


Association of Demographics and Hospital Stay Characteristics With Patient Experience in Hospitalized Pediatric Patients

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Abstract

There is limited research on patient experience in hospitalized pediatric patients. Our aim was to investigate the association of patient demographics and hospital stay characteristics with experience in a tertiary-care, freestanding children's hospital. We conducted a retrospective cross-sectional study of patient experience surveys. We designated the highest rating as "top-box" and examined data across 8 domains, including overall assessment (OA). A total of 4602 surveys were analyzed. Top-box percentages were lower for younger patients in 6 domains, including OA (0-<1 year old: 57.6%; 1-<4 years old: 61.3%; 4-<12 years old: 68.4%; ≥ 12 years old: 70.2%; $P < .001$), and were lower for patients with private insurance in 5 domains, including OA (private 63.2%, public 68.9%; $P < .001$). There was no association between other demographics (gender, race/ethnicity, primary language) and OA. Overall assessment was also not associated with length of stay ($P = .071$) and number of consulting services ($P = .703$). The most important domain predictor of OA was personal issues (odds ratio = 4.79), which assessed concern, sensitivity, and communication from staff. In conclusion, patient experience was associated with age and insurance status but not hospital stay characteristics.

Keywords

patient satisfaction, pediatrics, patient feedback, HCAHPS, survey data, communication

Introduction

Patient-centered care is defined as care that is "respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions" and is a key component of health care quality (1). Patient-centered care has been linked to improved patient compliance with agreed-upon treatment plans (2), more cost-effective health care (3), and willingness to return for subsequent care (4). Patient experience refers to any process observable by patients, including subjective experiences, objective experiences, and observations of physician and staff behavior (5). Patient experience surveys offer a standardized means by which hospitals can evaluate patient-centeredness and quality of delivered care (5,6).

In the adult literature, studies show that positive patient experience is associated with better clinical outcomes in patients with acute myocardial infarction (7) and decreased hospital readmission rates for acute myocardial infarction and pneumonia (8). One study reported an association

between better patient experience and increased mortality (9), but a subsequent analysis found that the association was significant only for nonamenable deaths and not for amenable deaths (10). In other words, clinicians may provide more attention to and therefore foster a more positive experience for patients near the end of life (5).

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In pediatrics, there is a need to deliver both patient- and family-centered care. There has been a corresponding interest in measuring and assessing contributors to patient experience among children and their families. Most studies to date have examined patient experience in the pediatric ambulatory setting, assessing healthy children (11), children with special health care needs (12), and patients in pediatric subspecialty clinics, such as cardiology (13), oncology (14), neurology (15), nephrology (16), surgery (17), and otolaryngology (18,19). Generally, these studies strongly support that communication between patients, families, and health care staff is a strong predictor of patient experience.

A few studies have explored the association between patient experience and demographics in the pediatric inpatient setting, examining neonatal intensive care units (20,21), pediatric intensive care units (22), pediatric emergency departments (23), and entire children's hospitals (24–27). An analysis of Child Hospital Consumer Assessment of Healthcare Providers (C-HCAHPS) data from a tertiary-care hospital demonstrated that lower overall patient experience was correlated with younger age (26), and an analysis of different pediatric inpatient experience data showed that lower patient experience across most domains was associated with medical patients (vs surgical) and repeat patients (vs first visit) (27). To our knowledge, the relationship between patient experience and hospital stay characteristics such as length of stay (LOS) and number of consultants has not been explored.

The primary aim of this study was to investigate the association of patient demographics and hospital stay characteristics with patient experience. We hypothesized that younger age, repeat visits to the hospital, increased LOS, and a higher number of consulting services would be associated with lower patient experience. The secondary aim was to evaluate the contribution of individual domains of patient experience to an overall measure. We hypothesized that the strongest predictors of overall patient experience would be the domains that pertained to communication between families and health care staff.

Methods

Design

This was a retrospective cross-sectional study of pediatric patient experience survey data from a single center between 2010 and 2016. The study was approved by the Arnold Palmer Hospital Institutional Review Board, with waiver of informed consent (# 1035985-1).

