

# Improving Patient Experience Scores in a Pediatric Emergency Department

Beth L. Emerson, MD, MBA\*; Erika Setzer, MSN, RN, CEN, CNML, NE-BC†; Kirsten Bechtel, MD\*; Matthew Grossman, MD\*

## Abstract

**Introduction:** Patient experience (PE) is an important aspect of the quality of medical care and is associated with positive health outcomes. In the pediatric emergency department (PED), PE is complicated due to the balance of needs between the patient and their family while receiving care. We identified an opportunity to improve our PE, as measured by a survey administered to patients and families following their visit to the PED. **Methods:** Utilizing quality improvement methods, we assembled a multidisciplinary team, developed our aims, and evaluated the process. We utilized a key driver diagram and run charts to track our performance. The team additionally monitored several essential subcategories in our improvement process. We aimed to improve our overall PE score from 86.1 to 89.7 over 9 months to align with institutional objectives. **Results:** Over 6 months, we improved our overall PE score from 86.1 to 89.8. Similarly, each of our subscores of interest (physician performance, things for patients to do in the waiting room, waiting time for radiology, staff sensitivity, and communication about delays) increased. Interventions included rounding in the waiting and examination rooms, staff training, team huddles, and a cross-department committee. All measures demonstrated sustained improvement. **Conclusions:** Even in this complex setting, a multidisciplinary team's careful and rigorous process evaluation and improvement work can drive measurable PE improvement. We are continuing our efforts to further improve our performance in excellent patient-centered care to this critical population. (*Pediatr Qual Saf* 2021;6:e417; doi: 10.1097/pq9.000000000000417; Published online June 23, 2021.)

## INTRODUCTION

Patient experience (PE) in emergency care is complex. This issue is especially so in pediatrics, where the PE filters through the parent or guardian's perspective. Understanding and enhancing the PE is an essential dimension of providing high-level patient and family-centered care, as endorsed by the American Academy of Pediatrics, American College of Emergency Physicians, and Institute of Medicine.<sup>1,2</sup> Patients and families who have positive care



experiences may also have improved health outcomes. For example, a positive PE correlates with improved adherence to recommended medication use and care plans.<sup>3</sup>

Patient and family experience can drive expectations for the provision of care. Among the many facets of quality care, patients identify waiting time, symptom relief, accurate diagnosis, and a caring and empathic staff attitude as most important.<sup>4,5</sup>

Specifically, frequent updates regarding the plan of care from staff to families are tightly correlated with a positive PE.<sup>6,7</sup>

Providing a positive PE can be challenging in the emergency department setting for many reasons. Emergency department visits are often unexpected, staff lack established relationships with patients, departments are overcrowded, and medical or surgical conditions may be acute.<sup>8</sup> Importantly, however, the complexity of these challenges offer opportunity when framed through quality improvement. In our institution, our PE scores in our pediatric emergency department (PED) were lower than in any other unit and below the 50th percentile when compared to 92 similar institutions available in the Press Ganey database (Press Ganey Associates, LLC., Boston, Mass.). Particular areas of concern included nursing and physician summary scores, communication about delays, availability of things for the child in the waiting room, and waiting time for radiology studies.

From the \*Section of Pediatric Emergency Medicine, Yale University School of Medicine, New Haven, CT; and †Emergency Department, Yale New Haven Children's Hospital, New Haven, CT

\*Corresponding author. Address: Beth L. Emerson, MD, MBA, 100 York Street Suite 1F, New Haven, CT 06511  
PH: 203-737-7433; Fax: 203-737-7447  
Email: Beth.Emerson@yale.edu

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In our PED, we identified an opportunity to improve our measured PE. Using a standardized patient and family survey tool, we aimed to improve our PE score from 86.1 to 89.7 by January 1, 2020, to align with other units at our institution as chartered by our hospital administration. Our improvement work's secondary aims included achieving improvement in several critical subscores correlated with our overall PE score. Specifically, we aimed to improve our physician and nursing category summary scores, communication about delays, availability of things for the child to do, and waiting time for radiology studies.

