



Online Physician Reviews Do Not Reflect Patient Satisfaction Survey Responses

R. Jay Widmer, MD, PhD; Matthew J. Maurer, MS; Veena R. Nayar, MBA;
Lee A. Aase, MA; John T. Wald, MD; Amy L. Kotsenas, MD; Farris K. Timimi, MD;
Charles M. Harper, MD; and Sandhya Pruthi, MD

Abstract

Online physician reviews have become increasingly prevalent and are a common means by which patients explore medical options online. Currently, there are no data comparing physicians with negative online reviews and those without negative reviews. We sought to compare industry-vetted patient satisfaction surveys (PSSs), such as Press Ganey (PG) PSSs, between those physicians with negative online reviews and those without negative reviews. Overall, there were 113 unique individuals with negative online reviews from September 1, 2014, to December 31, 2014, with 8 being nonphysicians. We matched 113 physicians in similar departments/divisions. We obtained PG PSS scores of both groups and compared the mean scores of the 2 groups. Press Ganey PSS scores were available for 98 physicians with negative online reviews compared with 82 matched physicians without negative online reviews. The mean raw PG PSS scores were not different between the 2 groups (4.05; 95% CI, 3.99-4.11 vs 4.04; 95% CI, 3.97-4.11; $P=.92$). We also noted no difference in mean scores on questions related to physician-patient communication and interaction skills between those with poor online reviews and those without (4.38; 95% CI, 4.32-4.43 vs 4.41; 95% CI, 4.35-4.47; $P=.42$). However, there was a significantly lower non-physician-specific mean in those with negative online reviews (3.91; 95% CI, 3.84-3.97) vs those without negative online reviews (4.01; 95% CI, 3.95-4.09) ($P=.02$). Here, we provide data indicating that online physician reviews do not correlate to formal institutional PG PSS. Furthermore, physicians with negative online reviews have lower scores on non-physician-specific variables included in the PG PSSs, emphasizing that these discrepancies can negatively affect overall patient experience, online physician reviews, and physician reputation. It is prudent that an improved mechanism for online ratings be implemented to better inform patients about a physician's online reputation.

© 2018 Mayo Foundation for Medical Education and Research. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>) ■ *Mayo Clin Proc.* 2018;93(4):453-457

Online physician rating sites are rapidly emerging, with 1 in 6 physicians being rated.¹ These review sites have been shown to affect patient attitudes² but have poor correlation with more rigorous forms of patient satisfaction assessments such as Press Ganey (PG) patient satisfaction survey (PSS) in a single department.³ Furthermore, there appears to be no correlation between online physician ratings and outcomes such as coronary bypass mortality rates among cardiovascular surgeons.⁴ The apparent discrepancy in these physician evaluations^{5,6} provides strong rationale for the development of mechanisms for more accurate online ratings for physicians and health care organizations so as to better inform patients

who use social media platforms to guide them in their health care experience.

Although up to 90% of these ratings are positive, negative reviews can be particularly challenging for physician reputation and online prestige and negatively affect the physician-patient relationship.⁷ It is unclear whether physicians with negative online reviews have lower patient satisfaction scores compared with a similarly matched cohort of their working peers. What is not known is whether negative online reviews are reflective of physician communication and interactive skills or of the entire patient experience and journey at the medical center. These experiences include interaction with desk staff, nursing, physical environment, appointment



For editorial comment, see page 404

From the Department of Cardiovascular Diseases (R.J.W., F.K.T.), Department of Health Sciences Research (M.J.M.), Department of Public Affairs (V.R.N.), Mayo Clinic Center for Social Media (L.A.A., F.K.T.), Department of Radiology (J.T.W., A.L.K.), Department of Neurology (C.M.H.), and Department of General Internal Medicine (S.P.), Mayo Clinic, Rochester, MN.

