



Key Determinants of Patient Satisfaction in the Ambulatory Pediatric General Surgery Setting

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Abstract

Background: Patient satisfaction is a key driver in provider and hospital recommendations. Although hospitals have implemented methods to measure patient satisfaction, many struggle to identify the factors that influence the overall patient experience. This problem is even more significant in the setting of specialty practices, such as in outpatient pediatric general surgery clinic. While there has been some literature regarding patient satisfaction in surgical settings, the focus has been directed towards more clinical measures than management measures. This study analyzed the effects of access to care, facility parameters, as well as staff and care provider interactions in outpatient pediatric general surgery clinic. We hypothesized that in an ambulatory pediatric general surgery setting, the patient-physician relationship, indicated by patients' likelihood to recommend the care provider and patients' confidence in the care provider would be the driving factor in overall patient experience.

Study Design: Patient satisfaction surveys were collected over a 3-year period by Press-Ganey Inc. Surveys were collected from caregivers of patients (age 0-21) who had visited an ambulatory pediatric general surgeon at a pediatric academic health system. Patients were seen across 2 states (DE and FL). The survey results were then translated into percentages of respondents who answered '5' or 'Very Good' on a 5 point Likert scale. Percentages were averaged on a monthly basis, resulting in 36 data points. The Pearson's Product Moment Correlation (r) was calculated based on these monthly percentages in correlation with the 'Likelihood to Recommend the Practice' (LTR).

Results: 1,285 families responded to the survey. The top three variables that were most predictive of a family's likelihood to recommend the practice were 'Likelihood to Recommend the Care Provider' (r = 0.798), 'Confidence in Care Provider' (r = 0.767), how well the 'Staff Worked Together' (r = 0.758).

Conclusion: The results indicate that patients highly value not only interactions with surgeons but also appreciate the cohesiveness of the entire surgical care team. Emphasis on the patient-surgeon interaction and teamwork of the clinical staff will drive overall patient experience in the pediatric general surgery ambulatory setting.

Keywords: Patient satisfaction; Patient experience; Physician-patient relationship; Surgery; Pediatric; Outpatient

Introduction

Gauging patient satisfaction has been a rising priority among hospitals over the past decade. Both federal government and health insurance plans are utilizing quality of care as a central measure for which hospitals are paid, via the value-based purchasing program [1]. In addition to the pay-for-performance incentive plans, patients have more choice between providers, which has prompted the growth of online physician review websites, such as healthgrades.com [2,3]. Internet review services, although only used by a minority of the population, have taken the patient experience outside of the controlled survey environments and further emphasize the importance of a positive patient experience [4].

Due to the rising importance of patient feedback regarding satisfaction, many surveys have been developed to identify which factors of care need to be changed [5]. Many of these studies focus on analyzing patient satisfaction in hopes to better understand factors driving the patient experience in a primary care setting. Points of contact between the patient, the provider, and the practice provide

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PHYSICIAN SPECIALTIES SURVEY

We thank you in advance for completing this questionnaire. When you have finished, please mail it in the enclosed envelope.

Please rate your child's visit with:

BACKGROUND QUESTIONS

1. Did your child see this physician?..... Yes No
2. Patient's first visit here?..... Yes No
3. How many **minutes** did you wait after your child's scheduled appointment time before you were called to an exam room?..... minutes
4. How many **minutes** did you wait in the exam room before your child was seen by a doctor, physician assistant (PA), or nurse practitioner (NP)?..... minutes
5. Did staff follow good hand cleansing practices, (either washing with soap and water or using instant hand sanitizer), before touching your child?..... Yes No

INSTRUCTIONS: Please rate the services you received from our practice. **Select the response** that best describes your experience. If a question does not apply to you, please skip to the next question. Space is provided for you to comment on good or bad things that may have happened to you.

Please use black or blue ink to fill in the circle completely.
 Example: ●

ACCESS	very poor	poor	fair	good	very good
	1	2	3	4	5
1. Ease of getting through to the clinic on the phone.....	<input type="radio"/>				
2. Convenience of our office hours.....	<input type="radio"/>				
3. Ease of scheduling your child's appointment.....	<input type="radio"/>				
4. Ability of getting an appointment for when you wanted.....	<input type="radio"/>				
5. Courtesy of person who scheduled your child's appointment.....	<input type="radio"/>				
6. Courtesy of staff in the registration area.....	<input type="radio"/>				

Comments (describe good or bad experience):.....

MOVING THROUGH YOUR VISIT	very poor	poor	fair	good	very good
	1	2	3	4	5
1. Degree to which you were informed about any delays (if no delays, please leave blank).....	<input type="radio"/>				
2. Wait time at clinic (from arriving to leaving).....	<input type="radio"/>				
3. Comfort and pleasantness of the facility.....	<input type="radio"/>				

Comments (describe good or bad experience):.....

