Practice Patterns and Projections for the US Pediatric Otolaryngology Workforce

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IMPORTANCE This study represents up-to-date information on the current status of and future projections for the pediatric otolaryngology workforce.

OBJECTIVE To provide an update on the practice patterns of and projections for the US pediatric otolaryngology workforce.

DESIGN, SETTING, AND PARTICIPANTS An online survey was sent to all 172 members of the American Academy of Pediatrics Section on Otolaryngology–Head and Neck Surgery and fielded from May 29, 2014, to September 17, 2014.

MAIN OUTCOMES AND MEASURES Current status of and perceived trends in the pediatric otolaryngology workforce

RESULTS Eighty-four (48.8%) of the 172 members responded to the survey. Not all respondents answered all questions, and so totals and percentages might not reflect a total of 84 for any given response. The demographics and practice characteristics of the responding pediatric otolaryngologists were similar to those noted in a 1997 workforce survey. Fifty-four percent of respondents (n = 38) planned to continue full-time work over the next 5 years, and 47% (n = 31) believed that the number of patients in their practice was increasing. The proportion of those who believed that the need for pediatric otolaryngologists in their community was increasing (31%; n = 21) or decreasing (13%; n = 9) remained relatively constant from the 1997 survey (34% and 12%, respectively). Forty-nine percent (n = 35) reported believing that the number of pediatric otolaryngologists being trained was appropriate and that the need in their community was stable. Eighty-three percent (n = 55) reported believing that employment opportunities for pediatric otolaryngologists in the United States would be plentiful in the near future.

CONCLUSIONS AND RELEVANCE The overall state of the pediatric otolaryngology workforce appears stable. The perceived current and future needs for pediatric otolaryngologists appear to be met by the current number of trainees. Employment opportunities appear promising for future pediatric otolaryngologists based on our respondents’ opinions. This represents up-to-date information on the current status of and future projections for the pediatric otolaryngology workforce.

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From the first full-time pediatric otolaryngologist, Charles Ferguson, MD, who practiced from 1933 to 1974, and the first pediatric otolaryngology textbook published in 1967, the field of pediatric otolaryngology has evolved tremendously. This has included the standardization of training and accreditation, beginning with the first pediatric otolaryngology fellowship created by Drs Bluestone and Stool in 1975 and culminating with the accreditation of the first pediatric otolaryngology fellowships by the Accreditation Council for Graduate Medical Education (ACGME) in 1998. As of the 2015 fellowship match, there were 22 programs with ACGME accreditation offering 34 of the available 45 total pediatric otolaryngology fellowship positions.

With this growth, there has been a focus recently on the practice of pediatric otolaryngology by general otolaryngologists and by fellowship-trained pediatric otolaryngologists, hereafter referred to simply as pediatric otolaryngologists. It is important that we elucidate the role of and need for general and pediatric otolaryngologists so that we may appropriately educate future trainees. Our aim is to discuss the current status of and future projections for the practice of pediatric otolaryngology by pediatric otolaryngologists.

Methods

The American Academy of Pediatrics (AAP) Section on Otolaryngology-Head and Neck Surgery (SOOHNS) worked with the AAP Division on Workforce and Medical Education Policy to develop survey questions specific to pediatric otolaryngology. These questions were fielded in conjunction with a set of standard questions as a part of the 2014 AAP Workforce Survey of Pediatric Medical Subspecialties and Surgical Specialties. Most of the questions were drawn from the Future of Pediatric Education II (FOPE II) survey conducted in 1997. Included were questions about demographics, practice characteristics, and practice trends of pediatric otolaryngologists (see the eFigure in the Supplement).

The anonymous online survey was conducted from May 29, 2014, to September 17, 2014. Nonresponders received up to 6 reminders to complete the survey. Of the 172 SOOHNS members, 84 responded (49% response rate). These were all known to be pediatric otolaryngologists because that is a requirement to be a member of SOOHNS. Participants did not have to answer every question, so sample sizes vary slightly between questions. Frequency distributions and means were generated with SPSS software, version 18.0, as appropriate. This survey study was deemed exempt from ethical review and participant written informed consent by the institutional review board of the AAP.

Results

Respondents

The demographic characteristics of all respondents are listed in the Table. Most respondents decided to become pediatric otolaryngologists, at least in part, because they enjoyed working with children (88%; n = 74), because they found it personally rewarding (79%; n = 66), because they liked the diversity and scope of practice (76%; n = 64), or because it was a good match for their personality (73%; n = 61). Their fellowship length ranged from 12 to 24 months, which most believed was sufficient (94%; n = 64), though some thought it was insufficient (4%; n = 3) or excessive (2%; n = 1). Pediatric otolaryngologists responding to this survey indicated a broad array of factors in choosing their current jobs (Figure 1). The 3 factors most frequently identified as among the most important were intellectual stimulation (62%; n = 44), academic setting (49%; n = 35), and interesting patient population (49%; n = 35). Reasonable work hours (10%; n = 7) and reasonable call responsibilities (13%; n = 9) were the factors least frequently identified as important in choosing the respondent’s current job.

