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Factors influencing the choice of practice location among Canadian otolaryngologists

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Main Article

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Abstract

Objectives. Little is known about what shapes the choice of employment location in a competitive surgical specialty like otolaryngology – head and neck surgery. This study aimed to identify factors important in determining practice location among Canadian otolaryngologists

Methods. An online survey was distributed nationally to active members of the Canadian Society of Otolaryngology – Head and Neck Surgery. The survey collected data on general demographics, current practice description, training location, factors deemed important in practice location decisions, and job satisfaction.

Results. A total of 122 survey responses were collected, with a similar proportion of participants in academic versus community practice. The majority of respondents (73 per cent) practised in the same province as their residency training. Participants identified job vacancy, colleague interaction, spouse opinion and hospital services as important in the decision of practice location.

Conclusion. Key determinants of practice location among Canadian otolaryngologists include job vacancies, spouse opinion, and colleague interactions. Overall, Canadian otolaryngologists report high satisfaction with current employment.

Introduction

Physicians are a limited healthcare resource. Concern regarding progressive declines in the physician-to-population ratio in otolaryngology – head and neck surgery, and other surgical specialties, has prompted a focus on workforce planning.[1–3] Physician shortage is likely to impact regions differently based on geography.[3,4] For instance, in Canada, there is difficulty in retaining otolaryngologists in rural areas, with a trend toward urbanisation.[5] Therefore, when undertaking workforce planning, insight into the distribution of clinicians is essential in improving patients' access to care. Furthermore, understanding the factors that affect practice location decisions may inform strategies for the retention and recruitment of physicians.

Studies in primary care and various other non-surgical specialties have shown that training location, spouse opinion and community ties can influence decisions regarding practice location.[6–9] For a competitive and resource-intensive specialty like otolaryngology – head and neck surgery, there is a paucity of research on why people choose where they practice. Similarly, the various factors that influence why or where people seek additional training is somewhat unclear. The diversity and breadth of an otolaryngologist's practice are not shared by many other healthcare providers, and require particular attention.

This study aimed to understand the factors that are important in the choice of practice location. Furthermore, we wished to gauge differences that may exist between different demographics, and better determine job satisfaction among otolaryngologists.

Materials and methods

Study design

A national, cross-sectional survey study was conducted using a self-administered questionnaire. Participants included consultants practising in Canada with standing membership in the Canadian Society of Otolaryngology – Head and Neck Surgery. Resident members and fellows were excluded. The study was approved by the Western University Research Ethics Board (file number: 108451). Completion of the survey was considered informed consent to participate and the responses were completely anonymous.

Survey

A survey regarding factors affecting practice location was developed based on questions used in previous similar studies in other disciplines.[6,8] Questions were changed to better reflect the characteristics of otolaryngology – head and neck surgery. The final survey consisted of 38 questions, and collected data on general demographics, current practice

description, training location, employment satisfaction and factors that might influence practice location. Participants were instructed to rate each factor on a scale of 1 (not a factor) to 5 (a very important factor). Participants were also able to enter and rate non-specified factor(s) as free text. Employment satisfaction data were collected using a 10-point Likert scale.

The survey was administered through a commercial survey service (www.Qualtrics.com). An invitation to participate was delivered electronically through the Canadian Society of Otolaryngology – Head and Neck Surgery mailing list. The hyperlink of the survey was sent, along with a letter of information, via e-mail. An additional reminder e-mail was sent two weeks later to maximise the number of responses.

Outcomes

The survey included both quantitative and qualitative questions. The primary outcome was factors deemed important in determining practice location. Secondary outcomes included a summary of demographics, and job satisfaction.