## METHODS

### *Context*

This quality improvement project was conducted from 2018 to 2020 in an urban, tertiary care PED with approximately 38,000 annual visits inclusive of level 1 trauma. The PED is within a teaching hospital and trains residents and fellows across several specialties. The hospital utilizes Press Ganey to administer a survey based on the Clinician and Group Consumer Assessment of Healthcare Professionals Survey (CG-CAHPS).<sup>9</sup> The survey is administered by email or paper copy by mail to all patients discharged from the emergency department. We excluded admitted patients from our analysis, as a separate survey is sent to those patients. For the pediatric patient, a parent or guardian most often completes the survey. The survey asks questions across several care dimensions (arrival, nurses, doctors, tests, overall assessment, personal/insurance information, and personal issues). The survey vendor provides summary scores for each dimension and an overall "PE" score for all responses. The PE score ranges up to 100.

### *Interventions*

At the onset of the improvement work, we assembled a multidisciplinary team that included pediatric emergency medicine nurses, pediatric emergency medicine physicians, and hospital quality improvement personnel. The team reviewed baseline PE scores and identified areas for improvement. The team developed a key driver diagram with 6 key drivers and 9 interventions (Fig. 1).

### *Staff Huddles*

To improve staff understanding of patient needs across the unit, review current operational delays, and plan communication strategies with patients and families in real time, we initiated unit-wide PE and operations huddles. These huddles were led twice daily by the charge nurse with a standardized script and attended by all clinical staff on the unit who did not attend to acute patient care needs. From these huddles, staff could return to the bedside to update families and provide more context around their current stage of care.

### *Multidisciplinary Experience and Improvement Group*

Additionally, we established a cross-department team, including emergency department stakeholders.

Representation included radiology, patient registration, social work, housekeeping, parking, and many other departments. The team began meeting monthly to review scores and share strategies for improvement.

### *Leadership Rounding*

To improve the frequency and quality of communication with families, unit-based leadership began daily rounds on roomed patients. The leaders focused on patients with long lengths of stay or specific care or comfort needs. At the onset of the SARS-CoV-2 (COVID) pandemic, leaders continued this practice but in a minimized fashion for safety.

### *Update Patient Communication Boards*

We updated patient whiteboards in each room. These boards identified the patient's care team, whether or not the child could eat and drink, typical waiting times for tests, and other information (Fig. 2). The boards were updated by the bedside nurse when interacting with a patient and family.

### *Waiting Room Rounding*

The staff scheduled assigned times to round on families awaiting care in the waiting room, emphasizing evenings when patient volume is typically higher, and waiting times are longer. The content of these conversations included updates on departmental flow, exploration of any delays, and communication around available activities and distractions for the waiting child (eg, single-use activity packets). Rounding staff identified an opportunity to improve access to toys in the waiting room and secured magnetic play tables for patient use in that area. The COVID pandemic impacted this effort, as volunteer and other nonessential staff were no longer allowed on the unit. At that time, the triage team began to distribute the activity packets.

### *Train Staff in Standardized Approach*

Overall, we also identified an opportunity to create a "signature" of communication that was more standardized across our unit. In small cohorts, we educated faculty and staff in communication training based on the Academy of Communication in Healthcare curriculum, delivered by local faculty trainers.<sup>10,11</sup>

### *Develop Faculty as Mentors*

We identified some of the faculty as mentors for communication for the medical trainees on rotation in the PED. Interested faculty volunteered to serve in this role. Mentors discussed communicating delays to families regularly, working out loud at the bedside for transparency to families, mentoring trainees explicitly in communication, and improving their practice through training and ongoing discussion with peers. We emphasized performance in these 4 themes to facilitate this work, reiterating it by email and monthly faculty meetings.

