

**Trying to Stand Out:
Analysis of "Extracurricular" Activities Of
Otolaryngology Residency Applicants**

BY

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THESIS

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This thesis is dedicated to my husband, Philip Wong,
and our two daughters, Emma QL Wong and Sophie ML Wong.

I love all the parts of you,
from your grey hair, to your adorable thumbs, and even to your cross-eyed joke neuron.

I love all the parts of us,
from our bear hugs, to our late-night talks, and especially our unwritten chapters.

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LIST OF ABBREVIATIONS

OTL-HNS	Otolaryngology – Head and Neck Surgery
USMLE	United States Medical Licensing Examination
CaRMS	Canadian Resident Matching System
IRB	Institutional Review Board
CV	Curriculum Vitae
20-29yo	20 – 29 years old
+30yo	Over 30 years old

SUMMARY

Medical students strategically engage in extracurricular activities outside the formal curriculum to distinguish themselves from peers and improve their candidacy for a residency program. This study explores longitudinal characteristics and prevalence of these activities reported by applicants to competitive Canadian OTL-HNS residency across time.

A retrospective, descriptive study was designed to review specific sections of the curriculum vitae of applicants to OTL-HNS programs in Canada. These sections were self-reported, and included research productivity, involvement in volunteer and leadership activities, membership in associations, and honours / awards granted. Analysis of the results relied on descriptive statistics.

Between 2013 to 2017, a total of 267 applicants reported a median of 12.6 research publications, 9.6 volunteer activities, 6 leadership activities, 6 association memberships and 9.8 honours / awards. At least one applicant every year reported having over 46 publications, and over 32 honours/ awards. Applicants were younger over time, with proportions of applicants over 30 years old decreasing from 56% in 2013 to 9% in 2017.

Medical students applying to Canadian OTL-HNS residency programs are reporting consistently high rates of extracurricular activities. As students pursue becoming the “ideal” candidate with unobtainable and unsustainable qualifications, residency selection committees have difficulty in differentiating between quality applicants. We urge key stakeholders to challenge and rethink the current application process, to broaden the selection criteria, and to adapt a more holistic assessment of medical students aligned with residency goals and expectations toward competency.

I. INTRODUCTION

A. Background

Otolaryngology – Head and Neck Surgery (OTL-HNS) has historically received high number of applicants to its limited number of residency positions, making it consistently one of the top five most competitive specialties in Canada.¹ In the United States, escalating numbers of applications to OTL-HNS resulted in the greatest number of unmatched medical students applying to a single specialty at 21% in 2013.² In addition, requirements to secure this coveted career had become increasingly difficult. In 2014, successfully matched OTL-HNS applicants scored an average of 248 on the United States Medical Licensing Examination (USMLE) Step 1, higher than all other specialties.³ Faced with such statistics, it is perhaps not surprising that 80% of graduating medical students surveyed at one university felt it was “impossible” or “near impossible” to match into OTL-HNS.⁴

B. Statement of the Problem

In order for selection committees to select from a wealth of applicants, they have the daunting task of differentiating one quality applicant from another, typically within the bounds of a standardized, centralized application service, such as the Electronic Residency Application Service®⁵ or the Canadian Resident Matching System (CaRMS).⁶ However, traditional markers of cognitive abilities are increasingly moving away from numerical grades. Canadian medical schools now use a pass/fail system with narrative comments from supervising physicians^{7, 8} and the USMLE program recently announced a change in Step 1 score reporting also to pass/fail. These changes in formal licensure assessments, while addressing key concerns such as student

wellness,⁹ potentially makes the job of selection committees in discerning between candidates even more challenging.

The process of applying and matching to residency programs is often complex and opaque. Explicit descriptions of desired characteristics of an ideal candidate are lacking, leaving potential applicants relying on informal information from peers and colleagues, and inferring the desires and values of given programs or specialties.¹⁰ Students are responding to the increasing competitiveness by taking steps they believe will bolster their chances of securing a residency position. 4, 11, 12

C. Purpose of the Study

This leads to the question: what types of activities are medical students strategically pursuing outside of the formal medical school curriculum in order to distinguish themselves from their colleagues and improve their candidacy for a residency program? Therefore, we sought to explore the nature and amount of extracurricular activities reported in curriculum vitae of applicants to a competitive Canadian residency across time.

II. METHODS

Ethical approval was granted by the Institutional Review Board (IRB) of McGill University (Montreal, Canada), and was exempted by the IRB of University of Illinois in Chicago (Chicago, USA) for non-human research. The CaRMS Research and Data Committee provided written consent to quote their online statistics, and all data derived from applicant curriculum vitae was then released by CaRMS for the sole purpose of this research project.

A. Data Sources

Medical students apply to Canadian residency programs through the CaRMS website via a standardized and centralized electronic application form. Similar to a curriculum vitae (CV), the form records information regarding applicant's education, academic, clinical, and extracurricular activities. Portions of the application is confirmed by third parties, such as the written documentations of university transcripts, dean's letters, and letters of reference. However, a portion of the application is self-reported, including research experience, involvement in leadership positions and other extracurricular activities. Following a formal interview process, applicants submit a ranked list of programs of choice, while residency programs independently submit their list of applicants of choice, and a centralized match is then made between applicants and programs.

Currently, there are 17 medical schools and 13 OTL-HNS residency programs across Canada. Similar to Sater et al.,¹³ we chose to study applicants to OTL- HNS programs as it is consistently a top-five most competitive specialty in Canada.¹ Highly competitive specialties are defined as specialties with low percentages of first-choice applicants gaining entry into their

discipline of choice. Each year, CaRMS publishes application and match statistics on their public website.

B. Study Design

A retrospective, descriptive study was designed to review specific sections of the curriculum vitae of applicants to OTL-HNS programs in Canada between 2008 to 2017. These sections were self-reported by applicants and reflect extracurricular activities not explicitly assessed in the medical school curriculum and is left up to the discretion of the candidate (i.e., it is not verified by a third party). CaRMS provides the following categorizations and explanations in their application system: 1) Publication / Presentation (paid or unpaid involvement in research projects, such as abstracts, posters and podium presentations, where the student is cited as an author or contributor. Students are encouraged to upload documentation or provide links attesting to authorship / contribution), 2) Scholarly Activities and Research Experiences (paid or unpaid experiences including clinical discussions, research experiences, rounds, journal club, and conferences that has not resulted in a publication or presentation), 3) Volunteer Activities (relevant unpaid work where the student has not received school credit), 4) Leadership Positions held, 5) Membership in Associations / Committees, 6) Honours and Awards (academic achievements where student are encouraged to provide the title, date and brief description of the honour / award), and 7) Clinical Elective Rotations (either completed or planned during undergraduate medical training).

Sections of the curriculum vitae that were provided by third parties were not included in the study, such as 1) the Medical Student Performance Record (includes clinical evaluations obtained during clerkship), 2) letters of references and 3) Dean's letters. We chose to exclude

personal letters due to the potential difficulty in coding the information in a standardized fashion. CaRMS also released the additional demographic data of age, gender, number of languages spoken, and number of academic degree(s) obtained prior to medical school.

To document the competitiveness of OTL-HNS as a discipline during the range of time included in our study, the following data were obtained: 1) number of applicants to OTL-HNS per year, 2) number of applicants who ranked OTL-HNS as their first choice, 3) number of applicants matched to OTL-HNS, 4) number of applicants who ranked OTL-HNS as their first choice but matched to another specialty or were unmatched, and 5) number of OTL-HNS programs applied to per applicant.