Statistical analysis

Descriptive statistics were calculated using Microsoft Excel® (2010) spreadsheet software where appropriate. The frequency with which factors were rated as important (4 or 5 on a 5-point Likert scale) in determining practice location and advanced training was summarised as a percentage with a 95 per cent confidence interval. Subgroup analysis was performed for each surveyed factor and for participants who pursued advanced training. This was done by comparing groups based on: length of practice (less than 10 years *vs* 10 years or more), practice type (academic *vs* community) and gender (male *vs* female). In the event that individual data were incomplete for the length of practice, practice type or gender, the participant was omitted from that specific subgroup analysis. Comparisons between the categorical variables were made using Pearson's chi-square test. When sample size was less than five, Fisher's exact test was used. Statistical significance was defined as a probability value of less than 0.05. Lastly, overall job satisfaction was calculated as a percentage of standard deviation. Open-ended, text-based descriptions of factors contributing to high or low job satisfaction were summarised into themes.

Results

A total of 122 survey responses were obtained. With 518 active consultant members on the Canadian Society of Otolaryngology – Head and Neck Surgery mailing list at the time of the survey distribution, this represents a response rate of 24 per cent. The average age of respondents was 46 years, with a standard deviation of 11 years. Of the respondents, 66 per cent were male and 23 per cent were female; 13 participants (10 per cent) did not identify their gender. There was a roughly equal representation from physicians identifying as working in a primarily academic (48 per cent) versus community practice (52 per cent) (Table 1).

Regarding the correlation between practice location and place of training nationally, 69 per cent of otolaryngologists are currently practising in the same province as their medical school. By comparison, 73 per cent of the Canadian otolaryngologists are practising in the same province as their residency training.

Job vacancy, colleague interaction, spouse opinion and hospital services were identified as important factors that influence practice locations by over 50 per cent of respondents (Table 2). Subgroup analysis found that place of training ($p = 0.002$), professional development ($p = 0.0016$), colleague interaction ($p < 0.001$) and prestige ($p < 0.001$) were more likely to be considered important factors in determining job location among academic compared to community otolaryngologists. Moreover, male otolaryngologists cited prestige ($p = 0.04$) as an important factor in job location more often than female otolaryngologists (Table 3).

With regard to the pursuit of fellowship and other advanced training, 109 completed responses were collected, which indicated that 72 participants (66 per cent) had completed additional training. In addition to fellowships, 21 participants had completed a master's degree and 2 had obtained a Doctor of Philosophy degree. A higher proportion of the Canadian otolaryngologists who had pursued advanced

Table 1. Demographics of survey participants*

Demographics	Values
Age (years)	
– 30–39	35 (29)
– 40–49	30 (25)
– 50–59	29 (24)
– 60–70	11 (9)
– Not identified	17 (14)
– Average age (mean ± SD)	46 ± 11
Gender	
– Male	81 (66)
– Female	28 (23)
– Not identified	13 (10)
Practice type	
– Academic	58 (48)
– Community	63 (52)
– Not identified	1 (<1)

Data represent numbers and percentages, unless indicated otherwise. *Total $n = 122$. SD = standard deviation

Table 2. Percentages for factors rated as important in determining job location*

Factors	% Respondents who rated factors important	95% CI
Job vacancy	78	71–85
Colleague interaction	72	64–80
Spouse opinion	66	57–75
Hospital services	63	54–72
Professional development	44	35–53
Recreation	40	31–49
Spouse employment	39	30–48
Earning potential	38	29–47
After-hour coverage	34	25–43
Place of training	31	23–39
Prestige	16	9–23

*Factors rated as 4 or greater on a 5-point Likert scale. CI = confidence interval

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Table 3. Subgroup analysis of percentages for factors rated as important in determining job location*

	Length of practice			Practice type			Gender		
Factors	<10 years in practice	≥10 years in practice	*P*-value	Academic	Community	*P*-value	Male	Female	*P*-value
Spouse employment	44	34	0.29	31	46	0.091	36	54	0.099
Spouse opinion	65	67	0.84	62	71	0.27	73	54	0.06
Place of training	36	27	0.26	45	19	0.0023†	30	36	0.55
Vacancies	76	79	0.72	78	78	0.98	78	82	0.63
Hospital services	58	67	0.31	67	59	0.33	61	71	0.30
Colleague interactions	75	70	0.60	86	59	0.00078†	68	79	0.29
After-hour coverage	29	39	0.26	33	37	0.66	33	39	0.57
Professional development	42	46	0.62	59	30	0.0016†	41	54	0.24
Earning potential	44	33	0.22	34	41	0.44	40	36	0.72
Prestige	15	18	0.62	31	3	0.000037†	21	4	0.038†
Recreation	35	45	0.25	45	37	0.35	38	46	0.44

