UC Irvine
UC Irvine Previously Published Works

Title

Patients' Online Perception and Ratings of Neurotologists.

Permalink

https://escholarship.org/uc/item/60p618td

Journal

Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology, 40(1)

ISSN

1531-7129

Authors

Goshtasbi, Khodayar
Lehrich, Brandon M
Moshtaghi, Omid
et al.

Publication Date

2019

DOI

10.1097/mao.0000000000002075

Peer reviewed

Patients' Online Perception and Ratings of Neurotologists

*Khodayar Goshtasbi, *†Brandon M. Lehrich, ‡Omid Moshtaghi, *Mehdi Abouzari,
*†Ronald Sahyouni, *Kian Bagheri, *Afsheen Moshtaghi, *Sarah D. Tajran, *Lauren Lee,
*Harrison W. Lin, and *†Hamid R. Djalilian

*Department of Otolaryngology—Head and Neck Surgery; †Department of Biomedical Engineering, University of California, Irvine;
and ‡Department of Otolaryngology—Head and Neck Surgery, University of California, San Diego, California

Objectives: To assess and characterize patients' online ratings and comments of neurotologists and determine factors that correlate with higher ratings.

Methods: All the American Neurotology Society members were queried on Healthgrades, Vitals, RateMDs, Yelp, and Google from March to June 2018. All ratings were normalized for comparison on a five-point Likert scale. All comments were categorized based on context and for positive/negative aspect.

Results: Of the 560 American Neurotology Society members, 465 (83%) were rated on at least one online platform. Of those rated, 420 (90%) were on Healthgrades, 392 (84%) on Vitals, 283 (61%) on RateMDs, 232 (50%) on Google, and 56 (12%) on Yelp. Across all platforms, the average overall rating was 4.06 ± 0.68 (range: 1.00–5.00). There were significant positive correlations between overall rating and specific ratings ($p < 0.01$) on individual topics. Moreover, categorizing 5,317 narrative comments elicited the majority to be related to perceived physician bedside manner and clinical outcome. Although the number of positive comments outnumbered the negative ones, only the negative comments correlated (negatively) with the overall score ($p < 0.01$). Attending a top 25- or 50-medical schools or residency programs did not correlate with their rating.

Conclusions: Online ratings and comments for neurotologists are highly dependent on patient perceptions of physician competence, caring bedside manner, and office management. Minimizing the number of negative comments, especially regarding perceived physicians' professionalism and communication, clinical outcome, bedside manners, and office management, leads to higher calculated overall scores and online perception. **Key Words:** Neurotologist— Online rating—Patient rating—Physician rating.

Otol Neurotol **40:**139–143, 2019.

Patients are increasingly relying on the Internet to find information about their healthcare providers and leave reviews/comments on a public forum. Studies have been shown that up to 80% of patients query the Internet for healthcare-related information (1), and 42% of patients in 2014 (compared with 35% in 2013) viewed online physician rating websites before their initial visit (2–4), subsequently impacting the patients' decision to visit a physician (5–7). Previous studies have investigated online ratings in plastic surgery (8–10), orthopedic surgery (11), and radiology (12). Studies have found that 88 to 90% of reviews/ratings are positive, while only 6% were negative (13,14). Furthermore, no correlation existed between physician ratings and number of procedures performed (15), malpractice claims (13), and quality of care (measured by risk-adjusted mortality rate) (16). Lastly, with only a few ratings/comments for every hundreds to thousands of patients that a physician observes, the perceptive accuracy of the ratings was examined in Holliday et al.'s study. Their study showed that physicians agreed with numerical and narrative comments 36% of the time compared with patients who claimed these ratings/narratives were accurate 57% of the time (17).

In the field of otolaryngology, Sobin and Goyal examined online ratings across all otolaryngology subspecialties demonstrating that state and years in practice did not affect the ratings and stating that physicians tend to have a negative perception of these websites (18). However, no study to date has investigated online ratings specifically for neurotologists. We aimed to assess and characterize patients' online ratings of neurotologists and determine predictive factors for higher ratings. Moreover, to our knowledge, no study has read and categorized comments extensively. This new information can help guide important aspects of patient care and treatment from their perspective.