TABLE. Departmental Breakdown of Negative Online Reviews and Total Number of Physicians Reviewed^a

Department	Total number of negative online reviews	Number of individuals with negative online reviews	Number of male/female individuals
Allergy	4	2	2/0
Cardiology	3	3	2/1
Community medicine	13	7	3/4
Dental	1	1	1/0
Dermatology	3	2	1/1
Emergency department	4	3	2/1
Endocrinology	3	3	2/1
ENT	7	5	3/2
Family medicine	4	4	2/2
Gastroenterology	9	9	7/2
General internal medicine	12	11	6/5
Genetics	2	1	0/1
Hematology	2	2	2/0
Infectious disease	2	2	1/1
Neurology	4	4	1/3
Neurosurgery	2	2	2/0
Obstetrics/gynecology	4	4	4/0
Ophthalmology	7	5	3/2
Orthopedics	2	2	2/0
Physical medicine/rehabilitation	17	12	9/3
Plastic surgery	1	1	0/1
Primary care internal medicine	8	5	3/2
Psychiatry	10	9	4/5
Pulmonary	3	3	3/0
Radiology	2	2	2/0
Radiation oncology	2	2	1/1
Rheumatology	2	2	1/1
Trauma surgery	4	3	2/1
Urology	4	2	1/1

^aThe total number of negative online reviews in the second column represents all the negative reviews reported for that particular department/division (n=141 total negative online reviews). The third column represents the total number of physicians with negative online reviews per department/division (n=113 individuals).

access, waiting time, problem resolution, billing, parking, or other items not directly involving the patient-physician interaction.

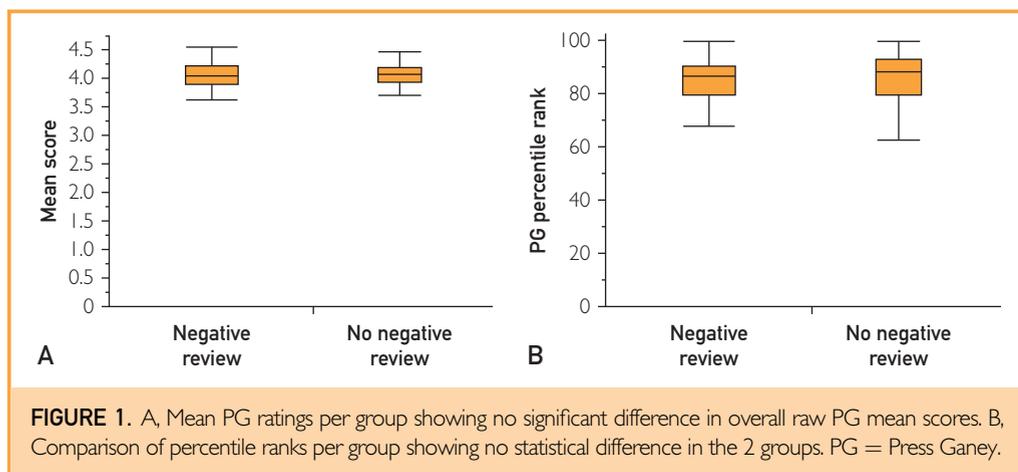
Here, we sought to compare the formal, institution-collected, PG PSSs of a cohort of physicians with negative open source online reviews with those of a matched cohort of physicians without negative online reviews to discern any differences in PG PSS scores between the 2 groups; and to explore whether any of these negative online reviews correlated with physician-specific communication and interaction variables.

METHODS

A pilot project developed from September 1, 2014, through December 31, 2014, established the feasibility of using Google and Google Alerts institution-wide using departmental and divisional secretaries to track negative online reviews of physicians at Mayo Clinic's campus in Rochester, Minnesota. Negative online reviews were classified as any ratings below 50% on a numerical scale, ratings below "C" on a letter scale, and the comments associated therein. An initial Google search in September was combined with data collected through December 2014. These negative reviews were then collated and shared with patient experience leadership staff, the Mayo Clinic Center for Social Media, and the departmental/division chair to inform the physician and provide counsel on managing the physician's online reputation.

