

Improving Patient Satisfaction in Dermatology: A Prospective Study of an Urban Dermatology Clinic

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PRACTICE POINTS

- Patient experience can be measured through brief point-of-service patient satisfaction questionnaires.
- Stratifying and analyzing patient satisfaction allows for targeted interventions to be developed and implemented.
- Educational handouts in the patient's primary language may help increase satisfaction and improve compliance.

Patient satisfaction has become an important measure of quality under the Patient Protection and Affordable Care Act. In this study, we assessed and analyzed patient satisfaction, nonattendance rates, and cycle times in an outpatient dermatology clinic. This study provides a snapshot of patient satisfaction in an urban dermatology clinic. Under the Patient Protection and Affordable Care Act, providers will be challenged to increase access to care and to validate quality of care through patient satisfaction.

Cutis. 2017;99:273-278.

AUDIO ONLINE

Dr. Adam Sutton discusses the results of this study with *Cutis* Editor-in-Chief Vincent A. DeLeo, MD, in a "Peer to Peer" audiocast
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The Patient Protection and Affordable Care Act was signed into law in 2010, aiming to expand access to and improve the quality of health care in the United States. In the states that expanded Medicaid eligibility, uninsurance among adults decreased from 15.8% in September 2013 to 7.3% in March 2016, a decline of 53.8%.¹ On average, these newly insured individuals were younger and more likely to report fair to poor health than those previously insured. Approximately half of the newly insured have family incomes at or below 138% of the federal poverty level.¹

Improvement in quality in medicine is not as easily quantified. Several programs have been implemented through the Centers for Medicare & Medicaid Services to measure and reimburse hospital systems and providers based on the quality and value of care being provided. Because of the complexity in defining quality in medicine, patient satisfaction has become a proxy measurement tool.² With higher numbers of insured patients and an increased demand for services, dermatologists are being challenged to improve availability of services and respond to patients' needs and desires as expressed through satisfaction surveys.

Few studies have assessed patient satisfaction in dermatology practices. As patient satisfaction surveys move to the forefront under the Patient Protection and Affordable Care Act, hospitals and providers will try to demonstrate the quality of their care through positive survey responses from patients. Importantly, patient satisfaction is a strong determinate if patients

will comply with treatment and continue seeing their practitioner.³ A better understanding of patients' perceptions regarding quality will allow for targeted interventions to be implemented. This study assesses and analyzes patient satisfaction, nonattendance rates, and cycle times in an outpatient dermatology clinic to provide a snapshot of patient satisfaction in an urban dermatology clinic.

Methods

We conducted a prospective study that was approved by the University of Southern California Health Sciences (Los Angeles, California) institutional review board. A convenience sample of patients 18 years and older who spoke English or Spanish were recruited to participate in the study and agreed to complete the Patient Satisfaction Questionnaire Short Form (PSQ-18) and a demographic questionnaire, both in English or Spanish, at the conclusion of their visit.

Based on schedules and availability, medical students came to our clinic and obtained the surveys in the following manner: After patients checked in, the students approached the patients in the waiting area and asked if they would be willing to participate in the study. If patients agreed to participate, they provided written consent and the medical student handed them an envelope containing paper copies of the survey in English or Spanish, depending on the patient's preference. Patients were asked to complete the surveys at the end of the visit and return them to the student in the envelope. The medical students did not otherwise participate in the patient's visit.

Surveys were collected over an 8-month period at Los Angeles County+USC Medical Center dermatology clinics, which are part of a large safety-net health system. Among this population, it is common for patients to lack reliable Internet access or permanent home addresses; therefore, we elected to use point-of-care printed survey forms. Midway through the survey collection, we moved our clinic location; however, patients and physicians did not change. The comparison between clinics showed no substantive differences and did not change the conclusions of the study.

