CHILDREN'S HOSPITAL ASSOCIATION

A preoccupation with DETECTION

Identifying the source of serious pediatric patient harm

Child Health Patient Safety Organization®

2018 annual report | A foundation for the future

Revised 5/8/19

Child Health PSO

Dedicated to helping children's hospitals reduce the risk of repeat serious safety events

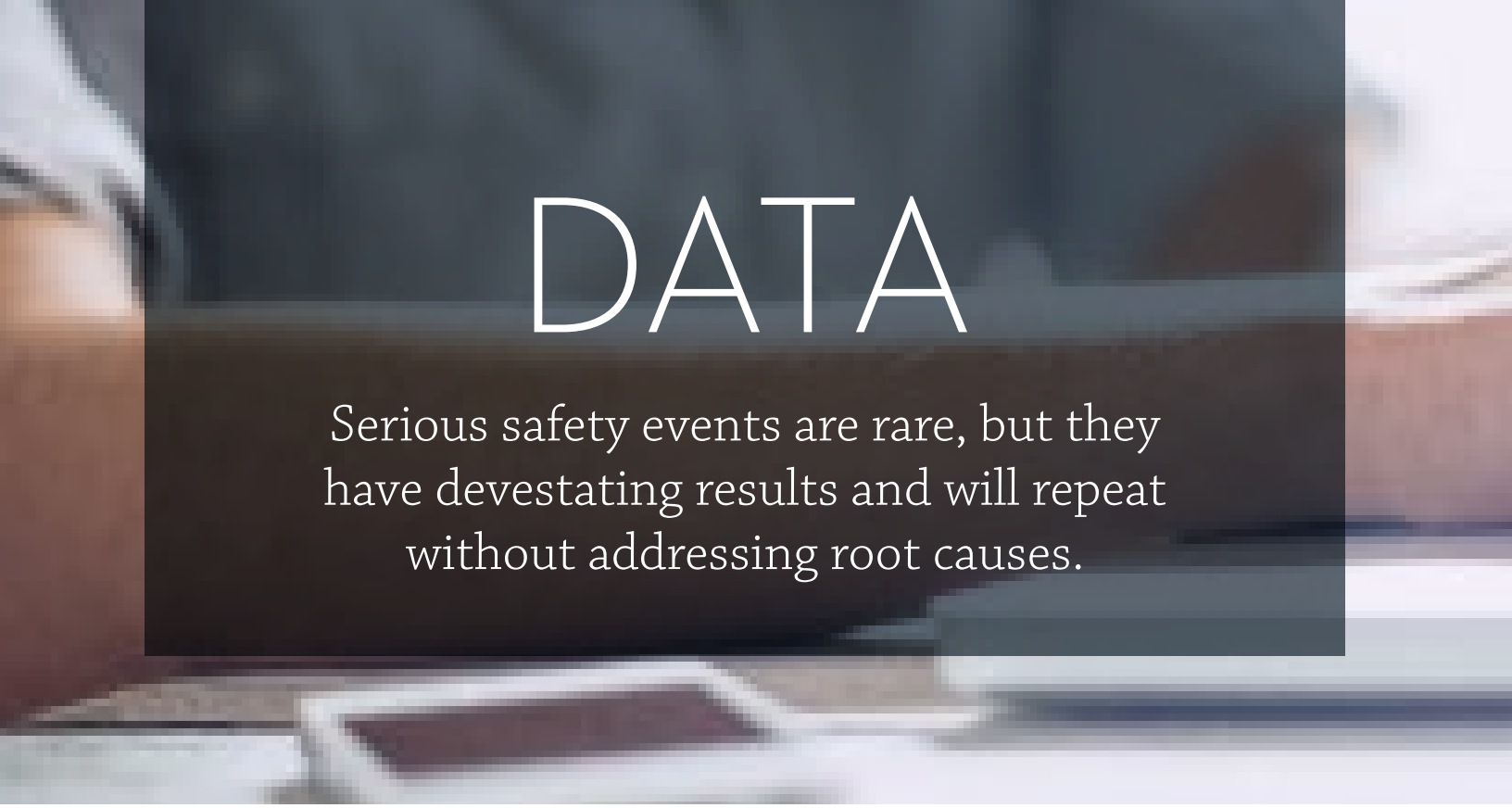
Tackling delivery system causes of harm is no easy feat. A foundational step is detection so that harm is identified, investigated, reported and analyzed. Then action can be taken to close gaps on known vulnerabilities that mitigate risks to patients. The quest to perfect detection has resulted in over 1,000 serious safety event cases reported by children's hospitals participating in Child Health PSO.