There were 113 unique individuals with negative online reviews out of 2148 physicians searched spanning 28 departments and divisions (Table) during the same 4-month period (from September through December 2014). A separate list of 113 matched physicians without negative online reviews was randomly generated by computer to provide an equal number of physicians on a per department/division basis (Table) and verified, ensuring no duplicates to serve as a comparative cohort. The National Provider Identifier of this cohort was used to pull PG PSS scores for each physician during that same time period. At the time, these were labeled Avatar scores. Avatar was acquired by PG in May 2016 and was subsequently labeled PG PSS.

Press Ganey PSS scores (on a scale of 0-5) were obtained by the institution for each physician and divided into scores on physician-specific and non-physician-specific questions (Supplemental Table, available online at <http://www.mayoclinicproceedings.org>). We compared the overall PG PSS mean score for each physician in both those with negative online reviews (n=98) and those without negative online reviews (n=82). We compared the mean scores on the physician-specific questions and non-physician-specific questions for the entire cohort. We then analyzed physician-specific vs non-physician-specific means in those who received negative online reviews and those who did not. Finally, we



compared the percentile ranks of physicians at Mayo Clinic between the 2 groups.

For data analysis we transferred the downloaded raw metrics from Excel to JMP, a statistical software package (version 9.0, SAS Institute Inc). For continuous data, results were summarized as means and 95% CIs. Means \pm SDs were calculated and presented. Two-sample *t* tests were used to compare continuous scores between groups; chi-square tests were used to compare categorical results between groups. A conventional 2-sided α level of .05 was used for all data to determine statistical significance.

RESULTS

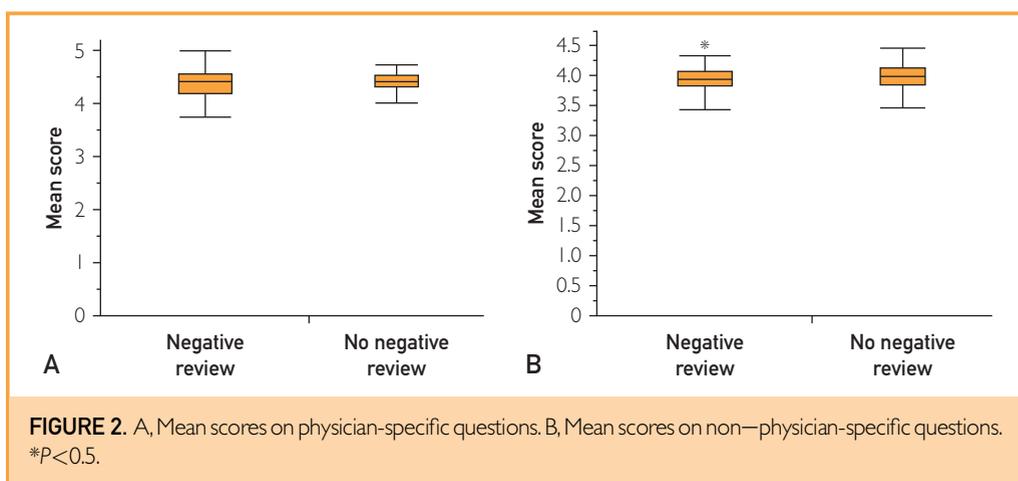
There were 141 total negative online reviews on 113 individuals. Sixteen of these individuals had multiple (between 2 and 4) negative reviews. Eight of the 113 individuals were non-physicians (nurse practitioners, physician assistants, ophthalmology doctorates, or PhD psychologists) and were not included in the analysis (Supplemental Figure, available online at <http://www.mayoclinicproceedings.org>). In the combined cohort (113 individuals with negative online reviews and 113 matched individuals), there were PG PSS scores for 98 physicians with negative online reviews (86%; 28 departments/divisions) and for 82 of those in the matched cohort of physicians without negative online reviews (73%; 28 departments/divisions). The proportion of physicians having PG PSS scores available in the negative online group (86%) was not different from that of physicians who had PG PSS scores available in the matched cohort (73%) ($P=.18$). There was similar

representation from the 28 divisions/departments between the 2 groups (Table). There was a mean of 1.2 ± 0.4 reviews per physician in the online analysis, with 22.9 ± 15.9 reviews per physician for the PG PSS scores.

