreditation Council for Graduate Medical Education (ACGME) resident work hour restrictions took effect.

Both male and female mean ratings generally show stability across most graduation years, with occasional fluctuations (Figure 3.2). Most graduation cohorts showed males as having higher confidence ratings compared to female respondents, though this looks to be potentially narrowing of late. As residencies adopt more competency-based assessment tools, we can track competence more objectively and hopefully achieve higher and less variable responses to similar questions in the future. We should also note that the perception of preparedness may be based, at least in part, on confidence, which is a distinctly different metric from true competency.

Just over half (51%) of survey respondents completed a fellowship (Table 3.1). Again, this likely skews slightly higher than the overall workforce due to higher proportionate academic membership in the AAO-HNS. While significant year-to-year variation exists regarding fellowship completion by residency graduation year, a trend toward higher completion over time exists (Figure 3.3). Variation between years is likely a result of respondent sampling differences across graduation years.

The distribution of fellowships completed by survey respondents is consistent with *The 2022 Otolaryngology Workforce*. Pediatric otolaryngology continues have the most respondents, followed by neurotology and head and neck oncology (Figure 3.4). How much this reflects market realities is unknown and should ideally be based on subspecialty society workforce analyses and comparisons. Of note, resident interest in fellowship types seems to differ significantly from respondent representation.

For the 2023 survey, we wanted to analyze fellowship utilization from a different angle. We asked about how much of one's clinical practice could be accomplished based on skill sets derived from residency (rather than fellowship), and the answers were quite different.

Regardless of practice setting or fellowship, 68% (median) of fellowship-trained otolaryngologists could practice with the skill sets gained during residency (Table 3.2). The fellowships that leaned on residency skills most often were otology and pediatric otolaryngology (78% and 73%, respectively), while the lowest was neurotology (48%). These trends held true for both academic and private practice respondents. Across all fellowship areas, a higher percentage of private practice respondents (78%) were able to successfully practice using the skills they acquired during residency as compared to academic respondents (63%). The largest discrepancies between academic and private practice environments were with facial plastic and reconstructive surgery and rhinology. Any discrepancies are likely based on the fact that academic otolaryngologists practice in a tertiary care setting with more complex referrals and surgical cases that require fellowship training.

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We also looked at subspecialty skill set sacrifice by whether or not a fellowship was completed and by each fellowship. Overall, we saw a very large percentage of practicing otolaryngologists give up at least one subspecialty area (95% for those with no fellowship versus 98% for those with a fellowship) (Table 3.3). This matters because we cannot assume that all otolaryngologists are the same and utilize all skill sets. If we see skill set sacrifices in particular areas, this may speak to a greater need of fellows in that subspecialty.

For those otolaryngologists who did not complete a fellowship, 86% do not perform neurotology cases while only 3% do not perform rhinology cases. This suggests that neurotology cases require fellowship training while rhinology, laryngology, and pediatric otolaryngology skills are largely acquired during residency or produce lasting comfort to continue in this arena in some capacity.

We saw the same neurotology skill set sacrifice among nearly every fellowship (aside from otology). These results imply that neurotology skill sets are unique, difficult, and/or require narrow focus in order to have lasting comfort in this arena. Looking at the numbers in an opposite fashion, assessing based on skill set retention, we see the least broad-based skill set retention among neurotology fellowship-trained otolaryngologists. So, while others stay away from neurotology more broadly, neurotologists also tend to stay away from other subspecialties on average.

Conversely, non-fellowship trained respondents have the highest average skill set retention (73% unweighted average), indicating that they are willing to perform cases across all subspecialties. Using this method of assessment, the data also demonstrate which fellowship trained respondents practice more like general otolaryngologists. Pediatric otolaryngologists were the most similar to non-fellowship trained respondents, standing at an unweighted average of 68% subspecialty skill set retention. These results may be due to having to practice across all surgical subspecialties in pediatric populations.

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PERCEPTION OF GENERAL OTOLARYNGOLOGY PREPAREDNESS

FIGURE 3.1:

Mean Rating of Residency Training for General Otolaryngology Preparedness by Graduation Cohort

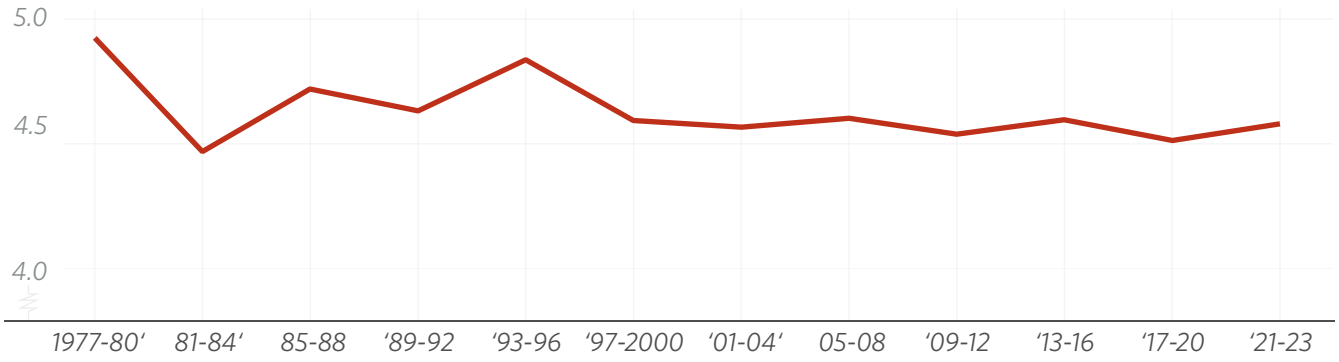
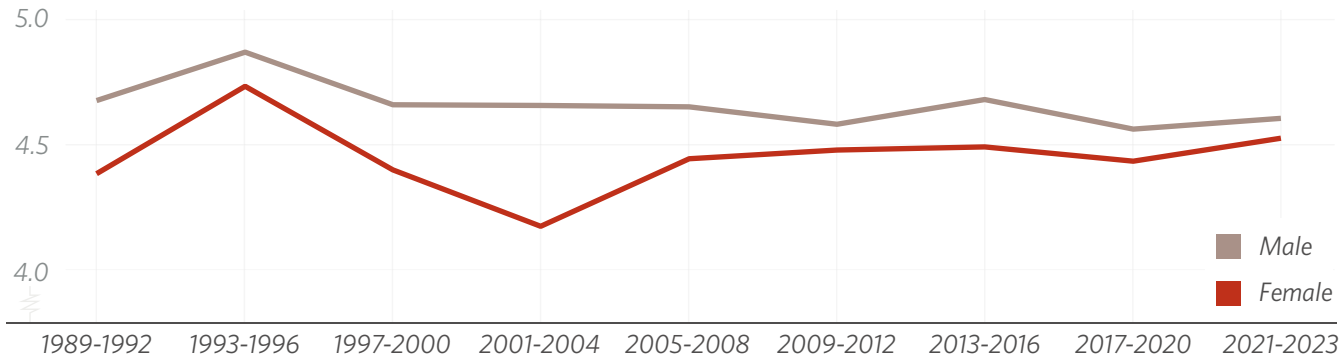


FIGURE 3.2:

Mean Rating of Residency Training for General Otolaryngology Preparedness by Graduation Cohort and Sex



FELLOWSHIP TRAINING

TABLE 3.1:

Fellowship Completion Rate among Otolaryngologists

Yes	No
51%	49%

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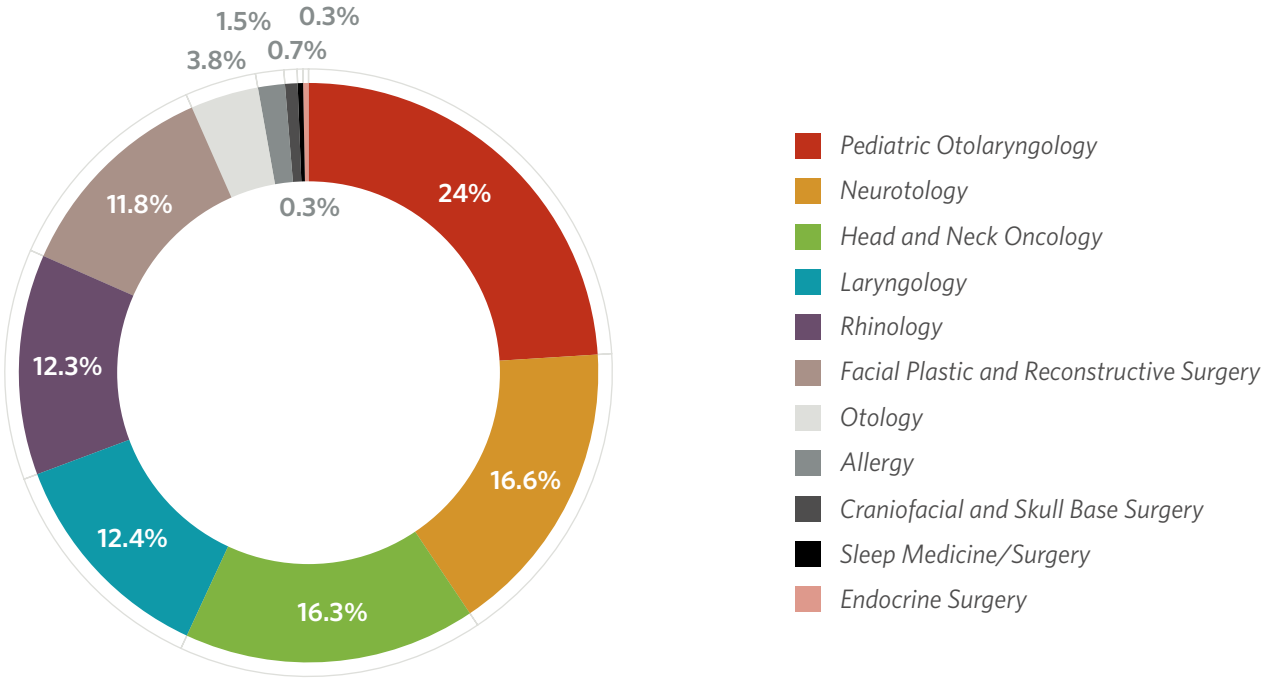
FIGURE 3.3:

Fellowship Training by Residency Graduation Year (1987-2020)

FIGURE 3.4:

Fellowship Distribution of Survey Respondents Who Completed a Fellowship



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RESIDENCY TRAINING UTILIZATION

TABLE 3.2:

What Percentage of Your Clinical Practice Is Able to Be Accomplished Based on Skill Sets Derived from Residency?

	Overall			Academic			Private Practice		
Fellowship Category	*Mean*	*Median*	*Count*	*Mean*	*Median*	*Count*	*Mean*	*Median*	*Count*
All Fellowships	**63%**	**68%**	**605**	**58%**	**63%**	**358**	**71%**	**78%**	**184**
Otology	*74%*	*78%*	*23*	*N/A*	*N/A*	*N/A*	*73%*	*68%*	*14*
Pediatric Otolaryngology	*68%*	*73%*	*144*	*66%*	*68%*	*100*	*75%*	*78%*	*26*
Head and Neck Oncology	*66%*	*73%*	*98*	*65%*	*68%*	*60*	*74%*	*78%*	*21*
Facial Plastic and Reconstructive Surgery	*64%*	*73%*	*70*	*50%*	*48%*	*27*	*76%*	*83%*	*37*
Rhinology	*62%*	*68%*	*72*	*56%*	*58%*	*42*	*70%*	*73%*	*25*
Laryngology	*60%*	*63%*	*75*	*54%*	*58%*	*51*	*73%*	*73%*	*18*
Neurotology	*50%*	*48%*	*99*	*45%*	*48%*	*62*	*55%*	*53%*	*31*

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TABLE 3.3:

Percent of Physicians with No Reduction in Subspecialty Practice

	Fellowship	No Fellowship
Percent with No Reduction in Subspecialty Practice	2.3%	5.0%

TABLE 3.4:

Subspecialty Areas Not Utilized After Fellowship Training: No Fellowship

Subspecialty Area	Percent Not Practicing Subspecialty Area
Neurotology	86%
Facial Plastic and Reconstructive Surgery	58%
Endocrine Surgery	28%
Head and Neck Oncology	25%
Allergy	20%
Otology	20%
Sleep Medicine/Surgery	15%
Pediatric Otolaryngology	10%
Laryngology	9%
Rhinology	3%

TABLE 3.5:

Subspecialty Areas Not Utilized After Fellowship Training: Facial Plastic and Reconstructive Surgery

Subspecialty Area	Percent Not Practicing Subspecialty Area
Neurotology	92%
Otology	69%
Endocrine Surgery	58%
Allergy	55%
Pediatric Otolaryngology	39%
Head and Neck Oncology	35%
Sleep Medicine/Surgery	35%
Rhinology	23%
Laryngology	10%
Facial Plastic and Reconstructive Surgery	3%

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TABLE 3.6:

Subspecialty Areas Not Utilized After Fellowship Training: Head and Neck Oncology

Subspecialty Area	*Percent Not Practicing Subspecialty Area*
Neurotology	*94%*
Otology	*85%*
Allergy	*77%*
Pediatric Otolaryngology	*59%*
Sleep Medicine/Surgery	*56%*
Rhinology	*45%*
Facial Plastic and Reconstructive Surgery	*29%*
Laryngology	*20%*
Endocrine Surgery	*7%*
Head and Neck Oncology	*5%*

TABLE 3.7:

Subspecialty Areas Not Utilized After Fellowship Training: Laryngology

Subspecialty Area	*Percent Not Practicing Subspecialty Area*
Neurotology	*92%*
Facial Plastic and Reconstructive Surgery	*87%*
Otology	*76%*
Endocrine Surgery	*72%*
Sleep Medicine/Surgery	*68%*
Allergy	*64%*
Rhinology	*56%*
Pediatric Otolaryngology	*47%*
Head and Neck Oncology	*23%*
Laryngology	*0%*

TABLE 3.8:

Subspecialty Areas Not Utilized After Fellowship Training: Neurotology

Subspecialty Area	*Percent Not Practicing Subspecialty Area*
Endocrine Surgery	*96%*
Facial Plastic and Reconstructive Surgery	*91%*
Sleep Medicine/Surgery	*90%*
Laryngology	*90%*
Rhinology	*86%*
Allergy	*80%*
Head and Neck Oncology	*78%*
Pediatric Otolaryngology	*42%*
Neurotology	*4%*
Otology	*1%*

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TABLE 3.9:

Subspecialty Areas Not Utilized After Fellowship Training: Otology

Subspecialty Area	*Percent Not Practicing Subspecialty Area*
Facial Plastic and Reconstructive Surgery	*86%*
Endocrine Surgery	*62%*
Head and Neck Oncology	*62%*
Sleep Medicine/Surgery	*52%*
Laryngology	*52%*
Allergy	*33%*
Rhinology	*29%*
Neurotology	*24%*
Pediatric Otolaryngology	*14%*
Otology	*0%*

TABLE 3.10:

Subspecialty Areas Not Utilized After Fellowship Training: Pediatric Otolaryngology

Subspecialty Area	*Percent Not Practicing Subspecialty Area*
Neurotology	*84%*
Facial Plastic and Reconstructive Surgery	*59%*
Endocrine Surgery	*48%*
Allergy	*46%*
Head and Neck Oncology	*45%*
Otology	*15%*
Sleep Medicine/Surgery	*7%*
Rhinology	*7%*
Laryngology	*5%*
Pediatric Otolaryngology	*2%*

TABLE 3.11:

Subspecialty Areas Not Utilized After Fellowship Training: Rhinology

Subspecialty Area	*Percent Not Practicing Subspecialty Area*
Neurotology	*95%*
Facial Plastic and Reconstructive Surgery	*73%*
Otology	*72%*
Endocrine Surgery	*70%*
Laryngology	*54%*
Head and Neck Oncology	*50%*
Sleep Medicine/Surgery	*45%*
Pediatric Otolaryngology	*38%*
Allergy	*16%*
Rhinology	*1%*

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RECRUITMENT

Analyzing the responses from each practice environment type demonstrates significant recruitment differences in terms of Likert scale rating that correlated with years to recruit. Academic settings appear to have the easiest time with recruitment, while Nonacademic Hospital and Solo Practice settings have the most challenges (Figure 4.1). All practice environments noted that "Location" is the biggest recruitment challenge with "Family Considerations" also consistently ranking high. These categories correlate with the residents' responses identifying the top influences on their choice of practice environment. Nonacademic Hospital environments seem to have a more difficult call situation, as noted both in *The 2022 Otolaryngology Workforce* as well as its second position in recruitment challenges (Figure 4.3).

When it comes to ways to improve recruitment, the Academic environment stood out as uniquely wanting a higher salary (Figure 4.7). As noted in the Income section of this report, however, Academic recruit salary was middle of the pack. Where Academic income seemed to fall behind was in attending salaries and the limited ancillary income. Therefore, Academic physicians may have more concerns regarding pay, not just for the recruitment package, but due to the relative attractiveness of future clinical income.

Other nonacademic practice environments noted a need for increased worker supply and/or interest in their practice environment (Figure 4.7). The 2022 report suggested more supply is needed in some areas, but not in others, and the Training and Residents section highlights that more workers are coming. Also, residents desire more exposure to private practice. As noted, there are significant opportunities for improvement and growth by training programs as residents may benefit from earlier, structured exposure to alternative practice models/settings to make informed career decisions in their formative training years. This diverse exposure to varying practice types not only serves the residents well but could potentially meet the otolaryngology workforce needs that exist in nonacademic settings.

TABLE 4.1:

Time to Recruit (Years) by Practice Type

Practice Type	25th %	Median (50th %)	Mean	75th %
Academic	0.5	1	1.3	2
Private Multispecialty	0.75	1	1.8	2
Private Single Specialty	1	2	1.9	2.25
Nonacademic Hospital	1	1.5	2.2	3
Solo Practice	1	2	2.8	4

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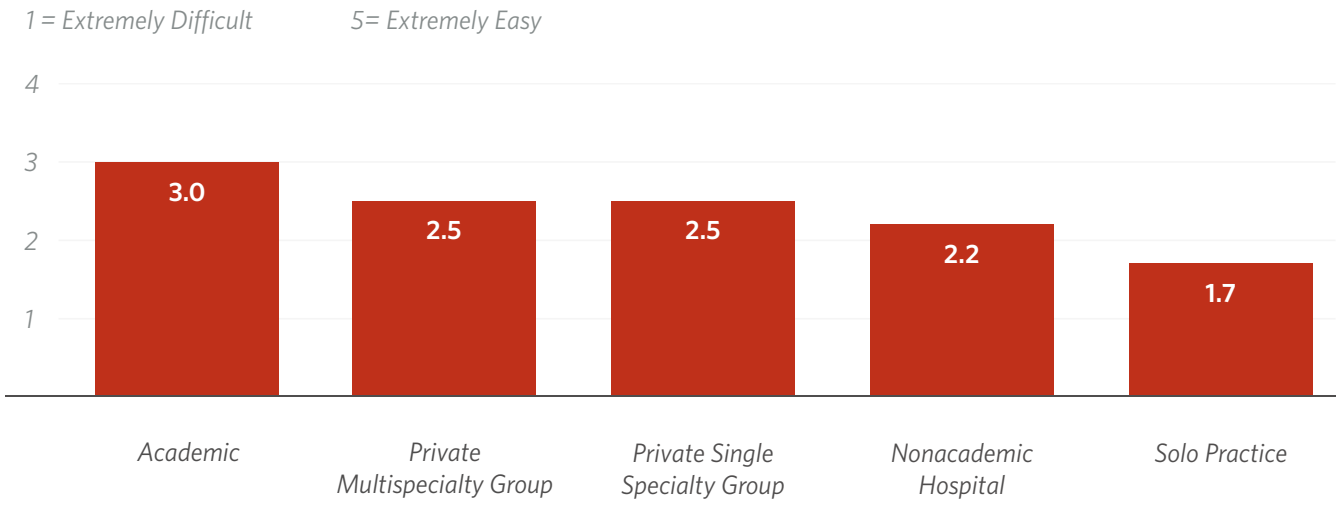
FIGURE 4.1:

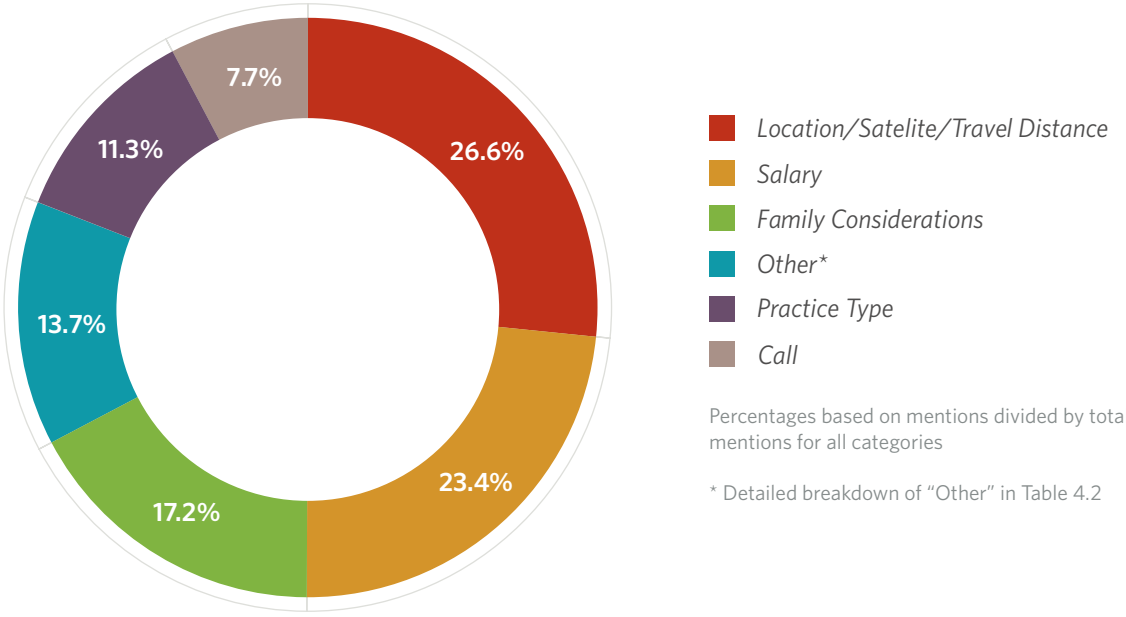
Difficulty of Recruitment by Practice Type



FACTORS CONTRIBUTING TO RECRUITMENT DIFFICULTY

FIGURE 4.2:

Factors Contributing to Recruitment Difficulty: Academic Practice Environment



Percentages based on mentions divided by total mentions for all categories

* Detailed breakdown of "Other" in Table 4.2

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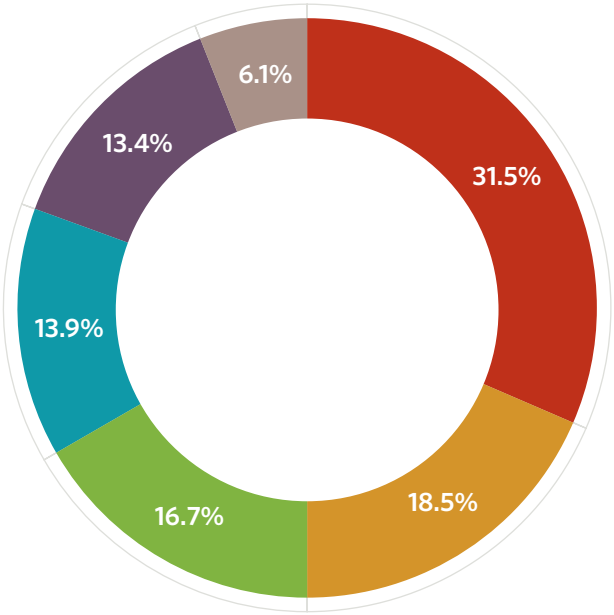
FIGURE 4.3:

Factors Contributing to Recruitment Difficulty: Nonacademic Hospital

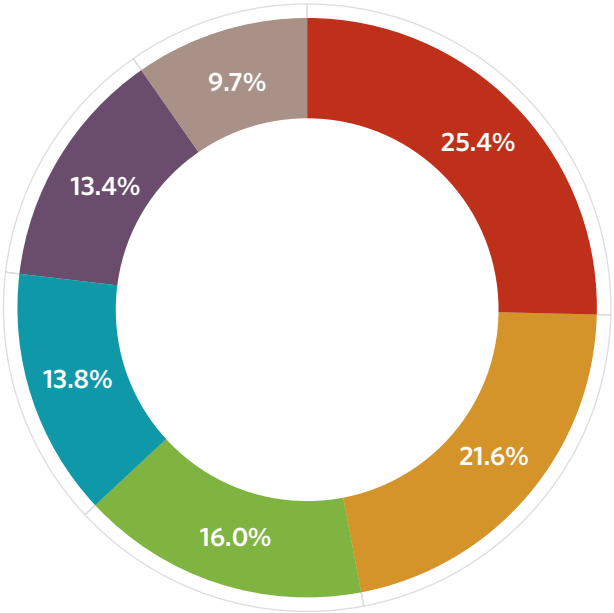


Percentages based on mentions divided by total mentions for all categories

* Detailed breakdown of "Other" in Table 4.2

FIGURE 4.4:

Factors Contributing to Recruitment Difficulty: Private MSG

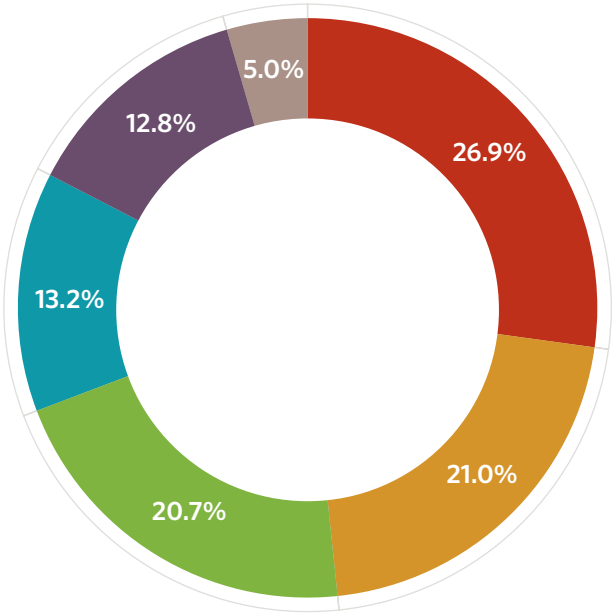


Percentages based on mentions divided by total mentions for all categories

* Detailed breakdown of "Other" in Table 4.2

FIGURE 4.5:

Factors Contributing to Recruitment Difficulty: Private SSG

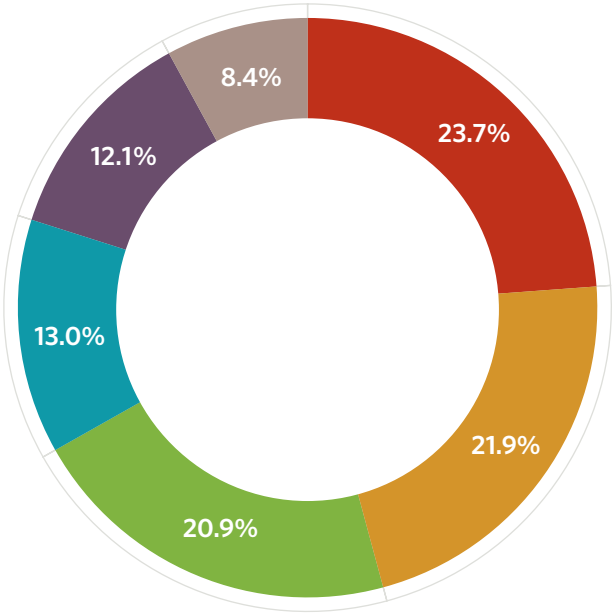


Percentages based on mentions divided by total mentions for all categories

* Detailed breakdown of "Other" in Table 4.2

FIGURE 4.6:

Factors Contributing to Recruitment Difficulty: Solo Practice



Percentages based on mentions divided by total mentions for all categories

* Detailed breakdown of "Other" in Table 4.2

TABLE 4.2:

Other Factors Contributing to Recruitment Difficulty

Factor	Academic	Nonacademic Hospital	Private MSG	Private SSG	Solo Practice
Nonclinical Responsibilities	8.0%	0.5%	1.9%	1.0%	1.9%
Cost of Living	1.5%	0.5%	0.7%	0.4%	0.5%
Access to Subspecialties	1.5%	3.2%	3.4%	1.6%	3.7%
Administrative Support Lacking	0.5%	-	0.4%	-	-
Leadership	0.3%	-	-	-	-
OR Access	0.3%	-	0.4%	-	-
Lack of Candidates	0.2%	0.9%	1.1%	0.9%	0.9%
Research Commitment	0.2%	-	-	-	-
Competition	0.2%	-	0.4%	0.1%	-
Benefits	0.2%	0.5%	-	-	0.5%
Lack of Interest in General Otolaryngology	0.1%	-	0.4%	-	-
Workload	0.1%	0.5%	-	0.1%	-
Reputation	0.1%	-	0.4%	-	-
Case Volume	0.1%	-	-	-	-
Ability to Practice Subspecialty Area Fully	0.1%	-	-	-	-
Loan Repayment	-	-	0.4%	-	-
Size of Group	-	-	0.4%	-	-
Payer Mix/Payment	-	-	-	0.6%	-
Duration of Partnership	-	-	-	0.1%	-
Language Requirements	-	-	-	0.1%	-
Lack of Ancillaries	-	-	-	0.1%	-
Hospital Facility	-	-	-	-	0.9%
Total	13.7%	6.0%	9.7%	5.0%	8.4%

