

Predictors of Patient Satisfaction in Hand and Upper Extremity Clinics

Ashkaun Shaterian¹ Lohrasb Ross Sayadi¹ Pauline F. Joy Santos¹ Chloe Krasnoff²
 Gregory R. D. Evans¹ Amber R. Leis¹

¹Department of Plastic Surgery, University of California, Irvine, Orange, United States

²University of California, Irvine School of Medicine, Irvine, California, United States

Address for correspondence Chloe Krasnoff, BS, University of California, Irvine School of Medicine, 1001 Health Sciences Road, Irvine, California 92617, United States (e-mail: krasnoffc@hs.uci.edu).

J Hand Microsurg 2019;11:146–150

Abstract

Introduction Patient satisfaction is an important clinical marker for hand/upper extremity patients. Few studies have investigated the predictors of patient satisfaction in the clinic setting. Our objective was to analyze patient satisfaction surveys to explore factors that influence patient satisfaction.

Materials and Methods We conducted a retrospective analysis assessing patient satisfaction in the hand/upper extremity clinics at our university medical center between 2012 and 2018. Patient satisfaction was assessed via Press Ganey Hospital Consumer Assessment of Healthcare Providers and Systems surveys. Patient demographics, satisfaction scores, and clinic experience questionnaire responses were evaluated. Statistical analysis was conducted to identify significant trends.

Results Between 2012 and 2018, 102 surveys were completed. Scores ranged from 5 to 10 with an average provider rating of 9.56. We found six factors significantly influenced patient satisfaction: adequate time was spent with the provider, provider showed respect, patient was seen by provider within 15 minutes of appointment time, provider listened sufficiently, patient received understandable medical instructions, and understandable medical explanations ($p < 0.05$).

Conclusion Achieving patient satisfaction is an important clinical marker in hand/upper extremity clinics. Patient satisfaction has defined predictors wherein various clinical factors can influence patient satisfaction and willingness to refer their provider to other patients.

Keywords

- hand
- upper extremity
- patient satisfaction

Introduction

Patient satisfaction has become a focused outcomes measure across medical and surgical fields.^{1,2} Satisfaction has been shown to correlate with patient compliance, follow-up rates,^{3,4} and often serves as a metric for health care quality.^{5,6} Further, improved satisfaction has also been associated with reduced malpractice lawsuits, increased patient referrals, and improved profitability.⁷ As such, an in-depth understanding of factors related to patient satisfaction is valuable in the clinical setting. While patient satisfaction has been

well described in primary care, medical, and general surgery specialties,^{8–12} the determinants of patient satisfaction in hand/upper extremity patients remains poorly understood.

Hand/upper extremity patients represent a unique patient population wherein a better understanding can help improve patient satisfaction rates. Hand surgery procedures are performed for a variety of reasons including traumatic injuries, degenerative disease processes, neurological disorders, and cosmesis.¹³ Previous research has identified several variables related to patient satisfaction in the hand/upper extremity patient population. These have traditionally focused on issues

received

May 31, 2019

accepted after revision

July 31, 2019

published online

November 2, 2019

©2019 Society of Indian Hand & Microsurgeons

DOI <https://doi.org/10.1055/s-0039-1697065>

ISSN 0974-3227.

related to postoperative pain control, joint mobility, aesthetic appearance, coping skills, and ability to perform activities of daily living.¹³⁻¹⁵ To date, however, few studies have evaluated variables related to the clinic setting, as opposed to clinical outcomes, that influence patient satisfaction. Variables related to clinical setting such as clinic staff, clinic work flow, clinic communication, for example, have to be evaluated in the context of patient satisfaction.

Currently, few reports in the literature have specifically focused on patient satisfaction in the hand and upper extremity clinic setting. Therefore, it was the objective of the current study to conduct a retrospective analysis of satisfaction surveys and explore variables related to hand and upper extremity clinics. We hope this study provides insight into the factors that influence patient satisfaction to better understand of our patient's expectation and needs.