Setting

Our institution is a 158-bed, not-for-profit, teaching, tertiary-care freestanding children's hospital in a major metropolitan area and includes the regional pediatric level-1 trauma center. Two weeks after discharge, patient experience surveys were sent by mail to all caregivers and/or guardians of

patients discharged from our inpatient floors. Patients eligible to receive surveys included those who were hospitalized on a medical or surgical service in any area, including the general inpatient ward, stepdown unit, pediatric intensive care unit, and pediatric cardiovascular intensive care unit.

Sources of Data

Surveys used in this study were developed, collected, and managed by Press Ganey Incorporated, an independent, US-based patient experience research organization. Reading level of the survey is aligned with national recommendations (sixth- to eighth-grade level). Surveys were available in English and in Spanish for patients who reported Spanish as their primary language.

Each survey item was evaluated on a polytomous scale from 5 (very good) to 1 (very bad). A priori, it was determined that any survey item with $\geq 5\%$ of missing data would be omitted from analyses. Two domains of patient experience (Meals and Family and Visitors) had all of their survey items meet this criterion and were omitted, likely because not all patients ate meals from the hospital or took advantage of the visitation policy. The remaining 8 domains (Admission, Discharge, Nursing Care, Personal Issues, Tests and Treatments, Your Child's Physician, Your Child's Room, and OA) included 39 total survey items; we removed 8 due to missing data, leaving a total of 31 survey items (Table 1). We linked survey data to patient demographic information (age, gender, race/ethnicity, primary language, insurance, in-state vs out-of-state, and first-visit patients vs repeat-visit patients) and hospital stay characteristics (LOS, number of consulting services).

Data Management

For each survey item, we designated a rating of 5 as "top-box" and designated all other ratings (1-4) as "not top-box." The Centers for Medicare and Medicaid Services reports HCAHPS data nationally in this manner. We then developed a dichotomous outcome measure for each domain of patient experience by assigning a composite top-box rating when all survey items within the domain were rated as top-box. For example, the overall assessment (OA) outcome was assigned as top-box when all 4 items in the domain were rated top-box.

Gender, primary language, in-state versus out-of-state, and first-visit versus repeat-visit were used in their original form. A priori, age was stratified into a 4-level categorical variable (infants 0-<1 year old, toddlers 1-<4 years old, children 4-<12 years old, and adolescents ≥ 12 years old). Race/ethnicity was categorized into a 5-level variable for univariate analyses (Asian, Black, Hispanic, White, and Other) and dichotomized (white and non-white) for multivariate analyses. Insurance was dichotomized into private and public insurance. Private insurance included commercial insurance plans and self-pay; public insurance included Medicaid,

Table 1. Domains of Patient Experience and Survey Items.^a

Patient experience domain	Survey item
Admission (3 items)	Speed of admission process Courtesy of the person who admitted your child
Discharge (3 items)	Courtesy of the person who took your personal insurance information ^b Degree to which you felt ready to have your child discharged Speed of the discharge process after you were told your child could go home Instructions given about how to care for your child at home
Nursing care (6 items)	Friendliness/courtesy of the nurses Promptness in responding to the call button Nurses' attitude toward requests Amount of attention paid to your and your child's special or personal needs Degree to which nurses kept you informed using language you could understand Skill of the nurses
Personal issues (9 items)	Staff concern for your and your child's privacy Staff sensitivity to the inconvenience that a child's health problems and hospitalization can cause Degree to which hospital staff addressed your emotional needs Response to concerns/complaints made during your child's stay ^b Staff efforts to include you in decisions about your child's treatment Degree to which staff respected your knowledge of your own child Staff concern not to frighten your child How well your child's pain was controlled ^b Staff concern to make your child's stay as restful as possible
Tests and treatments (4 items)	Skill of person who took your child's blood (eg, did it quickly, with minimal pain, and was responsive to child) ^b Skill of person who started IVs (eg, did it quickly, with minimal pain, and was responsive to child) ^b Concern for your child's comfort during tests or treatments Degree to which tests and treatments were explained using language you could understand
Your child's physician (6 items)	Time the physician spent with your child Degree to which the physician kept you informed using language you could understand Physician's concern for your and your child's questions and worries How friendly and caring the physician was toward your child Trust you had in your child's physician Your rating of the hospitalist ^b
Your child's room (4 items)	Appearance of room ^b Room cleanliness How well things worked (eg, TV, call button, lights, bed, etc) Courtesy of the person who cleaned the room ^b
Overall assessment (4 items)	Overall cheerfulness of the hospital How well staff worked together to care for your child Overall rating of care given at this hospital Likelihood of recommending this hospital to others