Practice Characteristics

Hospitals associated with medical schools or universities were the most common employers (64%; n = 46) of pediatric otolaryngologists who responded to the survey. Accordingly, 85% of respondents (n = 60) were salaried (60% of those with a bonus; n = 36), 7% were collections based (n = 5), and 9% were paid by other means (n = 6). The average hours per week worked was 58, ranging from 30 to 90. Most reported taking emergency department call (90%; n = 60), but few were compensated for it (19%; n = 11).

Roughly 90% of respondents were engaged in direct patient care (n = 76). This accounted for an average of 70% of their time and included an average of about 60 surgical procedures per month. On average, the most commonly treated conditions were otitis media (25%), adenotonsillar disease (25%), airway and swallowing disorders (11%), and congenital anomalies (11%) (Figure 2).

Waiting times for nonemergency, new-patient appointments in a pediatric otolaryngology practice were most commonly reported as 1 to 4 weeks (59%; n = 46), though they ranged from same day (4%; n = 4) to 8 to 16 weeks (4%; n = 3). Of the 76% (n = 59) who reported experiencing competition in their geographic area, 75% (n = 44) were competing with other pediatric specialists, 44% (n = 26) with adult otolaryngologists, 3% (n = 2) with general pediatrics, and 3% (n = 2) with urgent care centers, and 2% (n = 1) with family physicians.

Key Points

Question What are the current practice patterns and projections for the US pediatric otolaryngology workforce?

Findings In this survey of 84 pediatric otolaryngologists, nearly half believed that the number of patients in their practice was increasing. Most respondents believed that the number of pediatric otolaryngologists being trained was appropriate and that employment opportunities for pediatric otolaryngologists in the United States would be plentiful in the near future.

Meaning Employment opportunities appear promising for future pediatric otolaryngologists, and we should use these findings and similar data to guide the appropriate number of trainees to meet future workforce needs.
Only 39% of pediatric otolaryngologists (n = 27) reported ever having been sued. In our cohort, this ranged from 1 to 5 lawsuits (mean, 1.6). None of our respondents reported decisions against the physician.

Trends
When asked how many more years they planned to be in practice, nearly one-third (33%; n = 28) of respondents replied that they were unsure. Among those who reported a timeframe, the average planned time to retirement from practice was about 16 years (range, 0-50 years). These pediatric otolaryngologists planned to take call until an average age of 65 years (range, 55-100 years). Only 4% (n = 3) planned to fully retire within the next 5 years, while 24% (n = 17) planned to cut back on their workload; 9% (n = 6) planned to retire from the surgical aspect of practice; 6% (n = 4) planned to move into a nonclinical role; and 3% (n = 2) planned to pursue a career outside of medicine. Those who were leaving their practice cited the most important factors as emotional stress (59%; n = 10), family needs (44%; n = 8), and physical wear (33%; n = 6).

Over one-third (36%; n = 25) of respondents reported that their practice was looking to hire a new associate. Most respondents reported that the number of children cared for in their practice had either increased (47%; n = 31) or remained stable (41%; n = 27) in the last 12 months. Twelve percent of respondents (n = 8) indicated that the number of children they treated had decreased in the last 12 months, most commonly citing fewer referrals from pediatric primary care clinicians, increased competition, or purposefully cutting back.

The majority (75%; n = 56) of pediatric otolaryngologists reported that the volume and complexity of referrals had not changed in the last 12 months. Among those who believed that the volume of referrals had changed, 60% (n = 9) believed that it had increased and 40% (n = 6) believed that it had decreased. Most (80%; n = 12) of those who felt that the complexity of referrals had changed reported that it had increased, while 20% (n = 3) believed that it had decreased. When asked about the perceived reasons for the changes, the only changes agreed upon by substantial proportions of respondents were that the number of generalists treating complex cases had decreased (53%; n = 9) and that the number of inappropriate or questionable referrals had increased (47%; n = 8). Most believed that there was no change in the number of generalists treating the less complex cases (65%; n = 11), in the amount of competition from other pediatric otolaryngologists (53%; n = 9), in the amount of referrals from adult specialists (77%; n = 13), or in the incidence or severity of diseases in their community (53%; n = 9).

Nearly half of respondents (49%; n = 35) believed that the number of pediatric otolaryngologists being trained was appropriate, while 41% (n = 29) thought it was too high, and 10% (n = 7) thought it was too low. Within their particular community, 53% of respondents (n = 35) thought that the number of practicing pediatric otolaryngologists was appropriate, while 23% (n = 15) thought it was too high, and 24% (n = 16) thought it was too low. Also within their particular community, 55% (n = 37) thought that the need for pediatric otolaryngologists was stable, while 13% (n = 9) thought it was decreasing, and 31% (n = 21) thought it was increasing.

