Unsolicited Patient Complaints among Otolaryngologists

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Abstract
Objectives. To analyze unsolicited patient complaints (UPCs) among otolaryngologists, identify risk factors for UPCs, and determine the impact of physician feedback on subsequent UPCs.

Methods. This retrospective study reviewed UPCs associated with US otolaryngologists from 140 medical practices from 2014 to 2017. A subset of otolaryngologists with high UPCs received peer-comparative feedback and was monitored for changes.

Results. The study included 29,778 physicians, of whom 548 were otolaryngologists. UPCs described concerns with treatment (45%), communication (19%), accessibility (18%), concern for patients and families (10%), and billing (8%). Twenty-nine (5.3%) otolaryngologists were associated with 848 of 3659 (23.2%) total UPCs. Male sex and graduation from a US medical school were statistically significantly associated with an increased number of UPCs \((P = .0070\) and \(P = .0036\), respectively). Twenty-nine otolaryngologists with UPCs at or above the 95th percentile received peer-comparative feedback. The intervention led to an overall decrease in the number of UPCs following intervention \((P = .049\). Twenty otolaryngologists (69%) categorized as “responders” reduced the number of complaints an average of 45% in the first 2 years following intervention.

Discussion. Physician demographic data can be used to identify otolaryngologists with a greater number of UPCs. Most commonly, UPCs expressed concern regarding treatment. Peer-delivered, comparative feedback can be effective in reducing UPCs in high-risk otolaryngologists.

Implications for Practice. Systematic monitoring and respectful sharing of peer-comparative patient complaint data offers an intervention associated with UPCs and concomitant malpractice risk reduction. Collegial feedback over time increases the response rate, but a small proportion of physicians will require directive interventions.

Keywords
patient complaints, otolaryngology, patient safety, quality improvement, malpractice risk, peer-comparative feedback

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Among physicians practicing in high-risk surgical subspecialties, 99% will have a malpractice claim before retirement.1 While some specialties have higher malpractice risk than others,1,2 causes of malpractice suits are similar across specialties and include surgical complications,3,4 delayed or missed diagnosis,5-7 inadequate consent,8-10 and negligence.11 Among surgeons, a considerable proportion of lawsuits originate from misunderstandings between physicians and patients and their families.12 Within specialties, a small proportion of physicians are responsible for a large portion of suits.13-16 Malpractice claims and suits affect a wide range of stakeholders, including practice groups, physicians, and patients and their families. Aside from the direct financial costs of malpractice suits, physicians experience significant personal impacts, including burnout, depression, and declining career satisfaction.17

Malpractice claims–related research has aimed to identify and address health care systems and physician behaviors associated with increased claims risk. Higher numbers of unsolicited patient complaints (UPCs) have been associated with both increased malpractice claims2,18-20 and postsurgical complications.21-23 In addition, studies of physician specialties outside of otolaryngology have shown that disproportionate shares of UPCs are borne by small percentages of physicians.2,14-16,18 While physicians with greater numbers of UPCs have greater associated claims risk, peer-comparative interventions delivered by colleagues have resulted in reduced UPCs subsequent to the intervention.24

As a group, otolaryngologists have a higher number of malpractice claims and greater malpractice insurance.
premiums than physicians in most other specialties. Thus, understanding factors that are associated with increased risk is important to identify and address the small number of otolaryngologists who account for a disproportionate share of malpractice claims. This study evaluates physician demographics and UPC data to (1) evaluate physician risk factors and types of UPCs in otolaryngology and (2) assess the effectiveness of a peer-comparative intervention in reducing UPCs among high-risk otolaryngologists.

Methods

Context

Patient Advocacy Reporting System. The Vanderbilt Center for Patient and Professional Advocacy (CPPA) developed the Patient Advocacy Reporting System (PARS) database, which contains patient complaint and institutionally reported specialty data for more than 60,000 US physicians. Trained coders categorize UPCs into 6 major complaint types: care and treatment, communication, access and availability, concern for patient and family, safety of environment, and payment. A single report may contain several complaints (eg, “doctor was rude,” “did not answer my questions,” “did not do a thorough exam”), all of which are included. Interrater reliabilities for PARS reviewers are well established and range from 73% to 100% across categories.