METHODS

All the American Neurotology Society (ANS) members were queried on Healthgrades, Vitals, RateMDs, Google, and Yelp from March to June 2018. Information extracted included sex, years in practice, medical school and residency program attended, state of practice, and rating criteria provided by the websites. All ratings were standardized on a five-point Likert scale. Additionally, a weighted overall rating for each neurotologist was calculated via the following formula: [(Healthgrades rating × Number of Healthgrades votes) + (Vitals rating × Number of Vitals votes) + (RateMDs rating × Number of RateMDs votes) + (Google rating × Number of Google votes) + (Yelp rating × Number of Yelp votes)]/(Total number of votes across the five platforms). States of practice were categorized into four geographical regions: Northeast, Midwest, South, and West. *U.S. News and World Report Rankings* for 2017 were used to rank the programs. All comments for each neurotologist were reviewed and categorized by type. Statistical analysis was performed using PASW Statistics 18.0 software (SPSS Inc., Chicago, IL) with $p < 0.05$ considered statistically significant. Pearson correlation, independent samples t tests, and one-way ANOVA were used to compare continuous variables.

RESULTS

Of 560 ANS neurotologists, 465 (83%) had ratings on at least one online platform. Of those with ratings, 420 (90%) were on Healthgrades, 392 (84%) on Vitals, 283 (61%) on RateMDs, 232 (50%) on Google, and 56 (12%) on Yelp. Across all platforms, the average overall rating was 4.06 ± 0.68 (range: 1.00–5.00), with an average of 26.9 ± 31.74 ratings per neurotologist (median = 19.0) (Table 1). The 25th and 75th percentiles for overall rating were 3.65 and 4.52, respectively. As shown in Table 2, there was a statistically significant ($p < 0.01$) positive correlation between overall rating and ratings on many of the subcategories (e.g., knowledge answering questions, punctuality/promptness, office staff and scheduling efficiency, bedside manner).

Overall rating by geographic region was as follows with number and percentage of physicians in parenthesis: Northeast (89, 15.9%): 3.99 ± 0.70, Midwest (109, 19.5%): 4.09 ± 0.73, South (149, 26.6%): 4.31 ± 1.65, and West (99, 17.7%): 3.90 ± 0.64. One-way ANOVA demonstrated a significant difference in overall rating and region of practice ($p = 0.044$); specifically, Southern regions had higher ratings than Western regions ($p = 0.036$).

TABLE 2. *Association between specific factors underlying overall neurotologist ratings and the weighted overall rating*

Criteria	Average Rating (SD)	p Value	r^a
Healthgrades			
Physician's trustworthiness	4.29 (3.29)	0.041	0.1
Explaining conditions well	4.10 (1.35)	<0.01	0.273
Answering questions	4.02 (0.91)	<0.01	0.420
Time well spent	4.02 (0.90)	<0.01	0.416
Office scheduling	4.19 (2.58)	0.133	0.074
Office environment	4.30 (0.65)	<0.01	0.281
Staff friendliness	4.18 (0.71)	<0.01	0.183
Vitals			
Easy appointment	4.14 (0.79)	<0.01	0.369
Promptness	4.06 (0.83)	<0.01	0.480
Friendliness	4.30 (0.75)	<0.01	0.179
Accurate diagnosis	4.21 (0.90)	<0.01	0.652
Bedside manners	4.08 (0.97)	<0.01	0.721
Spending adequate time	4.08 (0.97)	<0.01	0.704
Appropriate follow-up	4.05 (1.00)	<0.01	0.669
Wait-time in minutes	19.22 (10.57)	<0.01	−0.281
RateMDs			
Staff	3.98 (1.08)	<0.01	0.478
Punctuality	3.80 (1.14)	<0.01	0.451
Helpfulness	3.75 (1.31)	<0.01	0.583
Knowledge	3.97 (1.20)	<0.01	0.497
Google	4.28 (0.94)	<0.01	0.394
Yelp	3.50 (1.78)	<0.01	0.436

^{a}Pearson's bivariate correlation was performed comparing each specific criterion with the weighted overall rating.
SD indicates standard deviation.

There was no significant correlation between years of experience (mean: 25.5 ± 12.6, range: 3–57) and rating (Spearman's $p = 0.238$, $R = -0.057$). Moreover, independent sample t test showed that neurotologists who attended a top-50 medical schools (both research [$p = 0.661$] and primary care [$p = 0.654$]) or residency [$p = 0.528$]) did not differ in overall ratings or ratings broken down by websites compared with those who did not attend a top-50 program. Analogous results were obtained when broken down by top-25 programs (Table 3). A total of 5,317 comments over four platforms (812 on Healthgrades; 2,770 on Vitals; 1,454 on RateMDs; and 281 on Yelp) were analyzed and categorized (Table 4). Since the categories were not mutually exclusive (one comment could meet multiple categories' criteria), this added up to a total of 8,721 category entries.