The mean PG PSS scores (on a scale of 0-5) were not significantly different between physicians with negative online reviews (4.05; 95% CI, 3.99-4.11) and those without negative online reviews (4.04; 95% CI, 3.97-4.11) ($P=.92$) (Figure 1, A). Furthermore, there was no significant difference in percentile ranks of PG PSS scores between the 2 groups (negative online reviews: 84.8; 95% CI, 83.0-86.6 vs no negative online reviews: 85.9; 95% CI, 83.9-87.9; $P=.40$) (Figure 1, B).

In total, the physician-specific means were significantly higher than the non-physician-specific means (4.41; 95% CI, 4.31-4.44 vs 3.91; 95% CI, 3.83-3.98; $P<.0001$). However, there was no difference in physician-specific means between physicians with negative online reviews and those without negative online reviews (4.38; 95% CI, 4.32-4.43 vs 4.41; 95% CI, 4.35-4.47, $P=.42$) (Figure 2, A). The mean scores on the non-physician-specific questions were significantly lower among those with negative online reviews (3.91; 95% CI, 3.84-3.97) vs those without negative online reviews (4.01; 95% CI, 3.95-4.09) ($P=.02$) (Figure 2, B).

In a sensitivity analysis to evaluate the possibility of underestimating negative PG PSS scores, we also evaluated whether physicians had received any overall PG PSS score less than 3 on at least 1 visit during the time frame. The percentage of physicians with any negative PG PSS score was similar in both



physicians with negative online reviews (43%) and physicians without negative online reviews (55%) (chi-square, $P = .11$).

DISCUSSION

In this work, we describe the novel findings that negative online physician reviews do not equate to similarly negative formal institutional PG PSS scores, especially when compared to a matched cohort who does not have a negative online presence. These findings are important, not only in disassociating formal PG PSS scores from online review comments but also in emphasizing that physicians need to be cognizant of their reputation both online and in-person.

These data reveal no statistical difference in formal PG PSS scores between those physicians who have negative online reviews and those who do not. More importantly, there is a stark chasm between patient perception of the physician-related performance and non-physician-specific variables. More specifically, the adverse component of the negative online reviews is not necessarily related to physician-specific interactions with the patient, but rather to the non-physician-related complaints. In fact, physicians with negative online reviews had significantly lower non-physician-related scores than did those without negative online reviews ($P = .2$).

Although these data cannot tease apart what particular instance or patient experience drove the negative online review, it is prudent that physicians pay careful attention to their “in-person” as well as “online” presence to maintain their true reputation.

Previous work has shown a distinction between these online physician reviews and certain metrics such as outcomes⁴ and other more rigorous forms of PSSs.^{5,6} With respect to these online physician reviews, the sample size is often small and the reviews may be biased, potentially creating an inaccurate and unfair reflection on a physician—often without the physician being aware.³ Furthermore, these online physician reviews are unstructured and not systematically designed to thoroughly review the physician—patient interaction on the entire patient experience and journey. These reviews likely provide a consumer or patient searching online for health care services an incomplete depiction of the physician’s reputation and his or her true commitment to and expertise in patient care.

Despite the lack of rigor and potential for harm to the physician’s, and potentially the institution’s, reputation from online reviews, institutions and physicians are slow to display more scores and ratings online. Perhaps the time has come for improved mechanisms to support health care organizations and their physicians to allow a more qualified and verified form of PSS scores to be included online in an attempt to overcome often single and unsubstantiated online reviews by open source online websites. Institutions could allow patients access to vetted physician-specific PSS scores and reviews. The identification of negative reviews could then be used to assist physicians with areas for improvement. The institution could subsequently highlight the more positive attributes or experiences of those physicians with low scores along with

appropriate feedback and resources to improve their communication and interactive skills. Physicians could then use the formal, institution-vetted, PSS scores to build and manage their online reputation, which in this day and age is crucial for public perception. Physicians could also take this opportunity to use social media to underscore these formal PSS reviews, counteract negative open source reviews, and help ensure a positive online presence. Furthermore, physicians and their institutions in a more appropriate setting can proactively manage any negative formal patient reviews and prevent having physicians' reputation negatively affected across the World Wide Web. Certainly, these issues and conversations need to occur for physicians to advance and present their best image and most accurate reflection of their reputation to the public.⁸