Of those who believed that the need for pediatric otolaryngologists in their community was increasing, 76% (n = 16) cited an increased number of children; 38% (n = 8) cited a decreased number of children seen by general otolaryngologists; 14% (n = 3)
The AAP previously published surveys of pediatric otolaryngologists and general otolaryngologists who focus on pediatrics in 2002 and 2009. The 2009 study compared data between academicians and private practitioners, which ours does not. Thus, while the 2002 study defined a pediatric otolaryngologist as someone with a practice focused on pediatric patients instead of someone who completed a pediatric otolaryngology fellowship, our findings are still most comparable to the findings of that survey (which was completed in 1997), given the similar questions and similar respondent population.

Based on our findings, despite small trends toward greater diversity, the pediatric otolaryngology workforce remains largely white (84% [n = 57] vs 90% in 1997) and male (78% [n = 54] vs 86% in 1997). The number of women has increased from 14% to 22% (n = 15), which is in agreement with the 22% female membership in ASPO. As in previous surveys, the majority of pediatric otolaryngologists practice at hospitals associated with medical schools or universities in urban environments. While about 50% of their practice consists of otitis media and adenotonsillar disease, the remainder involves tertiary and quaternary care. This proportion of disease types seen by pediatric otolaryngologists has remained relatively constant since 1997.

Most pediatric otolaryngologists who responded to this survey plan to continue full-time work over the next 5 years, and

### Discussion

The AAP previously published surveys of pediatric otolaryngologists; 10% (n = 2) cited fewer general otolaryngologists; and 10% (n = 2) cited a higher incidence of otolaryngologic diseases, at least in part. Of the 9 respondents (13%) who believed that the need for pediatric otolaryngologists in their communities was decreasing, 5 cited an increase in the number of pediatric otolaryngologists; 3 cited a decrease in the number of children; 3 cited an increase in the number of general otolaryngologists; 2 cited a decreased incidence of otolaryngologic disease; and 1 cited an increased number of children seen by general otolaryngologists, at least in part.

As shown in Figure 3, most believed that employment opportunities in their community would be either limited (44%; n = 29) or extremely limited (24%; n = 16) in the next 3 years, but that nationwide they would be numerous (30%; n = 20) or decreased but still available (53%; n = 35). These respondents’ predictions for employment opportunities in their community were significantly different than their predictions for the United States as a whole (P < .001).

#### Figure 1. Reasons Why Pediatric Otolaryngologists Chose Their Current Jobs

<table>
<thead>
<tr>
<th>Reason</th>
<th>Respondents Reporting if and How a Given Reason Factored Into Their Decision, %</th>
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<tbody>
<tr>
<td>Reasonable work hours</td>
<td>![Bar Chart]</td>
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<tr>
<td>Reasonable call responsibilities</td>
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<tr>
<td>Competitive salary</td>
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<tr>
<td>Research opportunities</td>
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<td>Able to define scope of practice</td>
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<td>Work-life balance</td>
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<td>Spousal influence</td>
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<td>Leadership opportunities</td>
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<tr>
<td>Prestigious medical center</td>
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<td>Teaching opportunities</td>
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<td>Location</td>
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<td>Quality of department</td>
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<td>Interesting patient population</td>
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<td>Academic setting</td>
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<td>Intellectual stimulation</td>
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A total of 71 respondents replied to this survey question; each respondent was able to choose multiple reasons.
the majority of them believe that the number of patients in their practice is increasing. The proportion of those who believe that the need for pediatric otolaryngologists in their community is increasing (31%) or decreasing (13%) has remained relatively constant since 1997 (34% and 12%, respectively).\(^3\) That said, most believe that the number of pediatric otolaryngologists being trained is appropriate and that the need in their community is stable. Furthermore, the vast majority of respondents say that employment opportunities for pediatric otolaryngologists in the United States will be plentiful in the near future, while only a few think that they will be limited or extremely limited. This bodes well for the continued growth and evolution of the pediatric otolaryngology subspecialty as a whole.

A limitation of this study is the comparison of data with data from previous surveys that defined a pediatric otolaryngologist differently. In addition, our data were self-reported and based on the opinions and perceptions of the respondents. Furthermore, we had a suboptimal response rate of 49%, resulting in only 84 total respondents to this survey. Although our response rate is reasonably high for an electronic survey,\(^6\) the number of respondents is relatively small. In addition, these 84 respondents did not all answer every question, so the sample size was further reduced for each individual question. Those who did not respond may have different demographics, different practice characteristics, or different ideas about the trends in pediatric otolaryngology. However, there is no evidence for differential response based on comparison with other available data on pediatric otolaryngologists.

Conclusions

Despite its limitations, this study represents up-to-date information on the current status of and future projections for the pediatric otolaryngology workforce.