Data represent percentages of respondents who rated the factors important, unless indicated otherwise. *Factors rated as 4 or greater on a 5-point Likert scale. †Statistically significant ($p < 0.05$)

training were in their first 10 years of practice or were in an academic setting ($p < 0.05$) (Table 4).

For the Canadian otolaryngologists, the average Likert scale rating for job satisfaction (out of 10) was 8.1 (standard deviation of 1.81). The majority of respondents (86 per cent) marked 7 or higher (out of 10) on a visual analogue scale. The top five self-reported reasons for high job satisfaction were: the scope of practice, colleagues, location, work–life balance and resource availability. In contrast, low resources, high workload, hospital or government politics, location, and limited operating theatre time were reasons reported for poor job satisfaction (Table 5).

Table 4. Subgroup analysis of participants who pursued additional training*

Parameter	Respondents who pursued advanced training (*n* (%))	*P*-value
Length of practice		
– <10 years in practice	40/50 (80)	0.004649†
– ≥10 years in practice	32/59 (54)	
Practice type		
– Academic	48/54 (89)	<0.00001†
– Community	24/54 (44)	
Gender		
– Male	54/80 (68)	0.424
– Female	17/28 (61)	

*Total responses, $n = 122$; 72 participants pursued fellowship, 37 did not pursue fellowship, and additional training was unidentified in 13. †Statistically significant ($p < 0.05$)

Discussion

Decisions regarding practice location are multifactorial. While various determinants have been studied in other fields,[6,7] this is the first study to examine the factors influencing the choice of practice location among Canadian otolaryngologists.

Of the otolaryngologists polled, the top factors reported as important in determining job location were: job vacancy, colleague interaction, spouse opinion and hospital services. Some differences exist between groups of: different practice length (less than 10 years *vs* 10 years or more), practice type (academic *vs* community) and gender. For those in academic practices, the place of training, professional development, colleague interaction and prestige were more likely to be considered important factors in determining job location. Moreover, prestige was more often considered as an important factor among male than female otolaryngologists. There was no statistically significant difference between groups for the other factors.

Our study drew similar results as previous research. A survey of graduates from one US medical college found the influence of spouse opinion, opportunity for group partnership and medical training received nearby to be important in practice locations.[10] Factors affecting the choice of rural versus urban has also received attention in other specialties, where the most frequently reported influence was consideration of partner, family and friends.[11,12]

From our results, job vacancy was shown to be an important self-reported factor in practice location. This is not surprising considering that the Canadian Royal College of Physicians and Surgeons 2013 employment survey showed that 29.4 per cent of otolaryngology graduates could not find permanent jobs.[13] A subsequent survey of graduating otolaryngology residents, conducted in 2014, demonstrated a high degree of concern regarding employment, with only 22 per cent of respondents having confirmed employment upon graduation, half of which were contingent on fellowship completion.[14] Interestingly, this is in contrast to the climate in the USA, where the number of otolaryngologists required to serve the healthcare needs is projected to be insufficient.[2] The Canadian healthcare system differs, however, in that inadequate government infrastructure funding can drive a perceived oversupply, if unemployment is considered in isolation. Research is warranted into appropriate otolaryngologist-to-population ratios that meet the needs of patients in various geographical and resource settings. This would serve to better inform healthcare policy, and education strategies, that address otolaryngology underemployment in a way that meets societal needs.