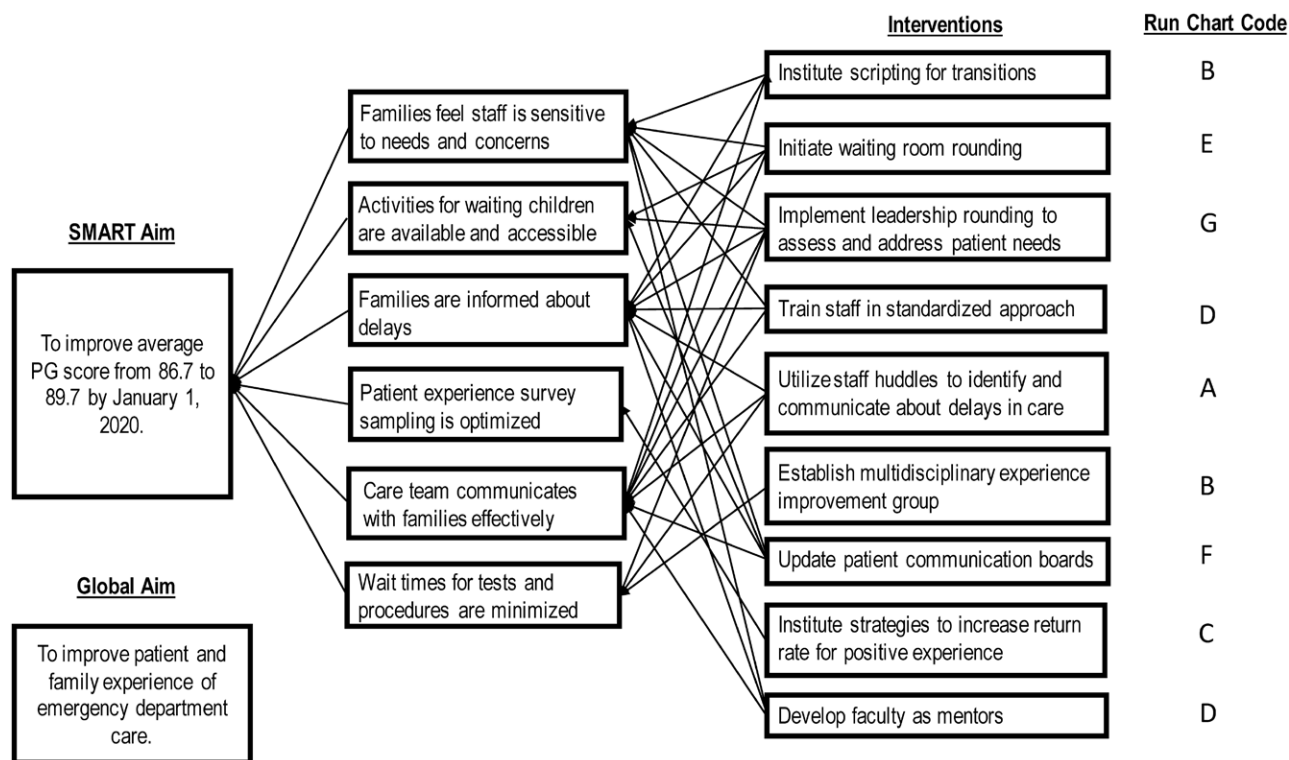


Fig. 1. Key driver diagram. Improving patient experience scores in the children’s emergency department.

**Strategies to Increase Positive Returns**

We aimed to improve the frequency of families with positive feedback returning surveys. Our survey response rate is typically about 3.7%, so we felt there was an opportunity for improvement, particularly among families with positive PE.<sup>12</sup> Our leadership team sent a follow-up message by email to all families to ask about immediate feedback after the visit. From this email, our team was able to identify families with positive feedback and encourage them to complete the formal PE survey when received.

**Scripting for Transitions**

Finally, the improvement team prepared standard scripts for patients awaiting care, transitioning between emergency department areas, and waiting in hallway spaces. The scripting prioritized clear language, setting reasonable expectations, and giving families the chance to communicate and ask questions. Staff were educated on these scripts by email, with demonstration and reinforcement at staff meetings.

**Study of the Interventions**

Data from Press Ganey was gathered and annotated on a run chart. We utilized QI Macros (KnowWare International Inc., Denver, Colorado) for Excel (Microsoft Corp., Redmond, Wash.) to create the charts.