NURSE/ASSISTANT	very poor	poor	fair	good	very good
	1	2	3	4	5
1. Friendliness/courtesy of the nurse/assistant.....	<input type="radio"/>				
2. Concern the nurse/assistant showed for your child's problem.....	<input type="radio"/>				

Comments (describe good or bad experience):.....

continued...



Figure 1: Sample of patient satisfaction survey. Sample survey distributed by Press Ganey, Inc. to caregivers of patients who visited Nemours Children Hospital pediatric general surgery clinics.

the frame work for a positive patient experience. Patient experience can also influence clinical outcomes and adherence to treatment plans [6-8].

Additional studies have indicated that the same provider, in a different practice setting, received different patient satisfaction scores, indicating that the setting of the practice also plays an influential role in patient satisfaction [9]. Non-clinical factors, such as the physician-patient relationship, staff friendliness, and environment of the practice, are particularly influential in determining the overall patient experience in a pediatric setting. There has been a lack of studies that address the non-clinical aspects that influence patient satisfaction in an ambulatory pediatric surgical clinic.

Pediatric surgical patients are treated for an expansive variety of disorders and diseases such as appendicitis, cancer, and congenital

abnormalities. Due to the complexity of these diseases and disorders in a pediatric population, patients encounter a variety of specialists and meet multiple members of the care team during each visit. While care providers strive to give the best and most thorough care, there is always pressure to complete tasks and responsibilities in a timely manner. Because the environment of an ambulatory pediatric general surgery clinic is multi-faceted and contains many team members, it is important to identify which of these factors are among the highest priority in determining a rewarding and satisfactory patient experience. We hypothesized that the patient-physician relationship, indicated by patients' likelihood to recommend the care provider and patients' confidence in the care provider, were the major deciding factors in patient satisfaction in an ambulatory pediatric general surgery clinic.

Methods

Between 1/1/2012 and 12/31/2014, caregivers of patients (age 0-21) who visited Nemours Children's ambulatory pediatric general surgery clinics were invited to complete a satisfaction survey. During this period, 12,219 surveys were distributed by Press Ganey, Inc and 1,285 responses were received, a response rate of 19%. All responses received were included in the data analysis. The survey consists of satisfaction within multiple sections (access, visit, nurse/assistant, care provider, personal issues, and overall assessment). Surveys were collected from four pediatric general surgery clinics: Nemours Children's Clinic in Jacksonville, FL, Orlando, FL, Pensacola, FL, and Wilmington, DE. The surveys were administered by the survey company via mail and e-mail. There were 34 questions on the patient satisfaction survey, categorized into 7 sections: Background Questions, Access, and Moving through Your Visit, Nurse/Assistant, Care Provider, Personal Issues, and Overall Assessment. Sample survey is depicted in Figure 1. Questions were all rated on a 5 point Likert numerical scale with "1" being "Very Poor" and "5" being "Very Good".

This data was then translated into monthly percentages of respondent that rated questions as "5" or "Very Good", resulting in 36 data points. For example, 90% of survey respondents (in the month of July 2012) rated "Patient's confidence in CP" as a "5" or "Very Good", while only 60% rated "Ability to Get Desired Appointment" as "5" or "Very Good", this appears on the data table as 90 and 60, respectively. These monthly averages were compiled, into a spreadsheet for easier comprehension.

The Pearson's Product-Moment Correlation (r) was calculated using the monthly average percentages of respondents who answered "5" or "Very Good" for each patient satisfaction question and the overall loyalty indicator: "Likelihood to Recommend" (LTR) the practice. All tests were two-sided, and a p -value of less than 0.001 indicated statistical significance. Statistical analyses were conducted using SPSS 23.0 (IBM; Armonk, NY).

Results

There were 1,285 responses collected from January 2012 to December 2014. The top three questions that correlated with the likelihood to recommend the practice were the 'Likelihood to Recommend the Care Provider' ($r = 0.798$), 'Patients' confidence in CP' ($r = 0.767$), how well the 'Staff Worked Together' ($r = 0.758$). Results for the top three contributing factors are shown in Table 1, all other parameters assessed are shown in Table 2. The overall category of "Care Provider" was the most highly correlated to the likelihood to recommend the practice (0.665). Of note, the only parameter associated with a negative correlation to the likelihood to recommend the practice was "availability to get desired appointment" (-0.0117), while the overall category of "Access" had a 0.240 correlation with the likelihood to recommend the practice. All other parameters showed

a positive correlation to the likelihood to recommend the practice.