TABLE 1. *Online ratings of the American Neurotology Society members from different online rating platforms*

Rating Website	No. of Rated Neurotologists (%)	Average Overall Rating Score (SD)	Average Number of Raters per Neurotologists With Rating (SD)	Average Number of Comments per Rated Neurotologist (SD)
Healthgrades	420 (75.0)	3.96 (0.88)	11.85 (11.96)	2.65 (2.85)
Vitals	392 (70.0)	4.05 (0.77)	18.55 (17.30)	7.71 (12.88)
RateMDs	283 (50.5)	4.00 (0.99)	5.23 (6.13)	5.16 (6.12)
Google	232 (41.4)	4.28 (0.94)	5.03 (6.24)	—
Yelp	56 (10.0)	4.00 (1.35)	2.0 (8.03)	2.00 (8.03)

SD indicates standard deviation.

TABLE 3. *Top medical school and residency program rankings' relationship with the respective physician's weighted overall rating*

Criteria	Mean Score of Those Meeting Criteria (n)	Mean Score of Those Not Meeting Criteria (n)	*p* Value[a]
Top-50 medical school research	4.13 (237)	4.10 (228)	0.661
Top-50 medical school primary care	4.14 (225)	4.09 (240)	0.654
Top-50 otolaryngology residency program	4.15 (227)	4.08 (238)	0.528
Top-25 medical school research	4.21 (136)	4.07 (329)	0.462
Top-25 medical school primary care	4.11 (137)	4.11 (328)	0.128
Top-25 otolaryngology residency program	4.17 (172)	4.08 (293)	0.966

[a]Results were calculated via independent sample *t* test.

Of these, 5,917 (67.8%) had positive and 2,804 (32.2%) negative connotations.

DISCUSSION

The majority of neurotologists have one or more online reviews. Generally, overall ratings are high with an average of 4.06 ± 0.68 out of 5. Our findings are consistent with the results reported by Sobin and Goyal (18), which found that of 281 academic otolaryngologists, 266 (94.7%) had a profile on Healthgrades, and 247 (87.9%) on Vitals, with an average rating of 4.4 and 4.25, respectively. These higher average ratings compared with our findings (3.96 and 4.05 for Healthgrades and Vitals, respectively) may potentially be due to their inclusion of solely academic faculty members, while our current study includes all ANS members regardless of their professional affiliations.

We found that the medical school ranking, residency ranking, and years in practice did not influence ratings or comments, resembling others' findings (18); however, contrary to previous results, we showed that the state of residence and practice (namely Southern US) may positively influence rating. Although many factors demonstrated statistically significant correlation with average overall rating, factors that had the strongest correlation with overall rating ($r \geq 0.5$, $p < 0.01$) were accurate diagnosis, bedside manner, spending adequate time with patients, appropriate follow-up, and ''helpfulness.'' Analogous to our results, a previous retrospective study evaluating online ratings of orthopedic surgeons in a major metropolitan region showed that ease of scheduling, time spent with patient, wait time, surgeon proficiency and knowledge, and bedside manner are the most important predictors of higher ratings (11). These factors suggest that the patient experience in addition to the care influences their purported satisfaction and subsequent rating of their physician. Additionally, factors beyond diagnosis and treatment (namely bedside manner and office management) should not be overlooked.

With regards to comments on online platforms, it was previously shown that neurotologists had a mean number of 2.8 comments per practitioner profile on Vitals (18), which is lower than our finding (7.7 comments per practitioner). This may be due to our more recent data collection. It is worth considering that our larger group of neurotologists (ANS members) with or without academic affiliations may influence the desire by the patient to rate their physician. For example, patients who are not satisfied with their received services will potentially end up visiting an academic faculty at a tertiary care neurotology clinic and consequently leave more comments on their previous physicians' profiles.

Additionally, Sabin and Goyal (18) showed that of all the comments left on otolaryngologists' profiles, 27.3% were negative, with neurotologists having the second

TABLE 4. *Comment categorization and the respective number of comments that contained the underlying theme (not mutually exclusive)*