Patient Demographics—Demographic variables were age, sex, ethnicity, highest education level, annual household income, and primary language. Patients were grouped into 4 age categories: 18 to 29 years, 30 to 49 years, 50 to 64 years, and 65 years and older. Ethnicity was classified as Hispanic/Latino or other. Highest education level was classified as high school diploma or lower, and some college or higher. Annual household income was grouped into 3 categories: less than \$15,000, \$15,000 to \$35,000, and more than \$35,000.

Patient Satisfaction Questionnaire—The PSQ-18 survey was developed by the RAND Corporation

(Santa Monica, California) and has been validated.⁴ The survey asks patients to rate aspects of their care experience on a 5-point Likert scale (strongly agree, agree, uncertain, disagree, strongly disagree), with 5 representing highest satisfaction. The survey contains 18 questions and is scored on 7 subscales: general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with doctor, and accessibility and convenience. The survey typically takes less than 5 minutes to complete.

Cycle Times and Nonattendance Rates—Cycle time is defined as the total amount of time that a patient spends in a clinic from check in to checkout, which was collected from our scheduling system for each patient who agreed to participate in the study. Cycle times were grouped into 4 categories: 0 to 60 minutes, 61 to 90 minutes, 91 to 120 minutes, and 121 minutes or more. During the study period, data also were collected from the electronic health record system regarding the number of patients with appointments scheduled and the number of patients who attended each clinic. From these figures, the rate of nonattendance for each clinic was calculated.

Statistical Analysis—Demographic results were calculated using arithmetic means. The PSQ-18 subscale scores were compared among demographic subgroups using a generalized linear model. Covariates included age, sex, ethnicity, highest education level, annual household income, and primary language. All statistical analyses were conducted using SAS software version 9.2.

Results

Of the 298 participants surveyed, the average age was 49 years, 51% were male, 73% self-identified as Hispanic/Latino, 64% spoke Spanish, 58% had a high school diploma or lower, and 68% reported an annual household income of less than \$15,000 (Table 1).

Table 1 shows PSQ-18 scores for all patients stratified by demographics. Notably, patients with some college or more were significantly more satisfied on the interpersonal manner ($P < .03$) and time spent with doctor ($P < .007$) subscales when compared to those who were less educated, but they had lower general satisfaction scores ($P < .001$). Patients with a reported annual household income of greater than \$35,000 were more satisfied on the technical quality ($P < .07$) and time spent with doctor ($P < .04$) subscales when compared to those making less than \$15,000. The patients with a household income greater than \$35,000 also were more satisfied with accessibility and convenience ($P < .05$) than those making \$15,000 to \$35,000. When stratified by sex, the time spent with doctor subscale was significantly higher in males than females ($P < .001$).

Table 1.

Participant Demographics and PSQ-18 Subscale Scores

Characteristic	No. of Patients (%) ^a	Mean PSQ-18 Subscale Score ^b						
		General Satisfaction	Technical Quality	Interpersonal Manner	Communication	Financial Aspects	Time Spent With Doctor	Accessibility and Convenience
All patients	298 (100)	3.86	3.73	3.95	4.10	3.80	3.46	3.37
Sex								
Male	151 (51)	3.88	3.80	3.97	4.11	3.80	3.62	3.43
Female	147 (49)	3.81	3.66	3.90	4.04	3.80	3.29	3.29
Age, y								
18–29	39 (13)	3.88	3.79	3.99	4.05	3.63	3.51	3.22
30–49	92 (31)	3.85	3.76	3.87	4.08	3.86	3.40	3.37
50–64	139 (47)	3.81	3.72	3.97	4.07	3.81	3.43	3.35
65+	27 (9)	4.07	3.70	4.04	4.26	3.89	3.76	3.69
Ethnicity								
Hispanic/Latino	213 (73)	3.91	3.70	3.84	4.08	3.78	3.38	3.48
Other	79 (27)	3.79	3.83	4.23	4.16	3.87	3.71	3.14
Primary language								
Spanish	94 (64)	3.64	3.62	3.56	3.97	3.56	3.13	3.36
English	54 (36)	3.91	3.87	4.13	4.13	3.88	3.68	3.29
Highest education level								
Less than or equal to high school	169 (58)	3.92	3.72	3.89	4.09	3.83	3.38	3.51
Some college or more	122 (42)	3.77	3.77	4.08	4.09	3.79	3.62	3.18
Annual household income								
<\$15,000	188 (68)	3.83	3.66	3.87	4.03	3.82	3.40	3.38
\$15,000–\$35,000	76 (27)	3.79	3.79	3.96	4.09	3.68	3.51	3.19
>\$35,000	13 (5)	4.08	4.17	3.87	4.31	3.62	3.92	3.67

Abbreviation: PSQ-18, Patient Satisfaction Questionnaire Short Form.