Analysis of the results was performed, relying on descriptive statistics such as mean, median, mode, range and standard deviation as appropriate. Median, rather than mean, was reported when we sought to minimize the effects of potential outliers (i.e. in cases of skewed data or large data ranges).

C. Data security

CaRMS assumed responsibility to preserve the anonymity and confidentiality of each of its applicants, and to provide data security for all information contained within the CaRMS match. Thus, for the purposes of this study, CaRMS disclosed only quantitative data for each of the parameters requested. For example, the total number of research publications were reported, but titles of projects and authorship order were not released in order to maintain candidate confidentiality. Hence, duplication, quality, and veracity of items could not be confirmed.

Given the relatively small pool of applicants per year to OTL-HNS programs, data were provided as summary tables for a given application year. In cases where sample size was deemed

too small, CaRMS withheld the information (i.e. of the unmatched subgroup of applicants). Age was grouped by CaRMS into two groups; those between the ages of 20-29 years old (20-29yo), and those over 30 years old (+30yo) in order to preserve anonymity. There were no applicants younger than 20 years old. At no points were authors made aware of any names or demographic characteristics of individual applicants. We requested the abovementioned data across a 10-year span to increase the generalisability of our findings and examine potential trends over time.

III. RESULTS

In 2013, CaRMS changed its data collection format, and thus was able to provide complete data (i.e. applicant demographics and CV parameters) for the five-year period from 2013-2017. Between 2008-2012, only data regarding competitiveness of OTL-HNS as a specialty was provided.

A. Demographics of Applicants

There was a total of 44 to 61 individual applicants per year to OTL-HNS residency programs across Canada from 2013-2017, with a total of 112 females and 155 males. Female representation remained relatively consistent over the five-year period, ranging from 36% to 46%. Applicants spoke an average of 2.1 languages and held an average of 1.7 undergraduate and 1.6 graduate degrees at the time of application (Table 1).

There was a steady decrease in proportions of applicants over the age of 30 (Figure 1) across time. In 2013, 56% of all OTL-HNS applicants belonged to the +30 year old group, with subsequent years showing results of 30%, 28% and 11% respectively. By 2017, this age group represented only 9% of applicants to Canadian OTL-HNS programs.

B. Competitiveness of Specialty

Between 2008-2017, a total of 516 medical students applied to the 295 available OTL-HNS residency positions within the 13 programs across Canada (Table 2). This represents an average of 53 applicants per year (range 44-61) and an average of 30 matched residency positions per year

(range 28-31). Only 287 (56%) of applicants matched to this specialty (range 48-64%). Portions of this section of data has been previously published by our group (Kay 2017) in an earlier study examining the competitiveness (percentage of medical students gaining entry into their discipline of choice) of a variety of specialties in Canada.

Amongst all applicants to OTL-HNS, 79% (n=401) ranked OTL-HNS as their first-choice specialty. Of those who ranked OTL-HNS first, overall 23.3% of applicants (range 20-38%) were either left unmatched or matched to a program other than OTL-HNS (Table 2). Finally, each year, Canadian medical school graduates applied to an average of 7.5 residency programs with a standard deviation of 6.2.

C. Extracurricular Activities

Between 2013 and 2017, applicants self-reported a range of medians from 10 to 16 items under the “Publications” section (mean of medians 12.6), with at least one student per year reporting a minimum of 46 publications (maximum 156 across the study time period). All students reported a minimum of two publications (Figure 2a). Regarding research experience, applicants reported a range of median of 10 to 12 research projects (mean of median 10.4). All students were involved in at least two scholarly activity, with at least one applicant per year reporting a minimum of 28 projects (maximum 74) (Figure 2b).

Participation in volunteer and leadership activities was also high, with self-reported a mean of medians of 9.6 (range 8-12) and 6.0 (range 6-6) respectively. Each year, applicants were involved in a minimum of two volunteer and two leadership activities, with the maximum reported involvement ranging from 22 to 56, and 18 to 24, respectively (Figures 2c and 2d).

OTL-HNS applicants were members in at least two associations, up to a maximum of 12-34 per year, with a reported mean of medians of 6.0 associations (range 4-8). The mean of median for number of honours / awards held was 9.8 (range 8-12), with a minimum of two and a maximum of 32-44 (Figures 2e and 2f).

Applicants spent at least four weeks in OTL-HNS electives, with certain applicants dedicating 42-56 weeks to electives, for a mean of medians of 15.8 weeks (range 12-18; Figure 2g).

III. DISCUSSION

A. Significance of the Study

In order to better understand the data formally available to residency selection committees to differentiate amongst excellent candidates, we examined the extracurricular activities reported on the curriculum vitae by applicants to OTL-HNS residency programs. Between 2013 to 2017, a total of 267 applicants reported a median of 12.6 publications, 10.4 research activities, 9.6 volunteer activities, 6 leadership activities, 6 association memberships and 9.8 honours / awards. Applicants spent a median of 15.8 weeks in elective rotations, applied to an average of 7.8 residency programs, and 23.3% of applicants who ranked OTL-HNS as their first choice went unmatched or match to another specialty. Applicants also appear to be younger overall, with a decrease in proportions of applicants over 30 years old, from 56% in 2013 to 9% in 2017.

B. Related Literature

In addition to the formal academic requirements of medical school, applicants are investing significant amounts of time and effort into participating in these extracurricular activities. Our findings align with the higher end of the spectrum when compared to previous studies from various surgical fields.¹⁴⁻¹⁸ We chose to report our findings using medians (the point at which half of the data lay above or below) rather than means (as used in other studies¹⁴⁻¹⁸), as averages are quite susceptible to outliers. Our findings also include all applicants (not just successfully matched ones) which differs from previous work.¹⁴⁻¹⁸ Abraham et al reviewed the CV parameters of matched applicants among five competitive surgical residency programs in the US between 2007–2016.¹⁷ They found mean work and volunteer experiences to be stable over time, ranging from 2.3 to 3.3 and 5 to 7.8 respectively, but that research productivity increased over time, from 2.2-6 in 2007,

up to 4.7-13.4 in 2016, consistent with findings from other studies of increasing scholarly output of students.^{15, 16} In contrast, quantity of extracurricular activities across various domains in our study, although high, was stable over time. Given the decrease in older applicants across time, this suggests that Canadian OTL-HNS applicants are meeting such these high milestones at an increasingly younger age. Further, given that we used a more conservative estimate of central tendency and included all applicants to OTL-HNS in Canada, it is clear that students are reporting participating in an extraordinary number of extracurricular activities.

