


Patient Perspectives on Removing Adult Tonsillectomy and Septoplasty from the Government Health Insurance Plan in a Publicly Funded Health Care System

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Abstract

In several publicly funded health care systems, including Ontario, Canada, adult tonsillectomies and septoplasties have been suggested to be removed or “delisted” from the government health insurance plan. Thus, the objective of this study was to explore patient perspectives regarding out of pocket (OOP) payment for these procedures. An anonymous survey was administered to patients consented to undergo a tonsillectomy or septoplasty at a community otolaryngology—head and neck surgery (OHNS) practice. The survey asked patients if they would pay the projected cost for their surgery OOP and the maximum amount of time they would wait for their surgery. The survey also contained questions on socioeconomic status and disease severity. Seventy-one patients were included. Overall, 21% of patients were willing to pay OOP for their surgery. Forty-nine percent of patients reported that the maximum amount of time they would be willing to wait for their surgery was 2 to 6 months. There was no significant correlation found between any of the demographic variables or disease severity and willingness to pay OOP for these surgeries. In this study, a small percentage of patients who met the clinical indications for a tonsillectomy or a septoplasty would pay for their surgery in the event that it was not covered by the government health insurance plan. These surgeries are common operations and delisting them could potentially decrease the provision of these services and have a significant impact on Canadian OHNS practices.

Keywords

septoplasty, tonsillectomy, quality of life, health insurance, health care costs

What do we already know about this topic?

There is limited evidence on patient perspectives regarding paying out of pocket for their tonsillectomy or septoplasty in the event that they are no longer covered by the government health insurance plan.

How does your research contribute to the field?

This study showed that a small percentage of patients who met the clinical indications for a tonsillectomy or a septoplasty would pay for their surgery if it was not covered by the government health insurance plan.

What are your research’s implications toward theory, practice, or policy?

Septoplasties and tonsillectomies are common operations performed by otolaryngology—head and neck surgeons and removing them from the government health insurance plan could lead to a decrease in the provision of these services and a drastic shift for Canadian OHNS practices.

Introduction

In 1984, the Canadian Health Act was established to provide comprehensive, universal, and publicly funded health services to the residents of Canada. While the federal government sets standards of care and provides funding, health

care delivery is regulated on a provincial level.¹ Within every publicly funded health care jurisdiction, judiciously deciding which services to publicly fund is paramount. The Ontario government reviews all health services to assess whether they improve patient outcomes in order to



determine which health care services they can remove from the government health insurance plan or “delist.” For example, the Ontario government partially delisted services such as physiotherapy and completely delisted chiropractic services.² Within the field of otolaryngology—head and neck surgery (OHNS), earwax removal has already been delisted for certain indications.³ It was recently suggested by the Ontario Medical Association Section on OHNS that adult tonsillectomies and septoplasties could be considered for delisting in the upcoming years. Both of these surgeries have been under consideration for being removed from other national health care services such as the National Health Services (NHS) in the United Kingdom (UK).^{4,5} Arguments justifying this decision include the controversy surrounding both the medical necessity and cost effectiveness of these surgeries. Despite this, tonsillectomies and septoplasties are the most common and the third most common surgeries performed by otolaryngology—head and neck surgeons, respectively and delisting them could have a significant impact on the access to these surgeries and Canadian OHNS practices.⁶

The most common indications for adult tonsillectomy are chronic and recurrent tonsillitis.⁷ It is well established that adult tonsillectomy is a surgery that improves patients’ quality of life.⁸⁻¹¹ However, a 2014 Cochrane review concluded that it is not clear whether tonsillectomy reduces sore throat events in adult patients.¹¹ Tonsillectomy is also a resource intensive procedure and is associated with post-operative pain, dehydration, and hemorrhage. These complications can occur in up to 20% of adult patients leading to additional health care expenditures per patient.¹²⁻¹⁴ Despite this, there have been several evaluations of the cost effectiveness of tonsillectomy that have reported substantial decreases in health care utilization and work-related absences post-tonsillectomy.^{8,10,15} Furthermore, there is scarce and inconclusive evidence on the clinical effectiveness of septoplasty, which is usually performed for correction of anatomical nasal obstruction.¹⁶ Although some studies have demonstrated improvements in both overall and disease specific quality of life after septoplasty, there has been conflicting evidence regarding if straightening the septum provides benefit to patients, and if so, which patients benefit the most.¹⁶⁻¹⁸ Moreover, not all patients demonstrate improvement after septoplasty as patient satisfaction rates range from 65% to 80%.¹⁹

Limited evidence exists regarding patient perspectives about these surgeries being delisted and if patients would pay out of pocket (OOP) for them in the event that this occurs. Given the possibility of these common OHNS surgeries being delisted from the Ontario Health Insurance Plan (OHIP), the aim of this study is to better understand patient attitudes and willingness to proceed with surgery despite a potential lack of financial coverage from the Ontario government.