Discussion

The results obtained from the surveys support our hypothesis that in an ambulatory pediatric general surgery clinic, patient satisfaction is predominantly determined by the patient-physician relationship and patient's perception of the practice. The "Likelihood to Recommend the Practice" should not be confused with the "Likelihood to Recommend the Care Provider", as the first indicates a comprehensive team, including the physician and all staff members, as well as the environment of the practice. The "Likelihood to Recommend the Care Provider", in the setting of an ambulatory pediatric clinic reflects patients' evaluation of the surgeon. The high correlation between the "Likelihood to Recommend the Care Provider" and the "Likelihood to Recommend the Practice" indicates that patients place a high value on interactions between the physician and themselves. Additionally, the high correlation between how well the "Staff Worked Together" with the LTR the practice shows that patients expect a sense of teamwork between staff members during a medical encounter. Additionally, the patient-physician relationship is built on a foundation of communication. Confidence in a care provider can be established through clear explanations and respect for the patient. These results and its relation to LTR identify an area for future training that impacts the patient experience.

Studies related to the surgical setting have mostly analyzed the correlation between positive clinical outcomes and satisfaction [10] Tsai et al. [11] used Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey data and looked at 6 major surgical procedures (coronary artery bypass grafting, pulmonary lobectomy, endovascular aortic aneurysm repair, open abdominal aortic aneurysm repair, colectomy, and hip replacement) and found that of the among the 69.5% of patients that would recommend the hospital, patient satisfaction was positively correlated with shorter length of stay, lower readmission rates, and lower mortality. Another study analyzed patient satisfaction post forefoot surgery, and correlated a better patient experience with lower pain score [12]. Although clinical outcomes are highly correlated to patient satisfaction, there are other favorable clinical outcomes that are not consistently associated with positive patient experience on HCAHPS, which indicates that there are contributors to patient satisfaction that are not clinically related [13].

Previous research has demonstrated that surgeons spend a significant portion of their time counseling patients on operative procedures and outcomes [14]. Increasing communication between the healthcare team and patients, not only leads to positive clinical outcomes but also leads to improvement in patient's perception of communication regarding medications, discharge information, and likelihood to recommend the hospital [15].

A 2016 study by de Blacam, et al. looked at patient satisfaction

Table 1: Top parameters and their correlation to the "Likelihood to Recommend a Practice", using Pearson's Product Momentum Correlation (r).

Parameter	Pearson's Product Momentum Correlation (r)	p -value
Percentage of 5's in 'Likelihood to recommend a care practitioner'	0.798	< 0.001
Percentage of 5's in 'Patients' confidence in CP'	0.767	< 0.001
Percentage of 5's in 'Staff worked together'	0.758	< 0.001

Table displaying the top three survey responses with the strongest relations to LTR. The Pearson's Product Momentum Correlation (r) was calculated based on monthly percentages of survey respondents that indicated '5' or 'Very Good' for the respective survey question. p -value of less than 0.001 were considered statistically significant. All tests were 2 sided.

Table 2: All other parameters assessed on Press Ganey survey and their correlation to "Likelihood to Recommend a Practice".

Parameter	Pearson's Product Momentum Correlation (r)
Cheerfulness of practice	0.748
Care Provider	0.665
Cleanliness of our practice	0.633
Time CP spent with patient	0.616
CP concern for questions/worries	0.571
Waiting area comfort/pleasantness	0.567
Our concern for patients' privacy	0.557
Friendliness/courtesy of CP	0.555
Personal Issues	0.542
CP explanations of problem/condition	0.542
CP spoke using clear language	0.518
CP efforts to include in decisions	0.513
CP information about medications	0.513
Wait time at clinic	0.464
Our sensitivity to patients' needs	0.459
Friendliness/courtesy of nurse/assistant	0.402
CP instructions for follow-up care	0.375
Information about delays	0.361
Nurse/Assistant	0.357
Extent staff introduced themselves	0.345
Courtesy of registration staff	0.324
How well staff protect safety	0.316
Convenience of our office hours	0.291
Concern of nurse/assistant for problem	0.265
Courtesy of person scheduling appointment	0.264
Ease of getting clinic on phone	0.248
Access	0.240
Ease of scheduling appointments	0.088
Ability to get desired appointment	-0.0117

in breast reconstruction in a group of women who had undergone mastectomy due to breast cancer. The study found that factors in the process of care, specifically satisfaction with the surgeon, were significantly higher than the patient's satisfaction with either the quality of care or satisfaction with their breasts or overall outcome, indicating that the relationship with the physician outweighed clinical outcomes.