Study population. Physicians in all medical and surgical specialties (as registered within the PARS database) with active credentials from January 1, 2014, through December 31, 2017, were included in the study. A 4-year audit period (with annual data points) was used to permit identification of practice patterns. Physicians in training (residents and fellows) were excluded from analysis along with physicians without 4 consecutive years of UPC data. Demographics of interest included year of medical school graduation (a proxy for age), practice setting (academic vs nonacademic), medical school location (United States or outside the United States), sex, board certification status, and subspecialty (general, facial plastic and reconstructive surgery, head and neck surgical oncology, laryngology, neurotology, pediatric, rhinology, or sleep). Due to insufficient numbers, those listing otolaryngology as their primary subspecialty were subsumed under the general otolaryngology category.

Interventions

The threshold for considering eligibility for peer awareness intervention as a part of the PARS program was defined as having a number of UPCs at or above the 95th percentile for otolaryngologists. Physicians were enrolled in the PARS intervention program starting in 2002 and were followed up to 8 years later. This study focuses on “awareness” interventions, which are more thoroughly described in prior publications.

At each intervention meeting, intervention letters, comparative figures and tables, and supporting documents were delivered in person by physician peer “messengers.” Messengers encouraged participants to reflect on feedback materials and develop methods to address trends that emerged from UPCs; messengers did not make specific recommendations regarding behavior or practice modifications. After each intervention, messengers completed a debriefing survey, which gathered information regarding the duration of the meeting, participant receptivity (eg, defensive, indifferent, interested, eager or willing to make changes), and participant comments about why they might stand out (eg, personal style, system issues, patient population, service volume). Annual intervention meetings with presentation of UPC data were scheduled until the physician’s annual UPC numbers reduced to group norms or the physician departed from the organization.

Measures

This study compares the distribution of UPCs in the 4-year audit period between otolaryngologists and other physician groups. In addition, the frequency of complaint types and any relationship between UPC distribution and demographic variables were evaluated.

Analysis

Average total UPCs among otolaryngologists were compared by sex, medical school graduation year, medical school location, subspecialty, board certification status, practice setting, and geographic region. Average total complaints were also compared among otolaryngologists, nonotolaryngology surgeons, and nonsurgeons. For discrete variables, average total complaints were reported for each with a 95% confidence interval. For continuous variables, linear regression was used to test for an association with total complaints. A Wilcoxon rank sum test was used to compare total complaints between 2 groups, and a Kruskal-Wallis rank sum test was used for 3 or more groups. Chi-square and descriptive statistics were used to assess participants’ response to interventions. Two-sided \( P \) values of less than .05 were considered statistically significant. All statistical analyses were performed with R statistical software version 3.5.1 (R Foundation, Vienna, Austria).

Ethical Considerations

Confidentiality remained the main risk to participants in the study. Physician demographic and UPC data were deidentified upon collection and during statistical analysis. Each site had established a Physician Messenger Committee in compliance with state requirements for protected peer review. The Vanderbilt Institutional Review Board (IRB) approved the study as nonhuman subjects research and waived consent (Vanderbilt IRB 171876).

Results

All physicians \( N = 47,721 \) with active practices affiliated with participating medical groups or with privileges at participating medical centers during the study period were eligible for inclusion (Figure 1). From 2014 to 2017, 29,778 physicians (605 otolaryngologists, 6,886 nonotolaryngology surgeons, and 22,287 nonsurgeons) had 4 consecutive years

Figure 1
of PARS program exposure at their respective organizations. Among those listed by their organizations as otolaryngologists, 57 were excluded for incorrect specialty classification (n = 9) or missing data (n = 48) such as age, sex, medical school location, or practice setting.

Of the 548 otolaryngologists included in the study, 83.0% were male, 92.7% graduated from medical school in the United States, 98.2% were board-certified, and 60.0% practiced in an academic setting (Table 1). The largest proportion practiced in the eastern United States, where 45.1% of cohort otolaryngologists practiced in 10 organizations, while the remainder practiced in the western United States (31.7%, 10 organizations) and central United States (23.3%, 13 organizations). The plurality of otolaryngologists included in the study were general practitioners (37.7%), while the remainder were categorized into the following specialties: facial plastic and reconstructive surgery (13.0%), head and neck (11.9%), neurotology (11.7%), pediatric otolaryngology (9.3%), rhinology (8.2%), and laryngology (8.1%).

Otolaryngologists had a significantly greater average number of complaints per physician (6.4 UPCs) compared to all nonsurgical specialties (3.5 UPCs) and all other surgical specialties combined (5.3 UPCs; \( P < .001 \)) (Figure 2 and Figure 3). The distribution of UPCs among otolaryngologists was skewed, as a minority (n = 29, 5.3%) accounted for 848 (23.2%) of otolaryngologists’ 3659 total complaints.

