Evaluation of Dermatology Practice Online Reviews
Lessons From Qualitative Analysis

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**IMPORTANCE** Patient satisfaction is an increasingly important component of health care quality measures. Online reviews of physicians represent a promising platform for capturing patient perspectives of care.

**OBJECTIVE** To identify qualitative themes associated with patient reviews of dermatologic care on consumer reporting websites.

**DESIGN, SETTING, AND PARTICIPANTS** A qualitative analysis was conducted of patient-generated reviews of dermatology practices on 2 consumer review platforms. Yelp is an online consumer portal for users to review their experience with local businesses; ZocDoc is an online patient-scheduling portal that provides opportunity for patients to write reviews of physician practices. A total of 518 reviews from 45 dermatology practices on Yelp and 4921 reviews from 45 dermatology providers on ZocDoc were collected from 3 geographically diverse cities: Philadelphia, Pennsylvania; Houston, Texas; and Seattle, Washington. The study was conducted from January 15 to July 15, 2015.

**MAIN OUTCOMES AND MEASURES** Reviews were separated into high-scoring and low-scoring groups. An inductive qualitative method was used to code and identify key themes associated with positive and negative patient experiences. Analysis was completed upon reaching thematic saturation.

**RESULTS** Reported as mean (95% CI), the overall Yelp score for the 45 selected practices was 3.46 of 5 stars (3.17-3.75) and overall ZocDoc score for the 45 selected practices was 4.72 of 5 stars (4.47-4.80). The proportion of individual reviews giving a score of 5.0 was significantly higher on ZocDoc (3986 [81.0%]) than on Yelp (229 [44.2%]) ($P$ < .001). Qualitative themes centered on characteristics of the physician and the practice. Themes that emerged from the high-scoring and low-scoring reviews were similar in content but opposite in valence. Physician-specific themes included temperament, knowledge and competency, physical examination, communication abilities, and mindfulness of cost. Practice-specific themes included scheduling, staff temperament, office cleanliness, waiting room, and insurance. Patients appreciated physicians who are kind, respectful, and thorough with the physical examination; empathetic about the emotional difficulty of skin disease; and cognizant of cost. Negative experiences were frequently affected by considerations outside of the physician-patient interaction, such as curt interactions with staff, difficulty with scheduling, practice cleanliness, and insurance problems. Patients reported relying on consumer websites to identify dermatology providers.

**CONCLUSIONS AND RELEVANCE** Online consumer review websites are designed to facilitate instantaneous and public communication among patients. These platforms provide elaborate and timely data for dermatologists to garner insight into their patients' experiences. The themes identified in this study are consistent with past satisfaction studies and may aid dermatologists in optimizing the patient care experience.

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Leadership in health care reform has emphasized the “triple aim”: improving patient experience with care, improving quality of care, and decreasing costs. Patient perspectives constitute a critical component of the first aim, with patient-centered outcomes now tied to Medicare reimbursement. Traditionally, standardized surveys, such as the Hospital Consumer Assessment of Healthcare Providers and Systems and Press Ganey, capture patient feedback. However, these survey data are rarely accessed by patients. The era of online connectivity allows patients to share feedback in public Internet forums. Given its public nature, this content may offer novel opportunities for health care professionals to identify domains of care that matter most to patients.

A 2014 report by Hanauer et al indicated that 59% of patients describe online patient reviews as “somewhat” or “very” important when selecting physicians for care. Physicians have voiced concerns that online reviews will merely serve as platforms for disgruntled patients; however, current trends suggest that patient online reviews are overwhelmingly positive. Many individuals have decried the practice of online reviews for health care altogether, with critics arguing that patients are not qualified to evaluate the quality of the medical care they receive. Regardless, the practice of both using and writing online reviews appears to be expanding.

As a primarily outpatient-based specialty with high volume, dermatology may be well informed from the study of these online perspectives. Previous qualitative studies have identified general factors associated with high patient satisfaction within medicine. These factors include care access, physician demeanor, quality of medical care processes, continuity of care, quality of health care facilities, and office staff characteristics. Other academic subspecialties, such as urology and orthopedics, have also engaged online reviews to identify key patient-relevant features important to care. Our objective was to qualitatively evaluate online reviews of dermatology practices to identify features of positive and negative reviews.