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METHODS TO IMPROVE RECRUITMENT

FIGURE 4.7:

Top 10 Methods to Improve Recruitment by Practice Environment

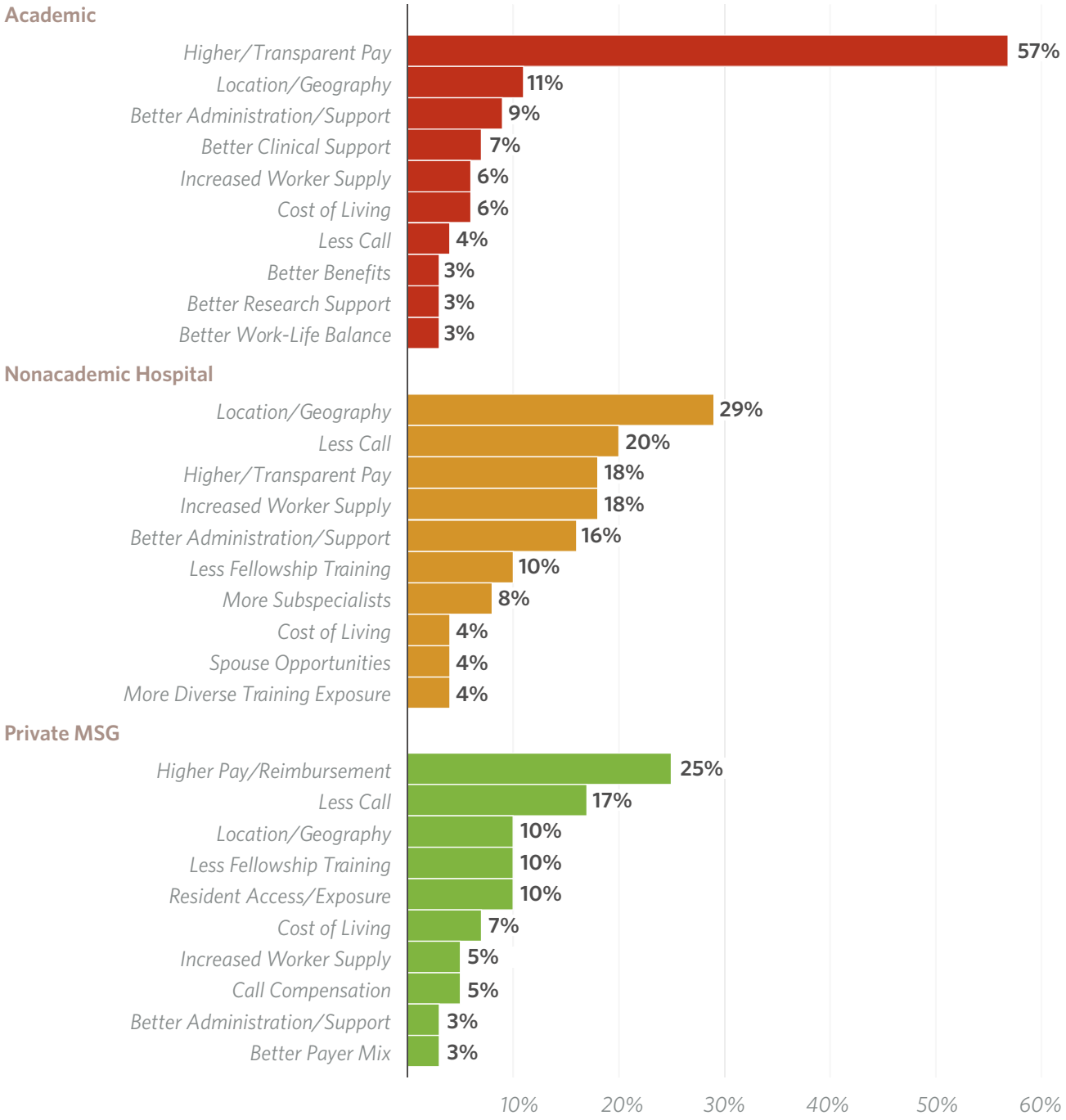
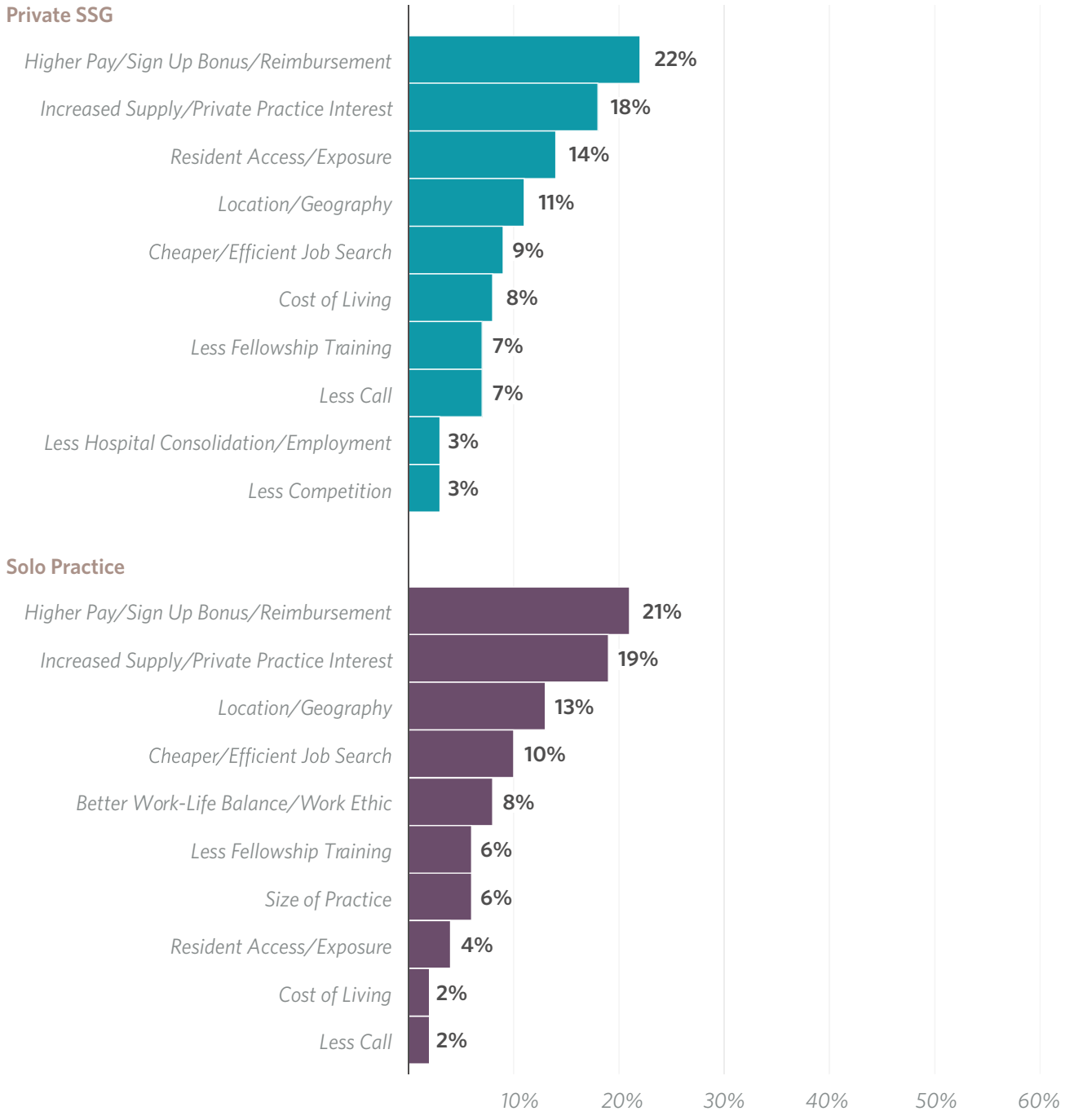


FIGURE 4.7 CONTINUED:

Top 10 Methods to Improve Recruitment by Practice Environment



Note: Percentages represent total mentions divided by the number of respondents in that given practice environment/category.

PRACTICE DETAILS

The majority of otolaryngologists remain in private practice, though representation declined slightly to 51.5%, compared to the 54% noted in the 2022 report (Figure 5.1). Academics, Private Single-specialty Group, Private Multispecialty Group, Solo Practice, and Nonacademic Hospital environments remain the five largest categories, again comprising over 97% of practice types reported. Compared to the 2022 report, Academic practice increased from 35% to 37.6% and Nonacademic Hospital practice increased from 8% to 8.6%. Meanwhile, Private Single-specialty Group and Solo Practice decreased from 33% to 30% and 11% to 10.4%, respectively. Private Multispecialty Group practice increased from 10% to 11%. To determine whether these changes represent survey bias or actual shifts, data obtained over upcoming years are needed.

Otolaryngologists in Academic practice work in multiple offices more frequently than those in other practice types, though over 50% of those in Single and Multispecialty Groups work in multiple offices as well (Figure 5.2). 43% of colleagues in Nonacademic Hospital practices and 28% of those in Solo Practice work in more than one office, with little change from the 2022 report.

30% of respondents have changed practice environment types at some point in their career (Figure 5.3). We saw an expected shift away from Government/Military employment, presumably after fulfilling obligations. Private Single-specialty Group environments also experienced some net outflows, when environment changes were reported. Small net changes were reported from the other practice settings, with the exception of Solo Practice and Private Multispecialty Group environments, where net positive movement was observed. The Solo Practice gains were somewhat surprising, given the perceived challenges facing the solo practitioner. Still, the vast majority (70%) did not indicate a practice environment change, and, since most changes did not result in a significant net practice environment shift, this information supports the notion that the 2022 practice environment shifts we saw by decade represent actual changes over time.

Locum tenens work was performed by only 3% of respondents over the preceding 12 months, and 40% of the work was provided in the Nonacademic Hospital setting (Table 5.2). Respondents reported performance of locum tenens work across all major practice settings though, including Academic (11%) (Figure 5.4).

Over the 12 months prior to survey completion, most respondents continue to utilize telemedicine, ranging from 83% of those in Academics down to 54% of those in Private Single-specialty Groups (Figure 5.5). Use was not queried in the 2022 survey, though presumably almost all otolaryngologists used telemedicine during the peak of the COVID-19 pandemic in 2020. The efficacy and convenience of virtual visits are clear, and the technology is ubiquitous, though ongoing future use is likely dependent upon ongoing insurance coverage. Considering challenges to otolaryngology care access, particularly in rural settings, telemedicine would seem to be worthy of continued reimbursement.

Similar to percentages noted in the 2022 report, 89.7% of otolaryngology offices are in urban locations (Table 5.3). Furthermore, based upon office locations, 97.4% of Academic practices are urban (Table 5.4). As previously noted, access to otolaryngologists by those living in rural areas is limited, particularly to subspecialists, and this does not seem likely to change for the foreseeable future, given practice pattern changes shown in 2022, resident interest, and fellowship training.

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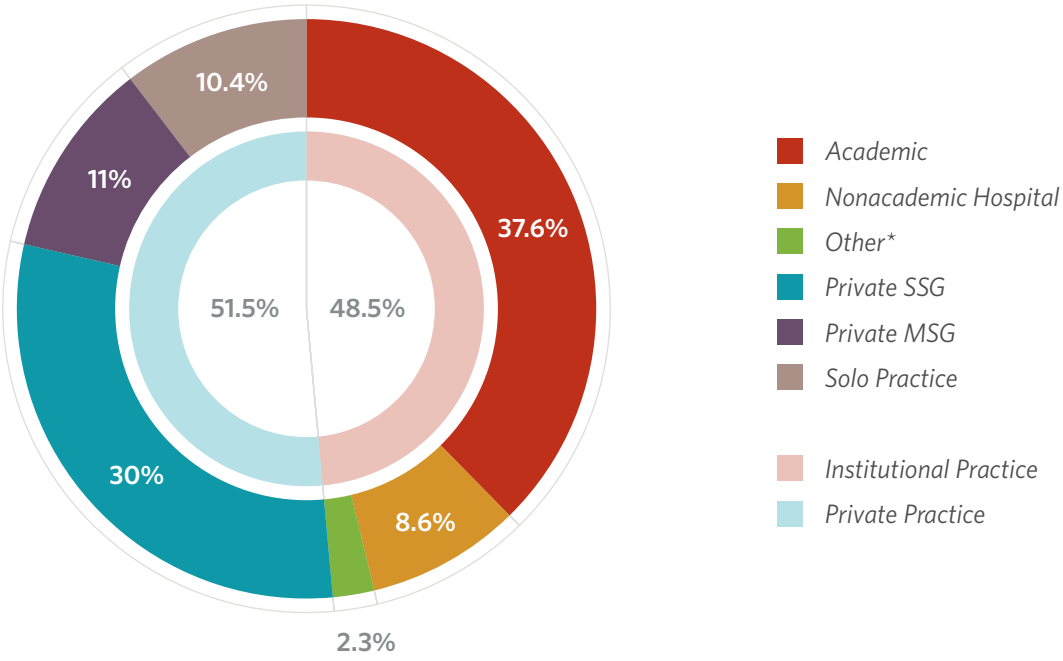
FIGURE 5.1:

Practice Type Distribution of Respondents



Other	Percent of Total
Non-Veterans Affairs Military Hospital	0.7%
Veterans Affairs	0.6%
Community Health Center	0.4%
Other Federal, State, or Local Government	0.3%
Alaska Native Healthcare System	0.1%
Rural Community Teaching Hospital	0.1%
Sleep Telemedicine	0.1%
Total Other	2.3%

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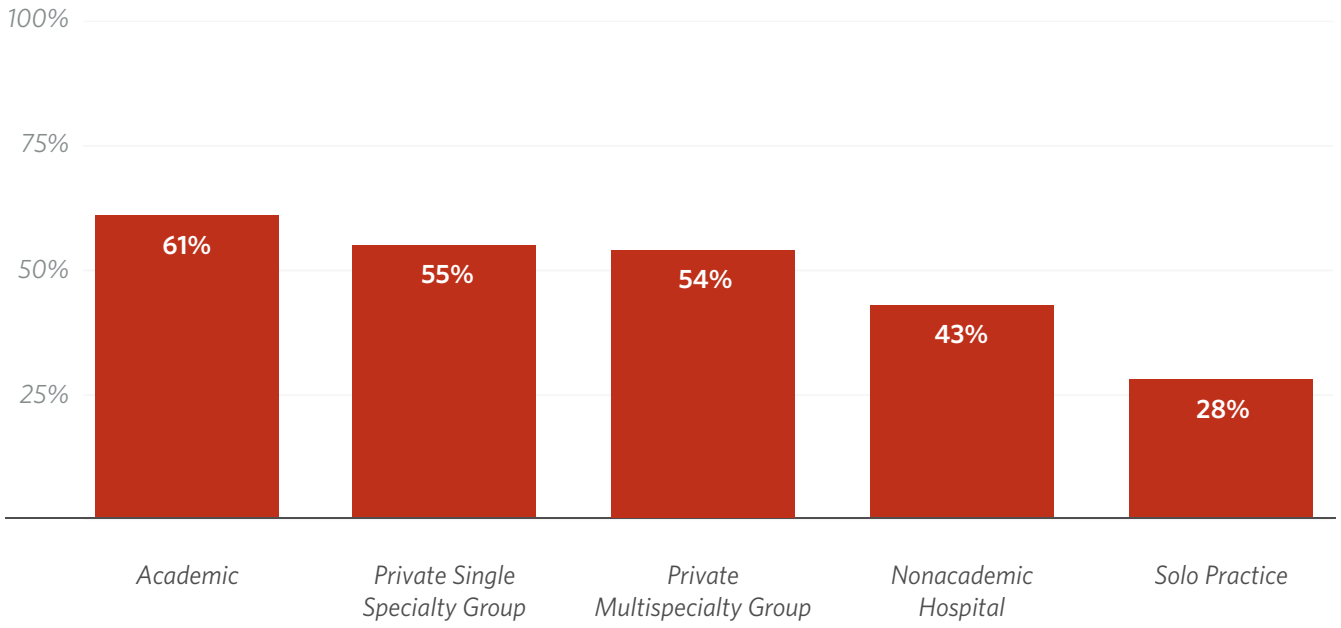
FIGURE 5.2:

Otolaryngologists Working at Multiple Office Locations by Practice Type



JOB CHANGE TO DIFFERENT PRACTICE ENVIRONMENT

TABLE 5.1:

During Your Career, Have You Changed Jobs That Involved a Change in Practice Environment?

Yes	No
30%	70%

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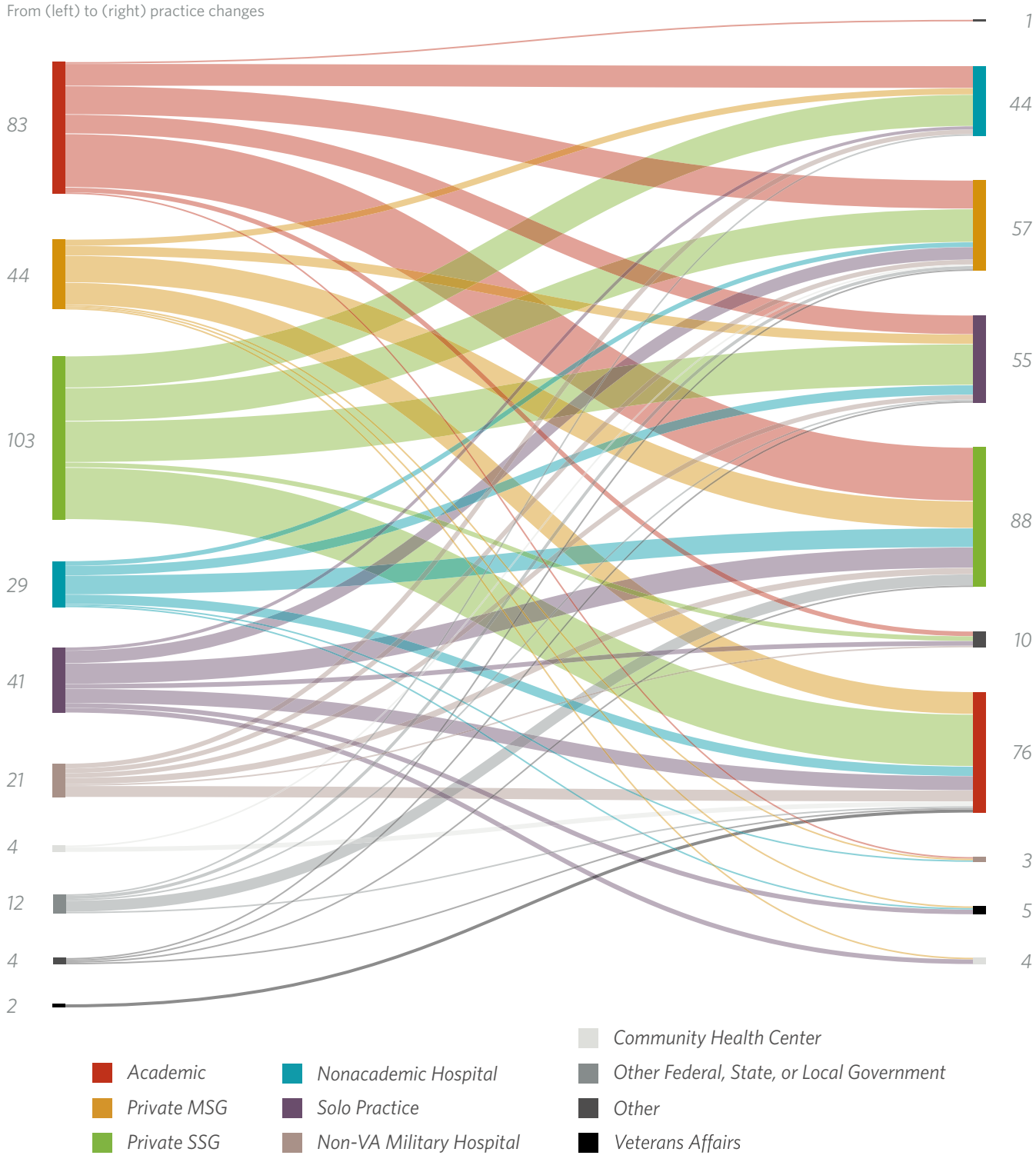
FIGURE 5.3:

Practice Changes (When Changed) by Response Count



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LOCUM TENENS WORK

TABLE 5.2:

Did You Perform Any Locum Tenens Work in the Past 12 Months?

Yes	No
3%	97%

FIGURE 5.4:

Practice Types Where Locum Tenens Work Performed

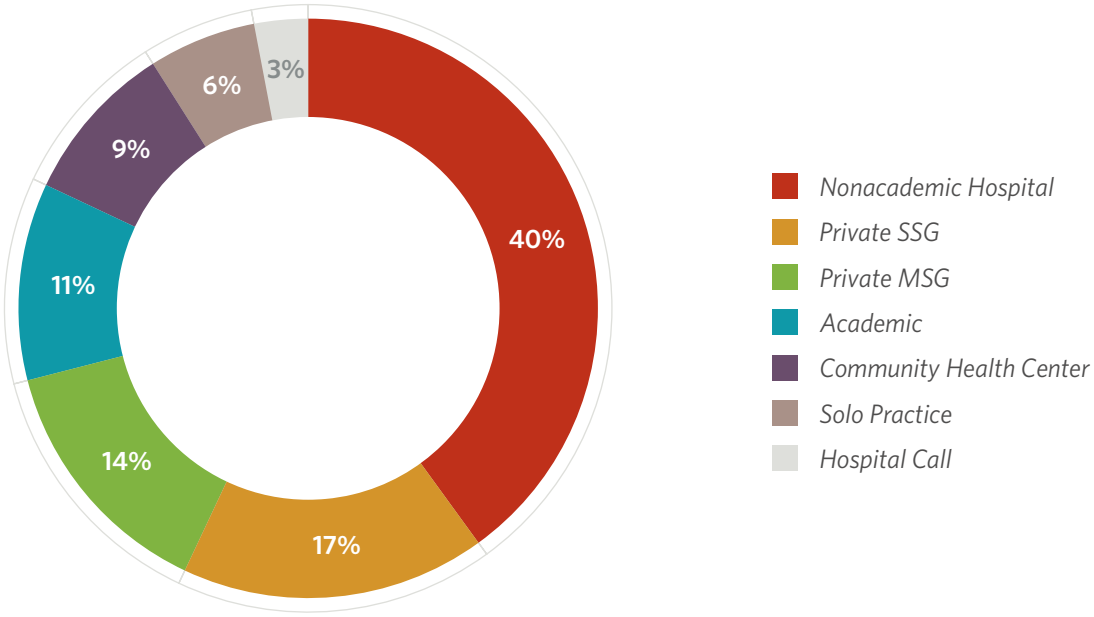
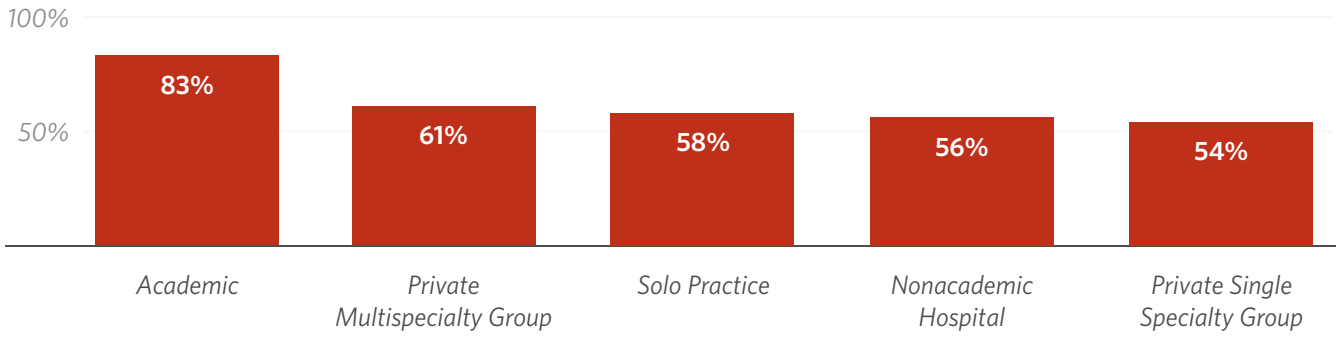


FIGURE 5.5:

Any Use of Telemedicine in Past 12 Months by Practice Type



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GEOGRAPHICAL DISPERSION

TABLE 5.3:

Urban/Rural Distribution among Otolaryngology Offices

	RUCA	Office Locations	Percent	Total Percent
Urban	1	1614	87.7%	89.7%
	2	36	2.0%	
	3	1	0.1%	
Rural	4	125	6.8%	10.3%
	5	11	0.6%	
	6	1	0.1%	
	7	32	1.7%	
	8	4	0.2%	
	9	0	0.0%	
	10	16	0.9%	

TABLE 5.4:

Urban/Rural Distribution by Practice Type by Total Office Locations

Practice Type	Urban	Rural
Nonacademic Hospital	63.4%	36.6%
Solo Practice	79.1%	20.9%
Private SSG	89.7%	10.3%
Private MSG	90.9%	9.1%
Academics	97.4%	2.6%

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ADVANCED PRACTICE PROVIDERS

Advanced practice providers (APPs) have become a significant topic of discussion within the specialty and the greater house of medicine over the past decade. This taskforce chose to evaluate the way in which APPs were involved in otolaryngology care across specialty types.

Regardless of the practice type, APPs clearly provide value to otolaryngology. While Academic practices utilize APPs most heavily, Solo Practice providers are least likely to employ APPs, with only about a third embracing this model (Figure 6.1). Reasons for hiring APPs vary, but, most notably, they increase patient access to care and improve productivity (Table 6.2). Coverage of patients while otolaryngologists are out of the office, easing documentation burden, and creating a more rewarding work environment are other reasons that support hiring APPs.

APPs will likely continue to play a vital role in extending care within our practices for years to come. Nearly three quarters (72%) have APPs currently, and, overall, 17% of practices that do not employ them plan on hiring them in the next year (Figure 6.3). Solo Practice providers are slower to engage, but still show interest.

Most APPs see patients independently and perform procedures in the office (Figure 6.4). APPs in the Solo Practice and Academic practice environments have less autonomy. One reason that APPs tend to not see patients as a part of another physician's schedule is likely the low cost-effectiveness of this approach. When APPs see patients independently in the clinic, most will see somewhere between 10-22 patients in a day, which varies by practice type (Figure 6.6). Those in private practice tend to see the most patients per day, with fewer patients seen independently in Academic or Nonacademic Hospital practices. This may reflect a demand for more patients throughout in private groups, compared to hospital-based practices.

The most common procedures performed by APPs include cerumen removal, flexible laryngoscopy, nasal endoscopy, nasal cautery, wound/drain care and sinus debridements (Table 6.1). This holds true across all practice types. Additional procedures such as peritonsillar abscess drainage, ear tube placement, transtympanic injections, biopsies, and Botox/filler injections are variable. We received 165 unique response variations regarding which procedures APPs are performing. This highlights the significant variability and ability of APPs to perform procedures in different practice environments, and ultimately speaks to the fact that no right or wrong way exists in terms of APP utilization.

Beyond the clinic, APPs also support patient care within the confines of the hospital itself. Most Nonacademic Hospital-employed physicians recruit APPs to assist in the operating room (OR), distinctly higher than other practice settings (Figure 6.7). This may be due to the lack of residents or partners readily available to assist instead. Interestingly, Private Multispecialty Group physicians utilize APPs in the OR more frequently than other private practices. This may have something to do with outside ownership (see the 2022 report), or because utilizing a partner to assist in a case compared to an APP is less efficient in their work models. This OR utilization trend is likely to change over time and should be followed.

Hospital call is less likely to be a part of an APPs responsibilities, with only 20% of physicians saying their APPs assisted in taking hospital call (Figure 6.8). Utilization ranged from 31% in Nonacademic Hospital Practices to around 14% in Academic and Solo Practices. Again, the trend seems to be wider APP usage in

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Nonacademic Hospital settings. This might be due to increased call burden, higher provider needs, and recruiting problems, as noted in these same practice settings across both the 2022 and 2023 Otolaryngology Workforce Surveys.