^aSome patients did not answer all of the questions.

^bScored on a 5-point Likert scale (strongly agree, agree, uncertain, disagree, strongly disagree), with 5 representing highest satisfaction.

(Statistically significant differences when stratifying by age, ethnicity, and language are noted in the “Comment” section.)

Patients’ average cycle time from check in to checkout was 102 minutes (range, 24–177 minutes). There was no statistically significant difference in patient satisfaction subscale scores when stratifying patients by cycle time. During a period comparable to the time that surveys were collected, our mean (standard deviation [SD]) nonattendance rate was 30% (7%). Therefore, based on 2 SDs, there was a 95% chance that 16% to 44% of patients would not attend their scheduled appointments in each clinic.

Comment

Our dermatology clinic received an average general satisfaction subscale score of 3.86. Although the general impression of patients was positive, there were subscale scores in which the clinic performed below the general satisfaction score; the 2 lowest were time spent with doctor (3.46), and accessibility and convenience (3.37). One possible explanation for the lower time spent with doctor subscale score relates to visiting an academic medical center. Patients often are seen sequentially by a medical student, resident, and supervising physician. This educational model contributes to long cycle times; indeed, average patient visit length was more than 1.5 hours in our study. Meanwhile, patients may consider their “doctor” to be the last member of the medical team they see; thus, the percentage of the clinic visit time that a supervising physician spends with the patient may be perceived by patients as short compared to the overall time spent in the clinic.

Surprisingly, there was no statistically significant difference in patient satisfaction subscale scores, including time spent with doctor, for patients with longer cycle times compared to short cycle times (Table 2), which suggests that the length of clinic

visits may have been longer than the threshold for further effect on satisfaction scores. To this point, prior research has shown that patient satisfaction notably drops after 15 minutes of waiting,⁵ defined as the time from check in to when the patient first sees the provider. Our data set did not allow us to analyze wait time by that definition. However, we used cycle time, which includes various periods of waiting during the patient’s visit. If we had more data points on cycle times less than 30 minutes, we might have detected a clearer relationship of cycle times to patient satisfaction scores.

Satisfaction may not have varied with longer cycle times because differing perceptions might have balanced each other; in some cases, longer cycle times might reflect additional time spent with the provider, which could be perceived as valuable by the patient, and for others the long cycle time might be dissatisfying. Nevertheless, many of our patients were familiar with the county health system and expected to spend 90 minutes or more in clinic for each visit. Regardless, newly insured patients may have different expectations on how their health care should be delivered, an issue that could be investigated in the future.

The accessibility and convenience subscale scores reflected patients’ perception of timeliness and availability of medical care. The way that patients are scheduled at our clinic likely affected this subscale score, as patients must be referred through their primary care provider or the emergency department. We believe that many patients consider the wait for a primary care appointment as part of the overall wait for a dermatology appointment, which affects perception of accessibility and convenience for our clinic.

When we stratified by age, ethnicity, and language, other interesting trends occurred in satisfaction scores. Patients older than 65 years had a statistically significant higher accessibility and

Table 2.