Just one instance of serious harm has devastating consequences to the patient and family, caregivers and community. By working together, children's hospitals within Child Health PSO have reported that 20 percent fewer pediatric patients have experienced serious harm in the last two years. While this gives us hope that progress is being made, we also see known harm repeated across the nation.

Child Health PSO recently revealed the common causes of serious harm from these data: Lack of Situational Awareness or Failure to Recognize is the most prevalent, followed by Procedural Errors and Communication Failures. By engaging in a federally privileged and confidential setting for reporting and learning, children's hospitals can aggregate cases for analyses, understand themes, and identify strategies and best practices to avoid causing harm within their own organizations.

Children's hospitals collaborate in the PSO's protected space to engage in deep learning about the causes of serious harm so they aren't repeated elsewhere. Additionally, what is detected in Child Health PSO is made available publicly so other pediatric providers can learn and take action to improve safety when caring for children. We will continue to seek partnerships with other organizations that share a commitment to eliminating the preventable serious pediatric harm themes detected by Child Health PSO's Patient Safety Team.

This report highlights 10 patient safety concerns that have high potential for repeat harm, beginning with the PSO's inaugural safety alert on NG tube misplacement. It serves as a reminder to be vigilant about detecting vulnerabilities before a serious safety event occurs. Please review these issues, assess organizational risks and take the actions needed, including closing loops of implementation.



DATA

Serious safety events are rare, but they have devestating results and will repeat without addressing root causes.

Learning from Serious Safety Events

Safe Tables reflect deliberations among PSO participants regarding federally protected patient safety work product generated by the PSO as part of the patient safety evaluation system.

The top safety themes and common causes have been revealed from aggregate analyses of over 1,000 serious safety event cases reported to Child Health PSO. The new data system in 2016 resulted in improved and increased reporting, making these findings possible. Previously 30 percent of cases reported were usable for analysis; today, 99 percent of cases are usable.

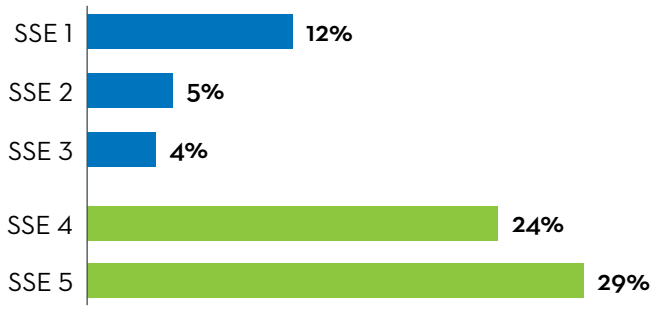
Nearly 90 percent of participating hospitals report case data and the serious safety event rate (SSER). Reporting for either did not exceed 50 percent of participants prior to 2017, and membership has continued to grow. When including huddle reporting, the percent of hospitals participating rises to 97 percent. This participation is unprecedented compared to other data products, and is a testimony to the commitment to improve safety.

Case Reviews

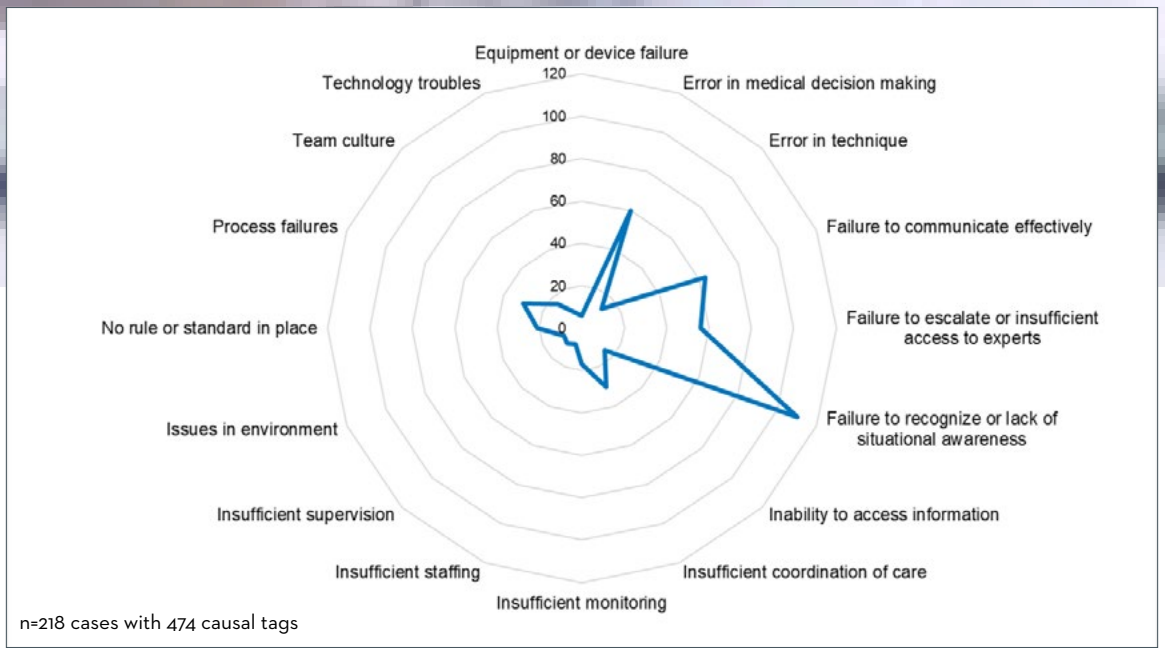
Over the last year, the Patient Safety Team reanalyzed historical cases using an expert consensus process and found 74 percent reflect serious harm to patients.