![Figure 1. Study design.](image)

**Table 1. Otolaryngologist Demographic Characteristics.**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>% (No.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>83.0 (454)</td>
</tr>
<tr>
<td>US medical school graduate</td>
<td>92.7 (40)</td>
</tr>
<tr>
<td>Subspecialty</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>37.7 (206)</td>
</tr>
<tr>
<td>Facial plastic and reconstructive surgery</td>
<td>13.0 (71)</td>
</tr>
<tr>
<td>Head and neck</td>
<td>11.9 (66)</td>
</tr>
<tr>
<td>Neurotology</td>
<td>11.7 (64)</td>
</tr>
<tr>
<td>Pediatric</td>
<td>9.3 (51)</td>
</tr>
<tr>
<td>Rhinology</td>
<td>8.2 (46)</td>
</tr>
<tr>
<td>Laryngology</td>
<td>8.1 (44)</td>
</tr>
<tr>
<td>Board-certified</td>
<td>98.2 (538)</td>
</tr>
<tr>
<td>Academic medical center practice</td>
<td>60.0 (333)</td>
</tr>
<tr>
<td>Region of the United States</td>
<td></td>
</tr>
<tr>
<td>Eastern</td>
<td>45.1 (248)</td>
</tr>
<tr>
<td>Central</td>
<td>23.3 (127)</td>
</tr>
<tr>
<td>Western</td>
<td>31.7 (173)</td>
</tr>
<tr>
<td>Medical school graduation year</td>
<td>1985, 1994, 2002*</td>
</tr>
</tbody>
</table>

*1985 represents the oldest quartile, 1994 the median, and 2002 the youngest quartile.

![Figure 2. Comparison of average total unsolicited patient complaints by physician specialty.](image)
UPCs; 34.9% of otolaryngologists had no reported UPCs (Figure 3). The demographics for the 189 otolaryngologists with no reported UPCs are not statistically different in proportion to the overall otolaryngologist population (analysis of variance [ANOVA], $P = .32$) (Table 2).

A multivariate regression evaluating demographic factors including sex, medical school graduation location, subspecialty, board certification status, and practice setting revealed that male otolaryngologists ($P = .0070$) and those who graduated from a US medical school ($P = .0036$) were more likely to have a greater number of UPCs. Notably, board certification ($P = .1352$) and academic practice setting ($P = .0810$) were not found to have a statistically significant correlation with an increased number of UPCs.

Male otolaryngologists had a greater average number of UPCs compared to female otolaryngologists (7.1 and 4.4 UPCs, respectively, $P = .048$) (Figure 4). Otolaryngologists graduating from US medical schools had more UPCs compared to those who completed schooling outside the United States (6.9 and 3.5 UPCs, respectively, $P = .001$).

Within otolaryngologists, subspecialty was not a risk factor for higher UPCs ($P = .18$, ANOVA) (Figure 5). Neurotologists averaged 8.1 UPCs, followed by general otolaryngologists (7.4 UPCs), head and neck otolaryngologists (6.5 UPCs), laryngologists (6.3 UPCs), facial plastic and reconstructive surgeon (FPRS) otolaryngologists (5.6 UPCs), rhinologists (4.9 UPCs), and pediatric otolaryngologists (3.6 UPCs). Analysis of complaint types revealed that dissatisfaction with treatment was most common (44.5%), followed by dissatisfaction with communication (19.4%), accessibility (18.2%), patient concern (10.2%), and billing (7.7%). Per otolaryngologist, complaints regarding treatment were significantly greater compared to the remaining categories ($P < .001$, ANOVA) (Figure 6A). An analysis of complaint types within the “high-risk” group of physicians, defined as the 95th percentile for number of complaints, demonstrates that dissatisfaction with treatment was again most common (38.1%), followed by dissatisfaction with accessibility (21.3%), communication (18.8%), patient concern (14.2%), and billing (7.7%) ($P < .001$, ANOVA) (Figure 6B).

Since 2002, 29 otolaryngologists at participating sites had increased UPCs and qualified for PARS interventions (Table 3); 24 (83%) of the otolaryngologists practiced in academic centers. Initial intervention meetings lasted a median of 30 minutes (range, 15-60 minutes). Annual follow-up meetings described progress, revealed updated local and national comparisons, and provided UPCs recorded over the preceding 12 months; follow-up meetings had a median duration of 20 minutes (range, 6-40 minutes). Participants had a minimum of 2 years of follow-up after the initial intervention; the median follow-up time was 6 years (range, 2-8 years). In both initial and follow-up meetings, messengers responded to common questions and

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**Table 2.** Descriptive Demographics of Otolaryngologists with 0 Unsolicited Patient Complaints (UPCs).