Cycle Times and PSQ-18 Subscale Scores

Cycle Time, min	No. of Patients, (%) ^a	Mean PSQ-18 Subscale Score ^b						
		General Satisfaction	Technical Quality	Interpersonal Manner	Communication	Financial Aspects	Time Spent With Doctor	Accessibility and Convenience
0–60	30 (10)	3.92	3.83	3.85	4.12	3.87	3.43	3.46
61–90	79 (27)	3.90	3.74	3.85	4.11	3.78	3.47	3.44
91–120	102 (34)	3.75	3.65	4.00	4.08	3.75	3.44	3.29
121+	86 (29)	3.92	3.77	3.95	4.03	3.88	3.47	3.35

Abbreviation: PSQ-18, Patient Satisfaction Questionnaire Short Form.

^aN=297 for cycle times.

^bScored on a 5-point Likert scale (strongly agree, agree, uncertain, disagree, strongly disagree), with 5 representing highest satisfaction.

convenience subscale score when compared to the groups aged 18 to 29 years ($P < .02$) and 50 to 64 years ($P < .05$) as well as a higher but not statistically significant score compared to those aged 30 to 49 years ($P < .07$). Possible explanations include that older patients are familiar with the workings of our health system or that some of our patients older than 65 years may be retired and have fewer daily obligations. For the time spent with doctor subscale score, patients older than 65 years had higher scores when compared to those aged 30 to 49 years ($P < .06$) and 50 to 64 years ($P < .07$), perhaps because providers are spending more time with older individuals who may have more medical issues. A study involving a family medicine clinic also found that older patients were more satisfied with their overall care,⁶ which may be important given the changing demographics of Americans seeking medical care.

Differences in patient satisfaction when our patients were stratified by primary language and self-identified ethnicity also were noted. English-speaking patients were significantly more satisfied than Spanish-speaking patients in 4 subscales of satisfaction: technical quality ($P < .01$), interpersonal manner ($P < .0001$), financial aspects ($P < .02$), and time spent with doctor ($P < .0006$). For ethnicity, non-Hispanic/Latino patients had significantly higher subscale satisfaction scores for interpersonal manner ($P < .0001$) and time spent with doctor ($P < .005$). Variability in patient satisfaction based on primary language spoken and ethnicity has been described in other health care settings. Differences in satisfaction with care, understanding of potential side effects of a medication, compliance, and perceived rapport with physicians have been described.⁷⁻⁹

In addition to validating quality of care through patient satisfaction surveys, providers will be challenged to increase access to dermatologic services. Health systems that accept predominately Medicaid insurance, such as academic medical centers and safety-net hospitals, will be responsible for caring for millions of newly insured Medicaid patients. However, our high and variable non-attendance rates lead to inefficient use of our resources, often reducing the number of patients that are seen.

Canizares and Penneys¹⁰ studied an urban dermatology clinic over a 6-month period ($N=508$) and found that 17% of patients failed to keep their appointments; the subgroup of individuals with state-assisted insurance plans had the highest nonattendance rate (26%).¹⁰ In contrast, a group from Canada ($N=5300$) found that the nonattendance rate in a private dermatology practice was less than 8%.¹¹ Our average non-attendance rate of 30% is within the range for urban clinics^{10,12}; however, our SD of 7% leads to a high variability in patient volume each clinic day. As a result,

on many days a reduced number of patients are seen resulting in a higher per-patient cost of delivering care.

Limitations—A potential bias is that the surveys were completed in the clinic and patients may have been concerned about possible repercussions for negative evaluations, which may have skewed results to be more positive than they otherwise would have been. We attempted to minimize this potential bias by having medical students who were not involved in the patients' care administer the surveys. We also advised patients that their individual surveys would not be given to their providers and that any identifying information would be removed during data analysis. Our inferences could be affected by use of the terms *satisfied* and *very satisfied* in our patient satisfaction survey. Although we may interpret the results as patients reporting their degree of satisfaction, the patient may mean that there is room for improvement.¹³ Therefore, a survey that allows for more varied responses could potentially lead to different results.