^aCaregivers rated items on a polytomous scale: 5 "very good," 4 "good," 3 "fair," 2 "poor," 1 "very poor."

^bExcluded from analyses due to $\geq 5\%$ missing data.

Medicare, and other government insurance plans. Length of stay (<1, 1-2, 3-4, and ≥ 5 days) and number of consulting services (no consults, 1, and ≥ 2) were also stratified as categorical variables.

Statistical Analyses

Patient demographics, hospital stay characteristics, and top-box ratings by patient experience domain were reported as frequencies and percentages. Associations of demographic and hospital stay characteristics with patient experience were assessed with Pearson's χ^2 or Fisher's exact test.

Simultaneous multivariate logistic regression was used to determine whether top-box percentages were associated with

demographic and hospital stay characteristics. Models were conducted with the full sample and separately for first-visit patients and repeat patients, since patient experience has been shown to differ for first-visit patients (27). Factors for model inclusion were selected based on clinical relevance and statistical significance from univariate analyses. Simultaneous multivariate logistic regression was also used to assess the predictability of the 8 domains of patient experience for OA. Final models with odds ratios (OR), 99.9% confidence intervals (CI), and standardized betas (β) were reported. To decrease type 1 error caused by the large number of comparisons, we selected $P < .001$ (2-tailed) as our threshold for statistical significance. SPSS version 25.0 was used for analyses.

Table 2. Sample Characteristics.

Variable		Sample (n = 4602)
Age, years	Infants (0-<1)	858 (18.6)
	Toddlers (1-<4)	827 (18.0)
	Children (4-<12)	1478 (32.1)
	Adolescents (≥ 12)	1439 (31.3)
Gender	Female	2169 (47.1)
	Male	2433 (52.9)
Race/ethnicity	Asian	198 (4.3)
	Black	523 (11.4)
	Hispanic	166 (3.6)
	White	2786 (60.5)
	Other	929 (20.2)
Primary language	English	4405 (95.7)
	Spanish	197 (4.3)
Insurance	Private	2571 (55.9)
	Public	2031 (44.1)
State	In-state ^a	4378 (95.1)
	Out-of-state	224 (4.9)
First or repeat visit ^b	First	3342 (74.1)
	Repeat	1168 (25.9)
Length of stay, days	<1	281 (6.1)
	1-2	2550 (55.4)
	3-4	945 (20.5)
	≥ 5	825 (17.9)
Number of consulting services	No consults	3377 (73.4)
	1	917 (19.9)
	≥ 2	308 (6.7)

^aFlorida^bn = 4510.

Results

Patient and Survey Data

In total, 4602 surveys were included in analyses. The survey response rate was 8.9%. Most patients were between age 4 and 11 years old (32.1%), male (52.9%), white (60.5%), had private insurance (55.9%), were first-visit patients (74.1%), had a 1- to 2-day LOS (55.4%), and no consultations (73.4%; Table 2).

Demographics and Hospital Stay Characteristics in Relation to Domains of Patient Experience

Younger patients had lower top-box percentages in 6 domains of patient experience, including OA (0-<1 years old: 57.6%; 1-<4 years old: 61.3%; 4-<12 years old: 68.4%; ≥ 12 years old 70.2%; $P < .001$; Table 3). Patients with private insurance had lower top-box percentages than patients with public insurance in 5 domains, including OA (63.2% vs 68.9%, $P < .001$). Black patients (54.4% vs 39.8%-52.0% for other races, $P < .001$) and Spanish-speaking patients (61.5% vs 46.5% for English-speaking patients, $P < .001$) had higher top-box percentages in the domain Your Child's Room. There were no associations with gender, in-state versus out-of-state, and first-visit versus repeat-visit patients.