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>% (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>82.5 (156)</td>
</tr>
<tr>
<td>US medical school graduate</td>
<td>87.3 (165)</td>
</tr>
<tr>
<td>Subspecialty</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>42.3 (80)</td>
</tr>
<tr>
<td>Facial plastic and reconstructive</td>
<td>14.8 (28)</td>
</tr>
<tr>
<td>Head and neck</td>
<td>8.5 (16)</td>
</tr>
<tr>
<td>Neurotology</td>
<td>10.1 (19)</td>
</tr>
<tr>
<td>Pediatric</td>
<td>7.4 (14)</td>
</tr>
<tr>
<td>Rhinology</td>
<td>11.6 (22)</td>
</tr>
<tr>
<td>Laryngology</td>
<td>5.3 (10)</td>
</tr>
<tr>
<td>Board-certified</td>
<td>96.3 (182)</td>
</tr>
<tr>
<td>Academic medical center practice</td>
<td>48.1 (91)</td>
</tr>
<tr>
<td>Region of the United States</td>
<td></td>
</tr>
<tr>
<td>Eastern</td>
<td>41.8 (79)</td>
</tr>
<tr>
<td>Central</td>
<td>22.2 (42)</td>
</tr>
<tr>
<td>Western</td>
<td>36.0 (68)</td>
</tr>
<tr>
<td>Medical school graduation year</td>
<td>1985, 1994, 2002*</td>
</tr>
</tbody>
</table>

*1985 represents the oldest quartile, 1994 the median, and 2002 the youngest quartile.

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**Figure 3.** (A) Distribution of otolaryngologists’ unsolicited patient complaints. (B) Comparison of distribution of different physician groups’ unsolicited patient complaints.
Figure 4. Comparison of average total unsolicited patient complaints by (A) sex and (B) location of medical school.

Figure 5. Comparison of unsolicited patient complaints by subspecialty.

Figure 6. Incidence of unsolicited patient complaints by type for (A) all otolaryngologists, and (B) high-risk otolaryngologists (95th percentile).
concerns about the data, as well as discussed participants’ attributions for their high-complaint status and/or reasons for changes in status at follow-up. If asked for help, messengers recommended institutional or regional resources for medical education, coaching, and wellness services.

Over time, there was improvement in total UPCs per year between the baseline, first, and second 4-year follow-up audit periods ($F = 3.5$, $P = .049$, repeated-measures ANOVA). Despite the overall improvement, participants did not progress equally. Rather, some participants demonstrated rapid improvement in the immediate postintervention follow-up period. Participants naturally clustered into 2 groups: “responders” (20/29, 69%) had at least 15% fewer UPCs in the first 2 years of follow-up, while “nonresponders” (9/29, 31%) had the same or more UPCs in the first 2 years of follow-up. On average, the responders’ number of UPCs fell by 45%, while the nonresponders’ number of UPCs increased by 37% in the first 2 years after the initial intervention (Table 3, Figure 7). Among the 10 physicians with 8 years of follow-up data, responders (n = 7) sustained their initial improvements, while nonresponders’ (n = 3) average annual number of UPCs did not improve until at least 4 years postintervention. In both the responder and nonresponder groups, treatment concerns were the most common complaint type, followed by communication concerns (Figure 7).

Evaluation of messenger debriefing reports revealed that the responders were not more likely to be associated with a specific sex, age, practice setting, geographic practice location, number of UPCs prior to intervention, intervention meeting duration, reported participant receptivity to the data, and reported participant attributions of reasons for high numbers of UPCs ($P > .05$ for all tests of independence).

### Discussion

This study sought to identify the distribution of UPCs among otolaryngologists, evaluate which physicians may be at higher risk for UPCs and consequently surgical complications and malpractice claims, and determine if objective UPC data presentation is an effective intervention for reducing UPCs. Although many otolaryngologists (34.9%) did not have associated UPCs, otolaryngologists as a group had a higher number of UPCs per physician compared to other surgeons and nonsurgeons (Figure 3B). A greater number of UPCs were associated with graduation from a US medical school and male sex. Interestingly, subspecialty was not found to be significantly correlated with the number of UPCs. The most common complaint types were those related to dissatisfaction with treatment, which is consistent with a prior study completed within another surgical specialty.30