Methods

An anonymous survey was administered to patients at a community OHNS practice in Toronto, Ontario between October 2019 to January 2020. The patients included in this study were those who were consented and scheduled to undergo either a septoplasty or tonsillectomy by either of 2 practicing otolaryngology—head and neck surgeons. The survey took patients approximately 10 minutes to complete. Patients were eligible to participate in the study if they were 18 years or older, were able to complete survey questions in English, and able to provide informed consent. This study was approved by the local institutional review board (REB # 795-1906-Mis-335). A copy of the survey is included in the Supplemental Material.

Survey Development

Survey questions addressed basic patient demographic information including socioeconomic status, disease severity, patient expectations from public health care and if patients would pay OOP for their surgeries. Questions regarding socioeconomic status (SES) were developed using validated measures of SES including income, education, and employment status.^{20,21} Questions regarding patients’ views on what types of treatments should be funded by OHIP and their views on wait times in a publicly funded system were also included. They were asked to indicate their level of agreement with the statements listed in Figure 1 using a 0-4 (0 meaning strongly disagree and 4 meaning strongly agree) Likert scale. The rationale behind including patient perceptions on OHIP inclusions and views on wait times was to help interpret the results in context of patients’ overall expectations of the Canadian universal health care system. Validated self-administered disease severity questionnaires

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Table 1. Patient Demographics.

Characteristic	All patients (%) N=71	Septoplasty (%) N=45	Tonsillectomy (%) N=26
Gender			
Male	40 (56)	30 (67)	10 (38)
Female	30 (42)	15 (33)	15 (58)
Prefer not to identify	1 (1.4)	0 (0)	1 (3.8)
Median age (IQR)	31 (24-37)	34 (28-51)	26 (20-28)
Highest level of education			
Did not complete post-secondary education	29 (41)	18 (40)	11 (42)
Completed post-secondary education	42 (59)	27 (60)	15 (58)
Income			
<\$25 000	15 (21)	10 (22)	5 (19)
\$25 000-49 999	9 (13)	4 (8.9)	5 (19)
\$50 000-74 999	13 (18)	9 (20)	4 (15)
\$75 000-99 999	6 (8.5)	3 (6.7)	3 (12)
\$100 000-149 999	5 (7.0)	5 (11)	0 (0)
>\$150 000	14 (20)	8 (18)	6 (23)
Did not report	9 (13)	6 (13)	3 (12)
Employment status			
Working full time	35 (49)	22 (49)	13 (50)
Working part time	15 (21)	7 (16)	8 (31)
Unemployed	21 (30)	16 (36)	5 (19)

IQR = interquartile range.

including the Tonsil and Adenoid Health Status Instrument (TAHSI) for patients undergoing tonsillectomy and the Nasal Obstruction Septoplasty Effectiveness (NOSE) score for patients undergoing septoplasty were used.^{22,23} The TAHSI consists of 18 items and is scored out of a total of 72, with a higher score indicating worse disease burden.²² Although the TAHSI was validated for use in children, this study used a version of the TAHSI that was adapted for use in adults.²² The NOSE score is a validated tool used to assess nasal obstruction scored out of 100, with a higher score indicating worse disease burden.²³ The cost of each surgery was estimated from data provided by several Toronto hospitals including the cost of anesthesia, the hospital fees, the surgeon fees, and taxes. Patients were asked if they would be willing to pay the estimated amount OOP for their surgery and about the amount of time they would be willing to wait for their surgery. Construct validity of the survey was ensured through an iterative process of expert feedback and revision by 4 attending otolaryngology—head and neck surgeons.

Statistical Analysis

Sociodemographic variables are reported as frequencies and percentages and continuous variables as medians with interquartile ranges (IQR). Fisher's Exact tests were used to compare proportions and the Mann–Whitney *U* test was used to compare medians. All of these tests were conducted using a two-sided *P*-value of .05. Data analysis was conducted with GraphPad Prism (GraphPad Software Inc., CA, US).