Regarding hospital stay characteristics, patients with longer hospital stays had lower top-box percentages for nursing care (<1 day: 71.2%; 1-2 days: 65.0%; 3-4 days: 59.8%; ≥ 5 days: 59.7%, $P < .001$). Patients with a <1-day LOS had higher top-box percentages for Your Child's Room (64.4%, all others 45.1%-47.0%, $P < .001$), but only 6.1% of patients had a 0- to 1-day LOS. No other domains demonstrated significant associations with LOS, including OA (<1 day: 73.0%; 1-2 days: 65.5%; 3-4 days: 65.3%; ≥ 5 days: 64.4%, $P = .071$). No domains were associated with the number of consulting services, including OA (0 consults: 65.4%; 1 consult, 65.9%; ≥ 2 consults, 67.8%, $P = .703$).

Multivariate Analysis of Demographics and Hospital Stay Characteristics as Predictors of OA

In the full sample, it was determined that age, insurance, and first-visit versus repeat-visit patient were the best predictors of OA (Hosmer and Lemeshow test, $\chi^2(8) = 6.120$, $P = .634$; Cox and Snell $R^2 = .016$; Nagelkerke $R^2 = .023$; Table 4). Toddlers (OR = 1.23, CI = 0.95-1.60), children (OR = 1.69, CI = 1.33-2.15), and adolescents (OR = 1.86, CI = 1.46-2.38) were more likely than infants (OR = 1.00, reference) to have top-box ratings for OA. Patients with public insurance versus private insurance were more likely to have top-box ratings for OA (OR = 1.34, CI = 1.13-1.58). Finally, repeat-visit patients (OR = 0.80, CI = 0.66-0.96) were less likely than first-visit patients to have top-box ratings. Age and insurance type were significant predictors for first-visit patients, but not for repeat patients.

Multivariate Analysis of Domains of Patient Experience as Predictors of OA

All domains of patient experience were statistically significant predictors of top-box percentages for OA ($P < .001$; Table 5). The domains of patient experience that most influenced OA were personal issues (OR = 4.79, 99.9% CI = 3.12-7.36), your child's room (OR = 2.79, 99.9% CI = 1.90-4.10), and nursing care (OR = 2.68, 99.9% CI = 1.85-3.90).

Discussion

In this study of the relationship between patient experience, demographics, and hospital stay characteristics in a children's hospital, lower patient experience was associated with younger patients and patients with private insurance. In the domain your child's room, higher patient experience was associated with black and other races and Spanish as the primary language. Patient experience was not generally associated with other demographics. Lower patient experience was associated with increased LOS in the domain of nursing care, and there was no association between patient experience and number of consulting services. The most important domain predictor of overall patient satisfaction was personal issues, which primarily included questions

Table 3. Top-Box Percentages for Domains of Patient Experience and Overall Assessment by Demographics and Hospital Stay Characteristics.