When it comes to training APPs, most practices use a standard apprenticeship model and on-the-job training (Figure 6.9). Training courses are rarely used, and some APPs come with prior work training. Time to competency seems to be bimodal – physicians are split as to whether competency is achieved at six or twelve months (Figure 6.10). In the end, ongoing performance evaluations and objective skills assessments are important to ensure that APPs and otolaryngologists have the same expectations for success. We, as a specialty, will also have to decide if these apprenticeship models are ideal, or if a more formal training program is necessary for uniformity.

Finally, while some states allow APPs to practice independently, a minority of groups within the otolaryngology community employ restrictive covenants to retain their APPs (Figure 6.11). With recent rule changes around non-compete clauses, this question may become obsolete in the future.

Future considerations in this section could include querying APPs, as we do physicians, and unpacking the economics of APP utilization in the OR. Given the robust APP utilization among our practices, expected growth, and dynamic changes in this market, it will be vital to pay attention to how these questions change over time.

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APP UTILIZATION

FIGURE 6.1:

APP Use by Practice Type

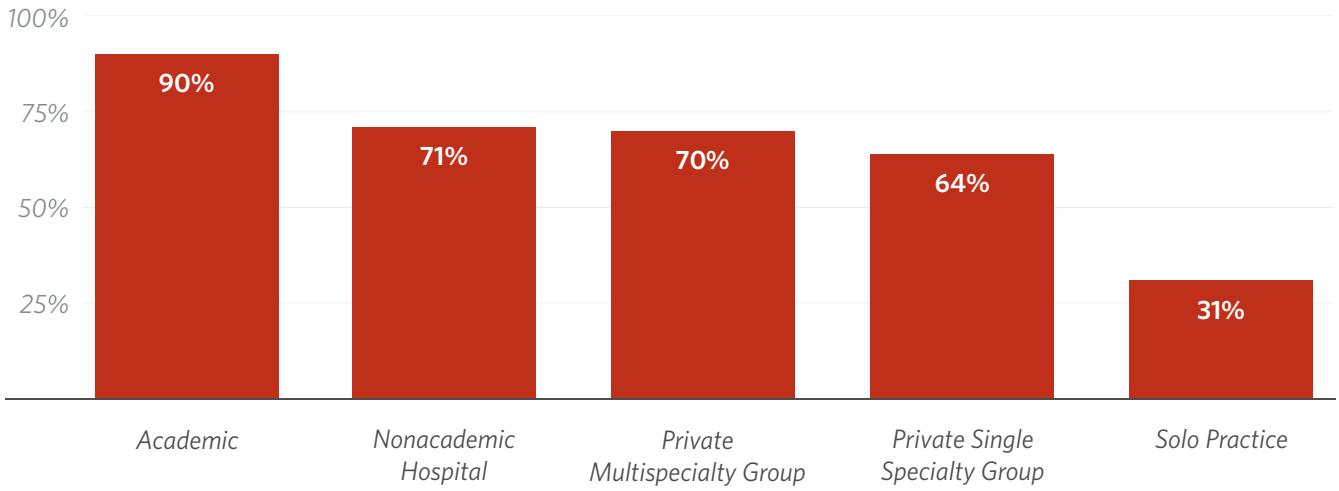

FIGURE 6.2:

Plans to Add APP(s) to Practice in Next 12 Months by Practice Type

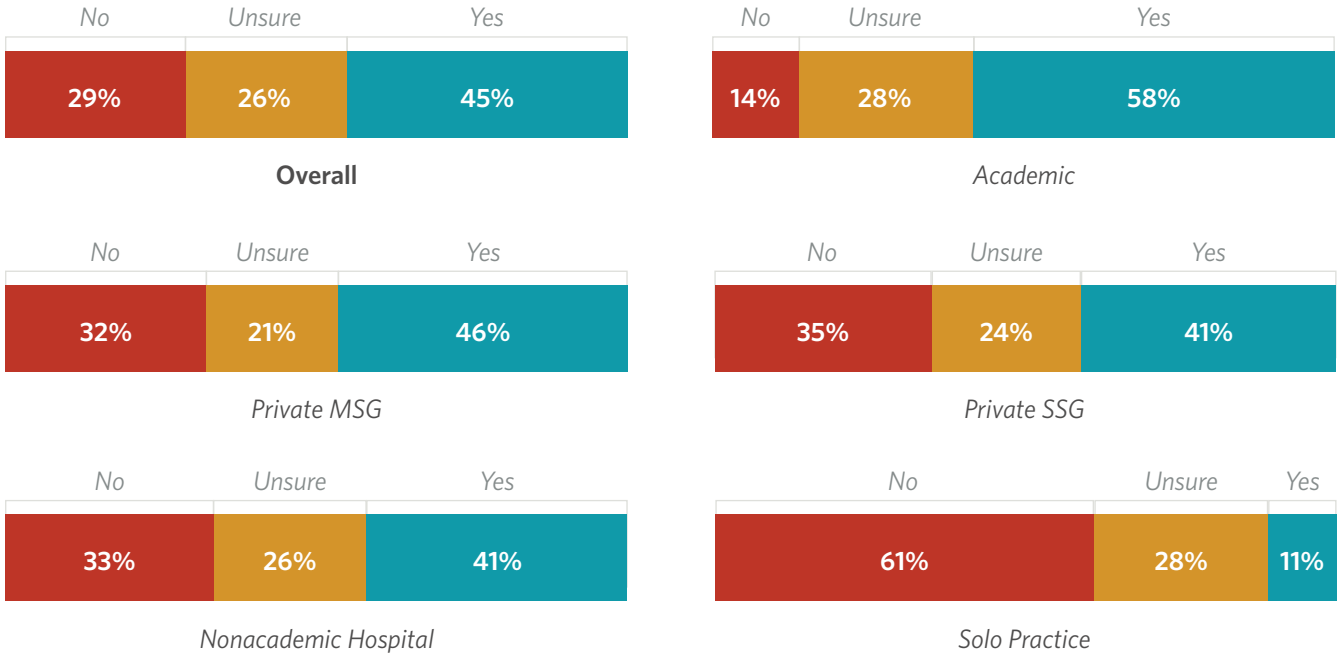

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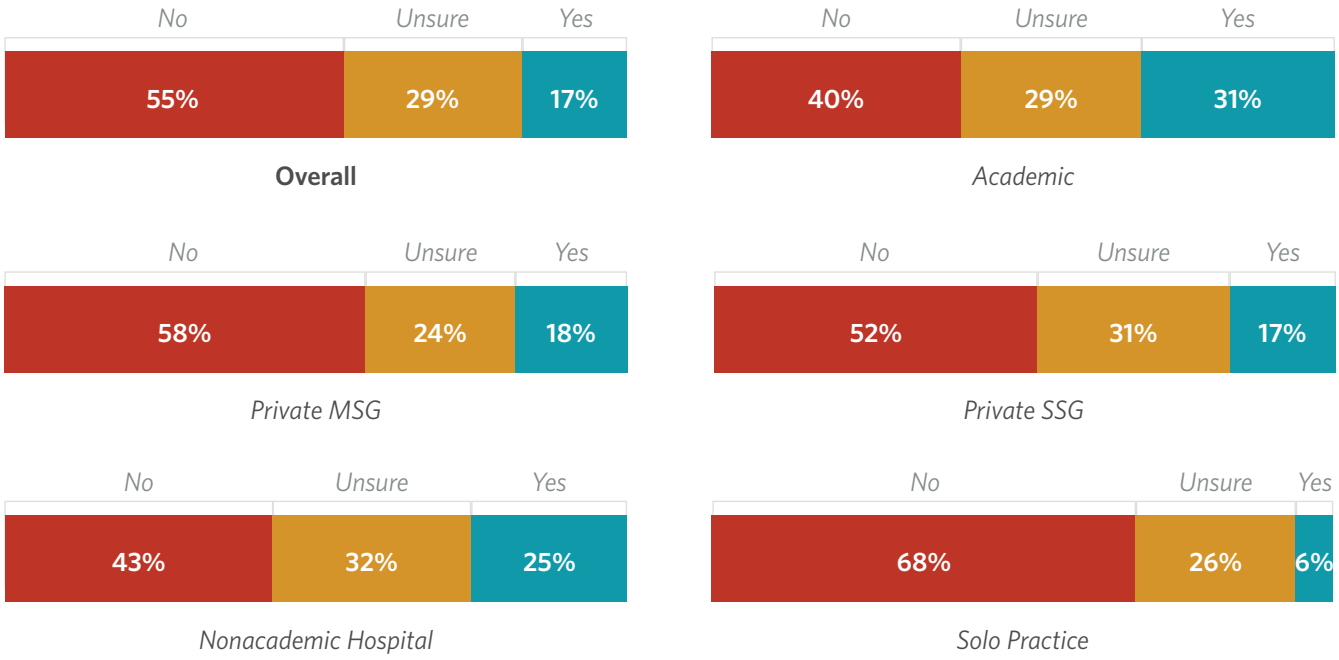
FIGURE 6.3:

Of Practices Not Employing APPs, Plans to Add in Next 12 Months by Practice Type



IN-OFFICE PROCEDURES

FIGURE 6.4:

APPs Performing In-Office Procedures by Practice Type

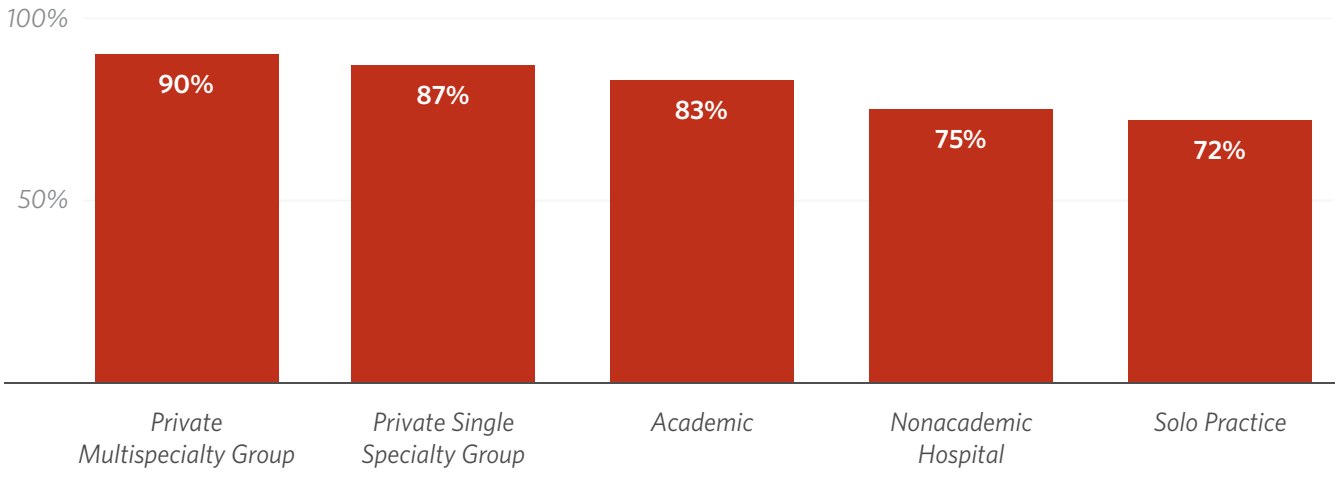


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TABLE 6.1:

When Performing Procedures, Percentage of APPs Performing Given Procedures by Practice Setting

Procedure Name	Academic	Nonacademic Hospital	Private MSG	Private SSG	Solo Practice	Overall
Cerumen Removal	94%	90%	96%	98%	100%	**95%**
Flexible Laryngoscopy	86%	84%	91%	92%	85%	**88%**
Nasal Endoscopy	76%	78%	90%	90%	85%	**82%**
Nasal Cautery	54%	71%	80%	80%	73%	**67%**
Wound/Drain Care	57%	61%	61%	42%	46%	**53%**
Sinus Debridements	22%	33%	39%	40%	35%	**31%**
Trans-Tympanic Injections	15%	16%	29%	21%	27%	**19%**
PTA I&D	9%	22%	33%	27%	23%	**18%**
Ear Tube Placement	13%	18%	28%	18%	19%	**17%**
Botox	10%	4%	14%	10%	19%	**10%**
Fillers	3%	2%	10%	6%	8%	**5%**
Frenotomy	4%	4%	-	-	4%	**2%**
Biopsies	2%	4%	5%	1%	4%	**2%**
Trach Care/Scope	1%	-	-	-	-	**1%**
Balloon Sinuplasty	-	-	-	1%	-	**<1%**
Epley Maneuver	-	-	-	-	4%	**<1%**
Foreign Body Removal	1%	-	-	-	-	**<1%**
Laser/Skin Care	-	-	1%	-	-	**<1%**
Septoplasty	-	-	-	1%	-	**<1%**
Ultrasound	1%	2%	-	-	-	**<1%**

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PATIENT CARE

FIGURE 6.5:

How APPs See Patients by Practice Type

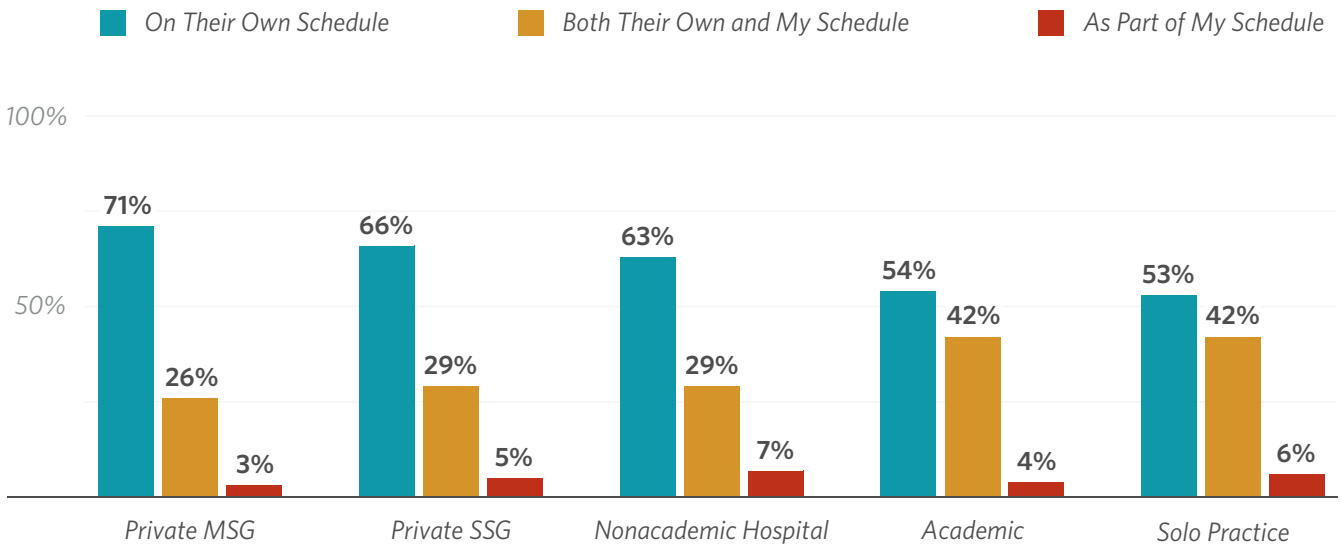


FIGURE 6.6:

Patients Seen by APPs Independently During Full Workday by Practice Type (Median, 25th/75th Percentile Shown)

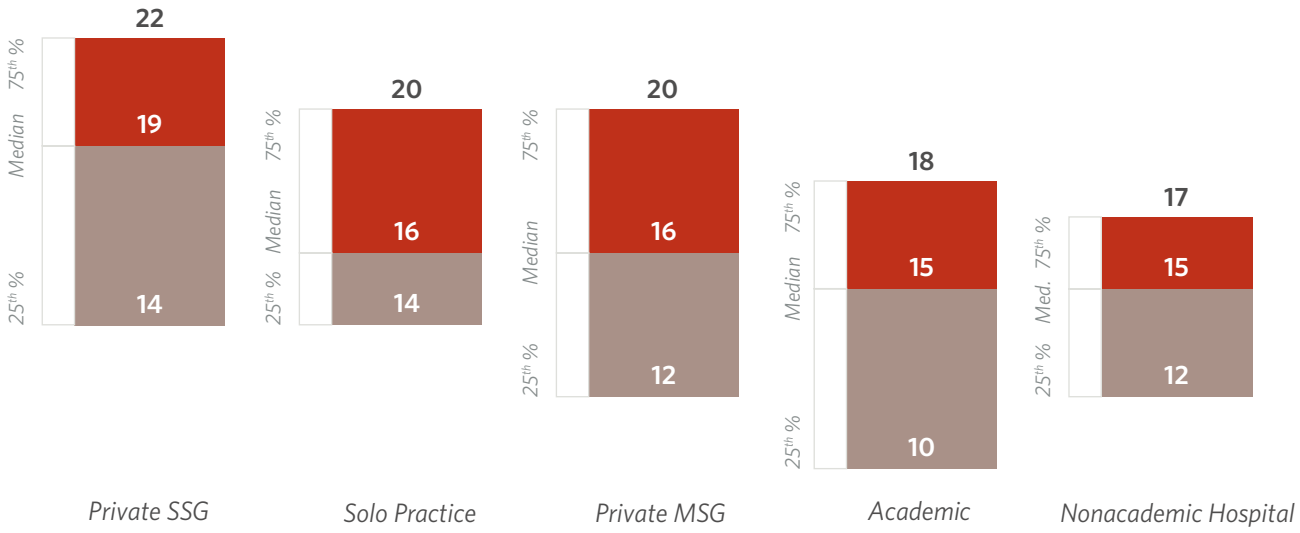


FIGURE 6.7:

Do Your APPs First Assist in the Operating Room?

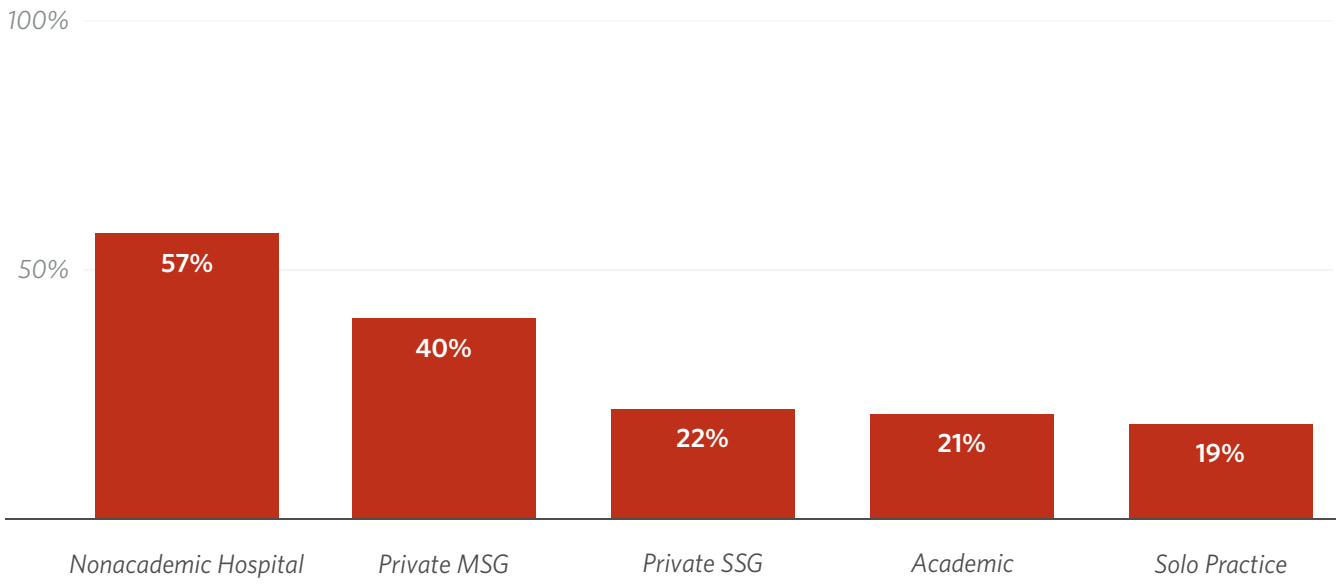
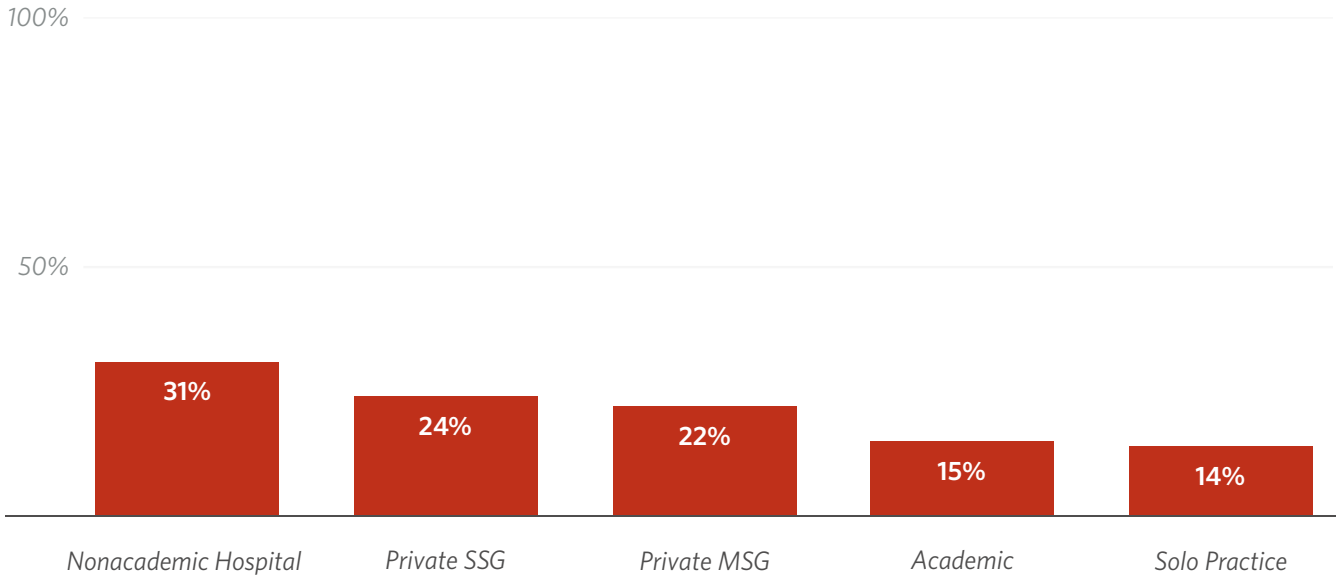


FIGURE 6.8:

Do Your APPs Assist in Taking Hospital Call?



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HIRING, TRAINING, AND RETENTION

TABLE 6.2:

Reasons for Hiring APPs by Practice Type

	Academic	Nonacademic Hospital	Private MSG	Private SSG	Solo Practice	Overall
Patient access	84%	85%	89%	83%	78%	84%
Improve productivity	60%	61%	74%	73%	72%	66%
Cover clinic while out of the office	26%	48%	56%	52%	81%	41%
Provide better care	36%	36%	35%	32%	42%	35%
Enable a more rewarding practice	28%	22%	38%	40%	39%	32%
Ease documentation burdens	27%	30%	19%	24%	19%	25%
Physician recruitment difficulty	12%	34%	26%	33%	44%	23%
Financial analysis yielded higher income	9%	7%	30%	34%	36%	20%
Hospital coverage/Call	1%	6%	-	2%	-	1%
General ENT triage	1%	3%	-	-	-	1%
Help with residents/ residency	1%	-	-	-	-	1%
OR support	1%	1%	2%	-	-	1%
Follow-up care	-	-	3%	-	-	<1%
Burnout/Quality of life	-	-	-	1%	-	<1%
Patient navigator	<1%	-	-	-	-	<1%

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FIGURE 6.9:

How APPs Are Trained by Practice Type

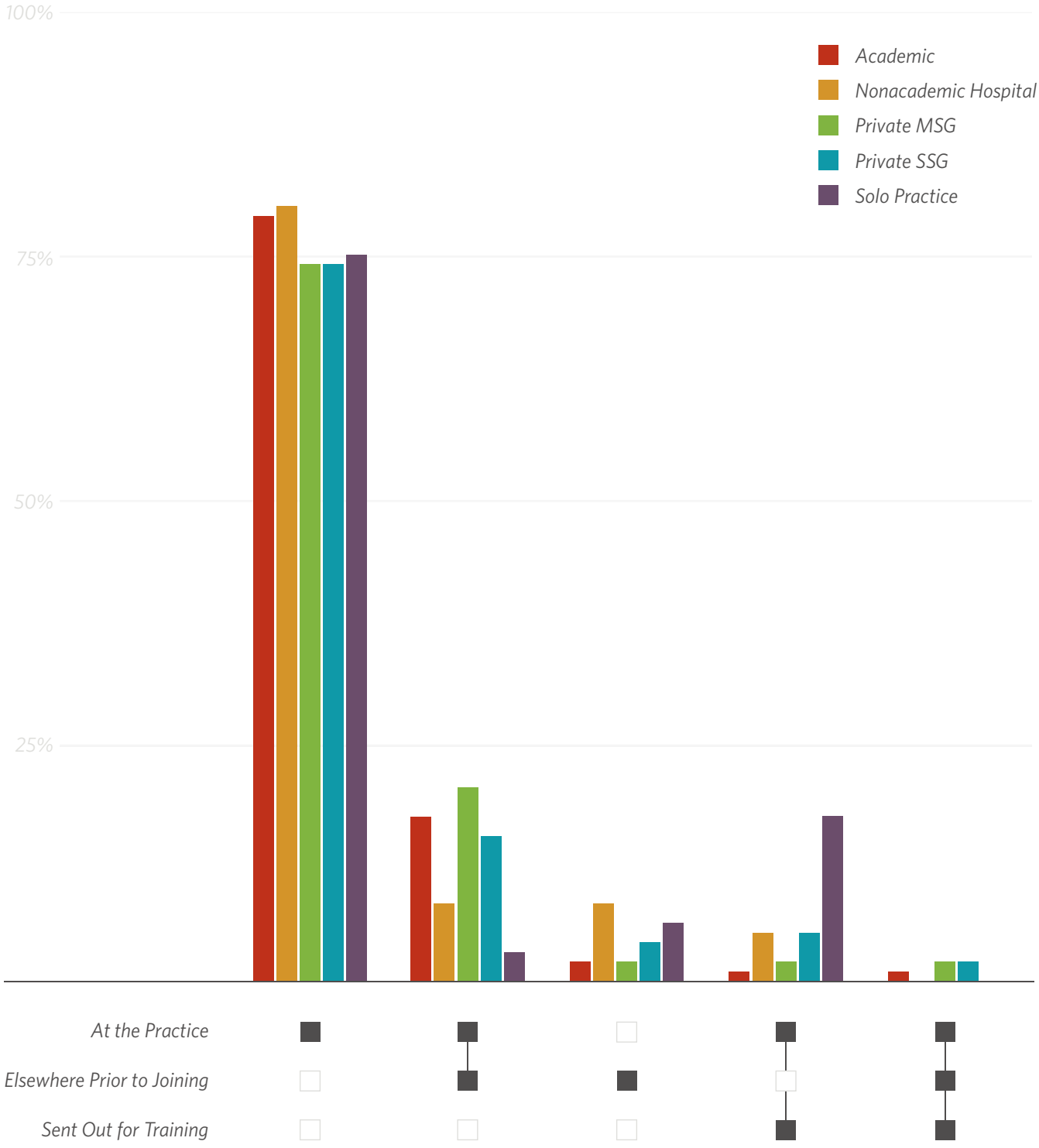

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FIGURE 6.10:

Months Until APP Achieved Full Otolaryngology Competency

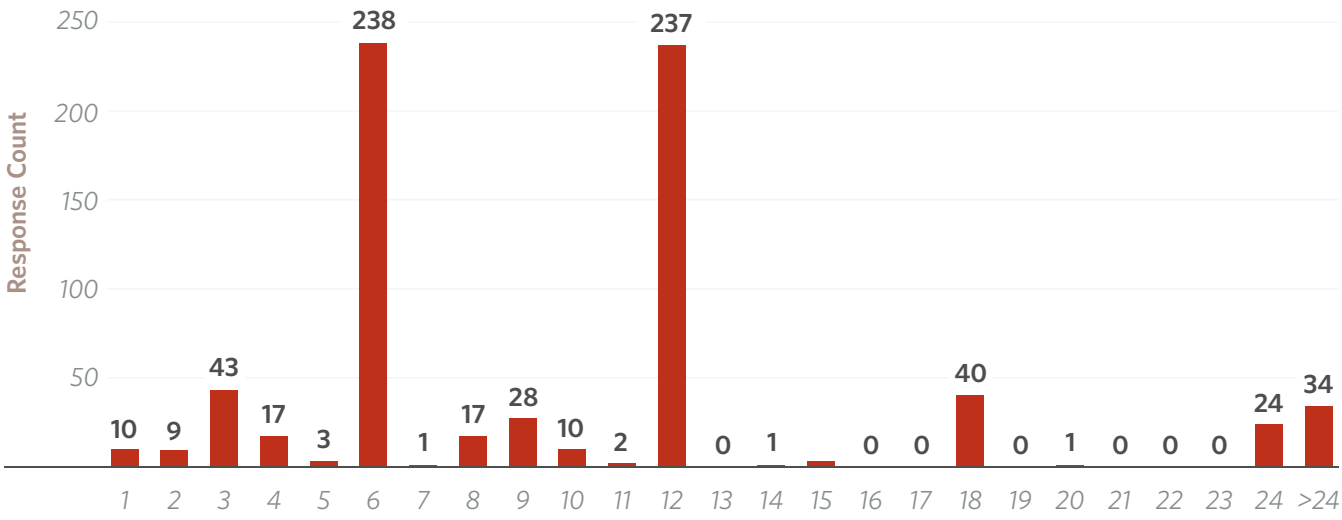
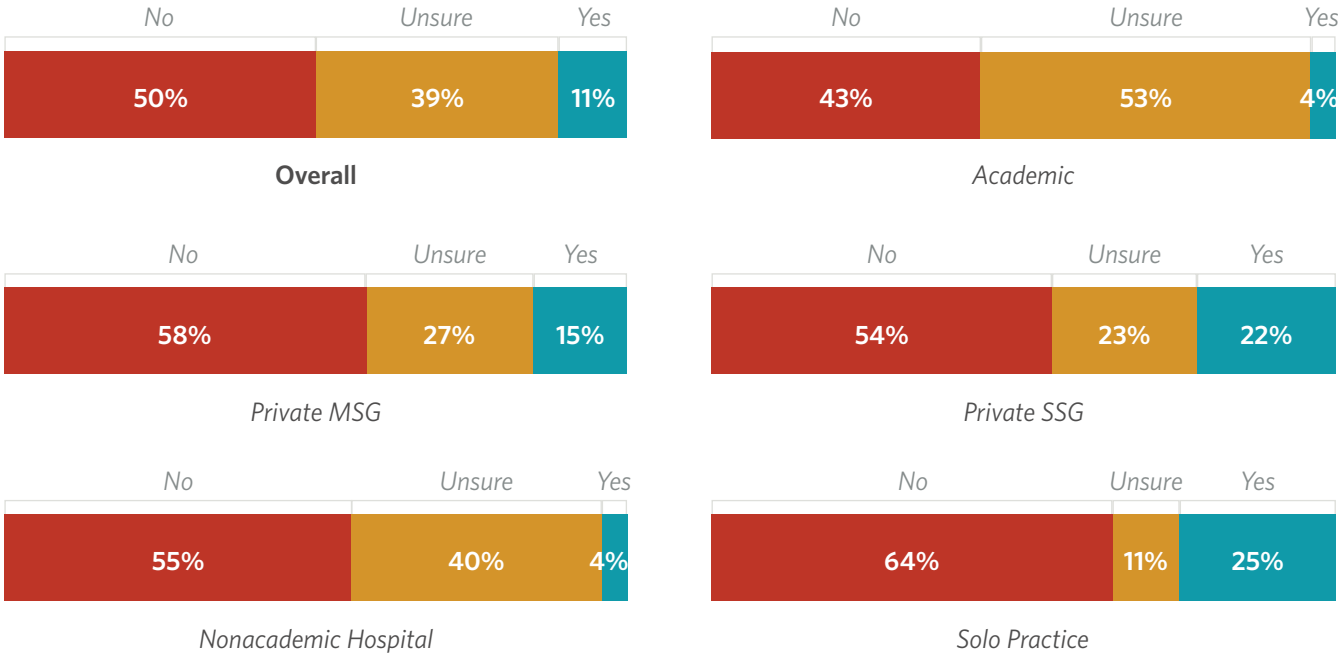


FIGURE 6.11:

Use of Restrictive Covenants to Retain APPs by Practice Type



PRODUCTIVITY

The trends of declining reimbursement and increasing healthcare expenses continue to incentivize physicians to maximize productivity in the clinical setting. The median clinical days worked per week ranged from five days in Private Single-specialty Group environments to four days in Academic settings (Table 7.2). The highest median number of patients seen in a full workday independent of an APP/resident/fellow was in the Private Single-specialty Group setting at 28, and the lowest in the Academic setting at 22 (Figure 7.4).