Results

Seventy-one patients answered the survey. The response rate was 99% (71/72). Forty-five patients (63%) were consented for a septoplasty and 26 (37%) were consented for a tonsillectomy. Table 1 outlines the demographics of this cohort. Figure 1 outlines patients' views on types of treatments that should be funded by OHIP and on wait times using a 0–4 Likert scale.

Overall, 21% (15/71) of patients surveyed indicated they would pay the projected cost for their surgery (\$2500 CAD–\$3000 CAD). There were no significant differences in the demographic variables between those patients who indicated they would pay OOP for their surgery and those patients who did not (Table 2). Among patients who were consented for tonsillectomy, 23% (6/26) indicated they would pay OOP for their surgery. Among patients who were consented for septoplasty, 20% (9/45) indicated they would pay OOP for their surgery.

Figure 2 outlines the maximum time patients were willing to wait for their surgeries. Forty-two percent (11/26) of patients in the tonsillectomy group were willing to wait 2 to 6 months for their surgery. Twelve percent (3/26) of patients were willing to wait more than 6 months. Fifty-three percent (24/45) of patients were willing to wait 2 to 6 months for their septoplasty, and 13% (6/45) of patients were willing to wait over 6 months. Sixty percent (9/15) of the patients who indicated they would pay OOP for either their septoplasty or tonsillectomy reported they would wait 2 to

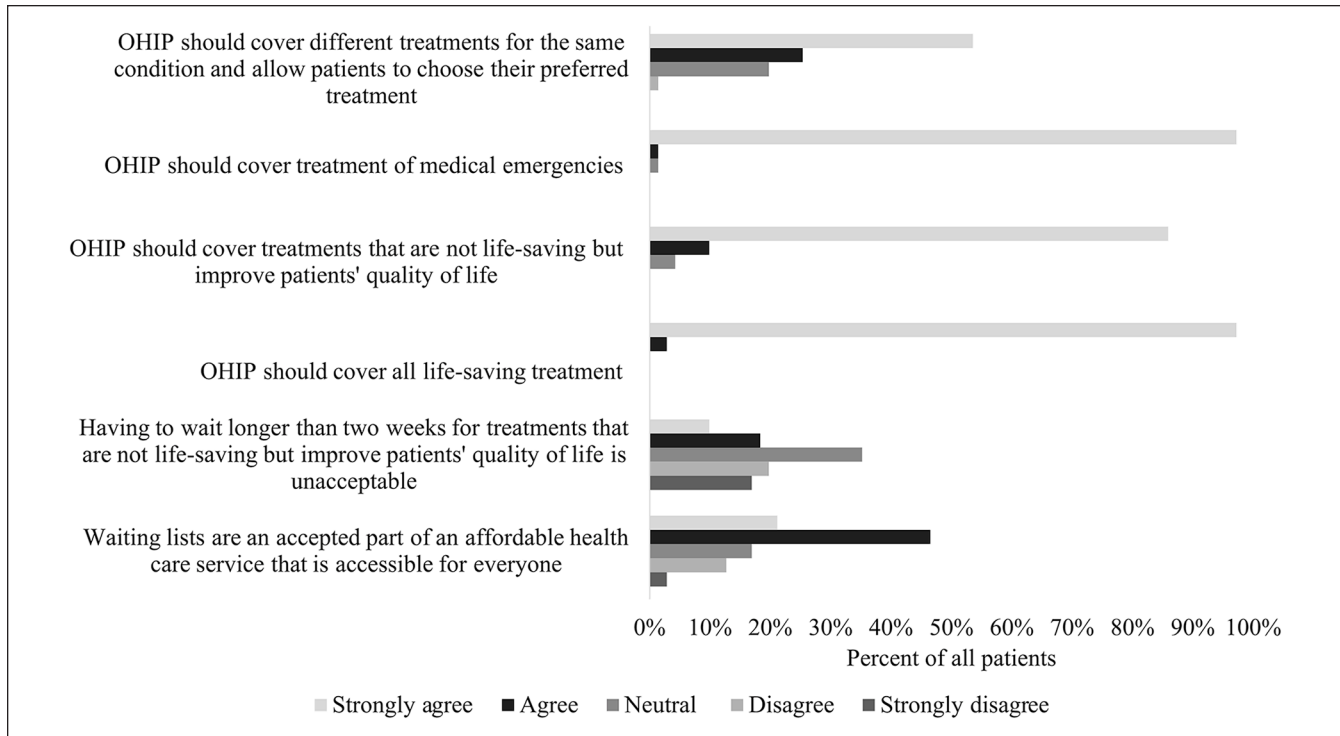


Figure 1. Patient perceptions on OHIP covered treatments and wait times in a public health care system (n=71). OHIP= Ontario Health Insurance Plan.