These extracurricular activities are gaining relative importance in the residency matching process. Particularly for differentiation amongst exceptional candidates, selection committees make decisions based on increasingly less information as formal medical student assessments transitions from norm-reference (i.e. grades) to criterion-referenced (i.e. pass/fail) assessments. However, an over-reliance on research productivity to assess and select applicants to a residency program may result in a series of important misalignments. First, student perceptions of factors most associated with successful matching, and program directors' prioritization of these factors, are often mismatched. Applicants place more importance on research involvement and extracurricular activities, while program directors consider the interview and personal knowledge of the applicant,¹⁹ as well as an applicant's performance in patient care,⁴ to be the most important criteria in choosing a residency candidate. Second, participation in research as a medical student is at most, only predictive of research productivity as a resident,¹⁶ and most other extracurricular activities do not correlate with success in residency.^{20, 21} Finally, merely a third of OTL-HNS residents express interest in pursuing an academic career path.²² A selection strategy focused on recruiting the minority of its members seems inefficient, short-sighted, and highlights "*the inherent conflict between departmental goals and residency program goals, the latter of which should be*

creating thoughtful, competent surgeon-physicians regardless of practice setting” as eloquently articulated in a commentary by Bhallia et al.²³

C. Implications of Research

The increased sense of pressure experienced by medical students to assemble such lengthy and impressive applications, filled with extracurricular activities, may give rise to several unintended consequences. Burnout experienced by medical students has been widely documented.^{24, 25} In our study, at least one applicant every year reported having over 46 publications. Although motivation for medical students to do research is multifactorial, the main driver appears to be largely curriculum vitae improvement.^{11, 12} Unprofessional behaviour arising during the application process may present itself in various forms. Our group demonstrated in a nationwide study that 23% applicants to OTL-HNS residency programs misrepresented their research publications by falsely claiming authorship of an existing article, claiming authorship of a non-existing article, or improper ordering of authorship.¹³ Lastly is the diminishing diversity in applicant pool, as suggested by the rapidly declining number of +30 year old applicants to OTL-HNS residency programs found in our study.

The declining age of applicants may have several explanations, and without further research these remain speculative at best. A potential explanation is that older candidates are self-selecting themselves out, not wanting to invest the time and energy required to “play the game” necessary to successfully match. Hauser et al, in their study of 1479 unique applications to OTL-HNS, reported that applicants older than one standard deviation from the mean were disadvantaged, and suggested counseling them to excel in multiple other parameters if they hoped to be effective contenders.² As a result, the field of OTL-HNS may be missing out on a section of

the population who represent family units, who have embarked on non-traditional career paths, who acquired prior work experience, and who can offer unique perspectives. As we strive for increased diversity in our workforce, we should be mindful to not lose this “*different type of diversity—that of thought*”.²³

As programs strive to find ways to differentiate amongst the wealth of high caliber candidates, candidates are equally striving to differentiate themselves from their peers. This quest for differentiation is likely to result in an unattainable and unsustainable ideal, where even qualified and motivated candidates shy away from applying to competitive programs. The recent history of an hyperinflated OTL-HNS application process in the United States serves as a cautionary tale. In 2015, medical students submitted to an all-time high of 64 applications per applicant.²⁶ Repercussions of this hyperinflated application process led to a precipitous fall in the number of applicants and culminated in unfilled residency positions in 2017 and 2018, an unprecedented event. Addressing the myriad root causes that led to this outcome would require a multifaceted approach, with key stakeholders striving to re-align the residency application system with consideration for values, behaviors and consequences.

D. Limitations

Our study has several limitations worth noting. First, data inputted to the CaRMS service relied on self-reporting by applicants which, when given the opportunity to list all relevant experiences, can lead to an overestimation of extracurricular activities. Then, in balancing the protection of participants, all extracurricular activities were provided as aggregated quantitative data, thereby limiting the inferences that can be drawn. In addition, the small sample size of applicants to Canadian OTL-HNS residency programs prohibited any potential subgroup analysis,

such as comparing matched or to unmatched candidates, or applicants who ranked OTL-HNS as their first choice to those who did not. Finally, the study is unable to capture the influence of language, program, or institutional culture on outcomes, which is of particular importance since Canada is a country with two official languages.

E. Conclusion

Medical students applying to Canadian OTL-HNS residency programs are reporting high rates of research publications, leadership and volunteer positions, honours / awards, and other extracurricular activities. As students pursue becoming the “ideal” candidate with unobtainable and unsustainable qualifications, residency selection committees struggle in differentiating between quality applicants. We urge key stakeholders to challenge and rethink the current application process, to broaden the selection criteria, and to adapt a more holistic assessment of medical students. By considering student health and wellness, these measures may provide the much-needed respite to applicants and programs alike.

Table 1. Demographics of Applicants to OTL-HNS Residency Programs

Match Year	Total applicants* n	Female n (%)	Over 30 years old n (%)	Languages spoken mean (range)	Undergraduate degrees mean (range)	Graduate degrees mean (range)
2013	55	23 (42%)	31 (56%)	2.0 (1-4)	1.6 (1-6)	1.4 (1-3)
2014	44	16 (36%)	13 (30%)	2.1 (1-4)	1.7 (1-4)	1.8 (1-3)
2015	61	25 (41%)	17 (28%)	2.0 (1-4)	1.6 (1-6)	1.5 (1-4)
2016	54	25 (46%)	6 (11%)	2.1 (1-5)	1.7 (1-6)	1.8 (1-6)
2017	53	23 (43%)	5 (9%)	2.1 (1-5)	1.9 (1-4)	1.6 (1-2)

*Note to the thesis committee: Data obtained from CaRMS showed inconsistent results for “total applicants”. When adding up the total of female and male applicants per year, this number was higher than that of total applicants provided, up to a difference of three applicants per year. This inconsistency is in the process of clarification with CaRMS.