When using any help to see patients, APPs alone were utilized most frequently to see patients in the Private Single-specialty (16%), Nonacademic Hospital (17%), and Solo Practice settings (18%) (Figure 7.2). We should note that despite this fact, most physicians in these practice settings do not use any help when seeing patients. When having help seeing patients, as 75% of Academic physicians do, residents alone were the most utilized, though the combinations of type were much more diverse in the Academic setting. As expected, more patients were seen in a full workday with an APP/resident/fellow versus independently, with a more robust increase in number of patients seen in the Solo Practice and Private Single-specialty Group settings (Figure 7.6). As we continue to face challenges in workforce recruitment and retention as well as patient access to otolaryngology specialist care, the effect of the utilization of APPs on productivity will need to be examined over the next several years.

Non-patient clinical duties continue to burden the practice of medicine. The percent of clinical time spent in the EHR (including documenting, messaging, and prescribing) is estimated to be 30% across all practice types (Figure 7.9). Regarding nonclinical activities, the mean hours spent on these activities per week ranged from a low around five for Private Multispecialty Group, Private Single-specialty Group, and Nonacademic Hospital otolaryngologists to the high of around 12 for Academic otolaryngologists (Table 7.4).

When asked about the most commonly perceived practice burdens, EHR/documentation, staffing, and system inefficiencies ranked high in the Private Multispecialty Group, Nonacademic Hospital, and Academic settings. Staffing, insurance administrative burden, rising costs, and reimbursement were among the top impediments impacting practice in the Private Single-specialty Group and Solo Practice environments (Table 7.6).

When comparing survey results from 2022 to 2023, more physicians in the younger cohorts (30-39 and 40-49 years old) cut back on clinical hours than originally intended, while a smaller percentage of physicians overall in the older cohorts (50-59 and 60-69 years old) cut back on clinical hours than originally intended (Figure 7.10). We did not see meaningful differences between male and female mean weeks taken off in the last year across different practice types (less than a week in all settings) (Table 7.5). As the workforce continues to change over the upcoming decades, we will need to examine these trends and rationale behind planned and unplanned time off from clinical practice.

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ROOM USAGE

FIGURE 7.1:

Number of Rooms Used on Average Clinic Day by Response Count

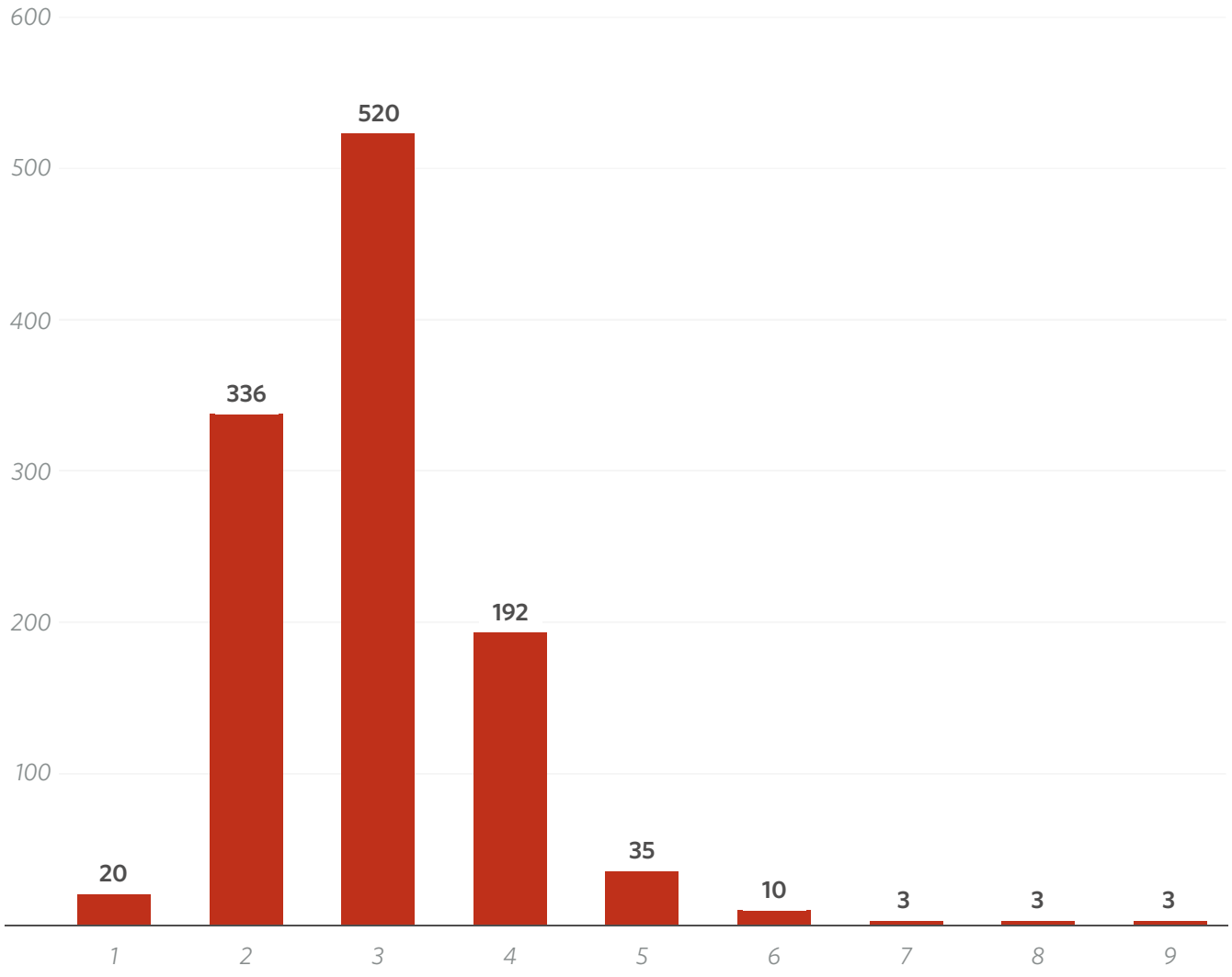

TABLE 7.1:

Mean Number of Rooms When Typically Seeing Patients in Clinic

Male Physicians	*Female Physicians*
3.0	2.9

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ASSISTANCE IN THE CLINIC

FIGURE 7.2:

Use of APPs, Residents, and Fellows When Seeing Patients

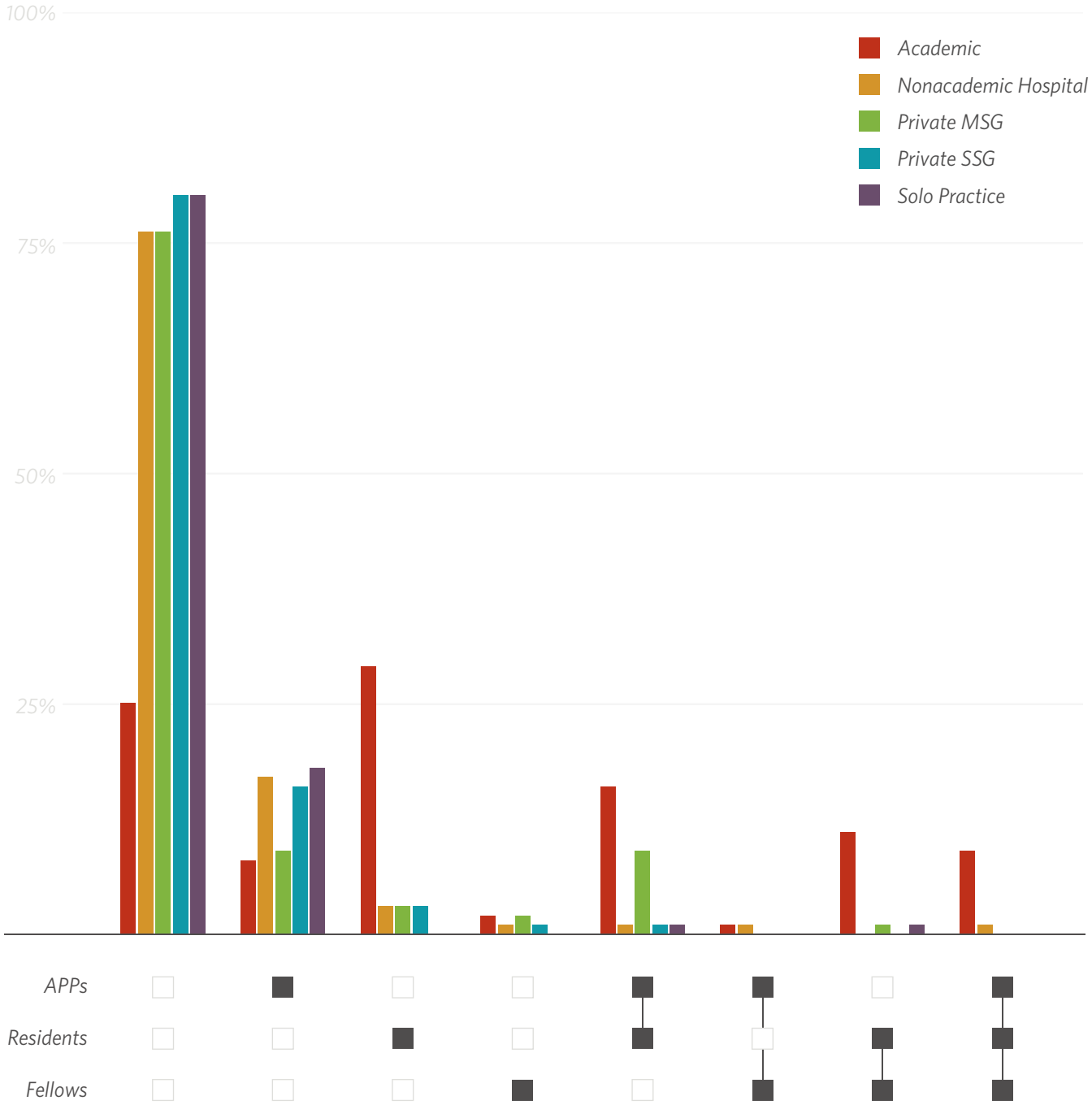
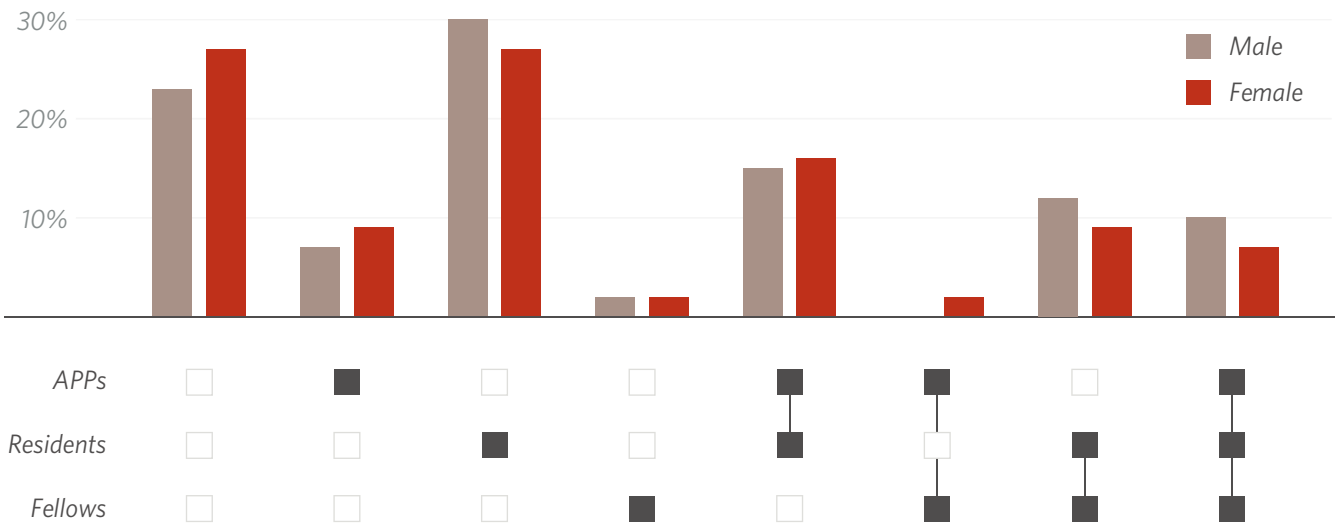


FIGURE 7.3:

Assistance in the Clinic by Sex in Academic Setting



PATIENTS SEEN

FIGURE 7.4:

Patients Seen Independently of APP/Resident/Fellow during Full Workday (Median, 25th/75th Percentile Shown)

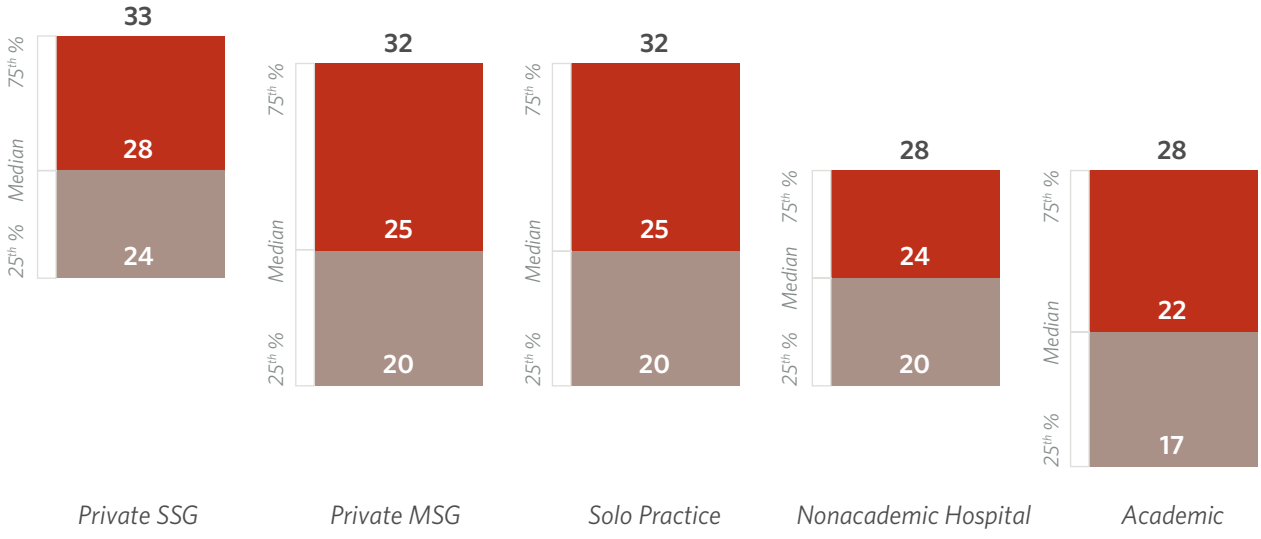


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FIGURE 7.5:

Patients Seen Independently of APP/Resident/Fellow during Full Workday by Sex (Median, 25th/75th Percentile Shown)

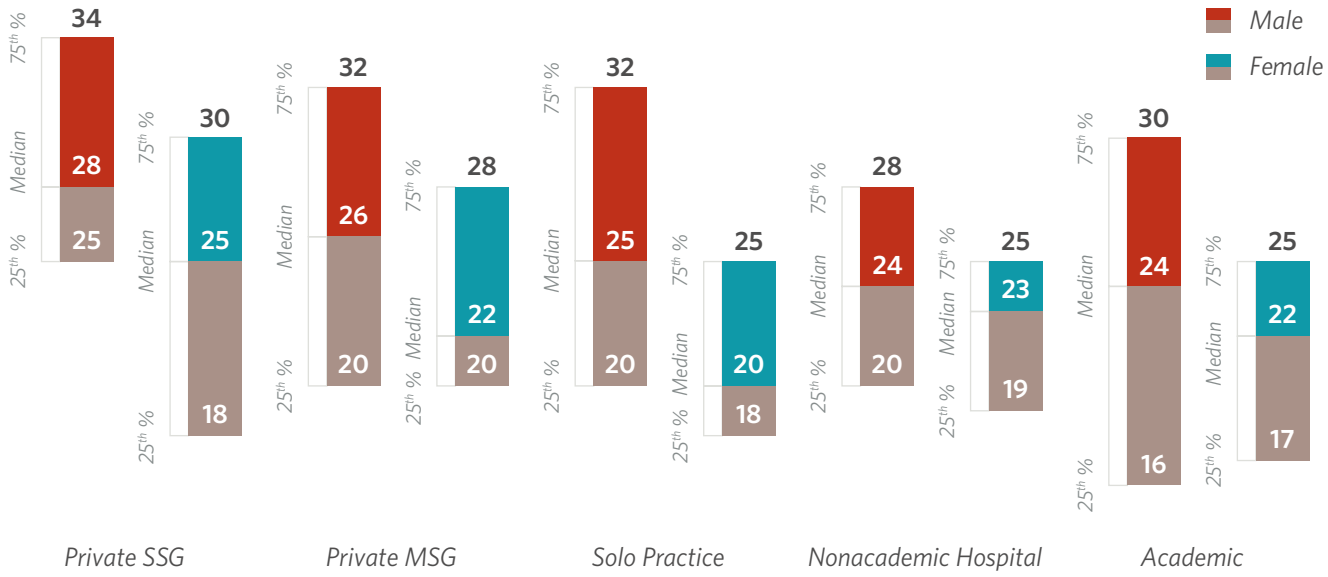

FIGURE 7.6:

Patients Seen with APP/Resident/Fellow versus Independently during Full Workday (Median, 25th/75th Percentile Shown)

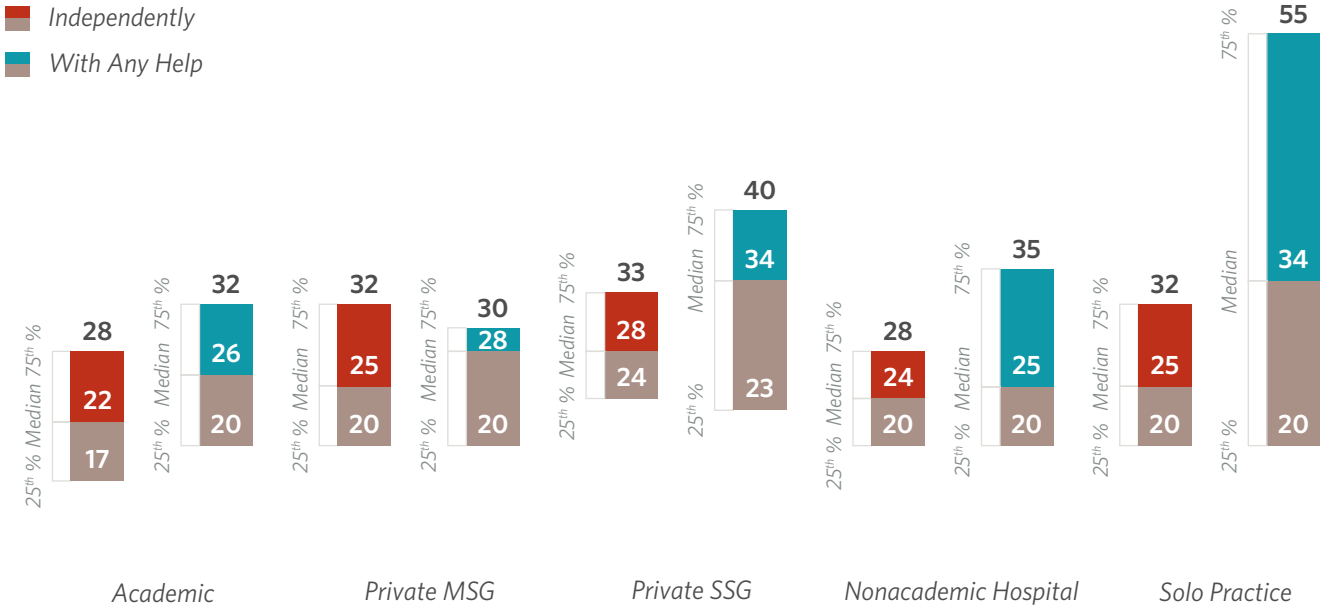

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FIGURE 7.7:

Patients Seen Independently of APP/Resident/Fellow in Academic Setting during Full Workday by Fellowship (Median, 25th/75th Percentile Shown)

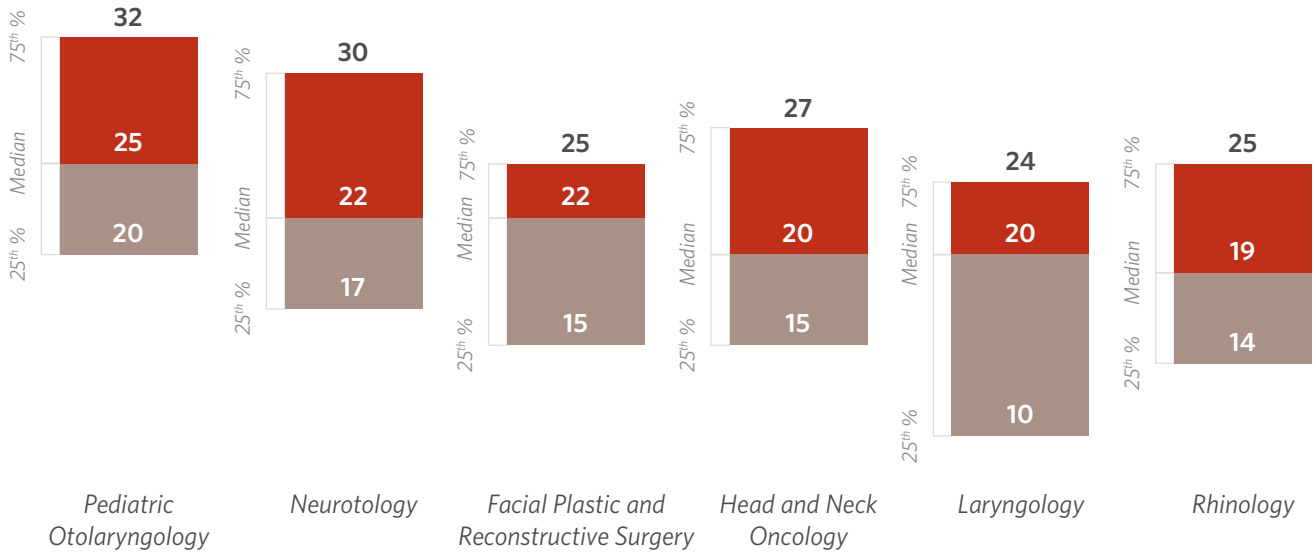
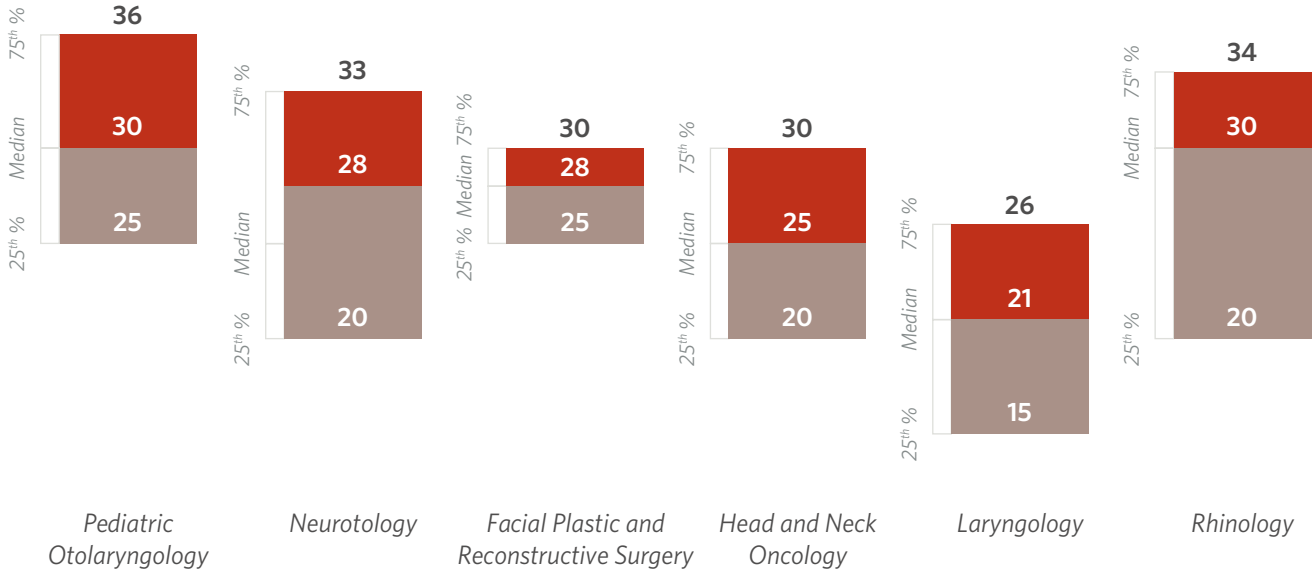


FIGURE 7.8:

Patients Seen with APP/Resident/Fellow in Academic Setting during Full Workday by Fellowship (Median, 25th/75th Percentile Shown)



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CLINICAL DAYS PER WEEK

TABLE 7.2:

Clinical Days Worked Per Week by Practice Type

	Academic	Nonacademic Hospital	Private MSG	Private SSG	Solo Practice
25th Percentile	3	4	4	4	4
Median	4	4.5	4.5	5	4.5
75th Percentile	5	5	5	5	5

TABLE 7.3:

Clinical Days Worked Per Week by Practice Type and Sex

	Academic		Nonacademic Hospital		Private MSG		Private SSG		Solo Practice	
Sex	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Male	3.9	4	4.5	4.5	4.3	4.5	4.5	5	4.5	4.5
Female	4.1	4	4.3	4.5	4.2	4	4.5	5	4.5	4.5

NONCLINICAL/DIRECT PATIENT CONTACT

FIGURE 7.9:

Percent of Clinical Time Spent in EHR Documenting/Messaging/Prescribing

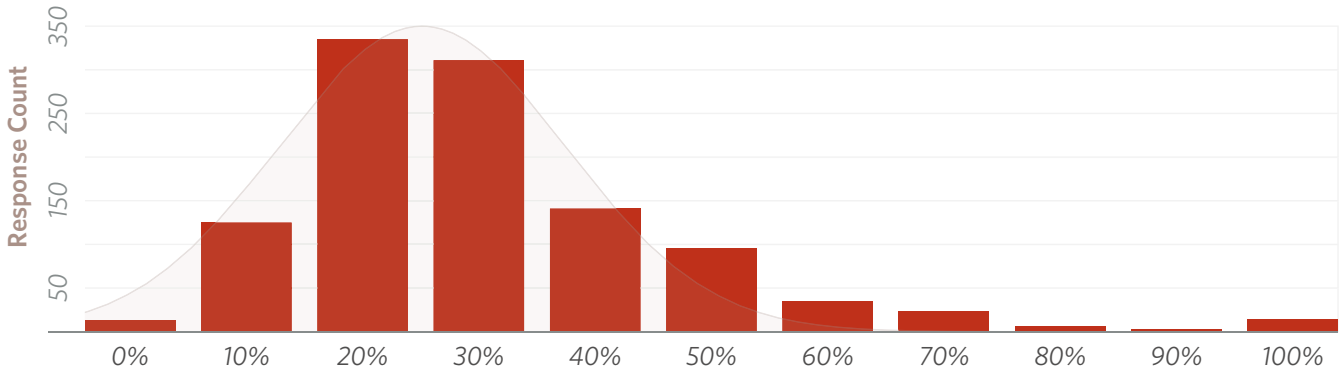

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TABLE 7.4:

Mean Hours Spent on Nonclinical Activities in a Typical Week

	Academic	Solo Practice	Private MSG	Private SSG	Nonacademic Hospital
Hours	12.3	6.9	5.3	5.2	5.1

TIME OFF

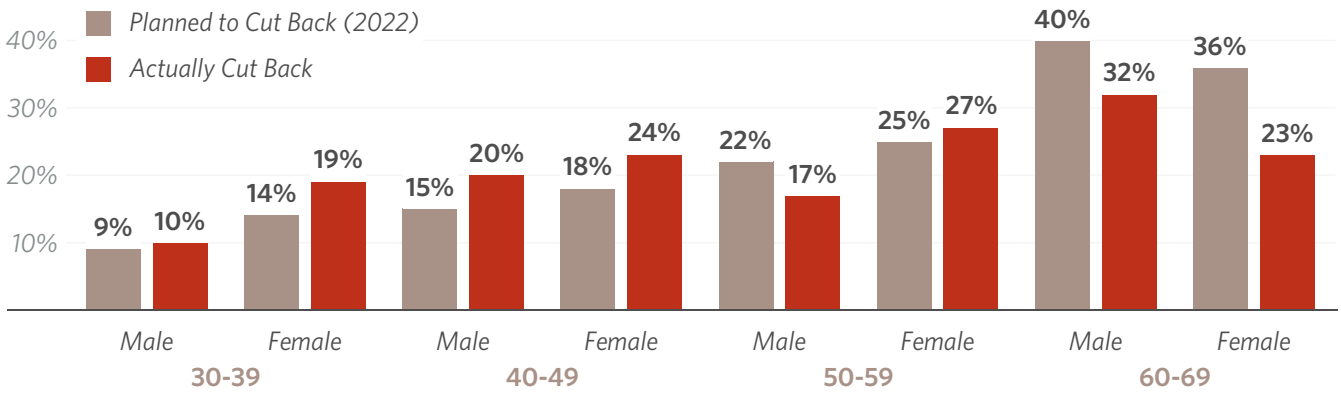
TABLE 7.5:

Mean Weeks Taken Off in the Past 12 Months by Practice Type and Sex

	Academic	Nonacademic Hospital	Private MSG	Private SSG	Solo Practice	Overall
Male	4.0	4.8	5.0	4.6	4.1	4.5
Female	4.4	5.0	5.4	5.1	3.6	4.7
Total	4.1	4.9	5.1	4.7	4.0	**4.5**

FIGURE 7.10:

Cut Back on Clinical Hours in Past 12 Months versus Planned to Cut Back over Next Year by Decade and Sex



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PRACTICE BURDENS

TABLE 7.6:

Practice Burdens by Practice Type by Percent Mentioned

Burden	Academic	Nonacademic Hospital	Private MSG	Private SSG	Solo Practice
EHR/Documentation	85%	62%	69%	73%	56%
Staffing	79%	78%	79%	83%	60%
OR Availability	73%	44%	52%	32%	30%
System Inefficiencies	71%	63%	60%	44%	34%
Hospital Administration/Management	57%	51%	42%	28%	18%
Insurance Administrative Burden	53%	40%	58%	81%	77%
Reimbursement	49%	33%	49%	74%	80%
Patient Issues/Demand/Satisfaction	47%	39%	46%	43%	34%
Administrative Duties	46%	19%	29%	37%	45%
Lack of Resources	44%	39%	29%	15%	15%
Clinic Space	42%	38%	30%	17%	9%
Rising Costs	40%	26%	54%	78%	81%
Patient Volume (too low or high)	36%	39%	31%	25%	30%
Poorly/Underinsured Patients	35%	35%	30%	32%	40%
Recruitment	28%	44%	46%	46%	28%
Bed Availability	27%	3%	6%	3%	2%
Government Regulations	24%	24%	42%	55%	50%
Call Coverage	22%	43%	38%	35%	20%
The Joint Commission Regulations	17%	17%	18%	7%	6%
Competition	15%	5%	12%	13%	18%
Market Saturation	8%	5%	9%	10%	11%

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CALL

Most otolaryngologists take call, with the highest percentage in the Nonacademic Hospital setting (96%) and the lowest percentage in Solo Practice (79%, though this is an increase compared to the 2022 survey results at 60%) (Figure 8.1). Most call for all practice types includes taking call for both practice and hospital patients (with the median number of hospitals covered between one and two hospitals) (Figure 8.2). The exception to this coverage was in Solo Practice – of Solo Practice physicians who participate in call, 49% take call for just their practice and 51% take call for both their practice and hospital patients.

Most otolaryngologists who take call do not receive separate compensation; the percentage of physicians who receive compensation for call ranges from 20% in Academic practice to 52% in Private Single-specialty Group practice (Figure 8.3). When otolaryngologists are paid to take call, most payment is based on amount of time on call, followed by facility covered and number of consults seen, though many had compensation derived by some combination of these (hence totals being greater than 100%) (Figure 8.4). In terms of the effect on clinical productivity, the burden of taking call falls between 2.1 (Solo Practice) and 2.5 (Private Multispecialty Group) on a Likert scale, where 1 means no impact at all and 5 means significant impact (Table 8.2). The higher productivity impact among Private Single-specialty Group and Private Multispecialty Group environments may be due to lack of resident/APP help in these environments, and because they have the added work of covering hospital patients more than Solo Practice does.

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FIGURE 8.1:

Do You Take Any Call for Either Your Practice or a Separate Facility?

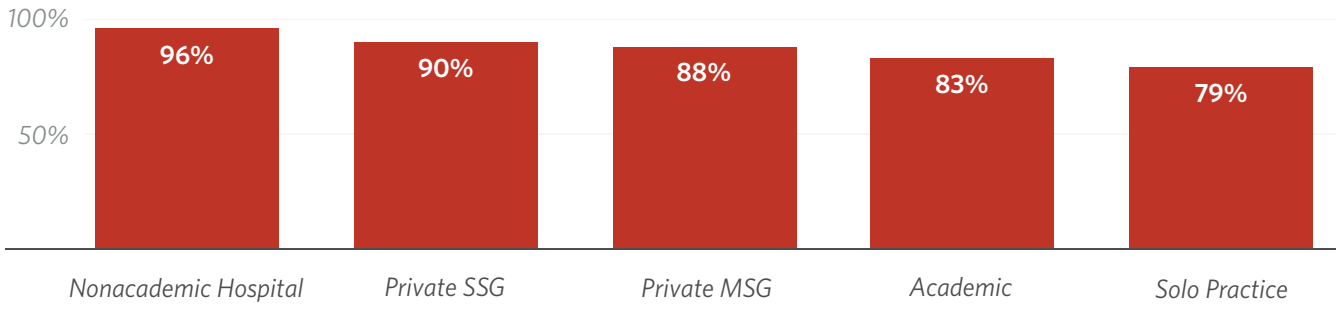

FIGURE 8.2:

When Taking Call, What Patients Are Covered?

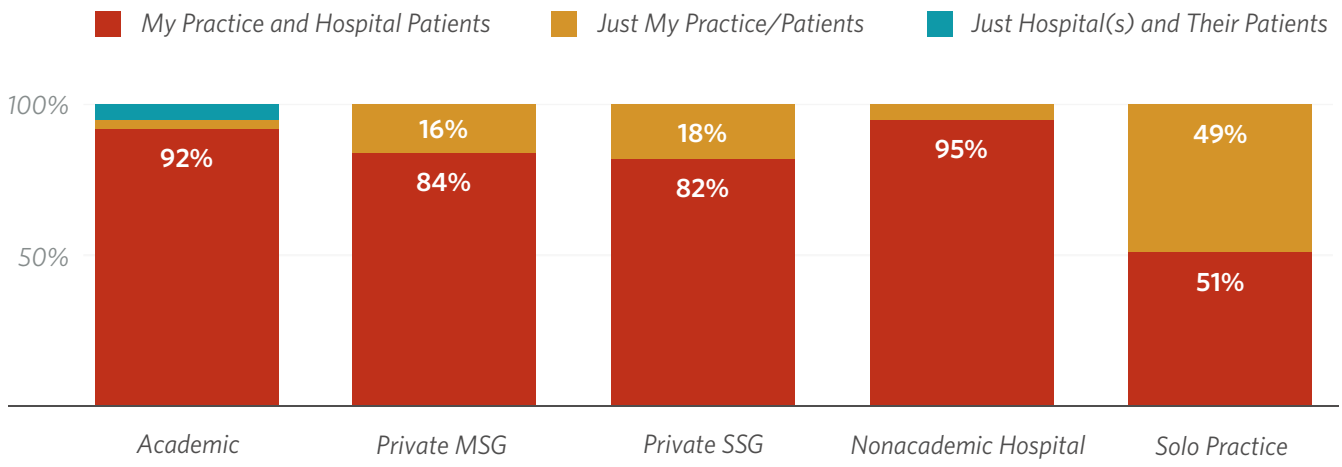

FIGURE 8.3:

Are You Paid for Taking Call, Separate from Clinical Income?

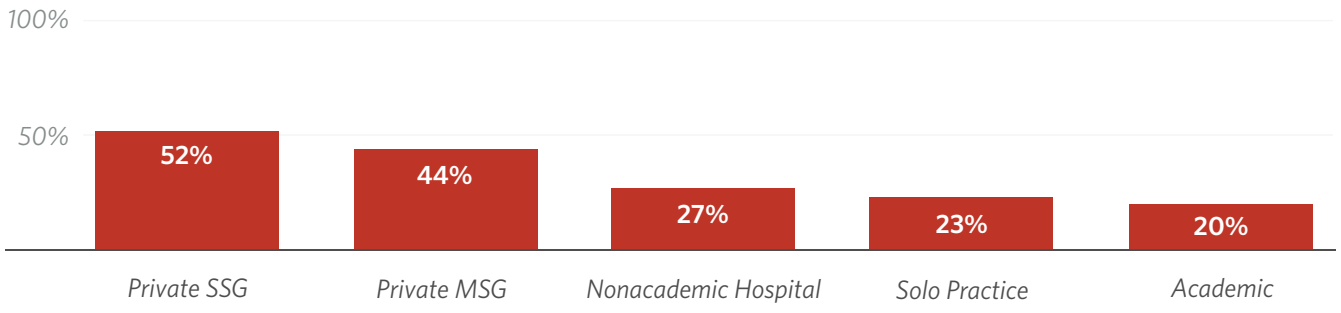

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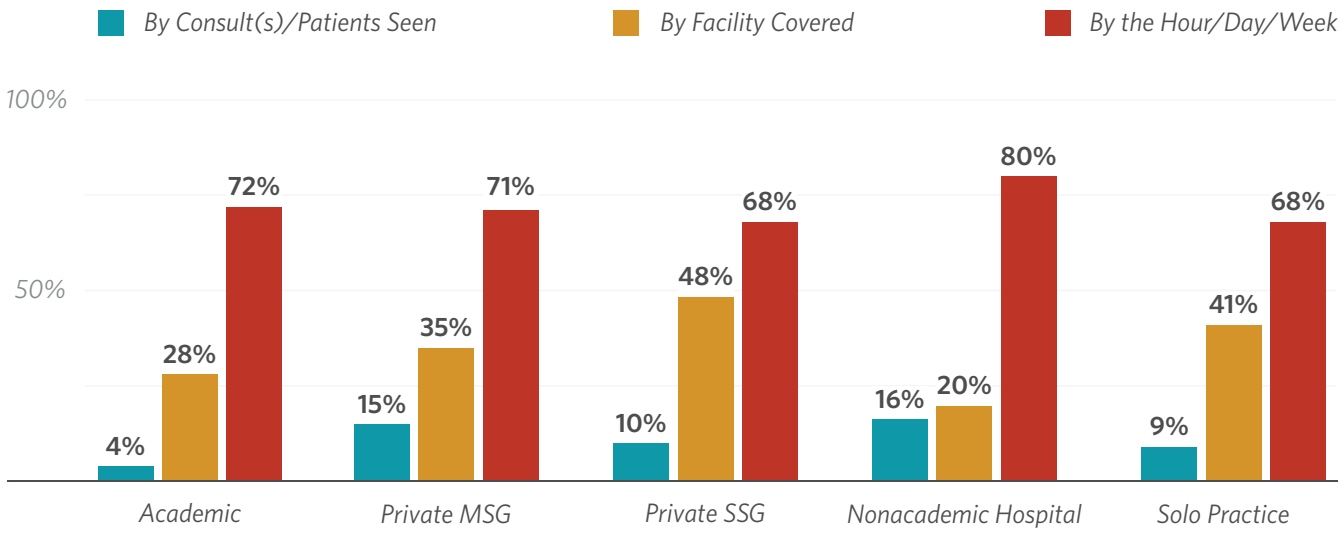
FIGURE 8.4:

Methods Used to Determine Call Payment by Practice Type



Some percentages may not add up to 100% due to multiple methods

TABLE 8.1:

Number of Hospitals Covered When Taking Call

	Academic	Nonacademic Hospital	Private MSG	Private SSG	Solo Practice
Median	2	1	2	2	1
Mean	2.0	1.9	2.1	2.0	1.3

TABLE 8.2:

Mean Call Impact on Clinical Productivity

	Private MSG	Private SSG	Academic	Nonacademic Hospital	Solo Practice
Impact (1-5)	2.5	2.4	2.3	2.3	2.1

1 = No Impact At All, 5 = Significant Impact

INCOME

This year, we were again able to describe robust and nuanced income data that can benefit our specialty. Looking at the opposite side of resident income expectations, we were able to show the starting base salaries across different practice settings (Figure 9.1). There appears to be a slight disconnect between what residents are expecting and what is offered, at least on a base salary level. More potential for income exists via bonuses, which are widely available in all practice settings (Figure 9.2). These two sets of data might help decrease friction and ease recruitment as residents transition into practice.

Notably, clinical income increased, on average, in all practice settings between 2021 and 2022. Private practices saw the largest increases, which may imply that 2021 income was disproportionately affected by COVID-19 in these settings. Given private practice compensation models described in the 2022 report, added marginal revenue likely has a disproportionate effect on private practice.

Clinical income appears to peak in one's 50s, with declines and increased variability thereafter (Figure 9.4). While the clinical income benchmarking across age described here represents the recent state of affairs and does not include ancillary income, it remains notable that resident salary expectations five years into practice are more in line with the peak income decade. Tempered expectations may be warranted.

Like our findings in the 2022 report, ancillary income was most common in Private Single-specialty Group environments, although still common in other private practice environments (Table 9.2). While the differences in male and female ancillary income receipts may reflect duration of practice (as suggested in our 2022 report), it remains notable that males in Solo Practice and Private Multispecialty Group environments had a much higher likelihood of capturing ancillary income (Table 9.3). Further analysis is warranted, but this may reflect differences in the type of Solo Practice and whether ancillary income is generally available.

Ancillary income amounts were similar between 2021 and 2022, both in terms of degree and practice environments, with one notable exception. Nonacademic Hospital physicians both had an increased percentage reporting ancillary income being available (Table 9.2) and also earned substantially more in 2022 when receiving it. Academic physicians also reported an increased availability of ancillary income in 2022.

Despite the median comparisons between 2021 and 2022, we saw the largest portion of respondents reporting clinical income increases in the Academic practice environment. Note, this doesn't speak to quantity – just a directional amount – which could explain the prior income amount change findings. Once again, we saw those in Solo Practice reporting the highest rate (30%) of clinical income declines (Figure 9.5). Advocacy and policy should be crafted around their pain points noted in both the 2022 and 2023 reports in order to ensure a healthcare environment supportive of Solo Practice.

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NEW EMPLOYEE INCOME

FIGURE 9.1:

Starting Base Salary for New Recruits by Practice Type (Median, 25th/75th Percentile Shown)

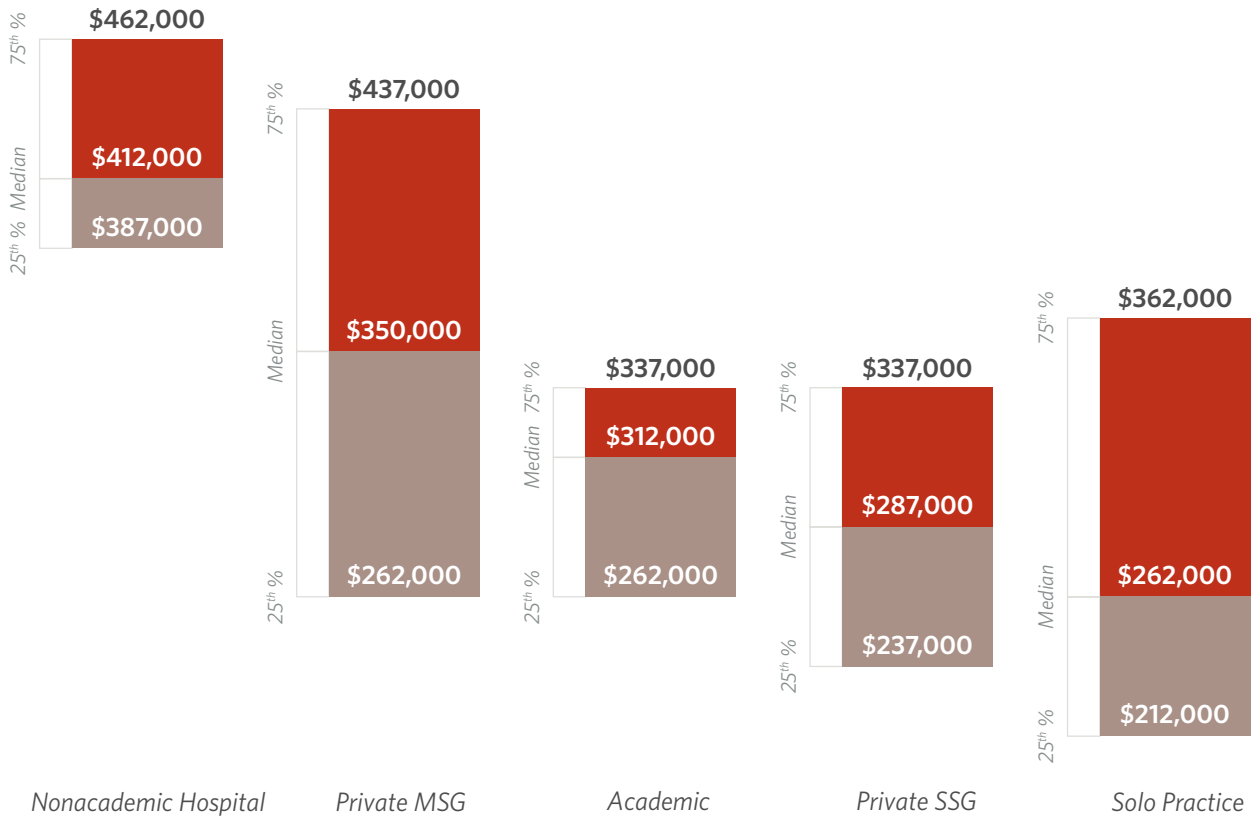


FIGURE 9.2:

Bonus Opportunities to New Employees by Practice Type

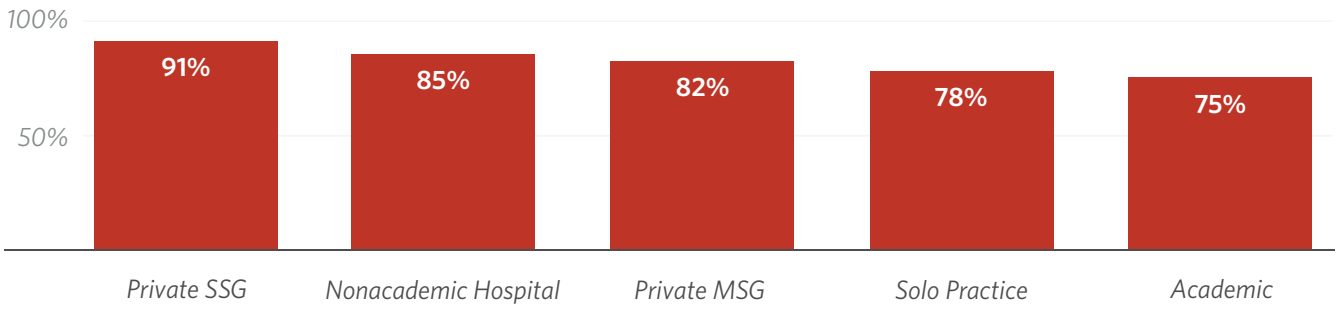


TABLE 9.1:

When Available, Bonus Metrics for New Employees

Bonus Metric	Academic	Nonacademic Hospital	Private MSG	Private SSG	Solo Practice
RVUs	85%	89%	49%	12%	20%
Research	30%	3%	1%	0%	2%
Quality Metrics	27%	32%	17%	4%	14%
Collections	25%	4%	48%	90%	70%
Administrative Tasks	24%	8%	1%	1%	14%
Department / Company Profit	21%	7%	11%	7%	12%
Patient Satisfaction	16%	23%	10%	3%	24%
Call Participation	12%	9%	15%	14%	14%
Ancillary Income	3%	1%	9%	8%	8%

CLINICAL INCOME

FIGURE 9.3:

2022 Clinical Income with Bonus (Not Ancillary) by Practice Type (Median, 25th/75th Percentile Shown)

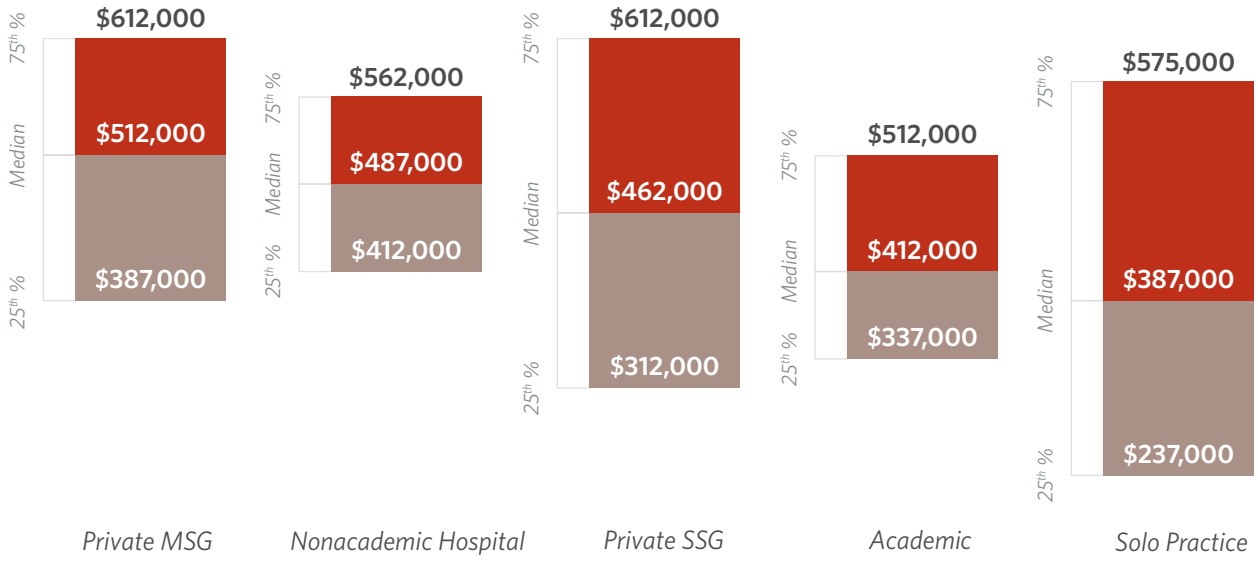


FIGURE 9.4:

2022 Clinical Income with Bonus (Not Ancillary) by Age (Median, 25th/75th Percentile Shown)

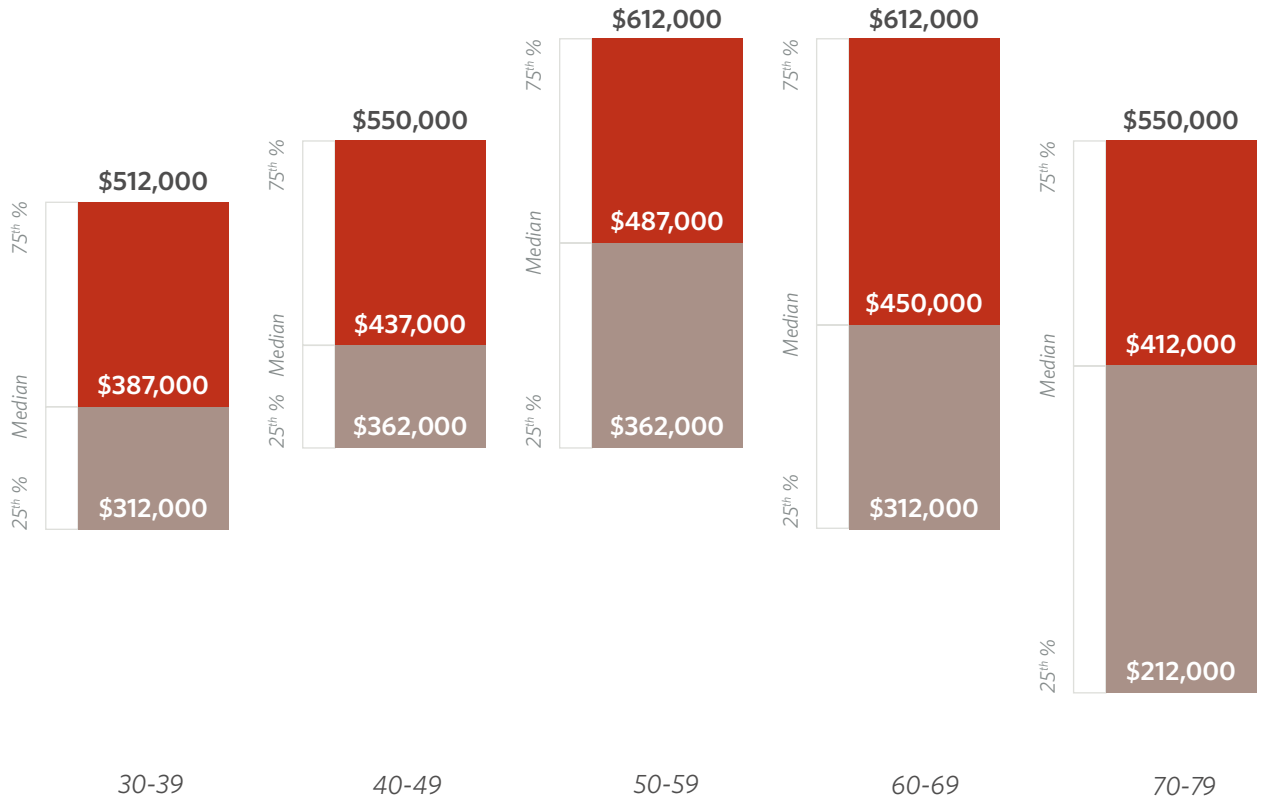


FIGURE 1.21:

Expected Full-Time Salary/Clinical Income (Non-Ancillary) Expectations 5 Years Post-Graduation, Overall (Median, 25th/75th Percentile Shown)

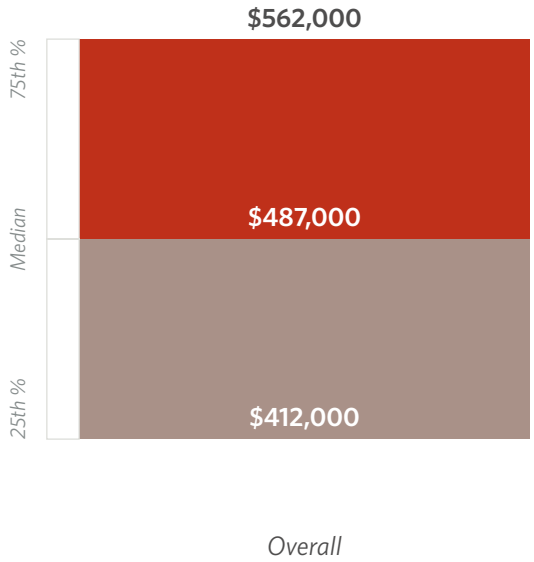
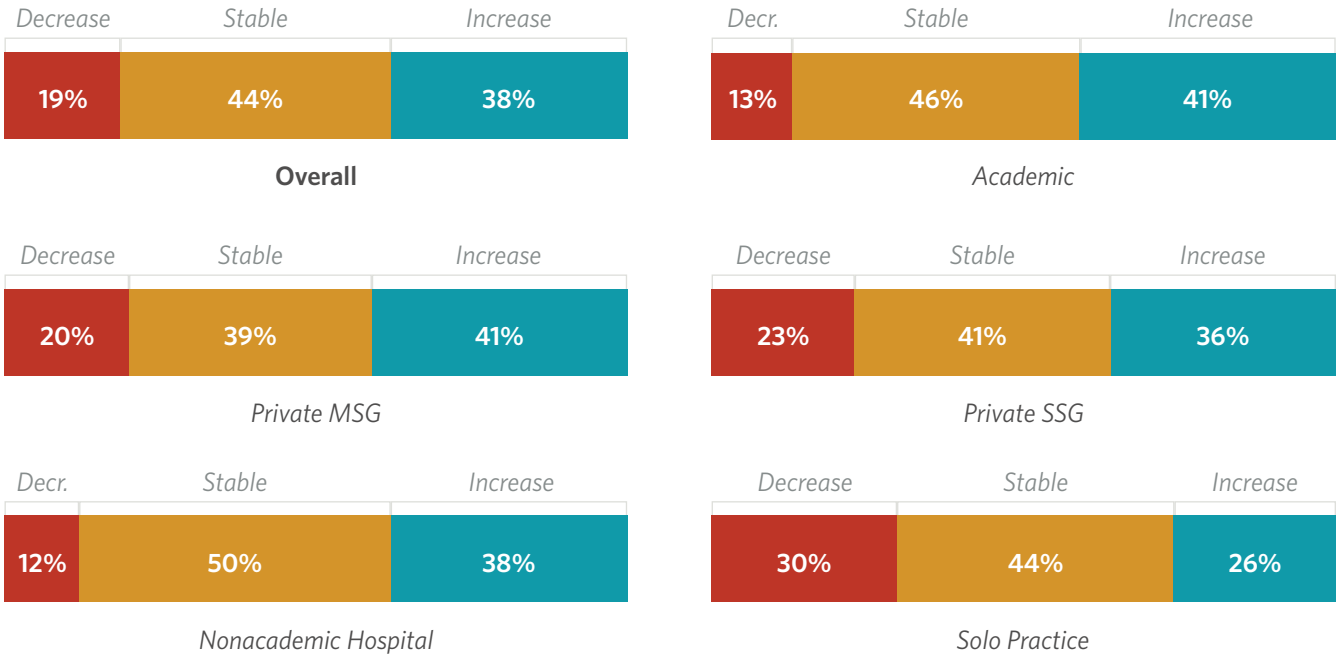


FIGURE 9.5:

2022 versus 2021 Clinical Income



ANCILLARY INCOME

TABLE 9.2:

Did You Receive Any Medical-Related Ancillary Income in 2022?