Methods

The University of Pennsylvania institutional review board approved this study. The study was conducted from January 15 to July 15, 2015. We selected 2 online portals with different features for qualitative analysis: Yelp, a general consumer review platform for businesses, and ZocDoc, a physician scheduling and review website. Other platforms were excluded because they (1) lacked comments in their patients’ reviews, thereby making qualitative analysis impossible (eg, Healthgrades); (2) required a subscription for viewing the reviews, thereby limiting access (eg, Angie’s List); or (3) were redundant in scope and purpose (eg, Vitals and RateMDs).

Founded in 2004, Yelp is a free online platform for individuals to rate businesses and share experiences through written reviews. With more than 71 million individual reviews, Yelp is the 35th most frequented website in the United States. Although Yelp is traditionally associated with the reviews of local businesses, Bardach et al recently showed that a quarter of all US hospitals have Yelp pages. In addition, among the websites available to review physicians, Yelp has been rated by patients as the most used and most trusted. In contrast, ZocDoc, founded in 2007, is an online medical scheduling service that provides opportunities for patients to post physician reviews. Unlike Yelp, physicians must elect to host a ZocDoc account. Patients may select to write additional comments about their experiences, or they may solely provide quantitative feedback.

Using the search functions on Yelp.com, we identified dermatology practices within 3 major metropolitan cities in the United States chosen for their geographic diversity: Philadelphia, Pennsylvania; Houston, Texas; and Seattle, Washington. For each city, dermatology offices were identified by searching for practices initially closest to the geographic center of the city. The first 15 practices with at least 5 reviews within each city were selected. The following data were collected for each practice: total number of reviews, mean overall rating (on a scale of 1-5 stars, with 1 as the lowest level), and all individual reviews and ratings. One-way analysis of variance was used to determine statistical differences in quantitative means between cities using an α level of .05. The same method was performed using the website ZocDoc.com.

The reviews from each city were separated into high-scoring (5-star) and low-scoring (1-star) categories. We used an inductive qualitative method to identify key themes associated with high- and low-scoring reviews. After completing a line-by-line reading of the Yelp reviews from Philadelphia, we convened to develop a consensus on the key topics that emerged from the data. The remaining reviews from Seattle and Houston were then coded with the identified topics. We continued coding reviews until reaching consensus thematic saturation, a validated qualitative measure indicating that no novel themes were emerging from the data. Once the coding process was completed, we combined the topics into the most salient themes. We then reviewed the qualitative comments from ZocDoc using the themes derived from the initial analysis. Data analysis was conducted from February 1 to July 31, 2015.

Results

Qualitative Themes
Qualitative themes centered on characteristics of the physicians and practices (Table). Themes that emerged from the 5- and 1-star reviews were similar in content but opposite in valence. Physician-specific themes included temperament, knowledge and competency, physical examination, communication abilities, and mindfulness of cost. Themes related to the practice included scheduling, staff temperament, office cleanliness, waiting room time, and insurance.

Physician Characteristics
Within the physician-patient experience, patients appreciated physicians who were kind, courteous to patient concerns, empathetic about the emotional difficulty of skin disease, and cognizant of cost. Physicians were highly rated for...
Office and Practice Factors

Physician factors

Temperament
She was sympathetic and efficient. You could tell she was listening to what I was saying.

Competency and knowledge
Dr [] was the first one to make a treatment plan that actually worked.

Physician-patient communication
She fully explained my condition and treated me with compassion. She is extremely knowledgeable and yet down-to-earth. She takes her time and is very thorough.

Physical examination and respect
He did not "rush" through my appointment. I felt incredibly comfortable and at ease during my full-body exam.

Mindfulness of cost
If cost is an issue you can tell her, and she'll look for other alternatives.

Office/staff factors

Appointment scheduling
I was able to get a new patient visit within 2 weeks and then just 1 day for an emergency!

Waiting room experience—staff
The front desk staff are kind and thoughtful, always happy to assist me with appointments and questions.