Materials and Methods

Study Design

We conducted a single-institution, retrospective analysis investigating satisfaction in patients presenting to a hand and/or upper extremity clinic at an academic medical center. The study included four surgeons that represented plastic hand surgeons and orthopaedic hand surgeons. Press Ganey Hospital Consumer Assessment of Healthcare Providers and Systems (H-CAHPS) patient satisfaction surveys were independently administered between the dates of January 1, 2012, and May 30, 2018. Press Ganey satisfaction surveys were e-mailed or mailed to patients across various specialties and retrospectively collected via the patient experiences office. Surveys were distributed at random to patients per physician per billing cycle with response rates for these surveys to be estimated at 16.4%. Inclusion criteria for this study consisted of patients who presented to a hand and/or upper extremity clinic between January 1, 2012, and May 30, 2018, and completed an H-CAHPS survey. Patients were included irrespective of the type of hand-related issue and included patients receiving elective hand surgery, trauma-related hand surgery, and nonsurgical patients. Patient charts were evaluated for sociodemographic variables including gender, age, race, education level, body mass index, and marital status. Survey scores were numerated and stratified across patient responses to identify significant trends.

H-CAHPS Survey

The Press Ganey H-CAHPS survey measures patient experiences and represents a satisfaction survey evaluating patients' perspectives on hospital care.¹⁶ H-CAHPS evaluates patient satisfaction based on categorical questions that are divided into several sections. Surveys of the outpatient clinic setting included questions evaluating issues related to access to care, the clinic visit, clinic personnel (i.e., receptionists, the care provider, etc.), provider-patient relationship, and clinic communication. Questions were scored according to various Likert scaled responses as well as numerical scaled responses. Free-text responses were recorded but not included in our analysis.

Data Extraction and Statistical Analysis

Patient charts were evaluated for various sociodemographic variables. H-CAHPS surveys were then evaluated for overall satisfaction scores and individual responses to survey questions. The data were numerated, and statistical analysis was conducted using SPSS (SPSS for Windows; SPSS Inc, Chicago, Illinois, United States). Summary statistics using Student's *t*-test and analysis of variance tests were used where appropriate to evaluate outcomes across variables. Statistical significance was set with *p*-value < 0.05, with all two-sided tests.

Results

A total of 102 patients presented to a hand/upper extremity clinic and completed a Press Ganey H-CAHPS survey. Patient demographics are presented in ►Table 1. We found patient satisfaction scores ranged from 5 to 10, with an average provider rating of 9.56. After conducting statistical analysis, we found six variables predicted patient satisfaction scores (►Table 2). We found patients who were evaluated by their

Table 1 Patient demographics

Sex, <i>n</i> (%)	
Male	55 (53.9)
Female	47 (46.1)
Age, in years	
Mean ± SD	58.8 ± 18.6
Race, <i>n</i> (%)	
American Indian/Alaskan	1 (1.0)
Asian	18 (17.6)
Black	3 (2.9)
Hawaiian/Pacific Islander	0 (0)
Other/unknown	7 (6.9)
White	73 (71.6)
Body mass index	
Mean ± SD	26.5 ± 5.1
Education level, <i>n</i> (%)	
< 8th grade	1 (1.0)
4-year college graduate	18 (17.6)
4+ years college	36 (35.3)
High school graduate	11 (10.8)
Not found	5 (4.9)
Some college	26 (25.5)
Some high school	5 (4.9)
Marital status, <i>n</i> (%)	
Divorced	6 (5.9)
Married	64 (62.7)
Separated	1 (1.0)
Single	26 (25.5)
Unknown	2 (2.0)
Widowed	3 (2.9)

Abbreviation: SD, standard deviation.