Variable	Admission	χ^2	P	Discharge	χ^2	P	Nursing care	χ^2	P	Personal issues	χ^2	P	Tests and treatments	χ^2	P	Your child's physician	χ^2	P	Your child's room	χ^2	P	Overall assessment	χ^2	P
Age, years	58.0%	19.72	<.001	53.1%	6.65	.084	57.1%	21.80	<.001	49.9%	14.63	.002	58.7%	70.41	<.001	58.8%	19.10	<.001	39.1%	32.17	<.001	57.6%	48.59	<.001
Infants (0- <1)																								
Toddlers (1- <4)	57.6%			50.2%			60.9%			50.8%			60.3%			54.3%			46.1%			61.3%		
Children (4- <12)	60.6%			52.4%			64.9%			56.2%			70.0%			61.1%			50.0%			68.4%		
Adolescents (≥ 12)	65.6%			55.7%			66.3%			56.9%			73.2%			63.5%			50.2%			70.2%		
Gender	60.6%	0.581	.461	54.0%	1.47	.233	62.3%	1.31	.256	52.8%	3.08	.081	66.2%	1.63	.208	60.4%	0.07	.806	46.1%	2.53	.114	67.1%	4.52	.035
Female	61.7%			52.2%			64.0%			55.6%			68.1%			60.0%			48.4%			64.1%		
Male	55.4%	5.870	.230	52.6%	7.62	.106	58.2%	12.27	.015	50.6%	5.37	.252	63.4%	12.21	.016	55.4%	5.87	.209	39.8%	28.81	<.001	63.4%	6.59	.159
Race/ethnicity	56.8%			50.1%			58.4%			52.7%			64.9%			56.8%			54.4%			61.7%		
Black	57.8%			58.5%			63.7%			58.4%			71.6%			57.8%			47.2%			69.9%		
Hispanic	60.8%			52.5%			63.7%			53.7%			68.9%			60.8%			45.0%			65.7%		
White	61.7%			56.1%			66.3%			57.0%			63.7%			61.7%			52.0%			67.5%		
Other	60.7%	9.42	.002	52.8%	6.47	.012	63.0%	1.57	.239	53.8%	8.07	.005	67.2%	0.10	.750	60.0%	1.13	.326	46.7%	16.05	<.001	65.3%	6.03	.014
English	71.6%			62.1%			67.6%			65.1%			66.1%			63.9%			61.5%			73.8%		
Spanish	58.4%	17.53	<.001	50.1%	21.39	<.001	62.2%	2.13	.145	51.1%	21.39	<.001	66.3%	2.12	.153	58.8%	4.44	.036	41.5%	79.02	<.001	63.2%	15.99	<.001
Private	64.6%			57.0%			64.4%			58.4%			68.4%			61.9%			54.8%			68.9%		
Public	60.9%	2.78	.095	52.0%	0.47	.535	63.1%	0.31	.613	54.1%	1.70	.215	66.7%	10.43	.001	60.5%	2.53	.119	47.2%	0.661	.447	65.5%	1.19	.308
In-state	66.5%			55.4%			65.0%			58.8%			77.4%			55.0%			50.0%			69.1%		
Out of state	62.0%	4.75	.032	53.7%	2.44	.122	63.2%	0.27	.612	54.5%	0.73	.397	66.9%	0.09	.767	59.6%	1.40	.243	46.7%	0.38	.559	66.1%	1.81	.180
First stay	58.3%			51.0%			62.3%			52.9%			67.4%			61.6%			47.8%			63.9%		
Repeat visit	60.5%	3.15	.07	53.4%	1.31	.520	62.2%	5.02	.081	53.7%	3.68	.159	66.7%	1.44	.486	59.1%	6.13	.047	46.7%	2.33	.312	65.4%	0.71	.703
No consults	62.3%			53.3%			65.5%			57.3%			68.1%			62.5%			49.0%			65.9%		
1	65.2%			50.0%			67.0%			52.3%			69.6%			64.7%			49.8%			67.8%		
≥ 2 services	62.8%	2.64	.450	60.1%	13.36	.004	71.2%	17.74	<.001	62.0%	16.72	.001	76.5%	10.52	.015	65.4%	3.74	.291	64.4%	32.13	<.001	73.0%	7.02	.071
Length of stay, days	60.1%			54.4%			65.0%			56.1%			67.3%			60.3%			46.6%			65.5%		
1-2	62.0%			51.2%			59.8%			50.7%			66.0%			58.9%			45.1%			65.3%		
3-4	63.0%			49.2%			59.7%			50.6%			65.8%			59.7%			47.0%			64.4%		
≥ 5																								

Bold values indicate statistically significant at $P < .001$.

Table 4. Predictors of Overall Assessment for all Patients, First-Visit Patients, and Repeat-Visit Patients.