Conclusion

Dermatology practitioners can support the specialty and validate the work they do by achieving high patient satisfaction scores. A study of online reviews compared patient ratings from 23 specialties and found that dermatology ranked second to last, ahead of only psychiatry.¹⁴ Our data has highlighted several opportunities to implement interventions that might improve patient satisfaction, though future studies would be required. Expanding or changing office hours, hiring more providers, or improving telephone access are potential interventions that might improve the accessibility and convenience subscale of patient satisfaction. Reducing the variability of nonattendance rates through the creation of resources to provide patients with clear directions and travel options, reminder calls, and instituting fees for missed appointments in some patient populations might allow for more predictable scheduling to optimize flow and the number of patients seen in each clinic.

Other approaches to improve satisfaction scores based on our results could include simple measures such as increasing the perception of time spent with the patient by having the physician sit down briefly in the examination room.^{15,16} It might be helpful to streamline translation assistance for patients who do not speak English as a primary language. It may be useful to recognize that younger patients have different expectations for clinic visits. For example, offering online scheduling to improve accessibility and convenience may improve satisfaction, particularly in patients who are accustomed to using technology.

It is our hope that while dermatologists continue to provide high quality care, they will work

to demonstrate the value of their care by becoming leaders in patient satisfaction. Connecting their satisfaction with health care to patients' quality of life has the potential to validate our specialty to insurers.

REFERENCES

1. Shatzer A, Long SK, Zuckerman S. Who are the newly insured as of early March 2014? Urban Institute Health Policy Center website. <http://hrms.urban.org/briefs/Who-Are-the-Newly-Insured.html>. Published May 22, 2014. Accessed March 17, 2017.
2. Press I. *Patient Satisfaction: Understanding and Measuring the Experience of Care*. 2nd ed. Chicago, IL: Health Administration Press; 2006.
3. Carr-Hill RA. The measurement of patient satisfaction. *J Public Health Med*. 1992;14:236-249.
4. Thayparan A, Mahdi E. The Patient Satisfaction Questionnaire Short Form (PSQ-18) as an adaptable, reliable, and validated tool for use in various settings. *Med Educ Online*. 2013;18:21747.
5. Garcia D, Kennedy C, Langager, J, et al. Pulse report 2009: outpatient: patient perspectives on American health care. South Bend, IN: Press Ganey Associates, Inc; 2009.
6. Wetmore S, Boisvert L, Graham E, et al. Patient satisfaction with access and continuity of care in a multidisciplinary academic family medicine clinic. *Can Fam Physician*. 2014;60:E230-E236.
7. Carrasquillo O, Orav EJ, Brennan TA, et al. Impact of language barriers on patient satisfaction in an emergency department. *J Gen Intern Med*. 1999;14:82-87.
8. David RA, Rhee M. The impact of language as a barrier to effective health care in an underserved urban Hispanic community. *Mt Sinai J Med*. 1998;65:393-397.
9. Ferguson WJ, Candib LM. Culture, language, and the doctor-patient relationship. *Fam Med*. 2002;34:353-361.
10. Canizares MJ, Penneys NS. The incidence of nonattendance at an urgent care dermatology clinic. *J Am Acad Dermatol*. 2002;46:457-459.
11. Pehr K. No show: incidence of nonattendance at a dermatology practice in a single universal payer model. *J Cutan Med Surg*. 2007;11:53-56.
12. Penneys N, Glaser DA. The incidence of cancellation and non-attendance at a dermatology clinic. *J Am Acad Dermatol*. 1999;40:714-718.
13. Collins K, O'Cathain A. The continuum of patient satisfaction—from satisfied to very satisfied. *Soc Sci Med*. 2003;57:2465-2470.
14. Internet study: highest educated & trained doctors get poorest online reviews [news release]. Denver, CO: Vanguard Communications; April 22, 2015. <https://vanguardcommunications.net/best-online-doctor-reviews/>. Accessed November 28, 2016.
15. Swayden KJ, Anderson KK, Connelly LM, et al. Effect of sitting vs. standing on perception of provider time at bedside: a pilot study. *Patient Educ Couns*. 2012;86:166-171.
16. Sorenson E, Malakouti M, Brown G, et al. Enhancing patient satisfaction in dermatology. *Am J Clin Dermatol*. 2015;16:1-4.