Academic	Nonacademic Hospital	Private MSG	Private SSG	Solo Practice
29%	20%	57%	76%	60%

TABLE 9.3:

Receipt of Ancillary Medical Income in 2022 by Practice Type and Sex

	Academic	Nonacademic Hospital	Private MSG	Private SSG	Solo Practice
Male	34%	20%	65%	78%	66%
Female	21%	21%	15%	63%	28%

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FIGURE 9.6:

When Received, 2022 Ancillary Medical Income by Practice Type (Median, 25th/75th Percentile Shown)

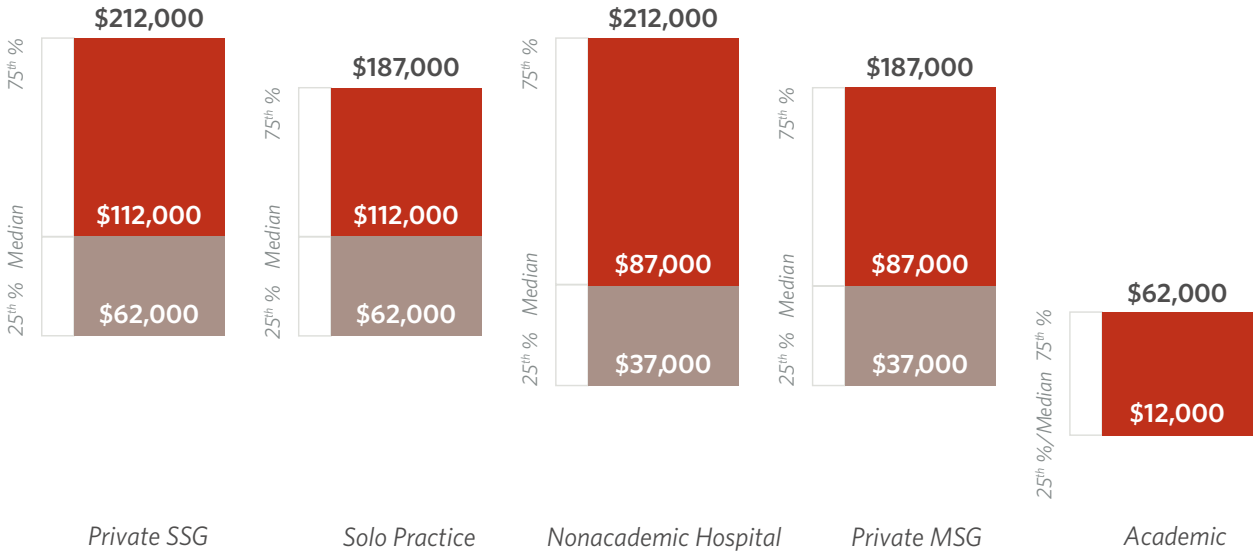
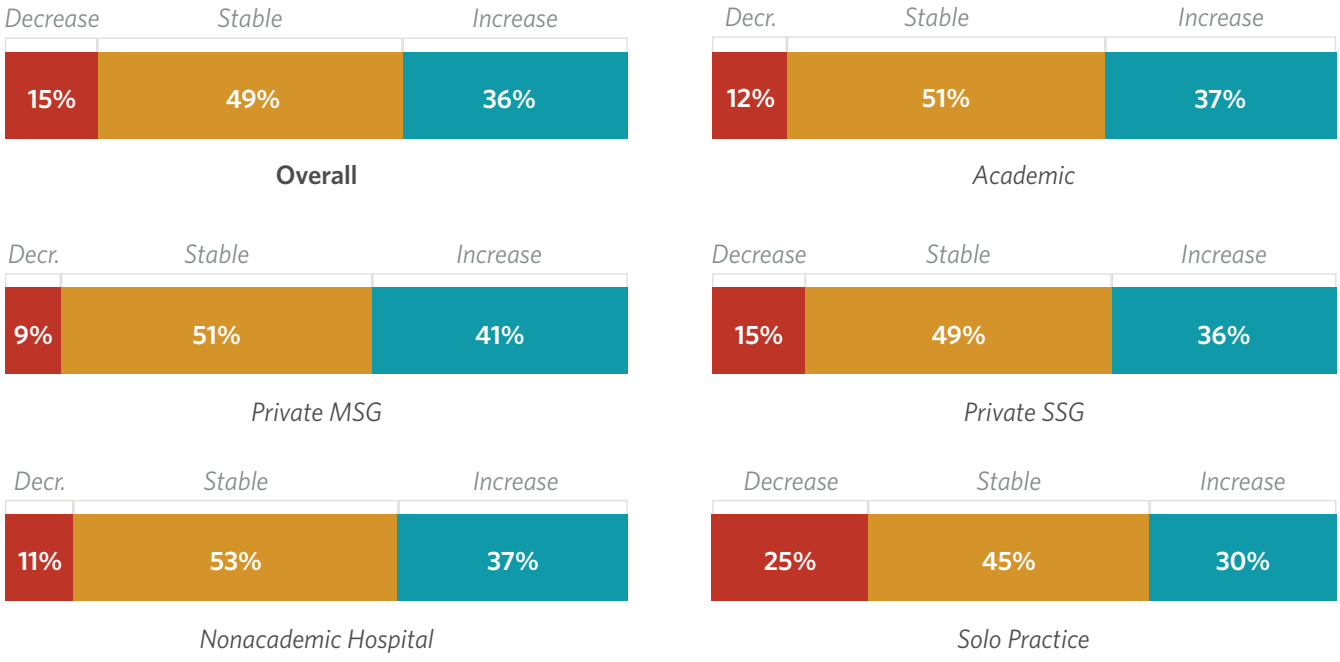


FIGURE 9.7:

2022 versus 2021 Ancillary Income



PROCEDURES AND TECHNOLOGY USE

The use of biologics for sinus disease appears to be somewhat higher in private practice, but this statistic is likely driven by the different fellowship demographic and practice differences in Academics (Figure 10.1). For example, when fellowship-trained rhinologists were asked this question, they showed the highest utilization of anyone (Table 10.1). Among those who have used biologics in the past 12 months, a slight majority perceived that this reduced sinus surgeries that they would have performed otherwise, whereas 31% said it did not (Figure 10.2). Significant differences in this perception seem to exist based on whether or not one had prescribed biologics in the past 12 months.

While the percentage of in-office septoplasties was not assessed, roughly one in five Academic rhinologists offered septoplasty in the office (Table 10.2). Roughly 50% of Academic rhinologists offer turbinate reduction in the office, and one in three offer nasal valve correction. Private Single-specialty Group otolaryngologists were at the higher end of offering in-office septoplasty, turbinate reduction and nasal valve correction.

We assessed four unique procedures this year to assess market penetration, location of service, and changes in procedure volume: sinus balloon dilation, eustachian tube balloon dilation, posterior nerve ablation, and hypoglossal nerve simulator implant. We included specific Academic groups where relevant and meeting robustness thresholds of inclusion for each procedure given the more idiosyncratic practices in these locations.

Sinus balloon dilation is performed by a slight majority of private practice otolaryngologists, and roughly one in three among other selected hospital-employed practices (Table 10.3). While Private Single-specialty Groups and Solo Practices perform most sinus balloon dilations in the office, Private Multispecialty Group procedure locations were a roughly even split (Table 10.4). Interestingly, while only 31% of Academic rhinologists perform sinus balloon dilations, those who perform this procedure do so in the office at a higher rate than any other practice setting. On the average, those performing sinus balloon dilations performed fewer in the last year than the year prior, with the largest reductions occurring in the Academic setting (Table 10.5).

Eustachian tube balloon dilation saw roughly 50% usage among private practice groups, with the highest utilization among Academic neurotologists (60%) (Table 10.3). Despite the higher procedure offering, while other practice settings saw modest-to-significant office-based procedure performance, neurotologists seem to only perform this procedure in the hospital or ambulatory surgical center (ASC) setting (Table 10.4). While most physicians performing this procedure did so at similar rates as the year prior, on the average, utilization appears to be increasing in 2023 data compared to the prior 12 months (Table 10.5). The reasons behind this could be varied, ranging from fewer insurance denials to increased clinic volumes.

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Posterior nerve ablation has roughly the same market penetration as eustachian tube balloon dilation (Table 10.3). Academic rhinologists have the highest utilization at 83%, and a large majority of them perform posterior nerve ablation in the office (Table 10.4). This procedure had the highest in-office use among private practice groups when compared to other procedures analyzed. On the average, utilization of this procedure seems to be increasing across most practice settings (Table 10.5).

While hypoglossal nerve stimulator implantation had the lowest market penetration of the selected procedures, its use increased the most over the year prior (Table 10.5). This procedure had the highest hospital-based performance, with private practice showing a slightly higher tendency to perform these in the ASC setting (Table 10.4).

Given the changing nature of insurance coverage and comfort with these procedures, as well as overall trends toward outpatient, and now in-office, performance, procedure use is worth tracking longitudinally.

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BIOLOGICS

FIGURE 10.1:

Use of Biologics for Sinus Disease in Past 12 Months by Practice Type

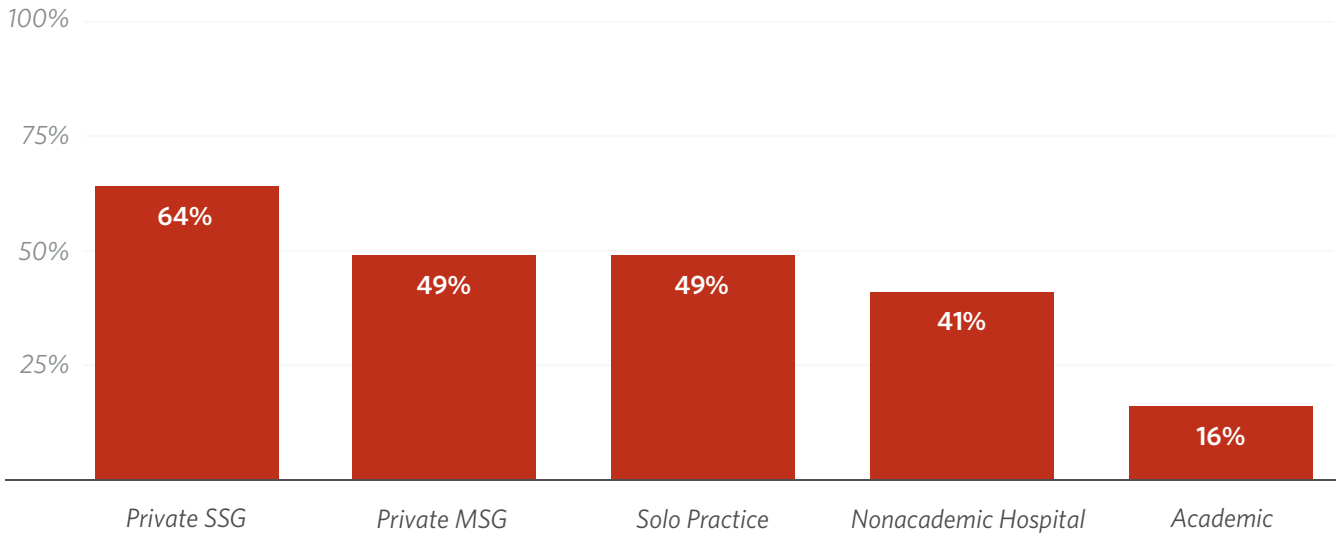


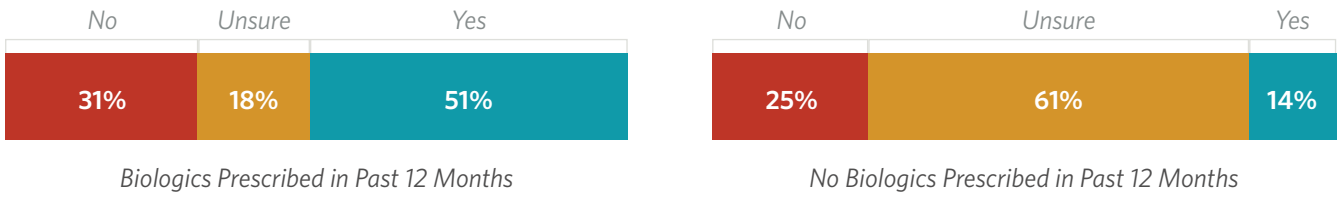
TABLE 10.1:

Prescription of Biologics for Sinus Disease in Past 12 Months among Rhinology Fellowship-Trained Otolaryngologists

Yes	No
75%	25%

FIGURE 10.2:

Biologics Reduction of Sinus Surgeries that Would Have Otherwise Been Performed by Whether Biologics Were Prescribed in Past 12 Months



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IN-OFFICE PROCEDURES

TABLE 10.2:

In-Office Procedures in Past 12 Months by Practice Setting

	Academic (Rhinology)	Nonacademic Hospital	Private MSG	Private SSG	Solo Practice
Septoplasty	12%	19%	18%	28%	30%
Inferior Turbinate Reduction	52%	41%	44%	60%	45%
Nasal Valve Correction	38%	17%	29%	43%	38%

SELECTED PROCEDURE ANALYSIS

TABLE 10.3:

Specific Procedures Performed in Past 12 Months

	Sinus Balloon Dilation	Eustachian Tube Balloon Dilation	Posterior Nerve Ablation	Hypoglossal Nerve Stimulator
Academic (No Fellowship)	22%	31%	23%	26%
Academic (Rhinology)	31%	36%	83%	N/A
Academic (Neurotology)	N/A	60%	N/A	N/A
Nonacademic Hospital	42%	38%	39%	22%
Private MSG	43%	55%	39%	16%
Private SSG	63%	58%	58%	22%
Solo Practice	50%	41%	34%	6%

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TABLE 10.4:

Mean Location of Procedure by Practice Type

	Sinus Balloon Dilation			Eustachian Tube Balloon Dilation			Posterior Nerve Ablation			Hypoglossal Nerve Stimulator		
	Hospital	ASC	Office	Hospital	ASC	Office	Hospital	ASC	Office	Hospital	ASC	Office
Academic (No Fellowship)	62%	21%	18%	50%	40%	10%	39%	13%	48%	84%	16%	0%
Academic (Rhinology)	5%	19%	76%	54%	34%	12%	17%	11%	72%	N/A		
Academic (Neurotology)	N/A			51%	48%	0%	N/A			N/A		
Nonacademic Hospital	59%	30%	11%	51%	40%	10%	37%	26%	37%	88%	12%	0%
Private MSG	33%	38%	28%	34%	47%	18%	15%	21%	64%	86%	14%	0%
Private SSG	16%	27%	57%	23%	33%	44%	8%	11%	81%	74%	26%	0%
Solo Practice	28%	19%	53%	31%	23%	46%	6%	19%	75%	62%	38%	0%

Mode is often 0 or 100. Percentages may not add to 100 due to rounding

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TABLE 10.5:

Procedure Frequency in Last 12 Months Compared to Previous 12 Months

	Sinus Balloon Dilation			Eustachian Tube Balloon Dilation			Posterior Nerve Ablation			Hypoglossal Nerve Stimulator		
	More	Same	Less	More	Same	Less	More	Same	Less	More	Same	Less
Academic (No Fellowship)	0%	55%	45%	42%	47%	11%	14%	64%	21%	71%	18%	12%
Academic (Rhinology)	15%	38%	46%	27%	67%	7%	44%	50%	6%	N/A		
Academic (Neurotology)	N/A			19%	72%	19%	N/A			N/A		
Nonacademic Hospital	10%	63%	28%	23%	66%	11%	32%	54%	14%	67%	24%	10%
Private MSG	12%	53%	35%	23%	61%	17%	36%	45%	19%	63%	26%	11%
Private SSG	12%	56%	32%	29%	56%	14%	30%	43%	26%	76%	15%	9%
Solo Practice	26%	41%	33%	41%	37%	22%	39%	39%	21%	57%	29%	14%

Percentages may not add to 100 due to rounding

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RETIREMENT

Retirees who responded to this survey were slightly older than last year: a median age of 69 this year versus 67.5 in 2022 (Table 11.1). This variability could be due to sampling differences. Given our 2022 survey results, which indicated a significant intention to retire over the next two years, as well as the retirement intentions expressed by younger workers, the retirement age is a vital component of workforce longevity worth tracking moving forward.

We used all response categories (both provided and fill-in) from 2022 to craft the retirement reason(s) question this year. Since multiple responses were allowed, we wanted to display the relative frequency of each category. Individual pull factors were most mentioned as the reason for retirement, including: wanting to enjoy other things, being financially secure, and spending more time with family (Figure 11.1). However, on an overall basis, push factors still dominated the retirement reasons.

Given that patient access is, in part, a function of our overall longevity in the workforce, we should aim to address the push factors through advocacy so physicians can retire in such a manner that pull factors dominate overall. These past few years of data have given AAO-HNS leadership and the advocacy team more information to narrow our focus in that regard.

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TABLE 11.1:

Average Age of Otolaryngologists at Retirement

Mean	Median
68.9	69

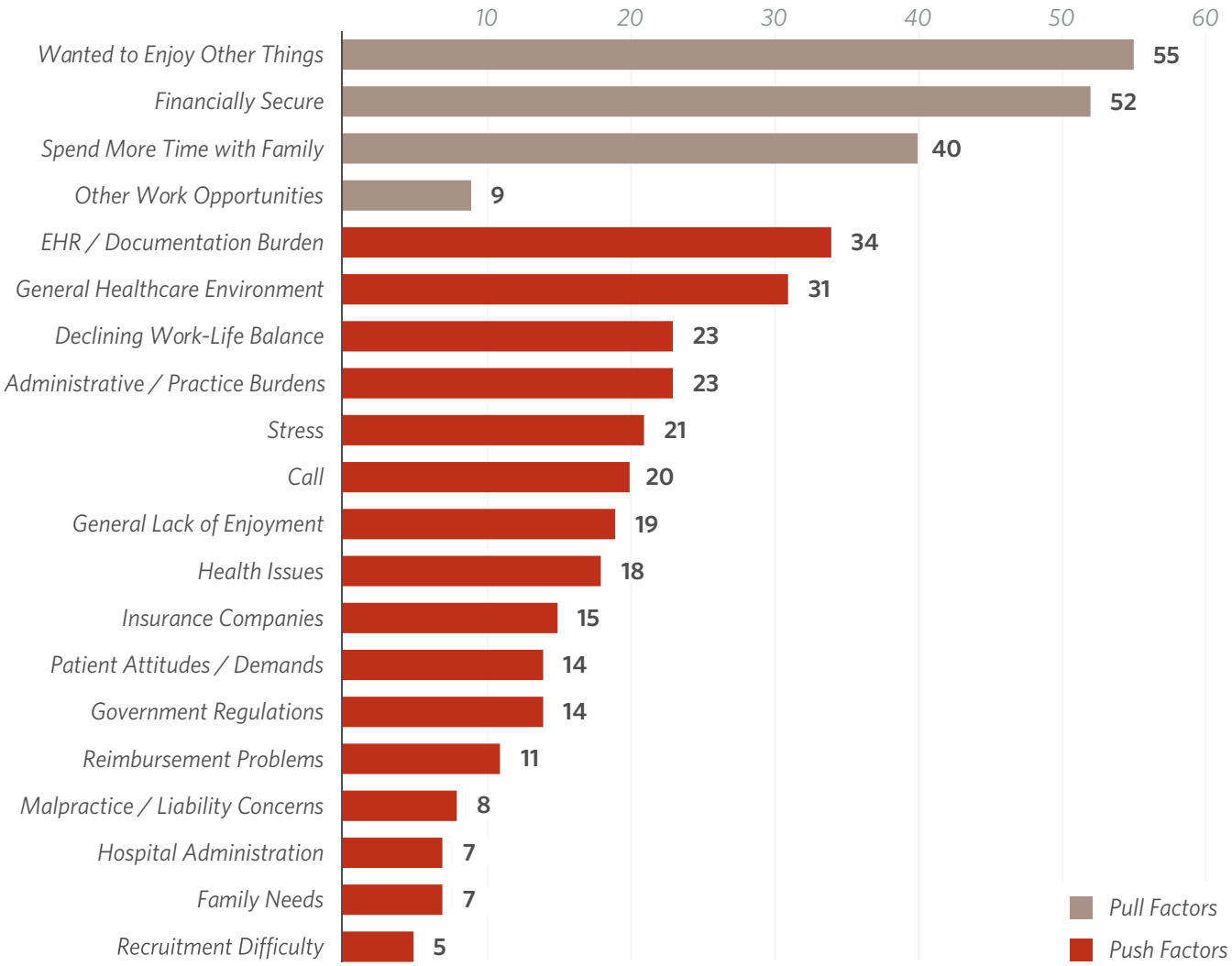
TABLE 11.2:

Average Retirement Year of Respondents

Mean	Median
2017	2019

FIGURE 11.1:

Reason for Retirement by Count and Push and Pull Factors



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SUBSPECIALTY FOCUS: PEDIATRIC OTOLARYNGOLOGY

Pediatric otolaryngology training began a few decades before formal Accreditation Council for Graduate Medical Education (ACGME) accreditation, with the first fellow having graduated in 1976. ACGME accreditation only looks at programs based in the United States, but our workforce is comprised of those who trained internationally, in historical programs no longer in existence, or those who were training for decades in programs that simply received accreditation later.

The past nine years have seen a slight uptick in training capacity based on match data, with a relatively stable number of trainees (38 mean) who ended up practicing in the U.S. or Puerto Rico from those graduation cohorts (Figure 12.2). The statistics on match positions filled do not account for U.S.-based trainees who find a spot after the match, or international physicians who fill up training slots. In fact, in any given five-year graduation cohort, no more than 93% of U.S.-based trainees ended up practicing in the U.S. (91% mean) (Figure 12.4).

Between 2001 and 2012, the number of pediatric otolaryngology fellows trained per year nearly doubled (Figure 12.3). This recent boom comprises a significant percentage of the U.S./Puerto Rico workforce. We also see training parity over time by sex, even at a time when residency training was not at parity (Figure 12.7). This suggests an outsized interest in pediatric otolaryngology by women.

The overall pediatric workforce approximates a 3:2 ratio of males to females (Table 12.1). Males and females appear to stay active in the workforce at the same percentage for about 25 years, but, after this, a disparate drop off appears to occur (Figure 12.8). To the degree that these longevity differences persist, workforce disparities will always occur even with training at parity.

Based on *The 2023 Otolaryngology Workforce* survey responses and pediatric otolaryngology analysis, we appeared to have a fairly good response rate to our AAO-HNS survey – 17.2%. Most pediatric otolaryngologists are in Academic setting (Figure 12.9). The difference between the pediatric otolaryngology analysis (all pediatric otolaryngologists actively practicing) and 2023 survey regarding practice setting is likely explained by the relatively high percentage of academicians who are AAO-HNS members, versus those from Nonacademic Hospital or Private Practice environments. The majority of hospital-based pediatric otolaryngologists practice at children's hospitals (Figure 12.12).

Practice environments seem to be changing when looking at graduation cohorts and practicing settings. While a static assessment, this movement toward Academics and, to a lesser extent, Nonacademic Hospital employment was consistent with our 2022 report (Figure 12.11). Our 2023 survey question regarding practice environment changes did not suggest a net movement away from hospital employment, making it more likely that practice changes are indeed occurring and shifting towards both Academics and Nonacademic Hospital employment.

Pediatric otolaryngologists work in multiple office locations at a higher rate (71%) than any other practice environment (Table 12.2). While the average results of clinical days per week were likely skewed lower based on the number of Academic responses, Academic pediatric otolaryngologists appear to work slightly

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more clinical days per week than their Academic counterparts (Table 12.6). At the same time, Academic pediatric otolaryngologists were slightly less likely to use telehealth and spent modestly less time on nonclinical activities per week (Table 12.5 and Table 12.7).

Geographic heat mapping of all office locations of all practicing pediatric otolaryngologists suggest large coverage gaps in some regions of the country (Figure 12.13). Gap areas appear to be away from urban centers, but also include many urban centers as well. The state analysis by ratio of the pediatric otolaryngologists to the pediatric population suggests significant access disparities (Figure 12.14). Multiple, large states covering wide regions of the U.S. have no pediatric otolaryngologists. Breaking office locations down by rurality, we see that nearly 97% of all pediatric otolaryngology office locations are in urban environments (Table 12.8). This urban/rural disparity suggests access problems for rural children, whose caregivers need to travel long distances for complex pediatric care. The rural access situation appears more concerning when examining the practice trends shown in *The 2022 Otolaryngology Workforce*, which suggests a trend toward fewer general otolaryngologists and more urban work environments.