Figure 1: Number of applicants to OTL-HNS over 30 years old

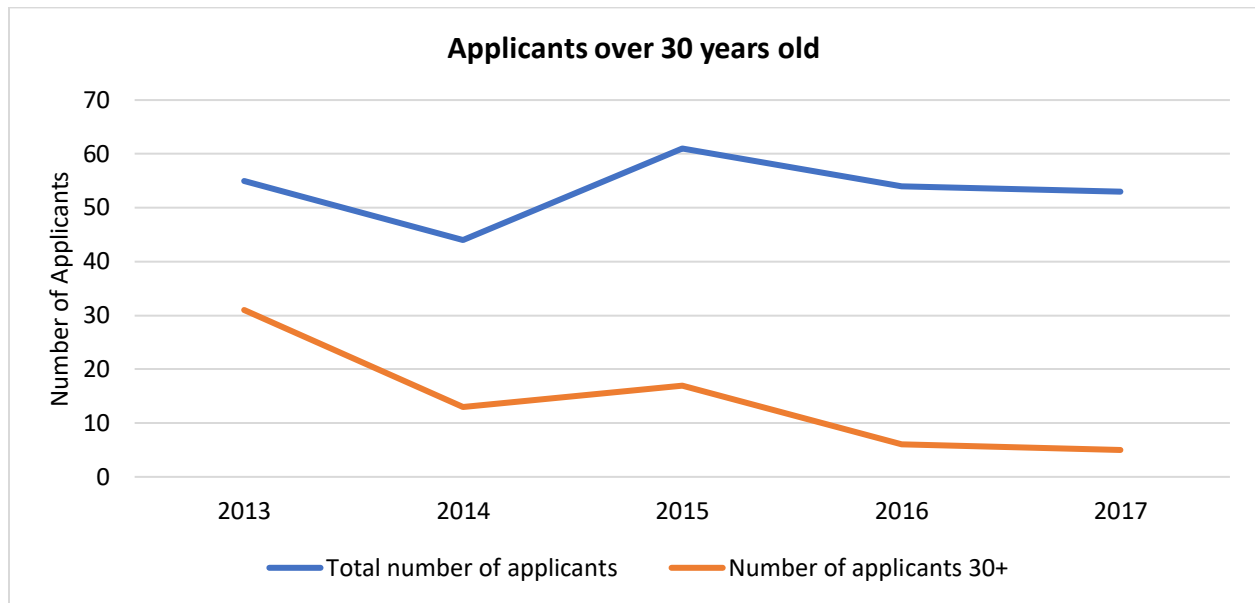


Table 2. Competitiveness of OTL-HNS Residency Program in Canada

Match Year	Quota n	Total applicants n	Applicants matched to OTL-HNS n (%)	Applicants who ranked OTL-HNS as 1st choice n (%)	Applicants who ranked OTL- HNS as 1st choice, but matched to non-OTL or were unmatched n (%)	Programs Applied mean (±SD)
2008	30	48	29 (60%)	35 (73%)	7 (20%)	7.0 (±4.8)
2009	28	49	28 (57%)	41 (84%)	14 (34%)	6.6 (±6.2)
2010	30	45	29 (64%)	37 (82%)	9 (24%)	6.0 (±3.1)
2011	29	56	29 (52%)	43 (77%)	14 (33%)	6.6 (±6.5)
2012	31	51	31 (61%)	41 (80%)	11 (27%)	6.0 (±5.8)
2013	30	55	29 (53%)	41 (74%)	14 (34%)	10.3 (±19.0)
2014	30	44	28 (64%)	35 (80%)	8 (23%)	6.6 (±3.4)
2015	30	61	29 (48%)	47 (77%)	18 (38%)	7.2 (±13.7)
2016	29	54	29 (54%)	42 (78%)	13 (31%)	11.0 (±19.7)
2017	28	53	26 (49%)	39 (74%)	12 (31%)	7.9 (±9.6)
Average	29.5	51.6	28.7 (56%)	40.1 (79%)	12.0 (30%)	7.5 (±6.2)

*Note to the thesis committee: Data obtained from CaRMS showed inconsistent results for “total applicants” for years 2013-2017. Thus, total number of applicants for the 10-year period ranges from 507 to 516 applicants. This inconsistency is in the process of clarification with CaRMS.

Figure 2a: Number of publications / presentations reported by applicants to OTL-HNS residency programs

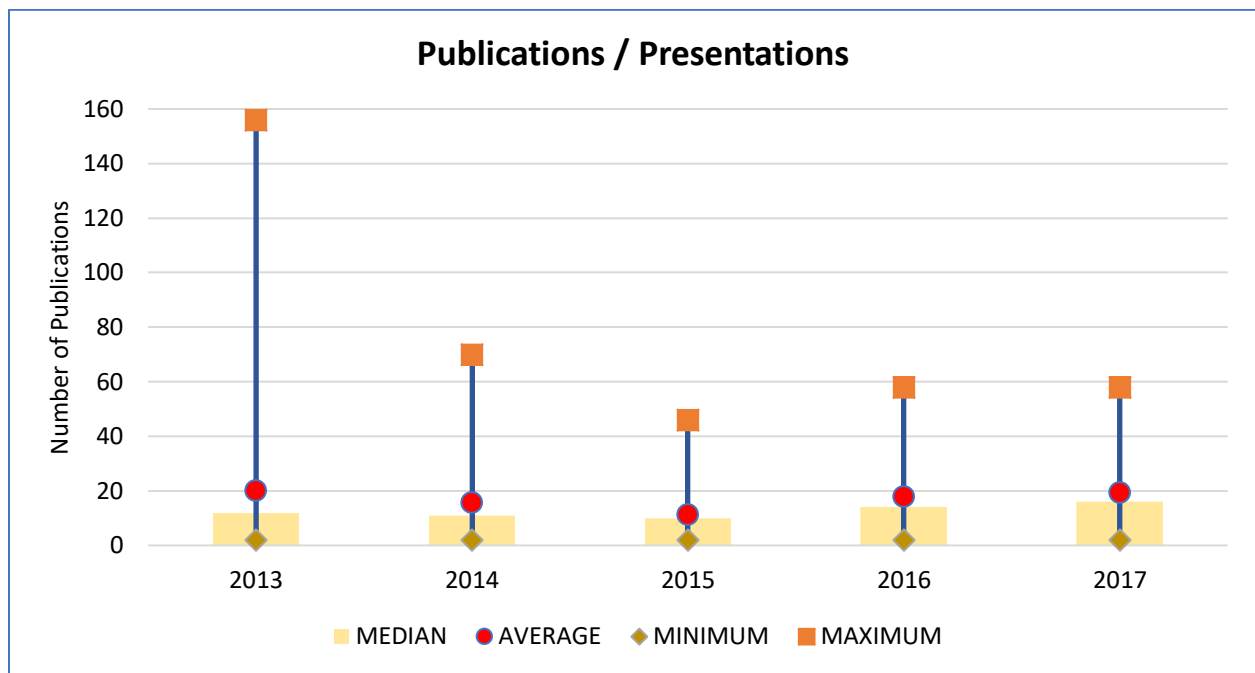


Figure 2b: Number of scholarly activities and research experiences reported by applicants to OTL-HNS residency programs

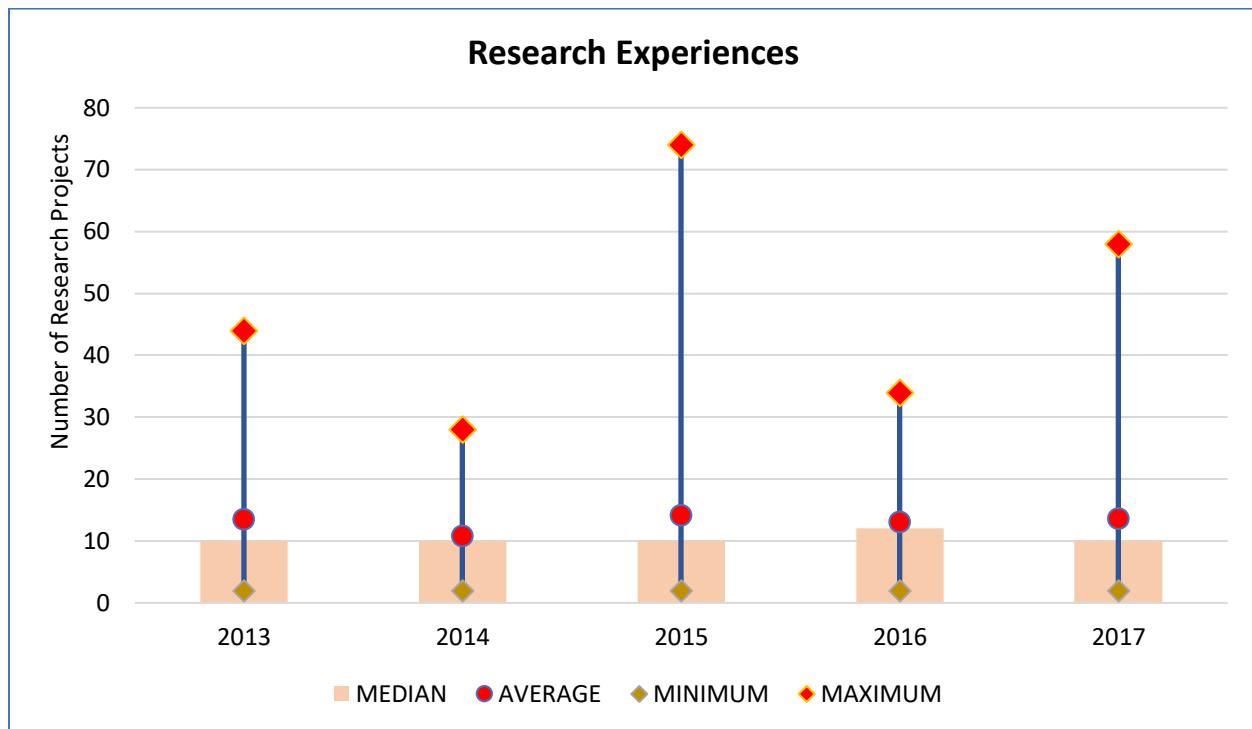


Figure 2c: Number of volunteer activities reported by applicants to OTL-HNS residency programs