Table 2. Comparison of Demographic Characteristics Between Patients Who Indicated They Would Pay for Their Surgery and Those Who Did Not.

	Willing to Pay OOP (%) N= 15	Not willing to pay OOP (%) n=56	P-value
Gender			
Male	10 (67)	30 (54)	<i>P</i> = .558
Female	5 (33)	25 (45)	
Prefer not to identify	0 (0)	1 (1.8)	
Median age (IQR)	33 (27-39)	31 (23-37)	<i>U</i> = 365.5, <i>P</i> = .45
Employment			
Employed (full time or part time)	11 (73)	39 (70)	<i>P</i> > .99
Unemployed	4 (27)	17 (30)	
Income			
<\$99 999	10 (67)	33 (59)	<i>P</i> > .99
≥\$100 000	5 (33)	14 (25)	
Did not disclose	0 (0)	9 (16)	
Education			
Did not complete post-secondary education	3 (20)	26 (46)	<i>P</i> = .081
Completed post-secondary education	12 (80)	30 (54)	

OOP= out of pocket; IQR= interquartile range.

6 months for their surgery. Forty-six percent (26/56) of patients who were not willing to pay for their surgery reported they would wait 2 to 6 months for their surgery. Twenty-seven percent (4/15) of patients who were willing to pay and 32% (18/56) of patients who were not, reported that they would wait 2 weeks to 2 months. Thirteen percent

(2/15, 7/56) of patients in both groups reported they would wait over 6 months.

The median NOSE score for patients who were scheduled to undergo septoplasty was 75 (IQR 60-85). For patients who were scheduled to undergo tonsillectomy, the median TAHSI score was 42 (IQR 33-52). Table 3 displays the median