Table 2 Clinical factors affecting satisfaction

Spending time with patient		
No	Ref	$p < 0.05$
Yes, somewhat	1.04	
Yes, definitely	1.12	
Showing respect for patient		
Yes, somewhat	Ref	$p < 0.05$
Yes, definitely	1.37	
Seeing provider within 15 minutes of scheduled appointment		
No	Ref	$p < 0.05$
Yes	1.08	
Listened to patient		
Yes, somewhat	Ref	$p < 0.05$
Yes, definitely	1.27	
Understandable instructions		
Yes, somewhat	Ref	$p < 0.05$
Yes, definitely	1.21	
Understandable explanation		
Yes, somewhat	Ref	$p < 0.05$
Yes, definitely	1.25	

provider within 15 minutes of their scheduled appointment time were more likely to be satisfied compared with those seen after 15 minutes of appointment (odds ratio [OR]: 1.08, $p < 0.05$). During the clinic encounter, patients who felt their provider spent more time with them had significantly higher satisfaction scores compared with their counterparts (OR: 1.12, $p < 0.05$). Further, we found a patient's perception of being listened to by their provider and being shown respect by their provider resulted in higher satisfaction scores, respectively (OR: 1.27 and 1.37, $p < 0.05$). Next, we evaluated the effects of providing comprehensible instructions and explanations on patient satisfaction scores. We found patients reported significantly higher satisfaction scores if understandable explanations (OR: 1.25, $p < 0.05$) and understandable instructions (OR: 1.21, $p < 0.05$) were provided. Among these significant factors, we found that patient scores showed the greatest variability in relation to a providers' ability to show respect. Finally, we found that patient satisfaction correlated with a patient's willingness to recommend the practice to others ($p < 0.05$).

Our analysis noted several variables related to patient visits that did not have a statistically significant effect on patient satisfaction. We found that receptionist's respect for the patient and assistance during the clinic visit did not impact patient satisfaction scores ($p > 0.05$). Further, patient satisfaction was not influenced by ease of scheduling routine, urgent, or follow-up visits ($p > 0.05$). Interestingly, the duration of the patient-provider relationship and the number of previous clinical encounters did not impact patient satisfaction ($p > 0.05$). Finally, we found no relationship between patient satisfaction scores and timeliness of having questions responded to by clinic staff ($p > 0.05$) nor clinic communication of patient results ($p > 0.05$).

Discussion

Patient satisfaction represents a valuable indicator in the medical setting. To date, however, few studies have investigated the factors influencing patient satisfaction in the hand/upper extremity patient population. In the current study, we retrospectively analyzed Press Ganey H-CAHPS surveys to identify the predictors of patient satisfaction. We found patient satisfaction for the two plastic and two orthopaedic surgeons at our university hand/upper extremity clinics was highly favorable, with an overall average score of 9.56 on a scale of 5 to 10. After analyzing satisfaction surveys, we found that patient satisfaction significantly correlated with six predictive factors in the clinic setting related to workflow efficiency, provider-patient interactions, and patient-provider communication. To this end, these variables should be identified and critically evaluated as a means to improve patient satisfaction.

In this study, we found patient satisfaction correlated with numerous provider behaviors relating to the patient feeling respected, listened to, and that adequate appointment time was provided. As it pertains to the quality of the patient-provider interaction, the literature corroborates our finding that provider-initiated respect, empathy, and listening are invaluable toward increasing patient satisfaction.¹⁷⁻¹⁹ It is likely that patients who are treated with respect feel that adequate attention is focused on their clinical needs as well as a greater sense of empathy, autonomy, recognition of individually, and dignity.²⁰ Similar studies have also revealed the impact of clinic visit duration and patient satisfaction.¹⁸ Ultimately, patient satisfaction is heavily influenced by the patient-provider interaction, wherein a better understanding of a provider's actions can help improve satisfaction for their patients.

Clinic wait times can also influence patient satisfaction. While our analysis showed that patient satisfaction is highly dependent on factors under the control of the provider, optimizing staff communication and clinic flow to reduce wait times can improve patient satisfaction.²¹ Longer clinic wait times are likely factored into patients feeling a lack of respect for their time. In addition, it is possible that patients are more satisfied with their physician and harbor more confidence in them if they are able to effectively manage clinic staff and work flow. Reduction in clinic wait times may be achieved by a variety of techniques including previsit information gathering, delegation of documentation to staff, and work-flow analysis to identify bottlenecks, among others.²²⁻²⁴ To this end, an introspective analysis into a provider's clinic practices can help improve clinic wait times and ultimately improve patient satisfaction.