Waiting room experience—timeliness
As a new patient I only had to fill out 2 forms, which was great. Super-fast visit, too! I was out in less than 35 minutes.

Cleanliness of space
The office is clean and comfortable.

Billing and insurance
I have no insurance, and they are working with me on a payment plan. Most wouldn’t even bother.

Use of Online Review Sites to Identify Practices

Patients noted relying on review websites to select dermatology practices. For example, “Thanks again to Yelp for helping me find this dermatologist!” and “Very pleased with the physician as well as front desk staff; found this clinic on ZocDoc.”

Quantitative

The mean (95% CI) overall Yelp score for the 45 selected practices was 3.46 of 5 stars (3.17-3.75). Seventeen (37.8%) of the practices received a mean Yelp score of at least 4.0 of 5.0, and 6 practices (13.3%) received a mean Yelp score of at most 2.0 of 5.0 (Figure 1). There was a significant difference in mean practice rating between cities (P = .005), with Philadelphia practices having a lower mean score (2.82 [2.30-3.33]) compared with Houston (3.70 [3.29-4.11]) and Seattle (3.87 [3.46-4.28]). These 45 practices had a total of 518 individual reviews, with a mean of 12 (9-14) reviews per practice. The mean number of reviews per practice varied significantly by city (P < .001), with Seattle practices having the highest mean number of reviews (15 [9-20]), followed by Philadelphia (10 [8-13]) and Houston (9 [6-11]). The most frequent scores at the level of the individual review were 5 (44%) and 1 (30%) (Figure 2).
Online review platforms provide insight to patient experiences in outpatient dermatology practices. The identified themes are consistent with past satisfaction studies. However, these online portals provide instantaneous and public communication between patients, allowing more elaborate and timely data on health care professionals than traditional surveys. Patients in such forums write reviews for other potential patients rather than for practices. As such, these platforms demonstrate notable potential for patient engagement in the care review process.

Across both websites, the 5-star and 1-star reviews revealed themes that were common in content and binary in valence, suggesting that the quantitative scale captures both positive and negative patient experiences. The consistency in qualitative content across the 2 platforms suggests that, even though these websites serve different purposes, the content of patient reviews is generalizable.

Despite whether it is appropriate, some patients are using the perspectives within online reviews to make decisions about where to pursue dermatologic care. As such, physicians should take advantage of this opportunity to learn about patient concerns and develop initiatives to improve patient-centered care. Although there is resistance in medicine to thinking of patients as consumers, it is evident that, at least in some respects, patients approach outpatient practices as care vendors. As the number of reviews for any one physician may be low, it would be inappropriate to draw conclusions about the quality of a specific practice from these online platforms. However, the broader pool of data may provide insights to the general tenets that contribute to patient satisfaction.

Of note, many negative experiences are exacerbated by aspects of the patient’s visit outside of the physician-patient interaction. A focus on quality improvement within areas of appointment scheduling, practice cleanliness, professionalism of staff, and insurance handling could greatly improve the patient experience.

This study has several limitations. First, individual reviewers are anonymous. It is impossible to validate the identity of the individuals posting their comments or confirm their interactions with the dermatologists who provided care. However, Yelp has a proprietary algorithm that works to selectively hide reviews that may be falsified. We can presume that most reviews stem from legitimate physician-patient experiences. The reviews on ZocDoc are all given by “verified” patients. However, practices must choose to host an account for patients to post reviews; therefore, ZocDoc cannot capture all dermatology practices and dermatologists.

As with all qualitative research, these findings are exploratory and hypothesis generating. These reviews reflect a small sample of the total patient population seen by the selected dermatology practices. However, our intent was not to validate the representative accuracy of these reviews but rather to derive insight from the patient-generated content that these reviews provide on a public forum. By focusing on the comparison of high-scoring and low-scoring reviews within this set of dermatology practices, we have attempted to provide internal validity to the results.
Conclusions

Reviews of dermatology practices on the public consumer-ratings websites reveal a broad range of factors that affect the patient’s experience. In striving to achieve the broader aim of improved patient experiences in health care, dermatologists may use themes from these review data to derive insights on patient perspectives of the clinical experience and guide improvements in care.

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Drafting of the manuscript: Both authors.

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