Further to that point, as pediatric otolaryngologists trend away from private practice towards hospital-based employment, the urban/rural access in these different locations suggest an average movement to environments with fewer rural access points (Table 12.9). Assuming current practice environments don't expand their access to these rural environments, all these data suggest a future where we have fewer general otolaryngologists in rural environments practicing at the top of their skillsets for pediatric care, and an increasing concentration of pediatric otolaryngologists able to provide such care in more urban settings. This combination will worsen rural access from a distance perspective. This potential outcome needs to be weighed against the potential gains of having more expertise in specialized centers. However, the latter benefit is complicated by workforce projections described in the following paragraphs.

Pediatric otolaryngologists, particularly Academic pediatric otolaryngologists, utilize advanced practice providers (APPs) at a higher rate than their peers (Table 12.10). They also utilize APPs for in-office procedures more than their Academic counterparts (Table 12.11). Most pediatric otolaryngology APPs saw patients independently or in a hybrid model, most similar to those in the Academic practice setting (Figure 12.15). Pediatric otolaryngology APPs were some of the most productive in clinic, regardless of practice setting (Figure 12.16). As highlighted in the Productivity section, Academic pediatric otolaryngologists were also the most productive (Figure 7.7). This may reflect the nature of the patient type/complexity and variability in office time needed for the average appointment.

The expected pediatric otolaryngology retirees from fellowship years 2000 and earlier (Figure 12.19) appear to be concentrated in large, urban markets, with a similar geographic distribution to that of current office locations (Figure 12.13).

To provide conservative projections, all current and future pediatric otolaryngologists were placed on a more aggressive retirement glide path than suggested by current data. Each projected graduation cohort and historical graduation cohorts, where active practice is known, were "retired" separately along the new retirement glidepath described in this report section. Historical years where physicians were in active practice in greater numbers than the retirement glidepath were brought onto this glidepath within two years. Those years where physicians were in active practice in lower numbers were maintained until meeting the retirement glidepath and then placed onto the retirement glidepath. Furthermore, while the mean number of fellowship trainees entering the U.S. workforce in the past seven

years was 38, the model assumed 37 annually, with no increases – in the setting of resident increases and excess training capacity. The 2023 ratio of U.S.-based pediatric otolaryngologists to the pediatric population (ages 0-17) is 1.16 (Figure 12.21). This ratio looks to increase to 1.50, or nearly a 30% increase, by 2040.

Modeling different scenarios of graduates per year and pediatric population growth rate variability (and combinations of both), ratios do not look to be markedly different (Table 12.14). Given the extremes to which we would need to take these scenarios (21 trainees per year, or 10 times the predicted pediatric population growth rate) to have a stable ratio, most of the ratio increase seems to be "built in," driven by the increase in pediatric otolaryngology graduates in the past few decades, their relatively higher workforce longevity over the next 17 years, as well as an historically anemic pediatric population growth (Table 12.15).

While framing workforce ratio comparisons with "all else equal" is important, the looming ratio increases could cut both ways. With the degree to which future workers concentrate in urban settings, as appears to be the trend, the potential gains of having increased expertise in high-complexity areas may be undercut. However, to the degree that new locations are established, or partnerships developed in more rural locations, expertise may become more universally projected to all pediatric patients. All of this subspecialty information, taken together, speaks to opportunities for further research, outreach, and leadership to carve the best path forward.

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PROGRAM ANALYSIS

FIGURE 12.1:

Number of Training Programs per Year

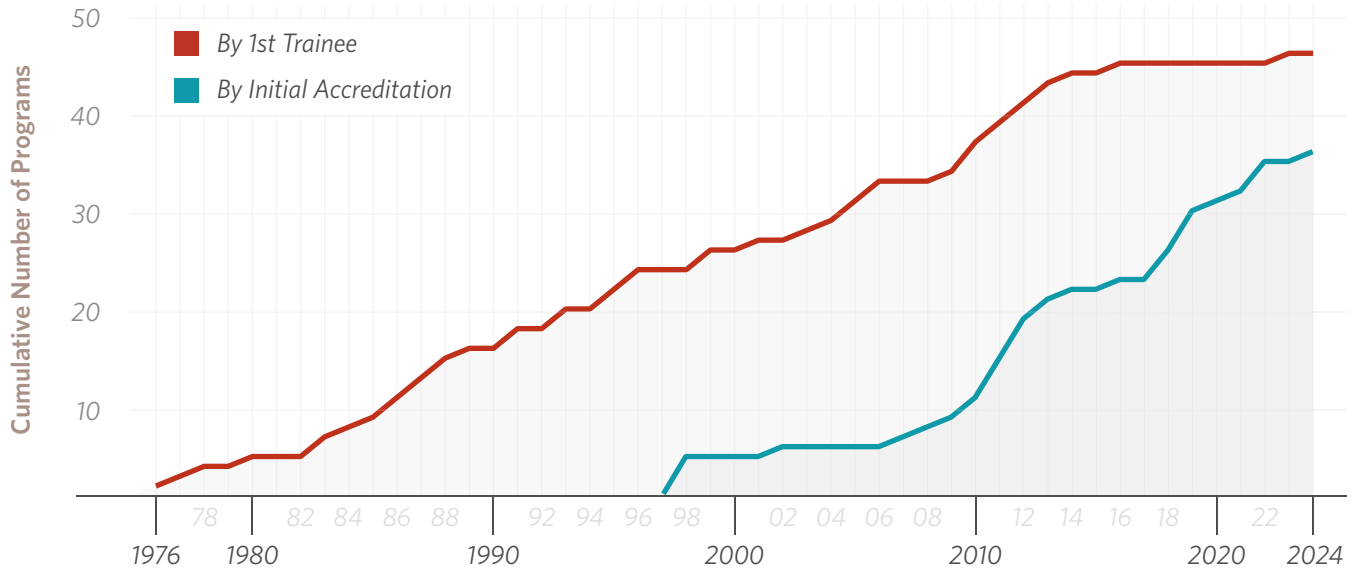
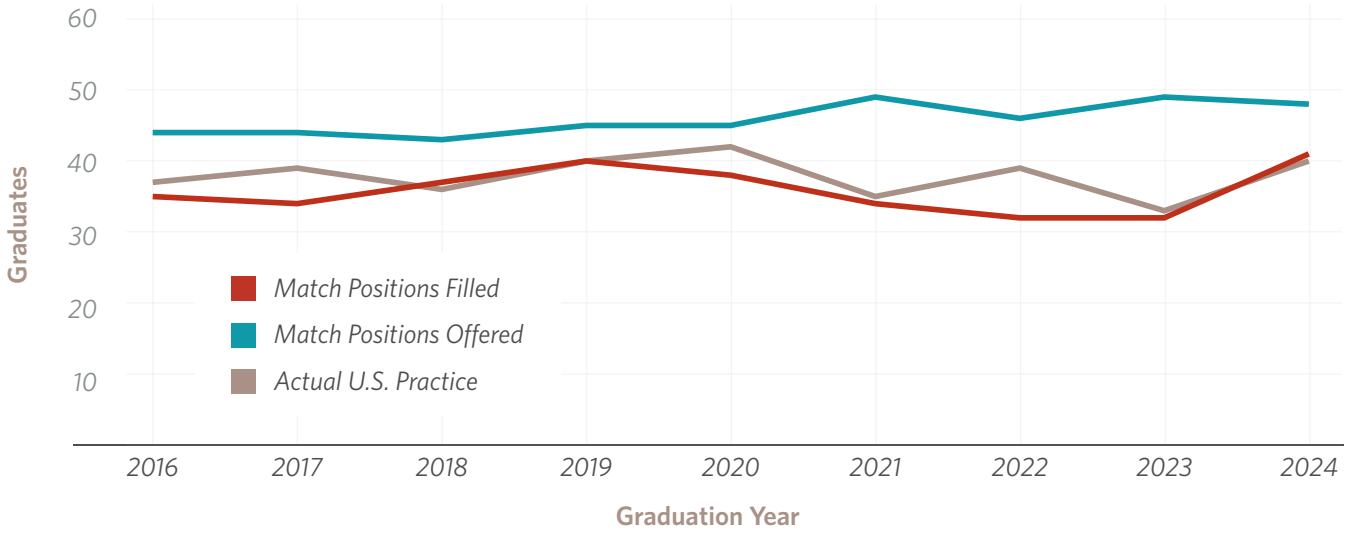


FIGURE 12.2:

Supply Analysis: Predicted versus Reality



* 2024 is predicted based on trainee graduation location

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GRADUATE ANALYSIS

FIGURE 12.3:

Pediatric Otolaryngology Fellows by Year

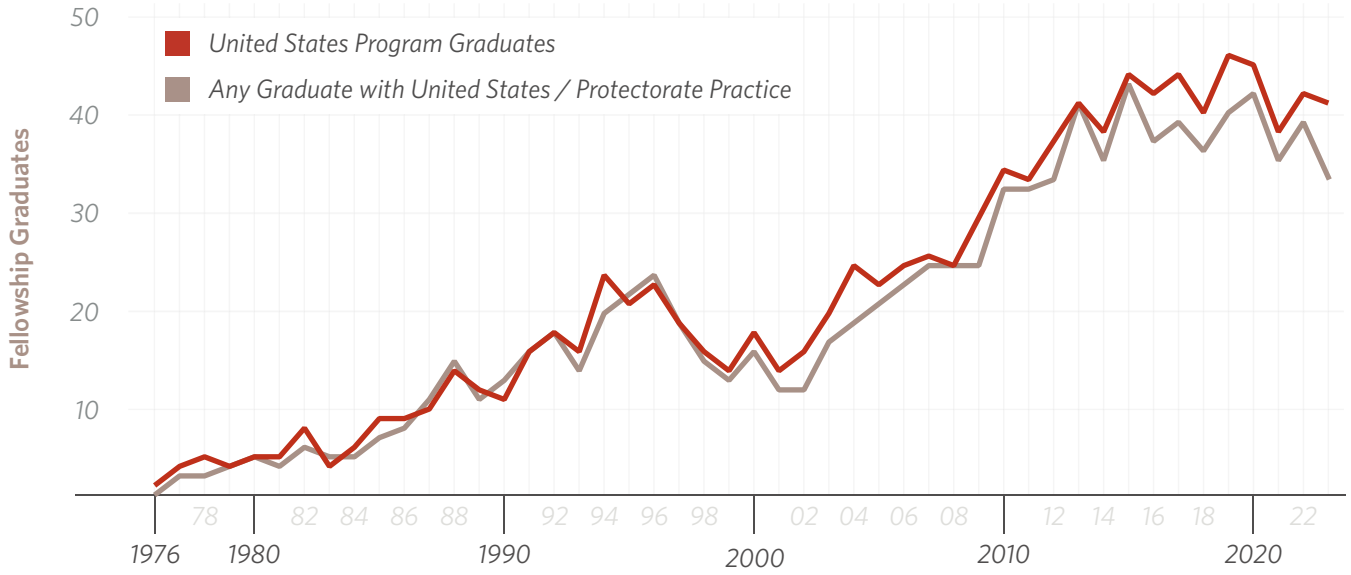

FIGURE 12.4:

Percentage of U.S. Trainees with U.S.-Based Practice

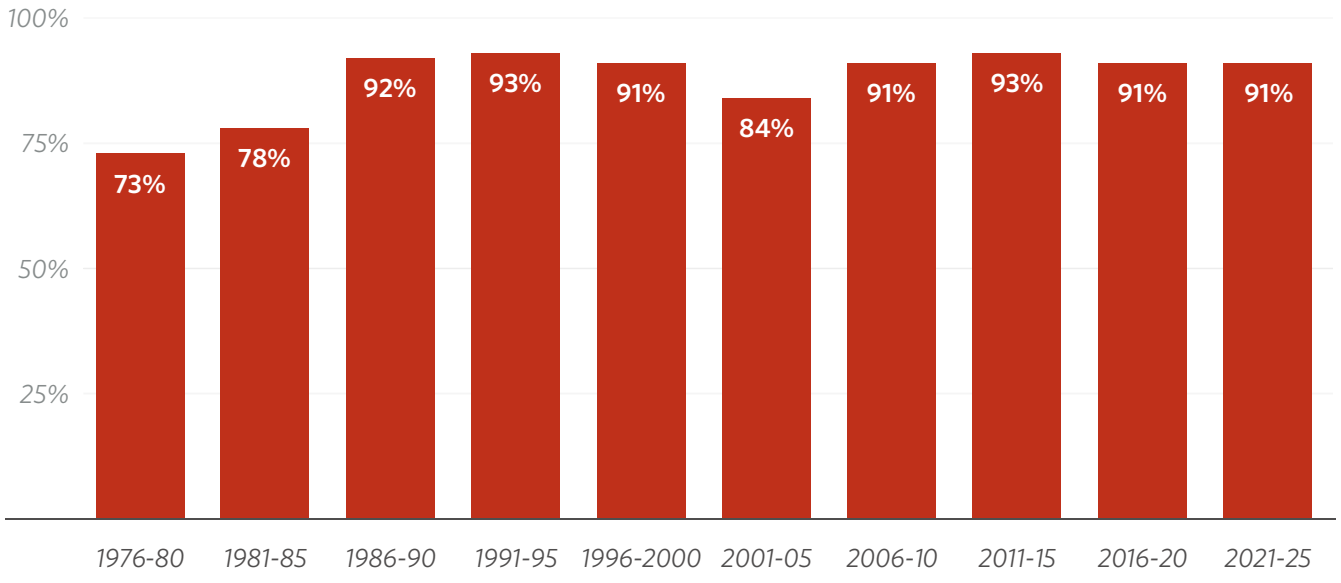

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FIGURE 12.5:

Percent of Program Trainees With U.S.-Based Practice Still Actively Practicing in the United States or Puerto Rico by Fellowship Graduation Year

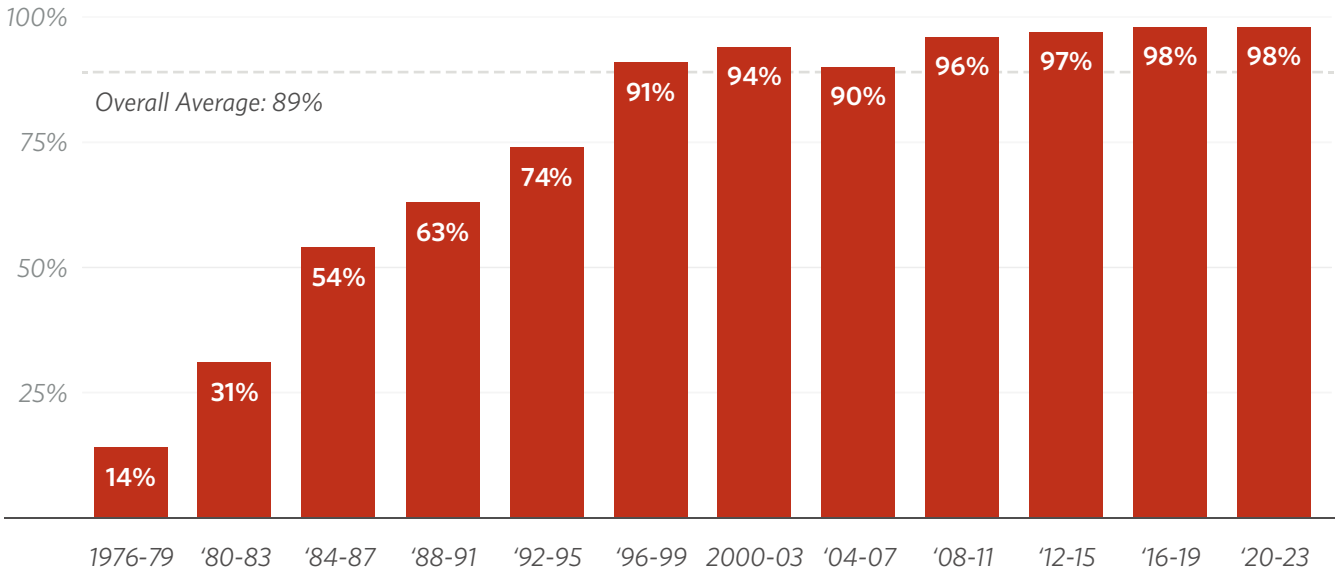

FIGURE 12.6:

Pediatric Otolaryngology Fellowship Trainied Otolaryngologists Actively Practicing in the U.S. or Puerto Rico by Fellowship Graduation Year

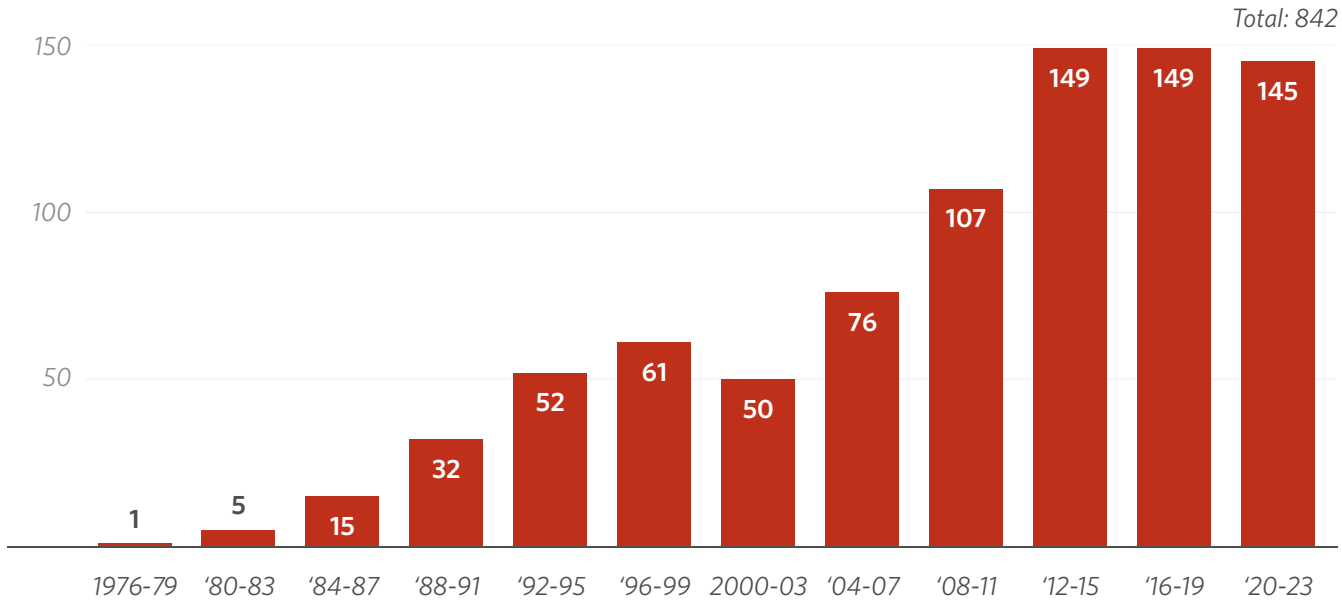

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FIGURE 12.7:

Sex of U.S.-Trained Pediatric Otolaryngologists by Graduation Year

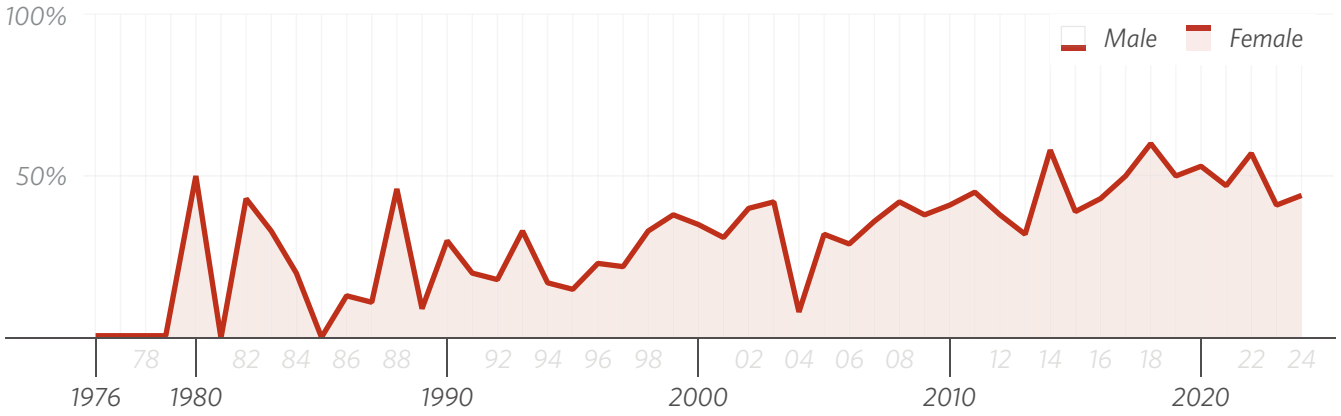


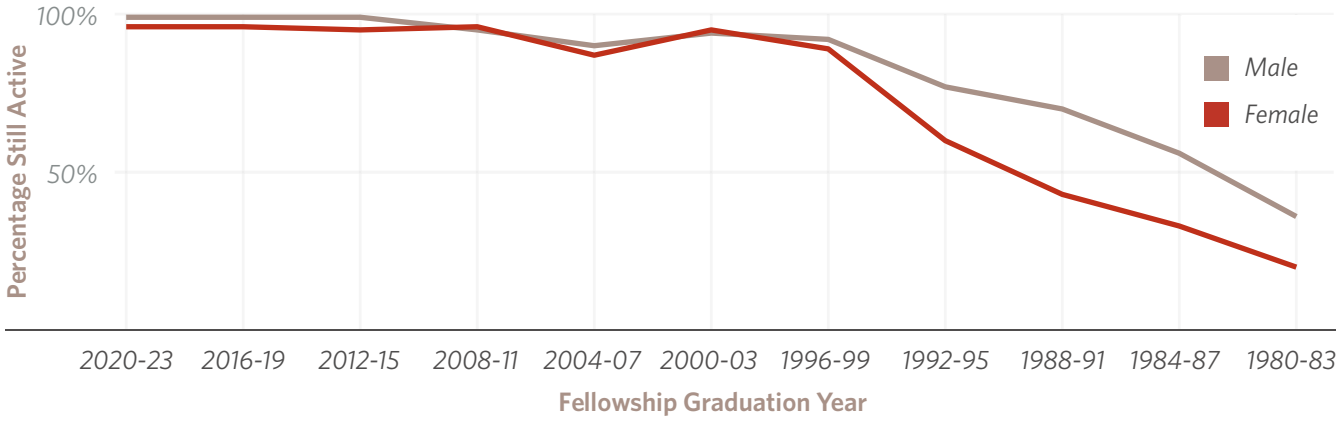
TABLE 12.1:

Sex Breakdown of Actively Practicing Pediatric Otolaryngologists in the U.S. and Puerto Rico

Male	Female
61.2%	38.8%

FIGURE 12.8:

Actively Practicing Pediatric Otolaryngologists in the U.S. and Puerto Rico by Sex and Fellowship Graduation Year



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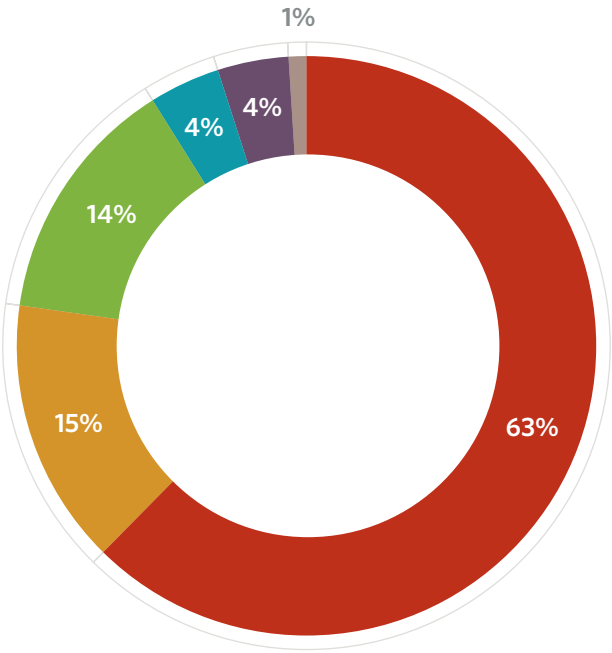
PRACTICE AND RECRUITMENT

FIGURE 12.9:

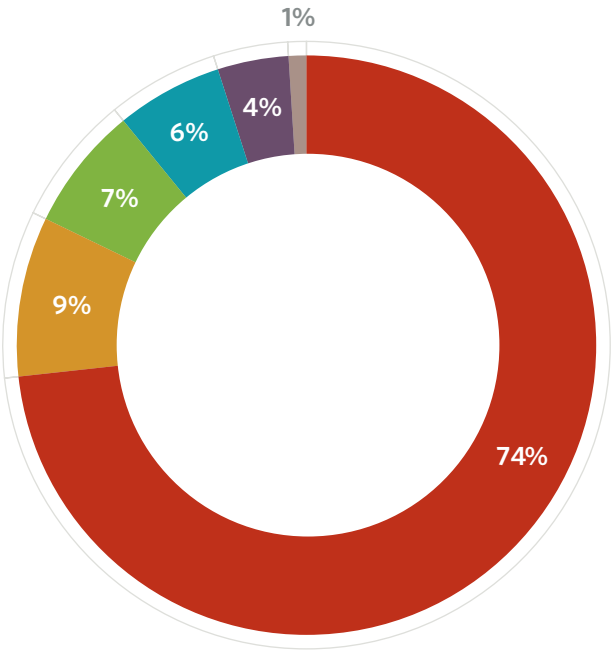
Practice Breakdown of Pediatric Otolaryngology in the U.S. and Puerto Rico



Some percentages may not add up to 100% due to rounding

FIGURE 12.10:

Pediatric Otolaryngologist Practice Breakdown from AAO-HNS Survey Respondents



Some percentages may not add up to 100% due to rounding

Note: The response rate for pediatric otolaryngologists was 17.2%

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FIGURE 12.11:

Change in Practice Environments by Fellowship Graduation Year, U.S./ Puerto Rico-Based Practice

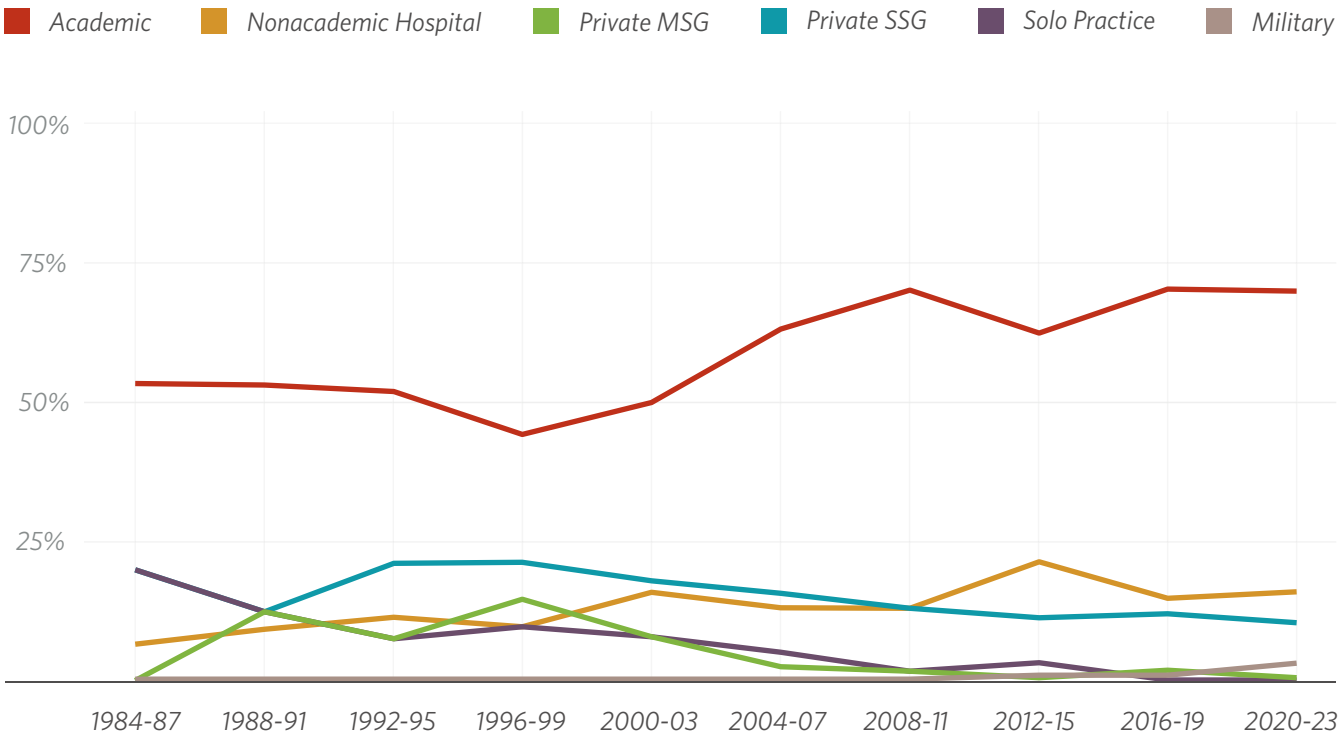

FIGURE 12.12:

Specific Practice Environment of Hospital-Employed Pediatric Otolaryngologists

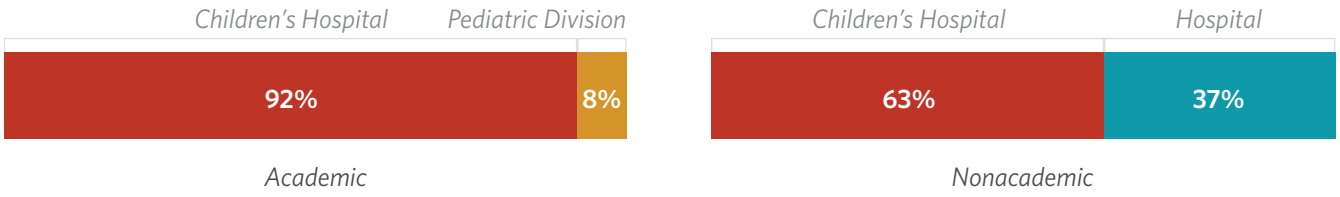

TABLE 12.2:

Do You Work in More Than One Office Location?