The patient-physician relationship is very individualized and does not necessarily reflect the patient's interaction with the entire practice. However, a strong relationship with the physician often overshadows other factors of the practice such as wait time, inconvenient location, or high patient volume. The quality of the physician-patient relationship has been shown to be the outcome of effective communication [16]. Factors that improve a patient's confidence in a care provider will translate to increased LTR and therefore patient loyalty.

Additionally, surgical patients spend a majority of their time interacting with the nurses and staff. Studies have shown that day-

to-day interaction with staff members play a large role in shaping a patient's overall perception of care [17]. Particularly, a well-trained nursing staff that worked well together would be able to provide empathetic and effective care that would improve patient satisfaction.

Our study has several limitations. Firstly, the survey was only implemented in an outpatient ambulatory pediatric surgery clinic. It did not address pediatric surgery inpatients, or same day surgery patients. Factors influencing pediatric surgery satisfaction may differ depending on the level of severity of disease. Therefore, these findings may not be applicable to a wider surgery patient population. Another limitation of a pediatric population is that responses gathered are mostly recorded by patients' guardians. Given this scenario, the respondent would most likely be the decision maker of the child, and their level of satisfaction and likelihood to recommend the hospital would still be accurate. Third, the survey did not assess or correct for underlying clinical factors affecting satisfaction, such as clinical outcome, length of stay, surgical quality, or readmission. Additional surveys would need to be developed to correct for these factors. Although, extremely satisfied or highly frustrated patients tend to have a higher response rate, this fact would not skew the significance of our data. The analysis of our data is based on the correlation between each parameter and the likelihood to recommend the practice. Therefore, it also cannot be assumed that factors that have a low positive correlation are of negative impact to the likelihood to recommend the practice.

The "availability of appointment times" is the only factor from the survey that is negatively correlated with the likelihood to recommend the practice. Appointment times is a problem that plagues many clinics and practices. The patient population visiting a pediatric general surgery clinic are either there for a surgical consult or for a postoperative follow up. As such, these patients are most likely dealing with a more severe condition and would benefit from earlier appointment times. With more providers, patients could have a faster turnaround time to seeing a provider. Currently, in the U.S., there is shortage of providers that cannot accommodate the rising patient demand [18]. This problem is most evident in the primary care setting, however, is also seen across all fields of medicine. Due to delayed access to care and long referral wait times, parents of pediatric patients often turn to the emergency room or other practices in hopes to obtain faster results [19]. The delay in obtaining care and its relation with lower patient satisfaction has been well studied and many interventions have been suggested, however, scheduling systems such as open-access and same day appointment services are more ideal for a primary care setting [20,21]. In a surgical setting, the use of associate providers is the most accepted method of increasing patient access. The use of nurse practitioners and physician assistants increases the number of new patients seen, decreases wait times, and decreases overbooking and long appointment times. Clinics and providers in an ambulatory surgical setting, should utilize associate providers more often in order to mitigate the effects of access on patient satisfaction and the likelihood to recommend the practice.

The results of Press-Ganey, HCAHPS, and other hospital based patient satisfaction surveys can have potential implications for value-based purchasing and other pay-for-performance programs that account for the patient experience. Although, a positive patient experience may increase a patient's likelihood to recommend a hospital. A focus on improving patient satisfaction in a pediatric general surgery clinic can further improve future clinical outcomes.

The factors influencing overall patient experience identified in this study can be areas of training for physicians, nurses, and all medical staff.

As with many other fields, the use of interdisciplinary teams helps improve patient care, communication, safety culture, and overall patient satisfaction. These aspects can be easily integrated into all medical practices. Staff cohesiveness can be improved with more team coaching to instill team building behaviors among staff members. Open forums to address staff concerns and issues can also improve the culture of a practice. Teamwork training can also be implemented to improve active listening and reduce miscommunication.

Communication and trust are key foundations in building a successful physician-patient relationship, particularly prior to surgery. Trust can be gained by actively listening, empathizing with a patient, and providing clear explanations. There have been studies that correlate patients' trust with patients' perception of physician communication, level of interpersonal treatment, and patients' perception of the knowledge of the physician [22]. Care providers can further build the patient-physician relationship by showing empathy, by having direct eye contact, appropriate facial expressions, engaging body language, as well as appropriate touch [23]. Actively listening, engaging body language and appropriate touch can all be further improved through training sessions and easily implemented in a pediatric surgery clinic.

Conclusion

Patient satisfaction and the likelihood to recommend a practice are highly correlated to the physician-patient relationship, as well as, interactions with the medical staff. These factors drive a top performing practice to strive for excellence. Improvements in these areas will enable more patients to have a positive overall patient experience in a pediatric general surgery clinic.

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