

Association of Emergency Index Score and Patient Family Experience in the Pediatric Emergency Department

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Background

- The Emergency Severity Index (ESI) system, is a validated 5-level triage scale that applies a clinical assessment to the patient and assigns a triage level 1 to 5
- Patient Family Experience (PFE) surveys are frequently given after PED visits asking families to rate their experience
- PFE scores have been shown to be inversely related to wait times and door-to-room times

Study Aims

- Determine the relationship between a patient's ESI score and their or their family's response to the key performance indicator (KPI) question on the post-visit PFE survey.

Methods

- Retrospective cohort study of patient encounters resulting in discharge from two PEDs between July 1, 2021, and June 30, 2022
- All encounters for patients <21 years of age who were treated in and discharged from either of our PEDs with a completed PFE survey after the visit were eligible for inclusion.
- Univariate analysis was performed on all candidate variables
- Multivariable logistic regression determined independent associations with KPI

Results

PFE or Clinical Aspect	How would you rate our facility? (mean [SD], N)	p
Sex		
Male	8.5 (2.5), 4130	0.035
Female	8.4 (2.6), 4006	
Race		< 0.0001
Asian	8.2 (2.7), 245	
Black	8.4 (2.6), 1317	
Middle Eastern	8.8 (2.6), 42	
Multiple	8.5 (2.6), 329	
Other	9.1 (1.8), 96	
Preferred Category Not Available	9.3 (1.7), 496	
Unknown	8.8 (2.3), 227	
White	8.4 (2.5), 5383	
Ethnicity		< 0.0001
Hispanic	9.1 (2.0), 895	
Non-Hispanic	8.4 (2.6), 7153	
Refused/Unknown	8.4 (2.6), 87	
How likely would you be to recommend our emergency department to friends or family?		< 0.0001
0-6	4.3 (2.8), 1526	
7-8	8.0 (1.1), 992	
9-10	9.7 (0.8), 5618	
ESI		< 0.0001
1	9.5 (0.8), 6	
2	8.8 (2.2), 1732	
3	8.3 (2.7), 3505	
4	8.5 (2.5), 2508	
5	8.8 (2.3), 381	
I/my child was seen in a timely manner.		< 0.0001
Yes	9.1 (1.8), 6605	
No	5.7 (3.2), 1529	
Prescription written		0.83
Yes	8.5 (2.4), 3068	
No	8.4 (2.6), 5068	
Labs ordered		0.043
Yes	8.4 (2.6), 2935	
No	8.5 (2.5), 5201	
Imaging ordered		0.84
Yes	8.5 (2.5), 2716	
No	8.4 (2.5), 5420	
Procedure performed		0.55
Yes	8.5 (2.4), 1324	
No	8.5 (2.5), 6812	

Univariate Association of PFE Survey Responses and Specific Aspects of Clinical Care With Facility Rating on PFE Survey

Clinical aspect	Estimate	P
Sex		.6
Male		
Female	-0.03	
Race		.02
Asian	-0.2	.1
Black	-0.04	.6
Middle Eastern	0.3	.4
Multiple	0.05	.7
Other	0.3	.3
Preferred category not available	0.5	.0006
Unknown	0.3	.09
White	0	
Ethnicity		.0005
Hispanic	0.5	.0002
Non-Hispanic	-0.1	.6
Refused/Unknown	0	
ESI		.4
1	0.5	.6
2	0.07	.6
3	-0.05	.7
4	-0.07	.6
5	0	
Prescription written	0.08	.1
Labs ordered	-0.1	.1
Imaging ordered	0.1	.06
Procedure performed	0.3	<.0001
Time to provider	-0.008	<.0001
Length of stay	-0.002	<.0001

Multivariable Regression Model of Specific Aspects of Clinical Care Predicting KPI Response on PFE Survey

Results

- 8136 patients included in the study
- We found univariate associations between ESI scores and KPI
- ESI levels were significantly associated with the KPI response, with higher acuity patients (ESI 1 and 2) providing more positive responses than lower acuity patients (ESI 3 and 4)
- Both time to provider and length of stay demonstrated statistically significant negative associations with the KPI question on our PFE survey
- Prescribing medications or performing labs and imaging did not likely lead to higher KPI scores
- Procedure performance has an independent association with PFE
- Patients and families who identified as Hispanic race responded more positively to the KPI question in the PFE survey

Conclusion

- Patients and families experiencing shorter wait times, time to providers, and those in whom a procedure was performed are likely to have a more positive experience during their visit
- ESI triage score is not an independent predictor of experience
- ESI triage score is associated with wait times with higher triages levels having longer wait times

Future Directions

- ESI is not independently associated with PFE in this study, its interaction with factors such as time to provider, length of stay, and procedure performance are important for providers creating interventions to impact experience during low acuity visits.