As with all retrospective studies, this study does have some limitations. For example, comparing groups with such small numbers can result in physicians with different practices affecting the comparison by chance. Furthermore, in an effort to remove selection bias in our cohort, the a priori delineation of physicians within departments/divisions with and without negative online reviews may not have created equivalent cohorts. Although we could have created, in a post hoc fashion, a numerically matched cohort, this would have compromised the randomly computer-generated matched cohort. Thus, we elected to continue with a dissimilar numerical cohort. Furthermore, this study includes only a limited time period for data collection using a single nonvalidated search engine and certainly a study with longer follow-up should be undertaken in a confirmatory manner. Finally, it should be noted that these subjective reviews and ratings reflect single experiences of patients and do not reflect on the overall aptitude or clinical competence of the physician. Although these online ratings are increasing, it is important to better understand the processes by which these ratings are determined to provide some interpretation to physicians to help improve their practice and patient care experience.

CONCLUSION

We find no difference in formal institutional PG PSS scores between physicians who have negative online reviews and those who do

not. Furthermore, non—physician-specific variables appear to reflect unfairly on physicians with negative online reviews. These data underscore the importance of health care organizations and their physicians to be aware of patient experience content posted on social media platforms and be proactive in managing their online reputation.

ACKNOWLEDGMENTS

We thank Michelle Rinn, BA, and Janine Kamath, MA, MBA, for coordinating the Google searches and Google Alerts. We also thank Unnikrishnan Gopinathan, MS, for his assistance with coordinating and organizing the raw Press Ganey survey data.

SUPPLEMENTAL ONLINE MATERIAL

Supplemental material can be found online at: <http://www.mayoclinicproceedings.org>. Supplemental material attached to journal articles has not been edited, and the authors take responsibility for the accuracy of all data.

Abbreviations and Acronyms: PG = Press Ganey; PSS = patient satisfaction survey

Potential Competing Interests: The authors report no competing interests.

Correspondence: Address to Sandhya Pruthi, MD, Department of General Internal Medicine, Mayo Clinic, 200 First St SW, Rochester, MN 55905 (Pruthi.Sandhya@Mayo.edu).

REFERENCES

1. Emmert M, Sander U, Pisch F. Eight questions about physician-rating websites: a systematic review. *J Med Internet Res*. 2013;15(2):e24.
2. Burkle CM, Keegan MT. Popularity of Internet physician rating sites and their apparent influence on patients' choices of physicians. *BMC Health Serv Res*. 2015;15:416.
3. Ryan T, Specht J, Smith S, DelGaudio JM. Does the Press Ganey survey correlate to online health grades for a major academic otolaryngology department? *Otolaryngol Head Neck Surg*. 2016;155(3):411-415.
4. Okike K, Peter-Bibb TK, Xie KC, Okike ON. Association between physician online rating and quality of care. *J Med Internet Res*. 2016;18(12):e324.
5. Dyer N, Sorra JS, Smith SA, Cleary PD, Hays RD. Psychometric properties of the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) Clinician and Group Adult Visit Survey. *Med Care*. 2012;50(suppl):S28-S34.
6. Presson AP, Zhang C, Abtahi AM, Kean J, Hung M, Tyser AR. Psychometric properties of the Press Ganey® Outpatient Medical Practice Survey. *Health Qual Life Outcomes*. 2017;15(1):32.
7. Omstein C. Doctors fire back at bad Yelp reviews — and reveal patients' information online. *The Washington Post*. May 27, 2016.
8. Wald JT, Timimi FK, Kotsenas AL. Managing physicians' medical brand. *Mayo Clin Proc*. 2017;92(4):685-686.