Children's hospitals in Child Health PSO use the harm scale adopted from the Children's Hospitals' Solutions for Patient Safety.

SSE 1	Death
SSE 2	Severe Permanent
SSE 3	Moderate Permanent
SSE 4	Severe Temporary
SSE 5	Moderate Temporary



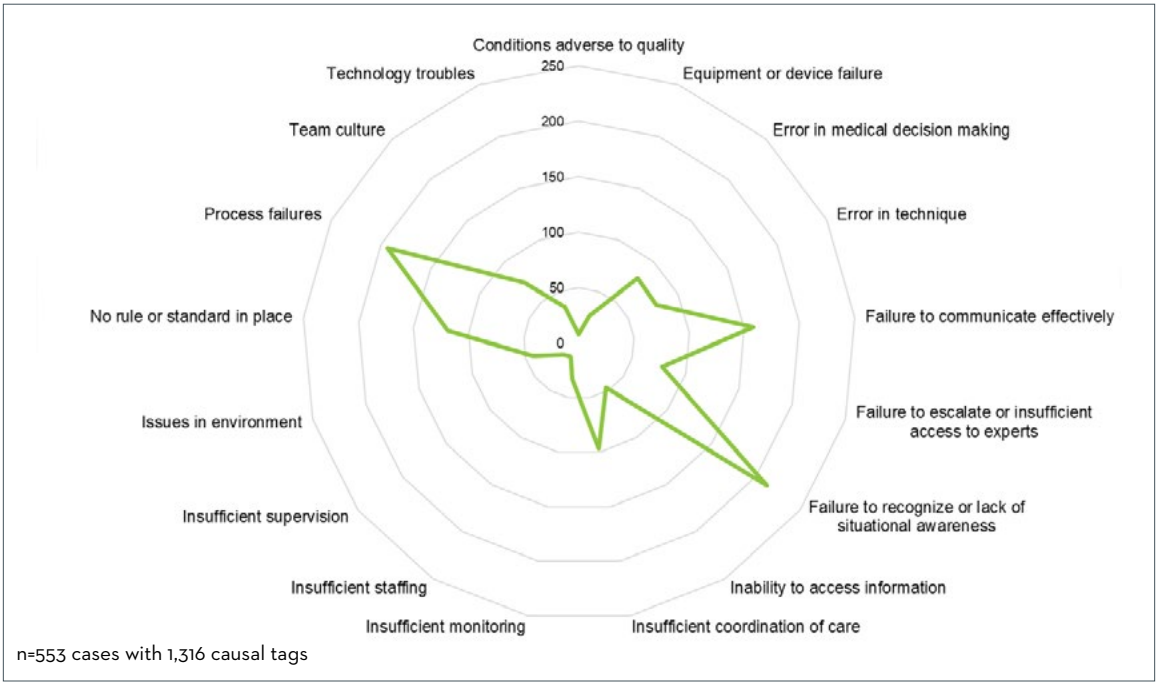
Causes of Most Serious Harm (SSE 1-3)



n=218 cases with 474 causal tags

More focus is needed to reduce the most serious harm from Failure to Recognize/Lack of Situational Awareness. In combination with other causal factors (Failure to Communicate, Error in Technique and Error in Medical Decision Making), these are our greatest vulnerabilities to patients.

Causes of Severe Moderate Harm (SSE 4-5)



n=553 cases with 1,316 causal tags

Failure to Recognize/ Lack of Situational Awareness and Failure to Communicate Effectively remain top causes when looking at SSE 4 and 5. Deviations from standard practice, or Process Failures, become a more prominent causal factor when analyzing these cases.