	Positive Comments		Negative Comments	
Comment Category	n (Mean $\pm$ SD per Physician)	*p* Value (r)[a]	n (Mean $\pm$ SD per Physician)	*p* Value (r)[a]
Professionalism, communication, answering questions	1526 (2.72 $\pm$ 4.26)	0.933 (−0.004)	621 (1.11 $\pm$ 2.13)	<0.01 (−0.447)
Clinical outcome	1723 (3.077 $\pm$ 4.61)	0.440 (−0.36)	595 (1.062 $\pm$ 1.99)	<0.01 (−0.420)
Friendliness, caring, and feeling comfortable	1530 (2.73 $\pm$ 4.08)	0.418 (0.038)	566 (1.01 $\pm$ 2.93)	<0.01 (−0.407)
Spending time	340 (0.61 $\pm$ 1.11)	0.307 (0.047)	264 (0.471 $\pm$ 1.10)	<0.01 (−0.346)
Wait time	97 (0.17 $\pm$ 0.49)	0.276 (−0.051)	286 (0.51 $\pm$ 1.28)	<0.01 (−0.271)
Helpful and friendly staff	574 (1.02 $\pm$ 2.20)	0.607 (−0.024)	208 (0.37 $\pm$ 1.12)	<0.01 (−0.239)
Getting appointments and follow-ups	101 (0.18 $\pm$ 0.58)	0.758 (−0.014)	141 (0.25 $\pm$ 0.76)	<0.01 (−0.181)
Cost and insurance difficulties	26 (0.05 $\pm$ 0.28)	0.605 (0.024)	123 (0.22 $\pm$ 0.70)	<0.01 (−0.217)

[a]Pearson correlation was done to show the effective comment categories on the physician's weighted overall rating.
SD indicates standard deviation.

highest percentage of negative comments (33.0%) among the five otolaryngology subspecialists analyzed (rhinology had the highest [33.4%] and head and neck specialists had the lowest [10.7%] percentage). Given that our comment categories were not mutually exclusive, we saw very similar results of 68% positive and 32% negative remarks. In our cohort, we found the highest number of both positive and negative comments left by patients across all platforms related to perceived physician competence and bedside manner. This trend was also observed in a study of 3,000 randomly selected narrative comments from the German physician rating website Jameda, which showed that from the 20% of the total analyzed comments categorized as negative and/or neutral, negative comments focused on physician competence and friendliness with the patient (14).

In our study, we observed a negative correlation between the neurotologists' overall score and the number of negative comments concerning perceived professionalism, communication, clinical outcomes, bedside manner, and office/insurance difficulties. However, positive comments did not provide any statistically significant correlation in our study, implying negative comments on neurotologists' profiles had the highest impact on their overall score. Two-third of negative comments were categorized as physician professionalism and communication (22%), clinical outcome (21%), and friendliness and caring manner (20%). This shows that negative ratings which influence the overall rating the most are more about the patient experience than the quality of care and outcome. Moreover, we show that regardless of physicians' clinical competency and caring bedside manner, poor office management can result in enough narrative comments to significantly lower the respective online ratings. Among these, wait time (10%), staff's friendliness/helpfulness (7%), ease of appointment and follow-up arrangements (5%), and cost or insurance complaints (4%) contributed to more than a quarter of the negative comments. Overall, we show that minimizing the number of negative narrative comments on physicians' profiles leads to higher calculated overall scores as expected.

The trends observed in our study have also been identified in other medical specialties. In a study of 275 sports medicine surgeons, Nwachukwu et al. (19) found surgeon competence and communication to be the main topics for comment inclusion. Additionally, in a large retrospective analysis of Yelp reviews on emergency medicine physicians, communications with doctors and nurses were primary reasons underlying patients leaving comments on online platforms (20). Given these findings, office staff interactions, time spent with patients, office wait time, and listening to patient's concerns seem to be factors more frequently mentioned in negative physician reviews. As such, focusing on improving these factors throughout the physician–patient interaction can lead to enhanced patient satisfaction and may improve the patient's healthcare experience.

Selection bias of individuals who choose to submit reviews and the greater impact of negative reviews are the main limitations of these online platforms. It is important to note that physician rating websites display subjective perceptions which do not necessarily correlate with objective measures (e.g., physician competence, quality of care) (5,21). With respect to ratings, if a physician has a small number of ratings and comments, one outlier rating or comment will significantly impact the physicians' overall rating. Moreover, one can argue that it is more common for patients who have had an extremely positive or negative experience to comment on their physicians compared with most other patients. Although online ratings may not truly reflect or assess the quality of an individual physician's healthcare delivery, patients are increasingly relying on online platforms for finding and vetting their physician before their initial visit, and thus these platforms are important considerations for neurotologists' online image and practice. Thus, though these ratings as well as this study are not based on objective measures and typical scientific evaluations, they remind us of the traits and values that play significant roles in the patients' perception of a ''good'' physician. Another limitation of this study is the inhomogeneity of our studied population (ANS neurotologists) in terms of practice patterns and patient populations. In other words, some active members of the ANS have a significant portion of their practice that is oriented toward different areas of otolaryngology (e.g., general otolaryngology, rhinology, etc.), while neurotologists in an academic center may only visit patients with otologic/neurotologic complaints. Moreover, not all Google comments were categorized in this study, because they would not fit into the broad categories.