**Measures** Data were summarized into 2 -week blocks, beginning on Monday, September 10, 2018. Our primary measure was the overall summary score pro-

vided across all categories. We identified several subscores for improvement work either because of low performance or importance to the improvement team. These scores were tracked and trended, including “Availability of Things for the Child to Do,” “Waiting Time for Radiology Test,” “Communication about Delays,” and “Staff Sensitivity to Fears and Concerns.” Additionally, we evaluated summary scores comprising all categories about “Doctors” and “Nurses.” Of note, not all respondents completed each item on every survey, but we included all available data. We gathered approximately 6 months of data as the baseline before interventions. Our overall primary measure improvement aim was identified by hospital system leadership at 89.7.

**Analysis**

We analyzed the run charts for special cause variation and defined a shift as 8 or more points to one side of the centerline. We applied Standard rules in this analysis.<sup>13</sup>

**Ethical Considerations**

Our local institutional review board exempted this quality improvement work from formal approval per local policies. We did not identify significant ethical concerns, conflicts of interest, or patient risks in this work.

**RESULTS**

Our project work began in March 2019. Our baseline overall Press Ganey score was 86.1 (904 total surveys). We observed special cause variation (8 contiguous points above the centerline) in our primary outcome metric in



Fig. 2. Improved patient communication whiteboard.

the data block beginning September 23, 2019, which was sooner than our goal of 9 months. Following this change, we readjusted our centerline from 86.1 to 89.8, which was above our goal (Fig. 3). The results were sustained throughout the following year and included 1,881 surveys after the project start.

We demonstrated special cause variation in “Availability of Things for the Child to Do” from a score of 71.7 to 78.3 (Fig. 4) and in the summary metric combining all feedback about doctors from a score of 88.6 to 92.1 (Fig. 5), both beginning in the September 23,

2019 block. Additionally, the summary metric for nurses improved from 89.7 to 93.6 during the same period (Fig. 5). We sustained all of these results throughout the following year.

We also demonstrated special cause variation for “Staff Sensitivity to Fears and Concerns” from 84 to 91.4 (Fig. 4) as well as “Waiting Time for Radiology Test” from 81.3 to 90.2 (Fig. 4) beginning on February 10, 2020. Shortly after that, “Communication About Delays” improved from 75.7 to 87.3 (Fig. 4) beginning on March 9, 2020.