Currently, there has been effort among health care professionals to communicate understandable and level-appropriate instructions to patients.^{25,26} Our study found that a physician's ability to provide understandable medical explanations and instructions can contribute to patient satisfaction. This likely reflects the quality of communication between the patient and provider, as well as a patient's desire to obtain the health information needed to understand their disease process and adequately follow treatment instructions. Hand/

upper extremity patients often present with complex problems and have strict treatment protocols, and ultimately require greater provider communication. As such, it is the provider's responsibility to understand our patient's level of education and learning style to appropriately communicate comprehensible medical information. Therefore, it is critical for providers to assess their patients' level of understanding, tailor their dialog, and assess understanding to more effectively communicate.

This study should be considered in light of several limitations. First, the retrospective nature of our study risks recall bias and self-selection bias. This study also evaluated patients from a single academic institution and may not be representative or be generalizable to the greater population. Additionally, our study did not evaluate treatment efficacy, complications, or other variables that may have also influenced patient satisfaction. Further, these study data were obtained from a lower survey response rate of 16.4%. As such, our study risks a skewed population that may not be generalizable to other populations. Finally, the survey response rates may have represented a selection bias and may not reflect the entire spectrum of hand/upper extremity clinic patients. Despite these limitations, we believe our study represents a reliable study wherein our findings can offer important insight into patient satisfaction for hand/upper extremity clinic patients.

Patient satisfaction is becoming an integral clinical metric that may factor into various aspects of health care including insurance payments, provider contracts, and hospital rankings.² We believe it is imperative for providers to focus on patient satisfaction by obtaining a better understanding of the specific variables that influence patients. Furthermore, we encourage additional investigations to help elucidate the complex variables that affect patient satisfaction across all specialties. Our study revealed that the various factors and predictors of patient satisfaction can be evaluated and influenced by the clinic provider. Ultimately, a better understanding of patient satisfaction can be employed by providers to alter their clinic practice to improve satisfaction for their patients and have a successful clinic practice.

Conclusion

Patient satisfaction is an important and growing clinical marker in current health care. Ongoing research has illuminated the value of patient satisfaction, wherein the variables influencing satisfaction have yet to be fully understood. This study focused on hand/upper extremity patients and found multiple variables to predict patient satisfaction. While additional research is necessary to better understand these variables, they provide valuable insight into patient expectations and patient satisfaction. To this end, we hope these results can be utilized in the future to provide high-quality patient care that enhances the patient-provider relationship and improves patient satisfaction.

Funding

None.

Conflict of Interest

None declared.