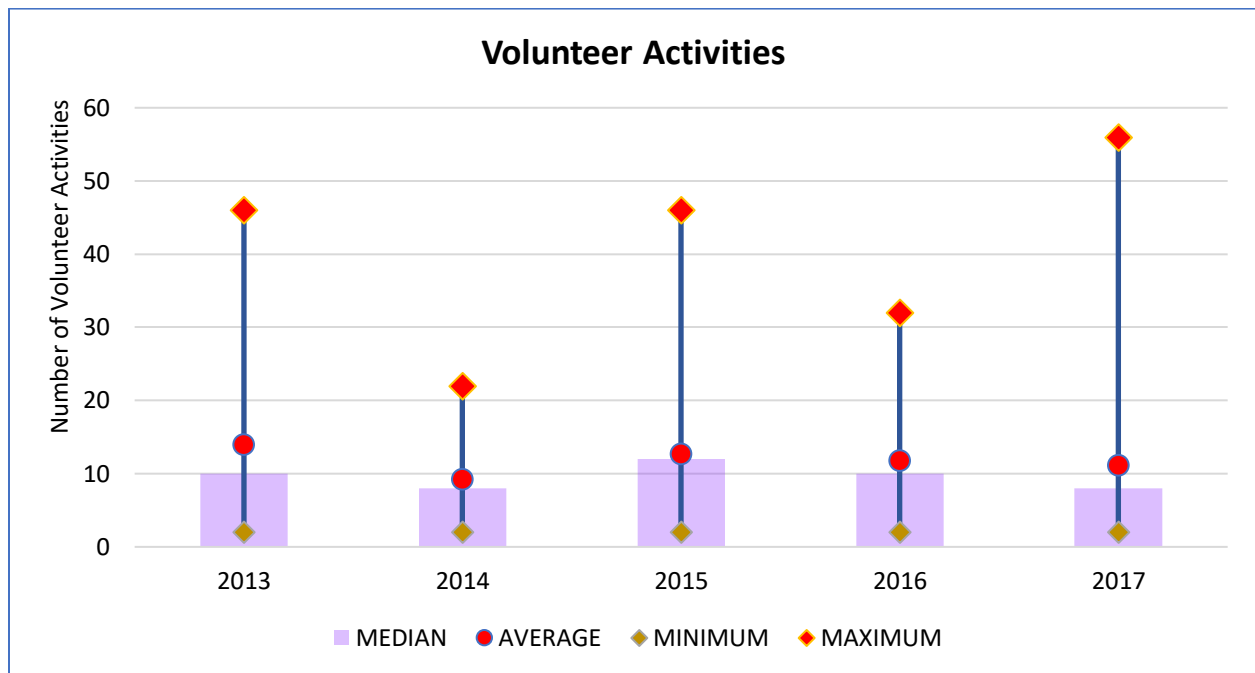


Figure 2d: Number of leadership activities reported by applicants to OTL-HNS residency programs

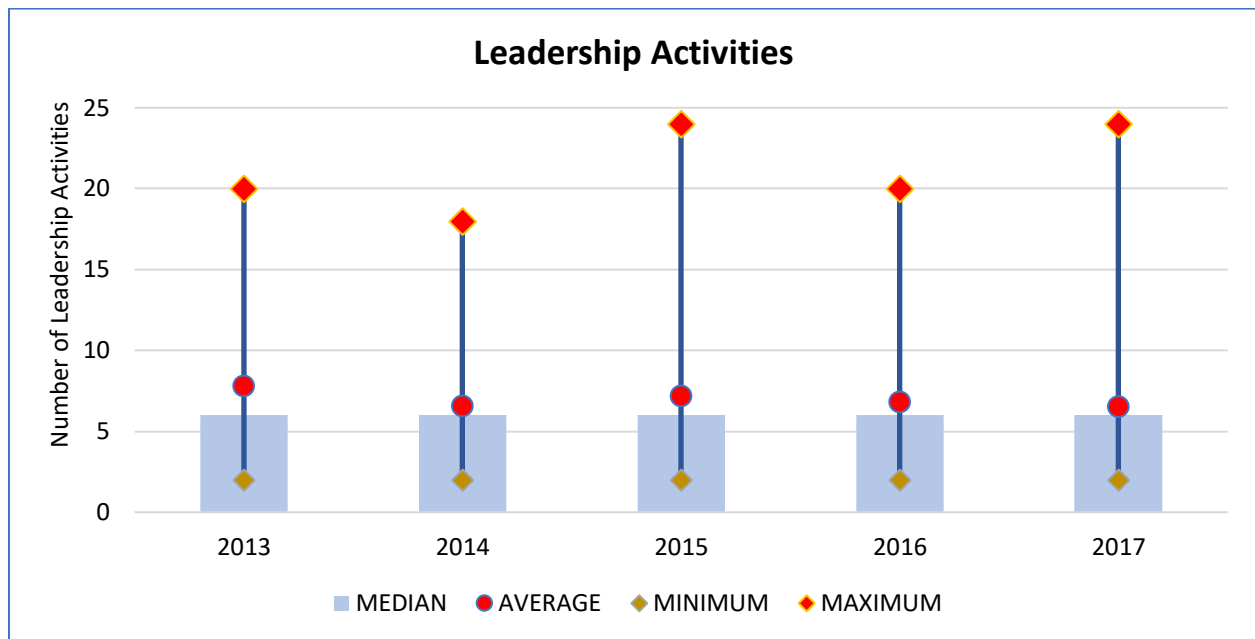


Figure 2e: Number of association and committee memberships reported by applicants to OTL-HNS residency programs