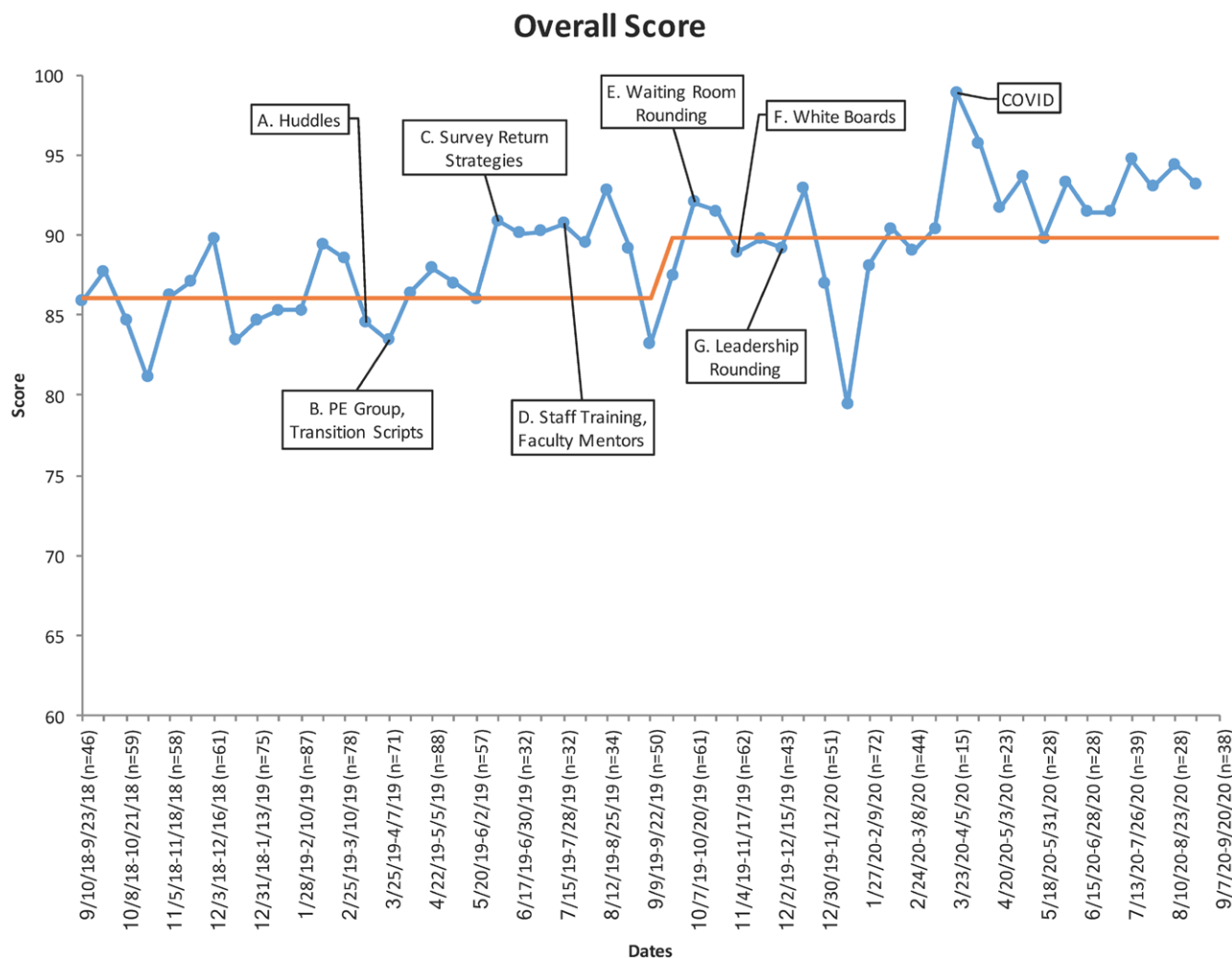


Fig. 3. Run chart: overall PE score.

### DISCUSSION

We demonstrated the substantial impact of interventions focused on leader rounding, staff communication training, and other patient and family experience interventions. Our PE scores increased above our goal by the end of our project. During our baseline period, our overall score was in the 48th percentile when compared to similar institutions. For the last 6 months of our project, we were in the 90th percentile. This work demonstrates the impact of a multidisciplinary, multifaceted improvement project in measurably and sustainably improving PE in a PED.

One of our study’s strengths was that we continued to observe gains during our sustainability period, which coincided with the SARS-CoV-2 pandemic, a period of great stress for both families and staff. Though it was reasonable to predict a decrease in satisfaction scores during the pandemic, the focus on communication and the pre-COVID increase in scores for “Staff Sensitivity to Fears and Concerns” and the drop in volume may have helped mitigate the expected drop in scores. Also, the dates marked on the run chart reflect the beginning of each initiative. Ongoing staff education and related culture

change may have continued to impact our performance during the pandemic positively. However, these possible reasons for increased scores suggest the need for further work in this area, as the COVID-related improvement in PE was not explained by shifting demographics or changes in the length of stay.<sup>12</sup> Our department, however, did appreciate some focal changes in workflow relative to COVID.

Improved PE is an essential component of quality work and may have direct relationships with patient outcomes. Patients with positive experience have demonstrated improved adherence to treatment plans, engagement with preventive care, and decreased resource use.<sup>3,14,15</sup> Concerning direct patient outcomes, future work might explore PE and its correlation with emergency department care outcomes and utilization.

In identifying our key drivers, we appreciated the need to address survey response as a component of improving PE scores. Although interventions aimed to improve survey response rate among patients and families with positive PE do not specifically modify the unit’s experience, they play an important role in ensuring that survey score