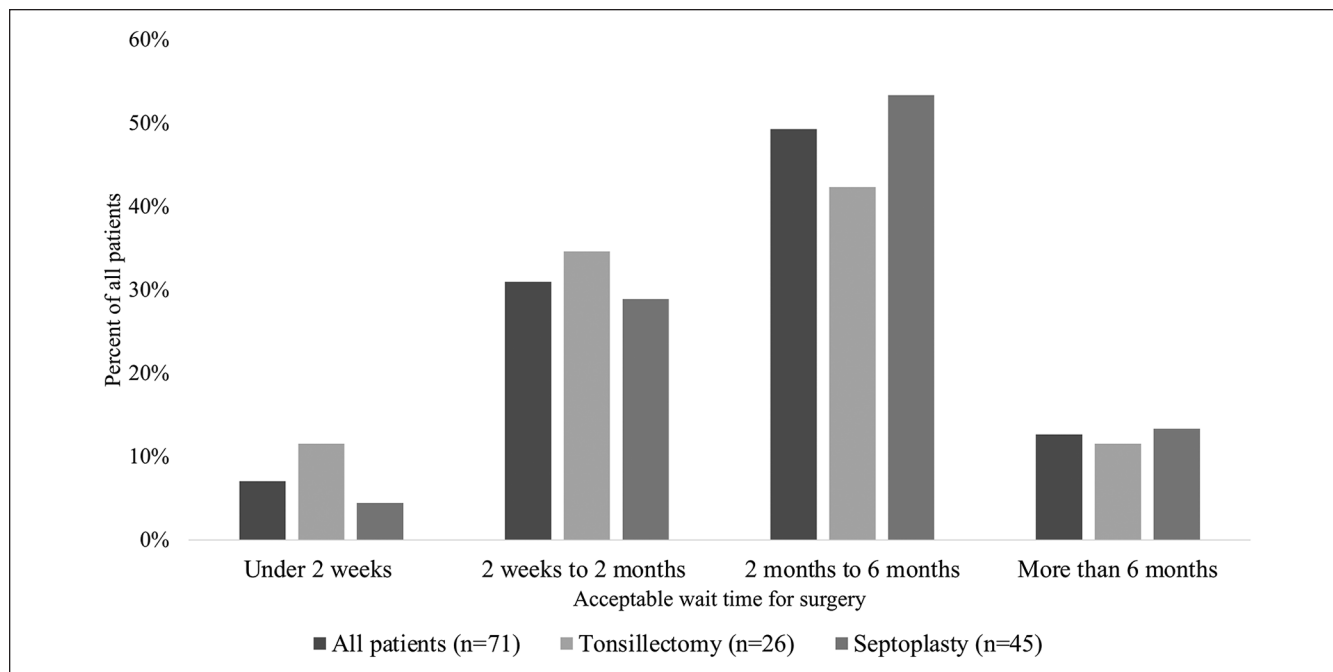


Figure 2. Amount of time patients were willing to wait for their surgery (n=71).

Table 3. Median Disease Severity Scores in Patients Consented for a Septoplasty and Tonsillectomy.

	N (%)	Median NOSE score (IQR)	P-value
Willing to pay OOP	9 (20)	90 (55-100)	U = 138.5, P = .51
Not willing to pay OOP	36 (80)	75 (65-85)	
	N (%)	Median TAHSI score (IQR)	P-value
Willing to pay OOP	6 (23)	47 (27-49)	U = 60, P > .99
Not willing to pay OOP	20 (77)	40 (36-54)	

OOP=out of pocket; IQR=interquartile range; NOSE=nasal obstruction septoplasty effectiveness; TAHSI=tonsil and adenoid health status instrument.

NOSE and TAHSI scores in both patients who indicated they would pay for their surgery and those who did not. There were no significant differences found between the median NOSE scores or median TAHSI scores between the 2 groups ($P = .51$, $P > .99$, respectively).

Discussion

In the present study, only a small proportion of patients (21%) were willing to pay the projected cost (\$2500 CAD-\$3000 CAD) of their surgery in the event that it would no longer be covered by the government health insurance plan. This study also found no association between willingness to pay OOP and any demographic variables or disease severity. There is limited evidence regarding the impact of delisting procedures and how patients perceive having to pay OOP for their medical procedures, specifically within the context of OHNS. Thus, this exploratory study represents a

novel approach to understanding if patients would be willing to pay OOP for these common OHNS surgeries if delisted from the government health insurance plan.

These results suggest that there may be a decrease in the number of tonsillectomies and septoplasties performed by Ontario otolaryngology—head and neck surgeons if they are delisted. This has been demonstrated in studies assessing the impact of delisting other services such as routine eye examinations which led to decreased probability of using eye care services and decreased use of eye care services among the socially disadvantaged.²⁴⁻²⁶ Similarly, after partially delisting community based physical therapy in Ontario, a study conducted 12 months after the services were delisted indicated that 12.5% of patients who required physical therapy could not access it because they were underinsured or uninsured.²⁷

Ontario is not the only health jurisdiction considering delisting tonsillectomies as similar suggestions have been

entertained in the UK.⁵ However, several studies have demonstrated that adult tonsillectomy performed for adults with recurrent tonsillitis leads to significant improvement in quality of life, decreases health care utilization and decreases the economic burden of tonsillitis.^{8-10,22,28-30} One study demonstrated that a single episode of tonsillitis costs \$385 USD of which 75% was due to the loss of productivity associated with the illness.³¹ Another more recent study demonstrated that in the 12 months after tonsillectomy there was a mean decrease in number of weeks on antibiotics by 5.9 weeks, number of workdays missed because of tonsillitis by 8.7 days, and physician visits for tonsillitis by 5.3 visits.⁸ This study found that only 23% of patients consented to undergo a tonsillectomy would proceed with the surgery if it was not covered by OHIP. Thus, delisting these procedures could result in the decreased provision of these services. This could have a significant impact on patient morbidity, illness-related work absence, and could lead to an increase in the number of complications of tonsillitis seen (i.e. peritonsillar abscess).^{32,33}