Predictors	β	P	OR (99.9% CI)
All patients			
Age	Infants (0-<1)	Reference	
	Toddlers (1-<4)	0.208	.042 1.23 (0.95-1.60)
	Children (4-11)	0.526	<.001 1.69 (1.33-2.15)
	Adolescents (≥ 12)	0.622	<.001 1.86 (1.46-2.38)
Insurance	Private	Reference	
	Public	0.292	<.001 1.34 (1.13-1.58)
First-visit	Yes	Reference	
	No	0.23	.002 0.80 (0.66-0.96)
First-Visit Patients			
Age	Infants (0-<1)	Reference	
	Toddlers (1-<4)	0.152	.175 1.16 (.93-1.45)
	Children (4-11)	0.579	<.001 1.79 (1.46-2.18)
	Adolescents (≥ 12)	0.621	<.001 1.86 (1.51-2.28)
Insurance	Private	Reference	
	Public	0.369	<.001 1.45 (1.24-1.68)
Repeat-Visit Patients			
Age	Infants (0-<1)	Reference	
	Toddlers (1-<4)	0.408	.148 1.50 (.87-2.61)
	Children (4-11)	0.436	.097 1.55 (.92-2.59)
	Adolescents (≥ 12)	0.641	.014 1.90 (1.14-3.16)
Insurance	Private	Reference	
	Public	0.092	.459 1.09 (0.86-1.40)

Abbreviation: OR, odds ratio.

Bold values indicate statistically significant at $P < .001$.**Table 5.** Domains of Patient Experience as Predictors for Overall Assessment.

Predictors	β	P	OR (99.9% CI) ^a
Admission	0.817	<.001	2.26 (1.59-3.23)
Discharge	0.469	<.001	1.60 (1.08-2.36)
Nursing care	0.987	<.001	2.68 (1.85-3.90)
Personal issues	1.567	<.001	4.79 (3.12-7.36)
Tests and treatments	0.848	<.001	2.33 (1.60-3.41)
Your child's physician	0.486	<.001	1.63 (1.11-2.39)
Your child's room	1.025	<.001	2.79 (1.90-4.10)

Abbreviation: OR, odds ratio.

Bold values indicate statistically significant at $P < .001$.

related to concern, sensitivity, and communication from health care staff toward patients.

Studies on C-HCAHPS in the United States show that patient age should be incorporated into case-mix analysis of patient experience (24,28). Like our study, an analysis of C-HCAHPS data from a tertiary-care children's hospital demonstrated that lower patient experience was correlated with younger age (26). In addition, a study in an outpatient pediatric otolaryngology clinic found that patient experience was lowest for the 0- to 5-year-old age-group compared to older children, although the study did not specifically

examine the infant population versus others (19). However, a study of multiple pediatric hospitals in Norway found that patient age had weak or no associations with multiple domains of patient experience (25).

Lower patient experience was also associated with patients having private insurance. In the outpatient setting, a study of healthy children demonstrated no association between patient experience and insurance (11), but a study of children with special health care needs showed that families with public insurance were more likely to be dissatisfied with care (12). Publicly insured patients with complex health care needs may face more challenges obtaining adequate care in the ambulatory setting, but this discrepancy may disappear in the inpatient setting. In our study, privately insured caregivers may have been more dissatisfied due to different expectations for care for patients in the hospital.

In the domain your child's room, higher patient experience was associated with black and other races and Spanish as the primary language, but there was no association between other domains of patient experience and race/ethnicity. Conversely, a previous study of C-HCAHPS among Medicaid patients showed that nonwhites had generally lower patient experience than whites, but the authors attributed this finding to language barriers between health care staff, and non-English-speaking patients in the Hispanic and Asian populations (29).

In our study, there was no association between primary language and most domains of patient experience. Primary language may not significantly influence experience as long as there is language concordance. A study in a pediatric surgery clinic found that Spanish-speaking families who communicated with a Spanish-speaking medical team reported higher experience and showed an improved understanding of information compared to those who communicated via an interpreter or with an English-speaking team (17), and a study in a pediatric intensive care unit found similar patient experience among non-Latino families and English-speaking Latino families (22). In our study, the lack of differences between English and Spanish speakers may be due to the small percentage of Spanish-speaking caregivers who returned surveys, the fact that many of our Spanish-speaking patients are bilingual, and the presence of health care providers in our institution who speak Spanish.