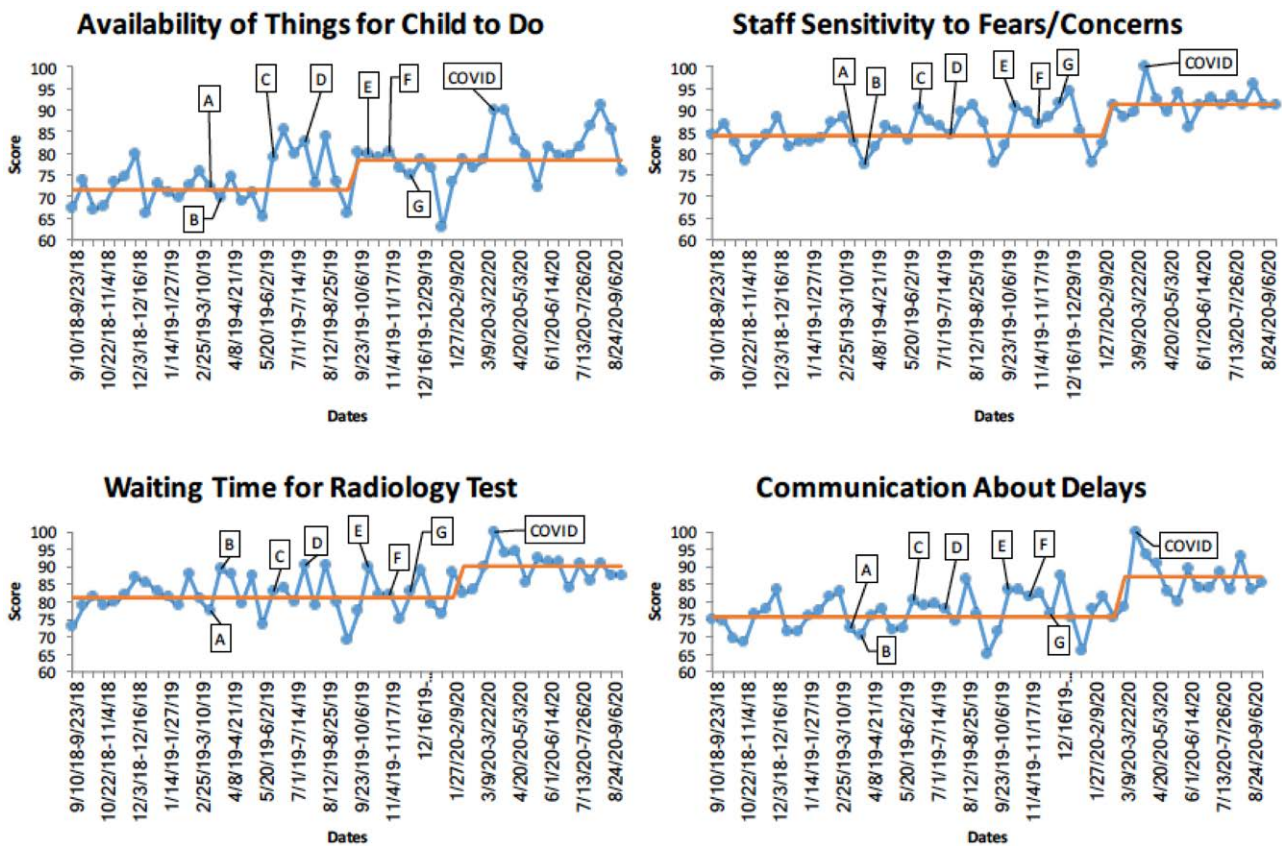


Fig. 4. Run charts: availability of things for child to do, staff sensitivity to fears and concerns, waiting time for radiology test, communication about delays.