Yes	No
71%	29%

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TABLE 12.3:

Mean Recruitment Difficulty

1 = Extremely Difficult, 5 = Extremely Easy

All Pediatric Otolaryngology	*Academic Pediatric Otolaryngology*
2.8	**3.0**

TABLE 12.4:

Recruitment Time (Years)

	All Pediatric Otolaryngology	*Academic Pediatric Otolaryngology*
Mean	*1.3*	*1.0*
Median	*1.0*	*1.0*

TABLE 12.5:

Use of Telehealth

All Pediatric Otolaryngology	*Academic Pediatric Otolaryngology*
71%	**79%**

TABLE 12.6:

Clinical Days Worked Per Week by Practice Type

	Pediatric Otolaryngology	*Academic Pediatric Otolaryngology*	*Academic*	*Nonacademic Hospital*	*Private MSG*	*Private SSG*	*Solo Practice*
25th %	*4*	*3.5*	*3*	*4*	*4*	*4*	*4*
Median	*4.5*	*4.5*	*4*	*4.5*	*4.5*	*5*	*4.5*
75th %	*5*	*5*	*5*	*5*	*5*	*5*	*5*

TABLE 12.7:

Mean Hours Spent on Nonclinical Activities Per Week by Practice Type

	Pediatric Otolaryngology	*Academic Pediatric Otolaryngology*	*Academic*	*Nonacademic Hospital*	*Private MSG*	*Private SSG*	*Solo Practice*
Hours	*9.9*	*11.4*	*12.3*	*5.1*	*5.3*	*5.2*	*6.9*

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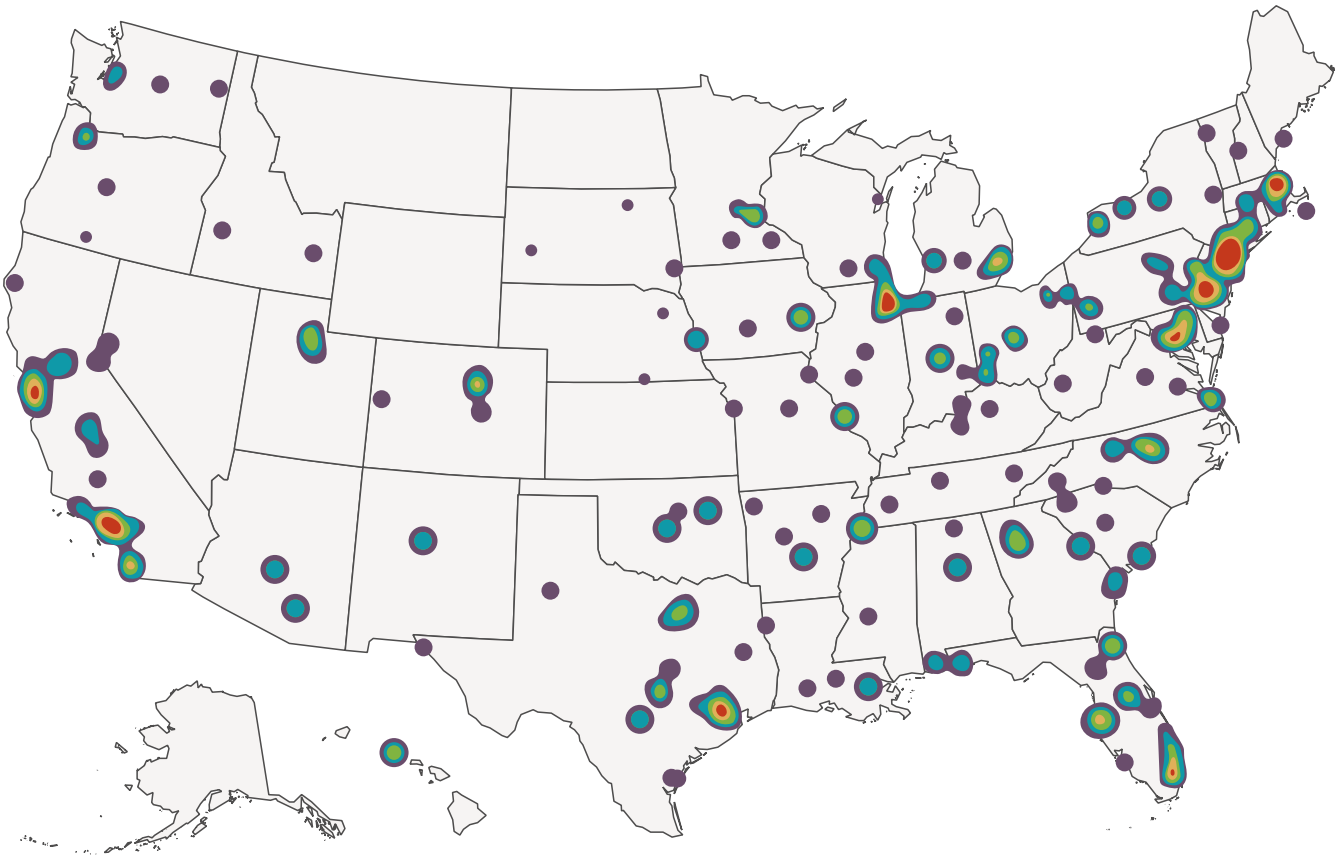
GEOGRAPHIC ANALYSIS

FIGURE 12.13:

Geographic Heatmap of Practicing Pediatric Otolaryngologists in the U.S. (All Office Locations)



No Pediatric Otolaryngologists — *Highest Concentration of Pediatric Otolaryngologists*

U.S. Cities with the Highest Number of Pediatric Otolaryngologists (By First Office Location)		
1. Houston, TX	*2. New York, NY*	*3. Boston, MA*
4. Atlanta, GA	*5. Chicago, IL*	*6. Cincinnati, OH*

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FIGURE 12.14:

Practicing Pediatric Otolaryngologists in the U.S. Per 100k Children

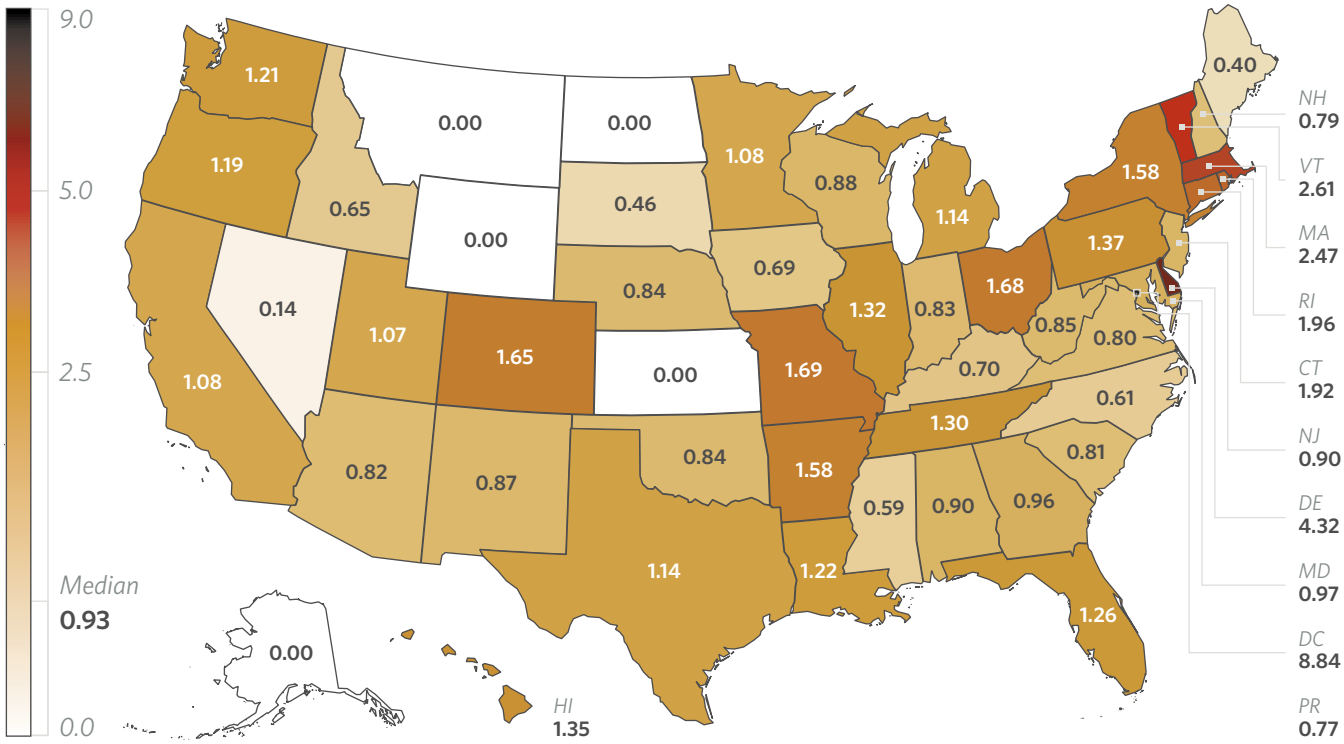

TABLE 12.8:

Urban/Rural Distribution among Pediatric Otolaryngology Offices

	RUCA	Office Locations	Percent	Total Percent
Urban	1	1,642	94.7%	96.9%
	2	38	2.2%	
Rural	4	33	1.9%	3.1%
	5	2	0.1%	
	7	13	0.8%	
	10	5	0.3%	

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TABLE 12.9:

Urban/Rural Distribution among Pediatric Otolaryngology Offices by Practice Environment

Practice Environment	*Total Access Points*	*Rural Access Points*	*Percent Rural Access*
Nonacademic Hospital	*208*	*15*	*7.2%*
Private SSG	*272*	*19*	*7.0%*
Solo Practice	*44*	*3*	*6.8%*
Academic	*1,149*	*16*	*1.4%*
Private MSG	*52*	*0*	*0.0%*
Military	*7*	*0*	*0.0%*

ADVANCED PRACTICE PROVIDERS

TABLE 12.10:

APP Use

All Pediatric Otolaryngology	*Academic Pediatric Otolaryngology*
88%	94%

TABLE 12.11:

In-Office Procedure Performance by APPs

All Pediatric Otolaryngology	*Academic Pediatric Otolaryngology*
86%	88%

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TABLE 12.12:

Procedures Performed By APPs, When Performing Procedures

Procedure	*Percent Performing*
Cerumen Removal	*100%*
Flexible Laryngoscopy	*75%*
Nasal Endoscopy	*67%*
Nasal Cautery	*57%*
Wound Care	*44%*
Frenotomy	*16%*
Peritonsillar Abcess I&D	*10%*
Sinus Debridements	*5%*
Trach Care	*4%*
Foreign Body Removal	*3%*
Trans-Tympanic Injections	*2%*
Ear Tube Placement	*2%*
Fine Needle Aspiration	*1%*

FIGURE 12.15:

Pediatric Otolaryngology Use of APPs in Clinic

Note: Similar for Academic Pediatric Otolaryngology

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FIGURE 12.16:

Patients Seen by APPs Independently During Full Workday (Median, 25th/75th Percentile Shown)

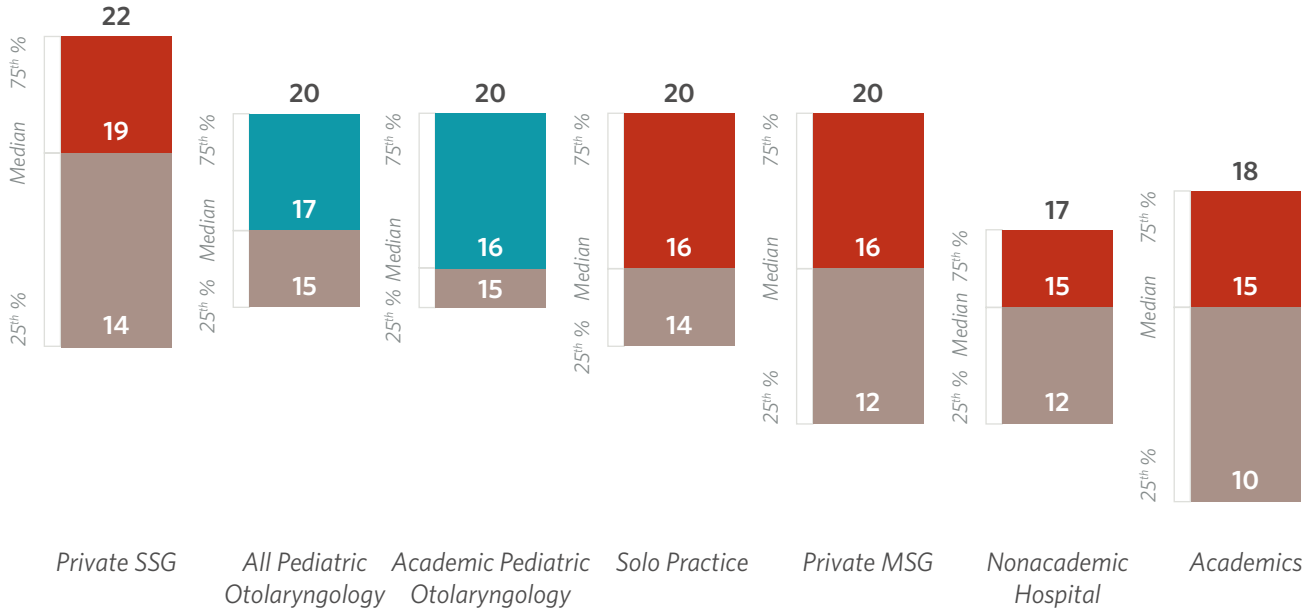
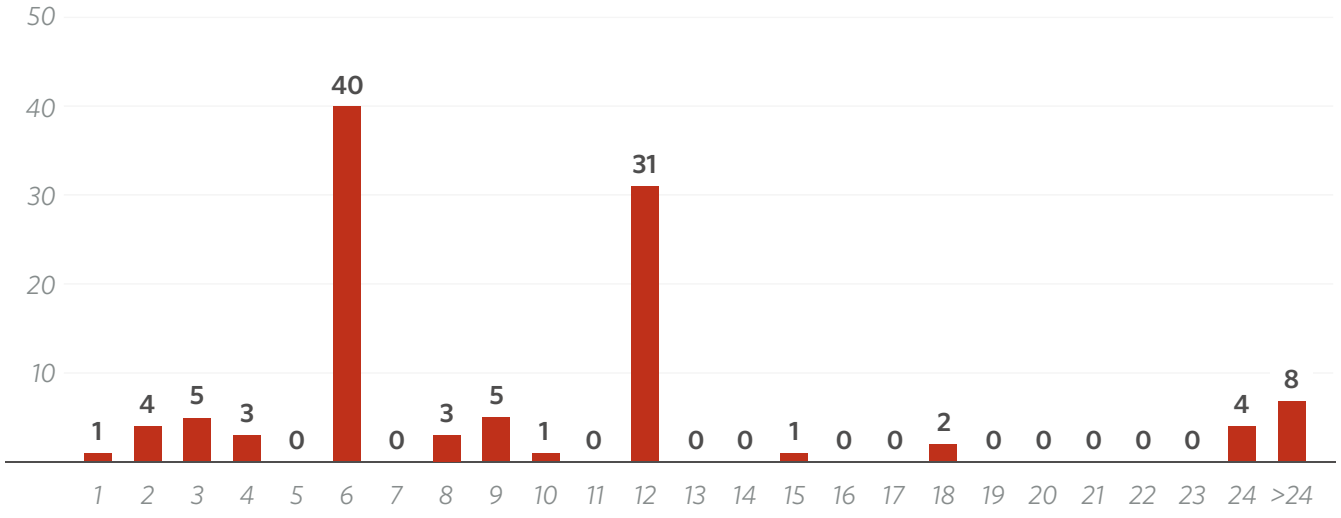


FIGURE 12.17:

Months Until APP(s) Achieved Full Pediatric Otolaryngology Competency by Response Count



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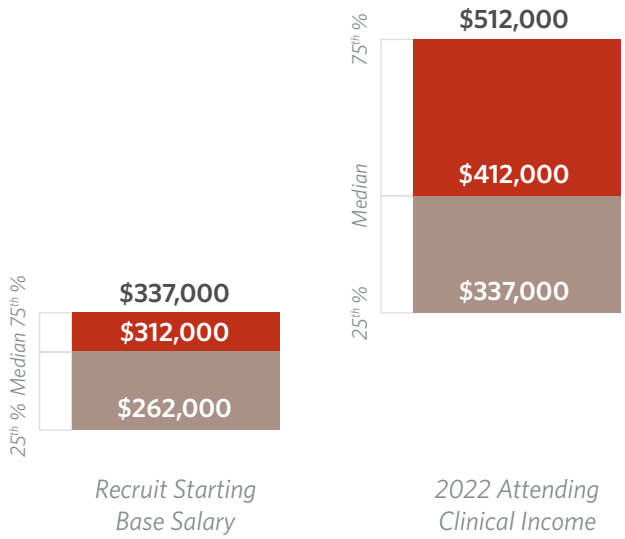
INCOME

FIGURE 12.18:

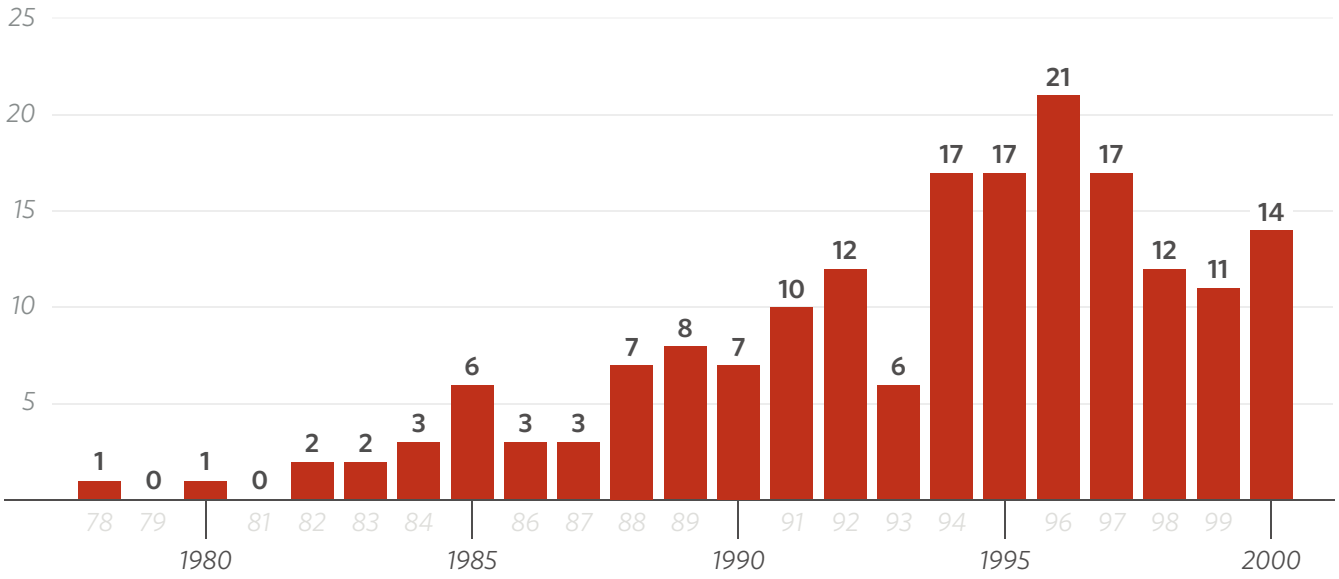
Academic Pediatric Otolaryngology Recruit Base Salary and Attending Clinical Income (Median, 25th/75th Percentile Shown)



RETIREMENT

FIGURE 12.19:

Expected Number of Pediatric Otolaryngology Retirees in Upcoming Years by Fellowship Graduation Year



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WORKFORCE PROJECTIONS

TABLE 12.13:

Pediatric Otolaryngology Workforce and Population Data for Workforce Projections

Current Pediatric Otolaryngologists	*New Yearly Fellowship-Trained Pediatric Otolaryngologists*	*2022 Population Aged 0-17*	*0-17 Population Annual Growth Rate*
842	37	72,450,827	140,556

Refer to the Methodology section for a description of sources and methods

FIGURE 12.20:

Actively Practicing Pediatric Otolaryngologists in the U.S. and Puerto Rico by Sex and Fellowship Graduation Year versus Retirement Model

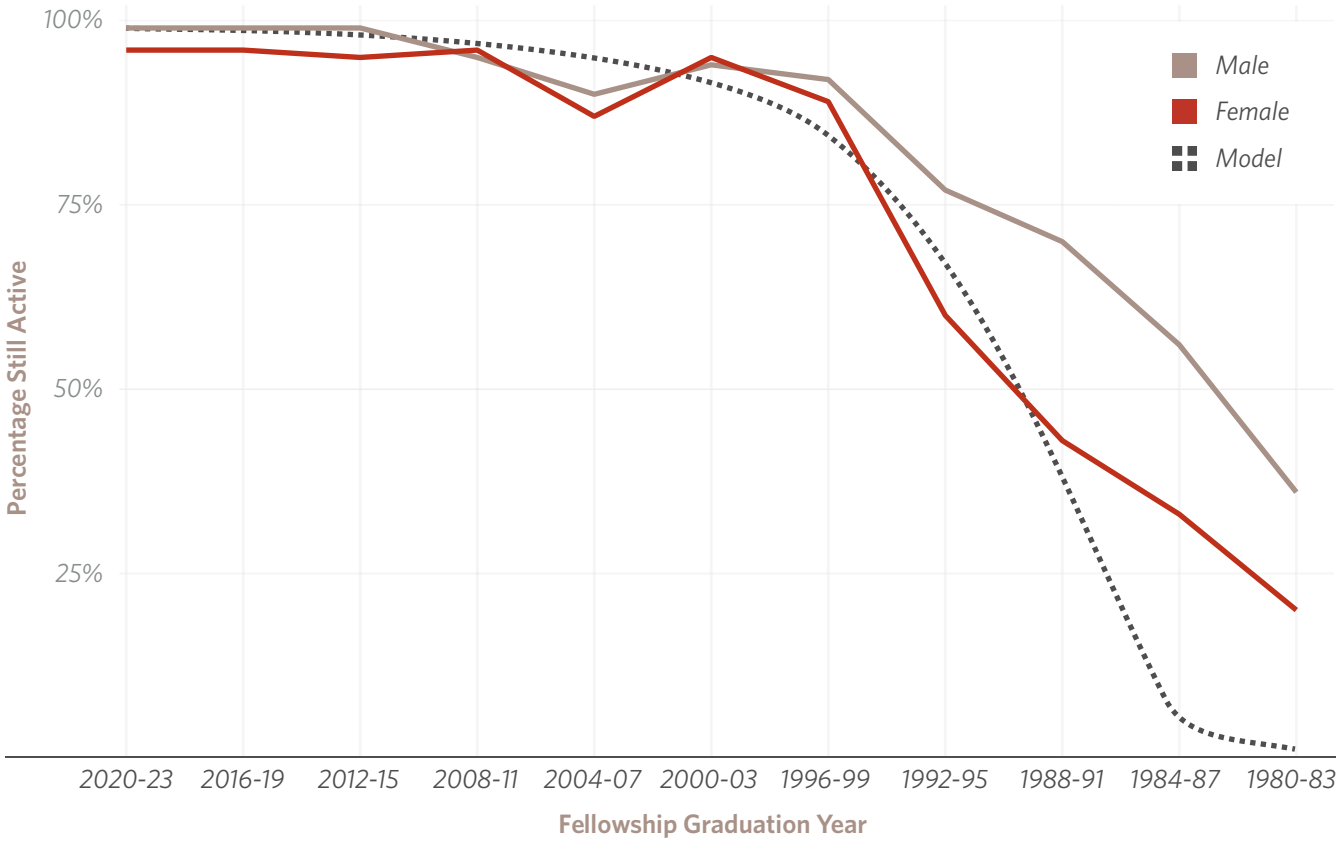

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FIGURE 12.21:

Projected Change in Ratio of Pediatric Otolaryngologists per 100k Children Age 0-17 Under Different Scenario Modeling

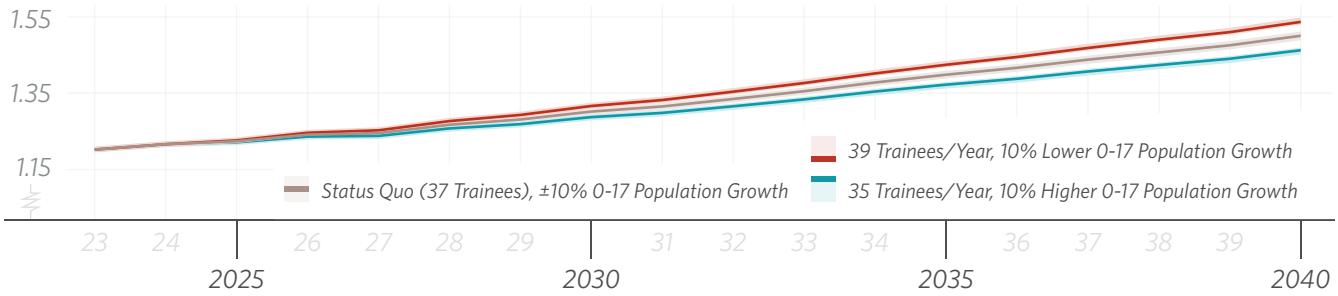

TABLE 12.14:

Projected Change in Ratio of Pediatric Otolaryngologists per 100k Children Age 0-17 between 2023 and 2040 Under Different Scenario Modeling

Scenario		Pediatric Otolaryngologists per 100k Children Aged 0-17		
Trainees per Year	0-17 Population Growth versus Average (140,556/year)	2023	2040	Percent Change
39	10% Lower	1.16	1.54	33%
	Average			
37	10% Lower	1.16	1.50	29%
	Average			
	10% Higher		1.49	
35	Average	1.16	1.45	25%
	10% Higher			

TABLE 12.15:

Scenarios Creating Stable Pediatric Otolaryngologist to 100k Children Age 0-17 Ratio

Scenarios	
1,450,000 annual 0-17 population growth (versus current average of 140,556)	21 trainees per year practicing in the U.S./ Puerto Rico (versus current average of 37)

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LOOKING FORWARD

Last year, Andrew J. Tompkins, MD, MBA, the Workforce and Socioeconomic Survey Task Force Chair, described a mechanism that the Task Force would employ that ensured that key data points and demographic question modules would be repeated over time as a comparative marker to demonstrate change over time. This approach also focused on maintaining the ability to adjust or add modules based on changing needs or areas that would benefit from a deeper dive to improve understanding of the transition occurring in the workforce and/or practice patterns.

This year's survey presented a more comprehensive look in the resident-in-training modules as well as focused on pediatric otolaryngology. The resultant data in these areas helped to clarify past trends and should be valuable in predicting the future landscape in these areas and create an opportunity for adjustments in areas that are not beneficial to the patients, physicians, and healthcare delivery system as a whole. Future surveys will select different areas of focus while maintaining baseline demographics as well as look at opportunities for modifications that will enhance the value of the data obtained.

The Pediatric Otolaryngology subspecialty focus was motivated by ASPO leadership, specifically Drs. Reza Rahbar and Margo McKenna. This project was enabled through collegial data sharing and generous training data from all the training programs. We thank all of them for their leadership and hope this can be used to identify opportunities to optimize pediatric otolaryngology care. Additionally, we hope this motivates other societies to partner with the AAO-HNS in future efforts.

The Task Force will look at the potential value of linking future surveys to activities that both residents-in-training and practicing otolaryngologists participate in such as the Otolaryngology Core Curriculum and the Maintenance of Certification program directed by the American Board of Otolaryngology - Head and Neck Surgery. The time it takes to complete the surveys should not have a significant burden to either of these programs while delivering a huge benefit to strategic planning for the specialty.

On behalf of all otolaryngologist-head and neck surgeons, I would like to thank the Task Force for taking on this critical project that requires much more time than you would think to get it right by properly analyzing the results and identifying the additional areas of focus and need based on the ever-changing landscape in healthcare.

James C. Denneny III, MD
Executive Vice President and CEO, AAO-HNS

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