Importantly, a simple intervention, presenting otolaryngologists with objective, individual UPC data in comparison to their peers, was effective in significantly reducing the number of UPCs in 69% of participants. While general physician education and awareness regarding patient complaints and the associated risks of malpractice claims and surgical complications are important, targeted education for physicians at higher risk may be more efficient and effective. As such, it may be possible to use physician demographics, behaviors, and prior trends to more accurately identify high-risk otolaryngologists before the accrual of patient complaints. In other words, with predictive capacity, UPCs, malpractice suits, and surgical complications may be largely preventable through targeted intervention in high-risk physicians. Once identified, most high-risk physicians responded to peer-comparative interventions. Importantly, the peer messenger process has been shown to be sustainable, as physicians’ colleagues are willing to intervene over extended time periods given ongoing support from leadership, training, and actionable data.24 Future studies will focus on validating predictive models that would identify high-risk otolaryngologists and other physicians for earlier, targeted intervention.

This study has limitations that warrant discussion. The study sample includes a large proportion of otolaryngologists practicing in an academic setting, which may overrepresent this group of participants and introduce a selection bias if this group is associated with increased complexity of care and treatment risks. We did not have access to patient volume data for individual otolaryngologists, and therefore, the UPC analysis did not adjust for patient volume. Despite this, prior studies controlling for clinical volume have demonstrated that UPCs act as an independent risk factor for malpractice claims.2,18,19 Because the PARS group involves many health care institutions, there exists the potential for incomplete and heterogenous data collection. Ongoing analyses compare the number of UPCs reported for each organization and the expected value based on organizational size, number of physicians, and the PARS group’s experience.29 Each organization reported a number of UPCs equal to or greater than the calculated expectation.

### Table 3. Average Annual Number of Unsolicited Patient Complaints Pre- and Postintervention for Initial Responders and Nonresponders.

<table>
<thead>
<tr>
<th>Audit Period</th>
<th>Responders</th>
<th>Nonresponders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preintervention</td>
<td>7.4 (3.9), 20</td>
<td>8.1 (7.9), 9</td>
</tr>
<tr>
<td>First 2 Years</td>
<td>4.1 (4.6), 20</td>
<td>11.1 (8.8), 9</td>
</tr>
<tr>
<td>Postintervention</td>
<td>4.7 (3.8), 13</td>
<td>8.8 (4.2), 4</td>
</tr>
<tr>
<td>First 4 Years</td>
<td>5.2 (2.7), 7</td>
<td>4.3 (5.3), 3</td>
</tr>
</tbody>
</table>

*Values are presented as annualized average number of unsolicited patient complaints (SD), number of physicians with complete data.

![Figure 7](image-url)
In addition, the intervention results are limited by the small sample size of participating otolaryngologists. Despite this, the proportion of responders in this study is similar to that found by Pichert et al., who reported a responder rate of 64% in a study that evaluated 373 surgeons and nonsurgeons. This study is also limited by the length of follow-up; the evaluation of lasting impact is important for determining the need for repeated intervention. A prior study has shown that only 3% of responders relaunched for intervention, and it would follow that this trend would persist among otolaryngologists as well, but further evaluation of intervention durability would be prudent.

Moreover, the PARS process does not investigate accuracy or validity of complaints. The rationale is that evaluating allegations’ validity requires review beyond most health care professionals’ and medical centers’ resources. Regardless of assigned merit, aggregated complaints are associated with risk management activity and identify a small proportion of physicians who stand out. Of course, the retrospective review of data has inherent limitations that apply to this study. Finally, UPC reduction could be a function of regression to the mean, but not all individuals improved in this or previous studies involving similar interventions.

**Implications for Practice**

This study demonstrates the skewed distribution of UPCs among otolaryngologists and that a small percentage of otolaryngologists account for a disproportionate number of patient complaints. Importantly, peer-comparative, peer-delivered awareness feedback effectively reduced UPCs in a majority of identified high-risk otolaryngologists. Because UPCs serve as a proxy for malpractice lawsuits, we can identify high-risk otolaryngologists as a means of targeted intervention. High-risk otolaryngologists who are informed of their comparative standings have the opportunity to address practice behaviors and organizational factors that lead to patient dissatisfaction and malpractice lawsuit risk.

**Author Contributions**

Ashley M. Nassiri, study design, data collection, analysis of the data, drafting and critical review of the manuscript; James W. Pichert, study design, analysis of the data, drafting and critical review of the manuscript; Henry J. Domenico, statistical analysis and study design, critical review of the manuscript; Mitchell B. Galloway, statistical analysis and study design, critical review of the manuscript; William O. Cooper, collection of data, study
design, critical review of the manuscript; Marc L. Bennett, analysis of data, preparation and critical review of the manuscript.

Disclosures

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References