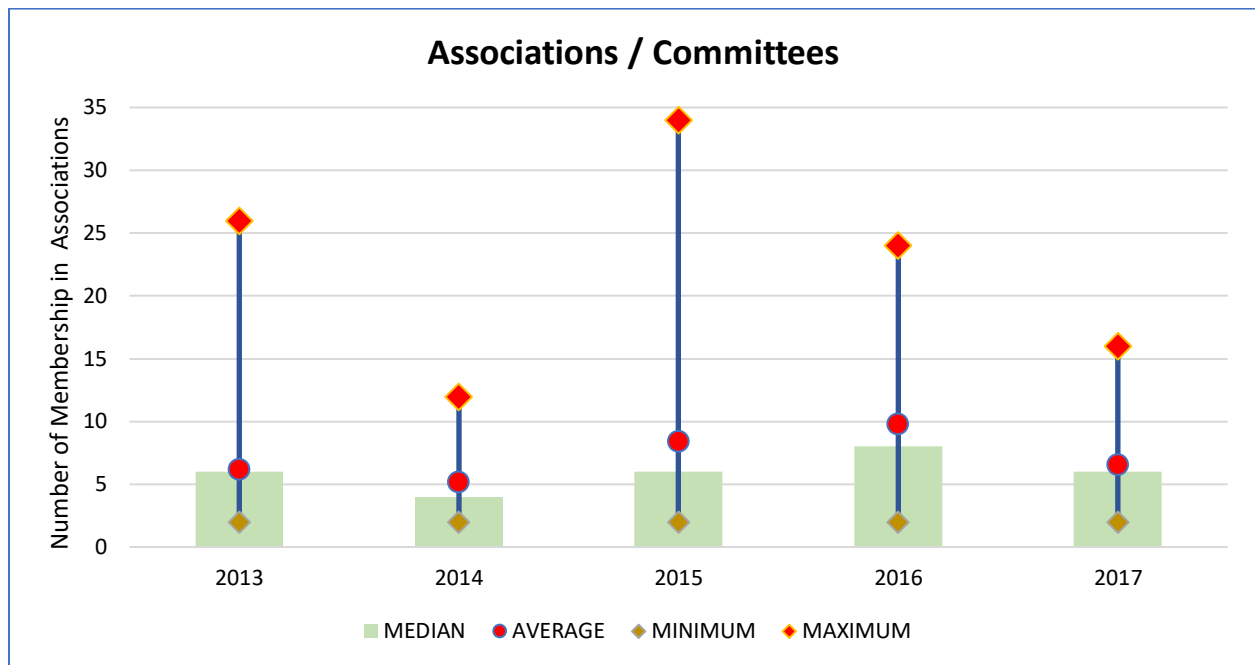


Figure 2f: Number of honours and awards reported by applicants to OTL-HNS residency programs

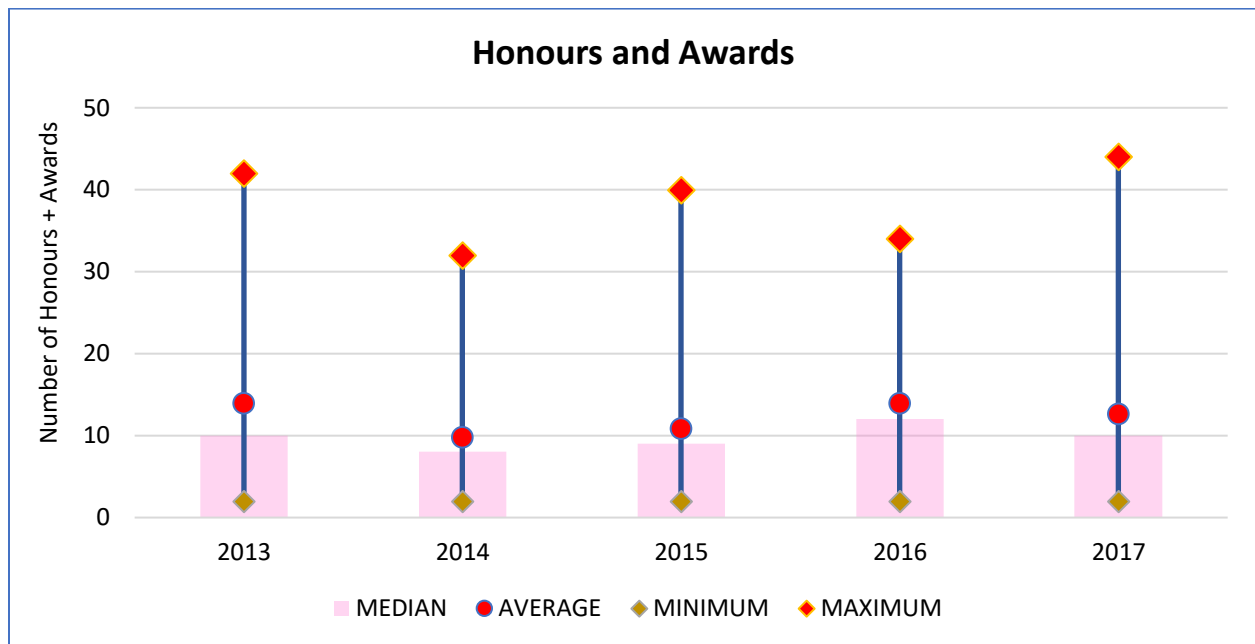
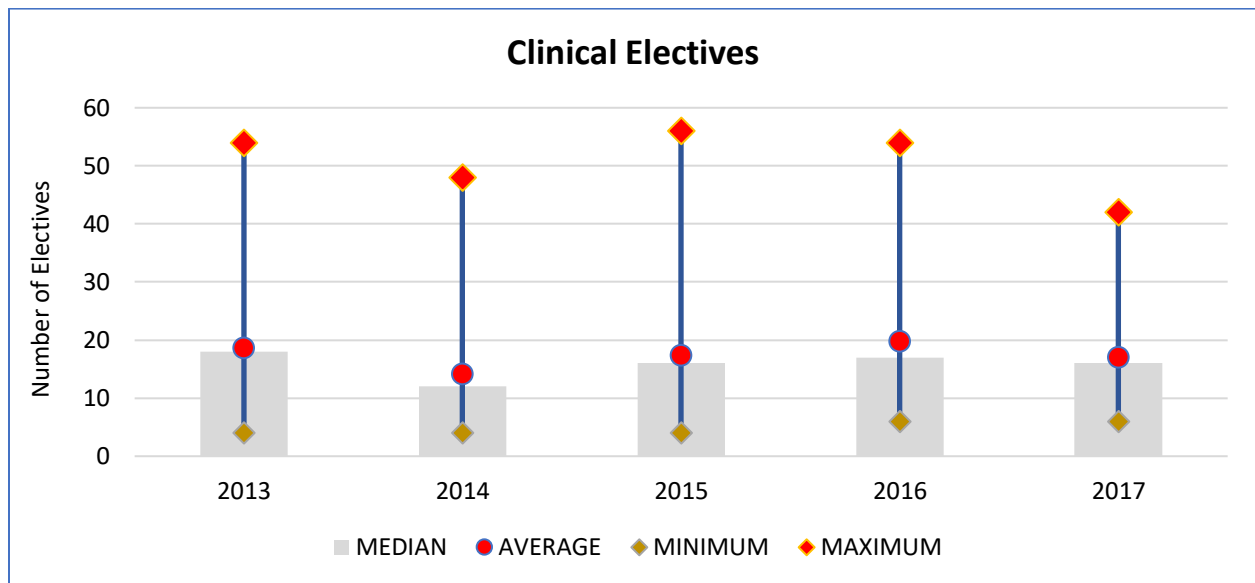


Figure 2g: Number of weeks in clinical electives reported by applicants to OTL-HNS residency programs