References

- Giordano LA, Elliott MN, Goldstein E, Lehrman WG, Spencer PA. Development, implementation, and public reporting of the HCAHPS survey. *Med Care Res Rev* 2010;67(1):27–37
- Bleustein C, Rothschild DB, Valen A, Valatis E, Schweitzer L, Jones R. Wait times, patient satisfaction scores, and the perception of care. *Am J Manag Care* 2014;20(5):393–400
- Hall JA, Dornan MC. Patient sociodemographic characteristics as predictors of satisfaction with medical care: a meta-analysis. *Soc Sci Med* 1990;30(7):811–818
- Zoller JS, Lackland DT, Silverstein MD. Predicting patient intent to return from satisfaction scores. *J Ambul Care Manage* 2001;24(1):44–50
- Donabedian A. The quality of care. How can it be assessed? *JAMA* 1988;260(12):1743–1748
- Joint Commission on Accreditation of Healthcare Organizations. The Joint Commission guide to patient and family education. 2007. Oakbrook Terrace, IL
- Wolosin RJ. Patient satisfaction in gastroenterology clinics. *Gastroenterol Nurs* 2003;26(5):203–208
- Martin L, Presson AP, Zhang C, Ray D, Finlayson S, Glasgow R. Association between surgical patient satisfaction and non-modifiable factors. *J Surg Res* 2017;214:247–253
- Schmocker RK, Cherney Stafford LM, Siy AB, Levenson GE, Winslow ER. Understanding the determinants of patient satisfaction with surgical care using the Consumer Assessment of Healthcare Providers and Systems surgical care survey (S-CAHPS). *Surgery* 2015;158(6):1724–1733
- Abtahi AM, Presson AP, Zhang C, Saltzman CL, Tyser AR. Association between orthopaedic outpatient satisfaction and non-modifiable patient factors. *J Bone Joint Surg Am* 2015;97(13):1041–1048
- Fan VS, Burman M, McDonnell MB, Fihn SD. Continuity of care and other determinants of patient satisfaction with primary care. *J Gen Intern Med* 2005;20(3):226–233
- Rubin HR, Gandek B, Rogers WH, Kosinski M, McHorney CA, Ware JE, Jr. Patients' ratings of outpatient visits in different practice settings. Results from the medical outcomes study. *JAMA* 1993;270(7):835–840
- Marks M, Herren DB, Vliet Vlieland TP, Simmen BR, Angst F, Goldhahn J. Determinants of patient satisfaction after orthopedic interventions to the hand: a review of the literature. *J Hand Ther* 2011;24(4):303–312
- Graham B. Defining and measuring patient satisfaction. *J Hand Surg Am* 2016;41(9):929–931
- Kamal RN; Hand Surgery Quality Consortium. Quality and value in an evolving health care landscape. *J Hand Surg Am* 2016;41(7):794–799
- HCAHPS Frequently Asked Questions. Available at: <https://www.pressganey.com/docs/default-source/default-document-library/hcahps-faq.pdf?sfvrsn=4>. Accessed February 1, 2019
- Chen K, Congiusta S, Nash IS, et al. Factors influencing patient satisfaction in plastic surgery: a nationwide analysis. *Plast Reconstr Surg* 2018;142(3):820–825
- Parrish RC II, Menendez ME, Mudgal CS, Jupiter JB, Chen NC, Ring D. Patient satisfaction and its relation to perceived visit duration with a hand surgeon. *J Hand Surg Am* 2016;41(2):257–262
- Donahue R, Russell D, de Riese C, Smith C, de Riese WT, Medway A. Patients willing to wait: arrival time, wait time and patient satisfaction in an ambulatory urology clinic. *Urol Practice J* 2017;4(1):1–6

- 20 Dickert NW, Kass NE. Understanding respect: learning from patients. *J Med Ethics* 2009;35(7):419–423
- 21 Farber J. Measuring and improving ambulatory surgery patients' satisfaction. *AORN J* 2010;92(3):313–321
- 22 Silver N, Weber RS, Lozano M, et al. Reducing patient wait times in a head and neck cancer outpatient clinic: a pilot study. *Laryngoscope* 2019. Doi: 10.1002/lary.28020
- 23 Johannessen KA, Alexandersen N. Improving accessibility for outpatients in specialist clinics: reducing long waiting times and waiting lists with a simple analytic approach. *BMC Health Serv Res* 2018;18(1):827
- 24 Lau A, Ewing C, Gnanapragasam J, Majaesic C, MacLean J, Mandhane PJ. Changes to a pediatric sleep disordered breathing clinic improve wait-times and clinic efficiency. *Pediatr Pulmonol* 2016;51(11):1234–1241
- 25 Eberlin KR, Perdakis G, Damitz L, Krochmal DJ, Kalliainen LK, Bonawitz SC; ASPS Health Policy Committee. Electronic communication in plastic surgery: guiding principles from the American Society of Plastic Surgeons Health Policy Committee. *Plast Reconstr Surg* 2018;141(2):500–505
- 26 Sproule JA, Tansey C, Burns B, Fenelon G. The Web: friend or foe of the hand surgeon? *Hand Surg* 2003;8(2):181–185