Overall, the association between patient experience and certain demographics deserves further investigation. Future directions could include assessing expectations of patients and families at the initial point of contact with health care, such as admission to the hospital, and comparing these expectations with their subsequent patient experience across demographics.

Longer LOS was associated with lower patient experience for nursing care but not overall patient experience. Number of consulting services was not at all associated with patient experience. In a study of long-stay adult surgical patients, more consultations were associated with worse satisfaction with physician communication (30). We hypothesized that longer LOS and a higher number of consulting services may create the potential for communication

errors, but in this study, these hospital stay characteristics did not significantly influence patient experience. Perhaps the potential for communication errors was offset by increasing familiarity and camaraderie with the staff and the additional attention that patients would receive from multiple subspecialists during a long hospital stay.

Among the domains of patient experience we examined, we found that personal issues was the most significant driver of OA. Although our survey designated the domain as personal issues, items in the domain pertained more to concern, sensitivity, and communication from health care staff toward patients. While all the domains included a few questions related to communication, personal issues particularly addressed emotional needs, response to complaints, and efforts to include family members in decision-making. This finding is consistent with a qualitative study of family-centered care in a pediatric emergency department, which found that families most value aspects of care such as emotional support, coordination, communication, respect for preferences, and involvement of the patient and family in care decisions (31). Another study in a pediatric emergency department found that the most significant predictor of overall experience was being “informed about delays,” and the most significant predictor of overall dissatisfaction was “perceived poor staff sensitivity to concerns” (23). Similar results were found in studies in pediatric subspecialty clinics, where the strongest correlates to overall experience include the cheerfulness of the practice, a cohesive staff, and a care provider explaining problems and conditions (13–15). The second-most important driver of OA was your child’s room. Studies in adult hospitals have also found that improved room amenities and cleanliness were associated with higher patient experience (32,33). The category of nursing care was the third-most important driver of OA, perhaps because many items in personal issues were directly addressed by nursing (eg, staff concern not to frighten your child). Nursing care has been shown to correlate strongly with overall satisfaction in adult hospitals (4). Children’s hospitals could thus improve patient experience by focusing resources on improving sensitivity and communication from staff toward families, hospitality, and nursing care.

Strengths and Limitations

Strengths of this study include its large sample size. The primary limitation is the possibility of nonresponse bias. Our survey response rate of 8.9% was comparable to the Press Ganey American Hospital Association Region 4 (Southeast Region) rate of 8.4% (34). In a previous study of C-HCAHPS from a tertiary-care children’s hospital, respondents compared to nonrespondents were more likely to be white, non-Hispanic, and privately insured (26). Nonetheless, our findings remain important, since our sample represents surveys that institutions use for quality and benchmarking. Until hospitals make significant strides to obtain more representative samples, it remains imperative to evaluate our existing data.

Additional limitations include the fact that these data are from a single center in a specific region of the United States, limiting the generalizability of the results. Patient experience ratings for freestanding teaching hospitals such as ours are generally higher than those for nonfreestanding and nonteaching hospitals (24). Many of the differences seen in top-box percentages across demographics were statistically significant, but the absolute magnitude of the differences was generally low. Although Press Ganey is well known, many institutions (including ours since the completion of this study) have transitioned to C-HCAHPS. The surveys are similar; both include domains such as communication with caregivers and patients from physicians and nurses, attention to safety and comfort, hospital environment, and an overall rating (28).

Conclusion

Among pediatric inpatients, lower patient experience is associated with younger patient age and having private insurance. Hospital stay characteristics including LOS and number of consulting services were not associated with overall patient experience. The most significant predictors of an overall measure of experience include concern, sensitivity, and communication from staff, hospitality, and nursing. Children’s hospitals could improve patient experience by targeting initiatives to patients at risk for low levels of experience and focusing efforts on improving communication between families and staff.


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