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- 18- Wadhwa H, Shah SS, Shan J, Cheng J, Beniwal AS, Chen JS, Gill SA, Mummaneni N, McDermott MW, Berger MS, Aghi MK. The neurosurgery applicant’s “arms race”: analysis of medical student publication in the Neurosurgery Residency Match. *J Neurosurg* 2019, 1-9.
- 19- Puscas L, Sharp SR, Schwab B, Lee WT. Qualities of residency applicants: comparison of otolaryngology program criteria with applicant expectations. *Archives of Otolaryngology – Head & Neck Surgery* 2012;138(1):10-14.
- 20- Chole RA, Ogden MA. Predictors of future success in otolaryngology residency applicants. *Arch Otolaryngol Head Neck Surg* 2012;138:707-712.
- 21- Bowe SN, Laury AM, Gray ST. Associations between Otolaryngology Applicant Characteristics and Future Performance in Residency or Practice: A Systematic Review. *Otolaryngology – Head and Neck Surgery* 2017;156(6):1011–1017.
- 22- Golub JS, Ossoff RH, Johns MM 3rd. Fellowship and career path preferences in residents of otolaryngology-head and neck surgery. *Laryngoscope* 2011;121(4):882-887.
- 23- Bhalla V, Sykes KJ, Kraft SM, Chiu AG. Commentary on Bowe et al, "The State of the Otolaryngology Match: A Review of Applicant Trends, 'Impossible' Qualifications, and Implications". *Otolaryngol Head Neck Surg* 2018;158(2):217-218.
- 24- Ishak W, Nikraves R, Lederer S, Perry R, Ogunyemi D, Bernstein C. Burnout in medical students: a systematic review. *Clin Teach* 2013;10(4):242-245.
- 25- Dyrbye L, Shanafelt T. A narrative review on burnout experienced by medical students and residents. *Medical Education* 2016;50(1):132-149.

- 26- Chang CWD. Match 2017: Blindsided or Fumbled? *Otolaryngology – Head and Neck Surgery* 2018;158(4):594–597.

VITA

NAME Lily Ha-Nam P. Nguyen

EDUCATION Master of Health Professions Education, University of Illinois, 2020
Teaching Scholars Program, McGill University, 2008
Clinical Pediatric Otolaryngology Fellow, University of Toronto, 2006
Master of Science in OTL-HNS, McGill University, 2004
OTL-HNS Residency, McGill University, 2004
Doctor of Medicine and Master of Surgery (MDCM) Program, McGill University, 1999

HONORS / AWARDS (Health Professions Education related within the last 10 years.)

Co-Recipient, Prix d'excellence en soins, Continuing Professional Development Office of Fédération des médecins spécialistes du Québec, 2019

Recipient, Best Teacher Award, Department of OTL-HNS, McGill University, 2019

Co-Recipient, Royal College of Physicians and Surgeons of Canada – Award for Continuing Professional Development (TR: 17.4-PCPD2), 2018

Co-Recipient, Prix d'innovation pédagogique, Conseil québécois de développement professionnel continu des médecins (CQDPCM), 2016

Recipient, Faculty Honor List for Educational Excellence, Faculty of Medicine, McGill University, 2015

Recipient, Canadian Association of Medical Education's Certificate of Merit, 2014

Recipient, Jonathan Campbell Meakins and Family Memorial Fellowship,
Faculty of Medicine, McGill University, 2013

Surgical Teaching Award, Montreal Children's Hospital, McGill
University, 2010

SELECTED TEACHING (Within the last *two* years)

a. Undergraduate **Approach to Upper Airway Obstruction** (*3 hours / year*)
Lecturer, Paediatric Nurse Practitioner Program, McGill University

OTL-HNS Small Groups, Unit J - INDS 212 (*2 hours / year*)
Small Group Leader, Faculty of Medicine, McGill University

Airway Obstruction, Unit J - INDS 212 (*1 hour / year*)
Lecturer, Faculty of Medicine, McGill University

OTL-HNS History and Physical, Unit J - INDS 212 (*1 hour / year*)
Lecturer, Faculty of Medicine, McGill University

b. Postgraduate **National OTL-HNS Advanced Airway Course** (*16 hours / year*)
Organizer and Instructor

**Simulation-based Inter-Specialty Team Training Program in Crisis
Resource Management** (*20 hours / year*)
Organizer and Instructor, Depts of OTL-HNS, Pediatric Emergency
Medicine and Anesthesia, McGill University

Airway Basics Course (*8 hours / year*)
Organizer and Instructor, McGill University

Congenital Nasal Masses and Pediatric Sinusitis (*2 hours*)
Lecturer, Department of OTL-HNS, McGill University, 2020

Caustic Ingestion and Foreign Body Aspiration (*2 hours*)
Lecturer, Department of OTL-HNS, McGill University, 2019

Emergency Surgical Airway (*3 hours / year*)
Lecturer and Demonstrator, Dept of Anesthesia, McGill University

c. Continuing Medical Education

Interprofessional Team Training for the OR (*6 hours / year*)
Organizer and Instructor, McGill University

Difficult Airway Workshop for the NICU (2 hours)
Instructor, Department of Pediatrics, McGill University, 2020

Emergency Surgical Airway for the Anesthetist (1 hour)
Instructor, Division of Pediatric Anesthesia, McGill University, 2019

See One, Do One, Teach One: How Can We Improve Perioperative Technical Skills Education and Acquisition (1 hour)
Organizer and Instructor, Canadian Society of OTL-HNS, 2019

Advanced Emergency Surgical Airway: Tips and Tricks (4 hours)
Instructor, Pediatric Emergency Medicine Critical Skills and Interventions, 2019

Front of Neck Access for Anesthetists (8 hours)
Instructor, Lower & Upper Canada Anesthesia Symposium, 2019

RESEARCH GRANTS (Health Professions Education related within the last 10 years.)

Lead, Institute of Health Science Education Innovation and Research Seed, McGill University, 2019. Research project entitled *“When it all doesn’t go according to plan: A hermeneutic phenomenology study of unmatched CaRMS applicants”*

Co-Investigator, Royal College of Physicians and Surgeons of Canada Strategic Grant - Mission-aligned Research in Competency-based Medical Education, 2017. Research project entitled *“Developmental Progress Assessment: Exploring the Basis for Best Practices”*

Collaborator - Bourse en pédagogie médicale pédiatrique, Centre Hospitalier Universitaire Ste- Justine, 2013. Research project entitled *“Évaluation d’une formation en travail d’équipe interdisciplinaire pour la gestion de situations de crise via la simulation”*

PUBLICATIONS

(Health Professions Education related within the last 10 years. * denotes trainee)

1. Labbe M*, Young M, Mascarella M*, Husein M, Doyle P, **Nguyen LHP**. *How consistent is competent? Examining variance in psychomotor skills assessment*. Acad Med 95(5):771-776, May 2020.