This study also included patients consented for a septoplasty as this surgery is also under consideration for being delisted by the Ontario government. This has also been considered in other health systems such as the NHS which added septoplasty to the list of restricted treatments and procedures.⁴ However, a recent randomized control trial found that septoplasty was more effective than non-surgical management for nasal obstruction with the beneficial effects of surgery lasting at least 24 months.⁴ Prior to this trial, evidence regarding the effectiveness of septoplasty for nasal obstruction was inconclusive leaving policy makers and providers concerned about the effectiveness of this surgery.^{16,34} Furthermore, there is also recent evidence to suggest that surgical management of nasal obstruction for patients with severe to extreme anatomical nasal obstruction is more costly in the short term but is cost effective in the long term.³⁵ Despite this recent evidence, septoplasty is still being considered for delisting in Ontario. This study found that only 20% of patients consented to undergo a septoplasty would pay out of pocket in the event it was not covered by OHIP. This number is even more concerning in light of the aforementioned evidence demonstrating both the clinical and cost effectiveness of septoplasty for patients with nasal obstruction.

This study assessed the amount of time patients are willing to wait for their tonsillectomy or septoplasty. This study found that 49% would be willing to wait 2 to 6 months, with a slightly lower proportion, 31%, reporting 2 weeks to 2 months as the maximum amount of time they would wait for surgery. Even among people willing to pay for their surgery, 60% of patients were willing to wait 2 to 6 months which was comparable to the 46% in the group that indicated they were not willing to pay. The current wait time in Ontario is approximately 2-3 months from the time of decision to the time of surgery for benign oral cavity surgeries and for nasal and sinus surgery.³⁶ Furthermore, the majority of patients

(68%) in this study agreed or strongly agreed that waiting lists are an acceptable part of a universal health care system. Thus, these results demonstrate that most patients had realistic expectations about wait times for surgery and that their expectations seem to be aligned with the present wait times for these procedures. This is an important finding as many speculate that requiring patients to pay OOP for surgeries will reduce wait times, however, these results suggest that most patients in this study undergoing septoplasties and tonsillectomies are amenable to the current wait times.

As health care provision is increasingly being shaped by patients' needs and preferences, there needs to be a larger consideration for patients' perspectives when making decisions about which procedures to publicly fund. When assessing patients' expectations regarding Canada's universal health care system, this study found that an overwhelming majority of the patients included in the study (96%) agreed that OHIP should cover treatments that are not life-saving but improve patients' quality of life. The majority of tonsillectomies and septoplasties are done to improve the quality of life of patients with recurrent tonsillitis and nasal obstruction, respectively.^{7,37} Thus, delisting these procedures may be inconsistent with patients' values. Furthermore, 79% of patients in this study agreed or strongly agreed that OHIP should cover different treatments for the same conditions and allow patients to choose their preferred treatment option. This is an important finding as several of the conditions for which patients undergo septoplasty or tonsillectomy are also managed with other medical options such as antibiotics for recurrent tonsillitis. Thus, delisting these procedures may deprive patients of the option to choose surgery in the management of their conditions or make this management option less accessible.

This study has several limitations. This study was intended to be exploratory in nature and thus, the study may be underpowered given the small sample size. The present survey was conducted at a single institution in Toronto, Ontario, limiting the representation of other patient populations. As such, the external validity of the results of this study may be limited. Furthermore, this study is also influenced by the socioeconomic status of the community in which the study was conducted which may impact the population's willingness to pay for their surgeries. This study also used an estimated value for the cost of these surgeries which could vary across different institutions. Additionally, this method set a fixed value for the cost of these surgeries and does not capture the varying amounts patients would be willing to pay if given a choice. Thus, at a different cost, more or less patients may be willing to pay OOP. Furthermore, the willingness to pay may also differ depending on the indication for surgery and other comorbidities which were not directly assessed in this study. Finally, the patients included in this study were those that were consented for tonsillectomy or septoplasty and thus may have biased opinions regarding the necessity of surgeries.

Conclusion

The findings of this study have important implications for both patients and practicing otolaryngology—head and neck surgeons. The aim of this study was to determine if patients would be willing to pay for their tonsillectomy or septoplasty in the event they are delisted from the government health insurance plan. In this small, exploratory study of patients seen at a community otolaryngology practice in Toronto, Ontario the majority of patients indicated they would not pay \$2500 CAD to \$3000 CAD for their surgery, which is the projected cost of these surgeries in this region. The results of this patient perspective study present preliminary evidence on how delisting these procedures could impact the provision of these services and Canadian OHNS practices alike.

Authors' Note

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Supplemental Material

Supplemental material for this article is available online.

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