CONCLUSION

Online rating websites are becoming important platforms that continue to gain popularity, leaving physicians subject to patients' openly-accessible reviews and ratings. Therefore, a better understanding of the factors that contribute to higher online ratings may improve patient satisfaction in the clinic. Herein, we showed that online ratings and comments for neurotologists are highly dependent on patient perceptions of physician competence, caring bedside manner, and office management. Though these perceptions influence both ratings and positive/negative comments left on the sites, we show that minimizing the number of negative comments, especially regarding physicians' professionalism and communication, clinical outcome, bedside manners, and office management, leads to higher calculated overall scores and online perception.

REFERENCES

1. Interactive H. *Just Looking: Consumer Use of the Internet to Manage Care*. Oakland: California Health Care Foundation; 2008
2. Sarasohn-Kahn J. *The Wisdom of Patients: Health Care Meets Online Social Media*. Oakland: California Health Care Foundation; 2008.

3. Mostaghimi A, Crotty BH, Landon BE. The availability and nature of physician information on the internet. *J Gen Intern Med* 2010;25:1152–6.
4. Shemirani NL, Castrillon J. Negative and positive online patient reviews of physicians-1 vs 5 stars. *JAMA Facial Plast Surg* 2017;19:435–6.
5. Hanauer DA, Zheng K, Singer DC, Gebremariam A, Davis MM. Public awareness, perception, and use of online physician rating sites. *JAMA* 2014;311:734–5.
6. Pasternak A, Scherger JE. Online reviews of physicians: What are your patients posting about you? *Fam Pract Manag* 2009;16:9–11.
7. Woodward C. ''Anti-defamation'' group seeks to tame the rambunctious world of online doctor reviews. *CMAJ* 2009;180:1010.
8. Camp SM, Mills DC 2nd. The marriage of plastic surgery and social media: A relationship to last a lifetime. *Aesthet Surg J* 2012;32:349–51.
9. Vu AF, Espinoza GM, Perry JD, Chundury RV. Online ratings of ASOPRS surgeons: What do your patients really think of you? *Ophthalmic Plast Reconstr Surg* 2017;33:466–70.
10. Lewis P, Kobayashi E, Gupta S. An online review of plastic surgeons in southern California. *Ann Plast Surg* 2015;74 (suppl 1):S66–70.
11. Bakhsh W, Mesfin A. Online ratings of orthopedic surgeons: Analysis of 2185 reviews. *Am J Orthop (Belle Mead NJ)* 2014;43:359–63.
12. Gilbert K, Hawkins CM, Hughes DR, et al. Physician rating websites: Do radiologists have an online presence? *J Am Coll Radiol* 2015;12:867–71.
13. Gao GG, McCullough JS, Agarwal R, Jha AK. A changing landscape of physician quality reporting: Analysis of patients' online ratings of their physicians over a 5-year period. *J Med Internet Res* 2012;14:e38.
14. Emmert M, Sander U, Pisch F. Eight questions about physician-rating websites: A systematic review. *J Med Internet Res* 2013;15:e24.
15. Segal J, Sacopulos M, Sheets V, Thurston I, Brooks K, Puccia R. Online doctor reviews: Do they track surgeon volume, a proxy for quality of care? *J Med Internet Res* 2012;14:e50.
16. Okike K, Peter-Bibb TK, Xie KC, Okike ON. Association between physician online rating and quality of care. *J Med Internet Res* 2016;18:e324.
17. Holliday AM, Kachalia A, Meyer GS, Sequist TD. Physician and patients view on public physician rating websites: A cross-sectional study. *J Gen Intern Med* 2017;32:626–31.
18. Sobin L, Goyal P. Trends of online ratings of otolaryngologists: What do your patients really think of you? *JAMA Otolaryngol Head Neck Surg* 2014;140:635–8.
19. Nwachukwu BU, Adjei J, Trehan SK, et al. Rating a sports medicine surgeon's ''quality'' in the modern era: an analysis of popular physician online rating websites. *HSS J* 2016;12:272–7.
20. Kilaru AS, Meisel ZF, Paciotti B, et al. What do patients say about emergency departments in online reviews? A qualitative study. *BMJ Qual Saf* 2016;25:14–24.
21. Greaves F, Pape UJ, King D, et al. Associations between Web-based patient ratings and objective measures of hospital quality. *Arch Intern Med* 2012;172:435–6.