2. Gabrysz-Forget F*, Zahabi S*, Young M, Nepomnayshy D, **Nguyen LHP**. *Errors happen, but are learners trained to recover from them? A survey of North American Surgical Residents and Fellows*. Journal of Surgical Education (accepted)
3. Leclerc AA*, **Nguyen LHP**, Charlin B, Lubarsky S, Ayad T. *Assessing Acceptability of the Script Concordance Test: A Nationwide Study in Otolaryngology*. Canadian Journal of Surgery. (accepted)
4. Propst EJ, Wolter NE, Ischman SL et al. *Competency-based assessment tool for pediatric tracheotomy: International modified Delphi consensus*. Laryngoscope 2019 Dec 10.
5. Sommerfeld C*, Scott G*, Fung K, **Nguyen LHP**, Viallet N, Deutsch E, Gooi A. *Using Simulation Technology to Improve Patient Safety in Airway Management by Practicing Otolaryngologists*. Stud Health Technol Inform. 2019; 257: 393-398.
6. Chaudhry Z*, Campagna-Vaillancourt M*, Husein M, Varshney R, Roth K, Gooi A, **Nguyen LHP**. *Perioperative Teaching and Feedback: How are we doing in Canadian OTL-HNS programs?* J OTL-HNS 2019 Jan 17; 48(1):6.
7. **Nguyen LHP**, Mascarella M*, Bank I, Fisher R, Young M. *Managing the Airway Catastrophe: Longitudinal simulation-based curriculum to teach airway management*. J Otolaryngol Head Neck Surg. 2019 Feb 19;48(1):10.
8. Beaudoin PL*, Labbé M*, Fanous A, Young M, Rappaport J, Park YS, Manoukian JJ, **Nguyen LHP**. *Teaching communication Skills to OTL-HNS Residents: Multisource feedback and simulated scenarios*. J Otolaryngol Head Neck Surg. 2019 Jan 28;48(1):8.
9. Nhan C*, **Nguyen LHP**, Bank I, Fisher R, Nugus P, Azzam M, Young M. *Interdisciplinary Crisis Resource Management Training: How Do Otolaryngology Residents Compare? A Survey Study*. 2018 May 14;2(2):2473974X18770409
10. Paquin H, Bank I, Young M, **Nguyen LHP**, Fisher R, Nugus P. *Leadership in Emergency Situations: Leadership as Coordination?* Leadersh Health Serv 2018 Feb 5;31(1):110-128.
11. Labbé M, Young M, **Nguyen LHP**. *Validity evidence as a key marker of quality of technical skill assessment in OTL-HNS*. Laryngoscope. 2018 Jan 13. doi: 10.1002/lary.27085.
12. Labbe M*, Young M, **Nguyen LHP**. *Toolbox of Assessment Tools of Technical Skills in OTL-HNS: A Systematic Review*. Laryngoscope 2017 Oct 8. doi: 10.1002/lary.26943.

13. Fanous A*, Rappaport J, Young M, Park YS, Manoukian J, **Nguyen LHP**. *A Longitudinal Simulation-Based Ethical-Legal Curriculum for Otolaryngology – Head & Neck Surgery Residents*. Laryngoscope. 2017 Nov;127(11):2501-2509.
14. Chorfi S*, Schwartz JS*, Verma N*, Young Meredith, Lawrence J, **Nguyen LHP**. *Evolution of Gender Diversity Among Canadian OTL-HNS Residents : A 27-Year Analysis*. J Otolaryngol Head Neck Surg. 2017 Aug 29;46(1):55.
15. Bouhabel S*, Kay-Rivest E*, Nhan C*, Bank I, Nugus, P, Fisher R, **Nguyen LHP**. *Error detection-based model to assess educational outcomes in Crisis Resource Management training: a pilot study*. Otolaryngol Head Neck Surg. 2017 Jun;156(6):1080-1083
16. Alrasheed A*, **Nguyen LHP**, Funnell R, Mongeau L, Tewfik M. *The Development and Validation of a 3D printed Ostiomeatal Complex and Frontal Sinus Training Model for Endoscopic Sinus Surgery*. International Forum of Allergy & Rhinology. 2017 June 14.
17. Yang N*, Hosseini S*, Mascarella MA*, Young M, Posel N, Fung K, **Nguyen LHP**. *Identifying High Quality Medical Education Websites in Otolaryngology: A Guide for Medical Students and Residents*. J Otolaryngol Head Neck Surg. 2017 May 25;46(1):42.
18. AlReefi MA*, **Nguyen LHP**, Mongeau LG, ul Haq B, Boyanapalli S, Hafeez N, Cegarra-Escolano F, Tewfik MA. *Development and Validation of Septoplasty Training Model Using 3D Printing Technology*. Int Forum Allergy Rhinol. 2017 Apr;7(4):399-404.
19. Kay-Rivest E*, Varma N, Scott GM, Manoukian JJ, Desrosiers M, Vaccani JP, **Nguyen LHP**. *Securing an OTL-HNS Residency: How Competitive Is It? Comparing Medical Student Perceptions to Actual Canadian Statistics*. J OTL-HNS 2017 Feb 27;46(1):16.
20. Schwartz J*, Costescu A*, Mascarella M, Young M, Husein M, Agrawal S, Roth K, Doyle P, **Nguyen LHP**. *Objective Assessment of Myringotomy and Tympanostomy Tube Insertion: A Prospective, Single-Blind Validation Study*. Laryngoscope. 2016 Sep;126(9):2140-6.
21. Waissbluth S*, Ywakim R*, Al Qassabi B*, Torabi B*, Carpineta L, Manoukian J, **Nguyen LHP**. *Pediatric temporal bone fractures: a case series*. Int J Pediatr Otorhinolaryngol, 2016 May;84:106-9.
22. Sater L*, Schwartz J*, Coupland S, Young M, **Nguyen LHP**. *Nationwide study of publication misrepresentation in applicants to residency*. Medical Education 2015 Jun;49(6):601-11.

23. *Côté V, Kus L, Zhang X, Richardson K, **Nguyen LHP**. *Advanced airway management teaching in Otolaryngology residency: a survey of residents across Canada*. Ear Nose Throat J. 2015 Apr-May;94(4-5):187-92.
24. *Varshney R, Frenkiel S, **Nguyen LHP**, Young M, Del Maestro R, Zeitouni A, Saad E, Funnell RJ, National Research Council of Canada, Tewfik MA. *The McGill Simulator for Endoscopic Sinus Surgery (MSESS): a validation study*. J Otolaryngol Head Neck Surg. 2014 Oct 24;43(1):40.
25. *Varshney R, Frenkiel S, **Nguyen LHP**, Young M, Del Maestro R, Zeitouni A, Tewfik M, National Research Council of Canada. *Development of the McGill Simulator for Endoscopic Sinus Surgery (MSESS): A New High Fidelity Virtual Reality Simulator for Endoscopic Sinus Surgery*. Am J Rhinol Allergy, 2014 Jul;28(4):330-4.
26. *Campagna M, Manoukian J, Razack S, **Nguyen LHP**. *Assessment of the Acceptability of the Multiple Mini Interview for the Otolaryngology – Head and Neck Surgery program*. Laryngoscope. 2014 Jan;124(1):91-6.
27. *Schwartz J, Young M, Velley AM, **Nguyen LHP**. *The Evolution of Racial, Ethnic and Gender Diversity in U.S. Otolaryngology Residency Programs*. JAMA Otolaryngol Head Neck Surg 2013 Feb;139(2):147-52.
28. *Sudarshan M, Hanna WC, Jamal MH, **Nguyen LH**, Fraser SA. *Are Canadian general surgery residents ready for the 80-hour work week? A nationwide survey*. Can J Surg. 2012 Feb;55(1):53-7.
29. *Richardson K, Varshney R, Ramadori F, Daniel S, Manoukian J & **Nguyen LHP**. *A Multifaceted Inter-Specialty Approach to Teaching Advanced Airway Management*. The Internet Journal of Otorhinolaryngology. 2011 Volume 12 Number 2.
30. *Alkhatib T, Fanous A, Al-Saab F, Sewitch M, Razack S, **Nguyen LHP**. *Pneumatic video-otoscopy teaching improves the diagnostic accuracy of otitis media with effusion: Results of a randomized control trial*. J Otolaryngol Head Neck Surg 39(6):631-4 (2010).
31. *Vu TT, **Nguyen LHP**. *Residents' Satisfaction in Canadian Otolaryngology – Head and Neck Surgery Programs*. J Otolaryngol Head Neck Surgery 2010 Apr;39(2):207-13.