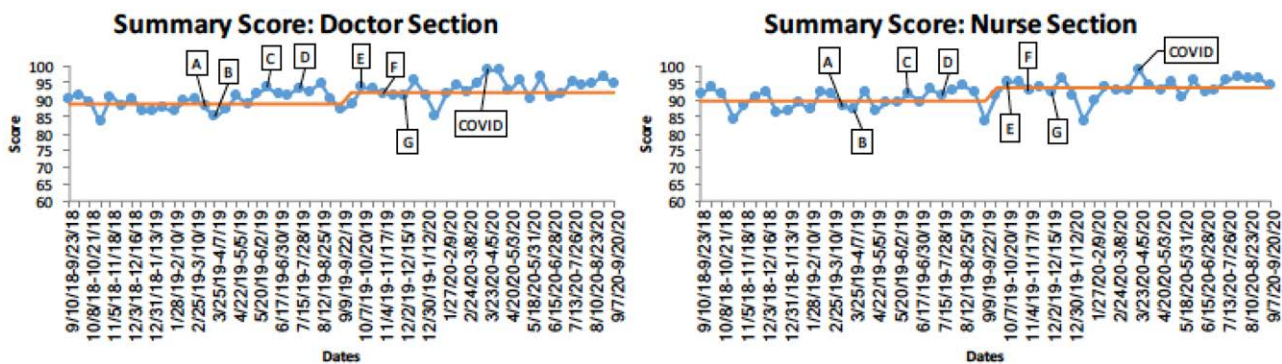


Fig. 5. Run charts: doctor summary score, nurses summary score.

improvement is achieved. Strategies aimed to improve survey response rates among patients with positive PE should be careful not to lead to families feeling pressured to reply but may serve as a positive way for families to recognize an exceptional staff member or otherwise have their voice heard.

Limitations of this work include the single-site approach, which may narrow the generalizability of our findings. Also, our self-report assessment tool suffered from a low response rate. Clinical settings with different survey response rates or patient characteristics may observe different improvement effects. Finally, COVID

caused some focal impact on efficiencies and workflows. For example, we observed some trend toward decreased time to study completion for radiology studies. Our work was not designed to differentiate this impact from the impact affected by our improved communication about delays but may have implications in the generalizability of our findings.

### CONCLUDING SUMMARY

In summary, a targeted, rigorous, and multidisciplinary approach can measurably improve the reported

experience of patients seen in a PED. Although these gains are significant, we continue to work to improve our patients' and families' experiences. With ongoing efforts, we will continue to strive to meet our global aim of providing a positive experience to each patient and family.

## DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

## REFERENCES

- O'Malley PJ, Brown K, Krug SE; Committee on Pediatric Emergency Medicine. Patient- and family-centered care of children in the emergency department. *Pediatrics*. 2008;122:e511–e521.
- System IoMCotFoECitUH. *Emergency Care for Children: Growing Pains*. The National Academies Press; 2006.
- Doyle C, Lennox L, Bell D. A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. *BMJ Open*. 2013;3:e001570.
- Sonis JD, Aaronson EL, Lee RY, et al. Emergency department patient experience: a systematic review of the literature. *J Patient Exp*. 2018;5:101–106.
- Holden D, Smart D. Adding value to the patient experience in emergency medicine: what features of the emergency department visit are most important to patients? *Emerg Med*. 1999;11:3–8.
- Johnson MB, Castillo EM, Harley J, et al. Impact of patient and family communication in a pediatric emergency department on likelihood to recommend. *Pediatr Emerg Care*. 2012;28:243–246.
- Locke R, Stefano M, Koster A, et al. Optimizing patient/caregiver satisfaction through quality of communication in the pediatric emergency department. *Pediatr Emerg Care*. 2011;27:1016–1021.
- Baren JM. Rising to the challenge of family-centered care in emergency medicine. *Acad Emerg Med*. 2001;8:1182–1185.
- Presson AP, Zhang C, Abtahi AM, et al. Psychometric properties of the Press Ganey® outpatient medical practice survey. *Health Qual Life Outcomes*. 2017;15:32.
- Boissy A, Windover AK, Bokar D, et al. Communication skills training for physicians improves patient satisfaction. *J Gen Intern Med*. 2016;31:755–761.
- Chou CL. *Communication Rx: Transforming Healthcare Through Relationship-Centered Communication*. McGraw-Hill; 2018.
- Emerson BL, Setzer E. Patient experience in a pediatric emergency department during COVID-19. *Patient Exp J*. 2020;7.
- Perla RJ, Provost LP, Murray SK. The run chart: a simple analytical tool for learning from variation in healthcare processes. *BMJ Qual Saf*. 2011;20:46–51.
- Fortuna RJ, Nagel AK, Rocco TA, et al. Patient experience with care and its association with adherence to hypertension medications. *Am J Hypertens*. 2018;31:340–345.
- Young SA, Azam LS, Meurer JR, et al. The influence of patient and provider communication on diabetes care delivery. *J Ambul Care Manage*. 2016;39:272–278.