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Table 5. Job satisfaction ratings and determinants*

Factors	% Respondents who rated factors important	95% CI
Important for high job satisfaction		
– Scope of practice	35	26–44
– Colleagues	33	25–41
– Location	31	23–39
– Work–life balance	13	7–19
– Resource availability	9	4–14
Important for poor job satisfaction		
– Low resources	15	9–21
– High workload	9	4–14
– Hospital or government politics	7	2–12
– Location	6	2–10
– Limited operation time	5	1–9

*Average Likert score (10-point scale) for job satisfaction was 8.1 (standard deviation = 1.81).
CI = confidence interval

The importance of medical school and residency location on employment location is also highlighted in our study. This is consistent with previous literature on other specialties and with findings from the USA.[12,15] For example, a survey of US emergency medicine residents found that 55 per cent of graduates stayed and practised in the same state.[6] A similar study of graduates in radiation oncology showed a state retention rate of 36.6 per cent.[7] Within Canada, a study of Manitoba medical graduates from various disciplines found that 53 per cent chose Manitoba to be their first practice location.[9] Data from our survey showed that 69 per cent and 73 per cent of graduates ended up in the same province as their medical school and residency training location respectively. The consistent nature of retention rates across the country is of particular interest when evaluating service in geographically isolated communities. Additional investigation into the role of otolaryngology training within distributed medical education sites may be warranted, to serve population needs.

Overall, the Canadian otolaryngologists were satisfied with their career. Eighty-six per cent of respondents reported 7 or more on a 10-point Likert scale. This finding is in keeping with rates reported in a survey of Canadian rhinologists.[16] High career satisfaction may lead to better healthcare services, higher patient satisfaction and fewer medical errors.[17] In contrast, a high rate of dissatisfaction leads to reduced work hours or to clinicians leaving the profession.[18]

Otolaryngologists appear to have similar career satisfaction when compared to other surgeons. Deshpande and Deshpande surveyed 762 surgeons from various specialties.[17] They reported that the ability to provide quality care, time with patients, income and financial incentives had a positive impact on career satisfaction. The authors found that most participants were somewhat satisfied (40.6 per cent) or very satisfied (40.8 per cent) with their career, as reported on a five-point Likert scale.

This study is the first to investigate factors affecting employment outcomes within otolaryngology – head and neck surgery; however, it is not without limitations. The study conclusion is based on a sample of 122 otolaryngologists; the relatively low response rate prohibits a more robust statistical analysis.[19] Steps taken to improve the response rate included the use of an easy-to-navigate survey program, and a follow-up e-mail that prompted additional replies. Nevertheless, our response rate of 20–30 per cent is in keeping with other national surveys within the profession and with investigations of surgical consultants.[20,21] Given the lower response rate, our results should be interpreted with caution, with the possibility of reporter bias and non-participant bias. The survey is also subject to recall bias, relying on the participants to reflect on their career choices. Targeting of practising otolaryngologists was intentional, however, as we sought to identify the evolving workforce landscape in the profession over time.

- Concern regarding progressive declines in physician-to-population ratio in ENT and other surgical specialties has prompted a focus on workforce planning
- Studies in primary care and other non-surgical specialties have shown that training location, spouse opinion and community ties influence the decision of practice location
- For a competitive and resource-intensive specialty like ENT, there is a paucity of data on why people choose where they practise
- This study aimed to determine the factors important in choosing practice locations
- Furthermore, it aimed to examine potential differences between different demographic groups, and better determine job satisfaction among otolaryngologists

Our study adopted a non-validated survey and only inquired about current practice locations. The survey was adapted from previously published studies, as there is no standardised survey specific to studying employment outcomes in medicine. While we documented the participants' current employment location, their first practice location is unknown. It is conceivable that the factors affecting first practice location may be different, and alter as otolaryngologists proceed through their career. We also recognised the multifactorial aspect of employment outcomes, and acknowledge that individual factors may not have been listed in our survey, although analysis of free-text responses did not uncover any new findings.

Despite these limitations, this is the most comprehensive attempt at defining factors affecting practice location among Canadian otolaryngologists. It provides valuable data for future health system planning.

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Competing interests. None declared

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