SAFETY

It's important to assess vulnerabilities and close process, practice and system gaps.

10 Patient Care Vulnerabilities for Hospitalized Children

With contributions from children's hospitals and other organizations, Child Health PSO develops pediatric-focused safety alerts, proactive risk assessments, and resources aligned with reported themes. Resources include engaging in All Teach, All Learn Safe Tables. Some vulnerabilities are specific event types related to care processes; others are associated with complex clinical situations and communication across teams. Contact PSO staff for related Safe Table resources and summaries.

NG TUBE MISPLACEMENT. While most children are unharmed by nasogastric (NG) tube placement, there are catastrophic consequences to children, particularly neonates, when the gold standard is not followed. This issue prompted Child Health PSO to issue its inaugural alert in 2012. Nurse champion Beth Lyman, RN, M.S.N., Children's Mercy Kansas City, initiated national efforts with other passionate individuals and organizations to clarify and promote evidence-based practices.

Deahna Visscher, mom and parent partner with Children's Hospital Colorado, tells the story of her son Grant nationally, and advocates for NG tube misplacement victims. Videos and resources are available from New Opportunities for Verification of Enteral Tube Location (NOVEL), which has led to further research, product improvements and industry collaboration. But Visscher is still finding a lack of awareness of resources that reinforce current gold standards. Organizations should assess nursing practices and act immediately to eradicate outdated practices of verification by auscultation and visual aspiration.

- Child Health PSO safety alert: Blind Pediatric NG Tube Placements
- American Society for Parenteral and Enteral Nutrition practice resources and video: nutritioncare.org/novel

MRI SAFETY. Child Health PSO identified a combination of Process Failures and Insufficient Coordination of Care Practices from individual and system issues as top concerns. Child Health PSO collaborated with Children's Hospital Association's (CHA) Radiology Directors Forum to address these vulnerabilities. Safe Table participation included

98 percent of forum member hospitals and demonstrated how collaboration can engage stakeholders in a confidential setting to improve patient safety.

A confidential PSO setting complements peer learning that occurs within the forum.

» Contact kassandra.jensen@childrenshospitals.org for forum information.

RETAINED FOREIGN OBJECTS. Communication Failures and Lack of Situational Awareness within the surgical team are top causes of retained foreign objects (RFO). Collaboration with CHA's Operating Room Directors Forum and pediatric surgeons resulted in an update to the CHA Operating Room Directors Forum Guidelines for the Prevention of Retained Surgical Items. To detect vulnerabilities in all settings where invasive procedures occur and address issues unique to the pediatric population, Child Health PSO developed a risk assessment and safety alert.

Following this, a Safe Table was dedicated to understanding causes and learning successes with prevention tactics.

» Child Health PSO safety alert: Procedural Mishaps: Retained Foreign Objects or Surgical Items

COMMUNICATION FAILURES. First detected in 2017, Failure to Communicate Effectively ranks as the third common cause safety concern from all cases reported by children's hospitals. It was the focus of the 2018 Child Health PSO Annual Meeting, and leaders from the Child Health PSO and CHA's Quality and Safety Leaders Forum collaborated to specifically address the flaws related to caregiver-to-family communication.

Simulated learning revealed behavioral competencies and tools that can be effective in improving communications with families and between providers. Communication Failures between providers reflect 80

COMMUNICATION FAILURES

"As the person with the highest stakes, it's important that I'm comfortable to speak up and that you work with me."

DEEJO MILLER
Children's Mercy Kansas City
Patient Family Advisor

percent of cases reported. Participant learning included the use of family standardized actors to make simulation more meaningful, standardized handoff programs with proven successes, understanding how situational awareness aids teamwork and communication when circumstances escalate, and use of simulation as an impactful method for provider learning.

The topic is addressed in nearly every Safe Table, and Child Health PSO is evaluating the development of a risk assessment once the process map is complete.

Handoffs are not a new topic, but breakdowns in the process continue to cause serious harm.

BEHAVIORAL HEALTH. An increasing number of cases reported to Child Health PSO involve behavioral health issues. Children's hospitals often have capacity and competency constraints that make care delivery risky when children with a behavioral health diagnosis present to the emergency department and are admitted as an inpatient.

Issues related to patient, family and staff risks are frequently addressed during Safe Tables. This complements the focus of Solutions for Patient Safety (SPS) on patient behavioral events and CHA resources on employee behavioral health.

- CHA Pediatric Learning Solutions online courses provide foundational knowledge to recognize and de-escalate challenging and potentially harmful patient actions.
- CHA webinars: Behavioral Health education series

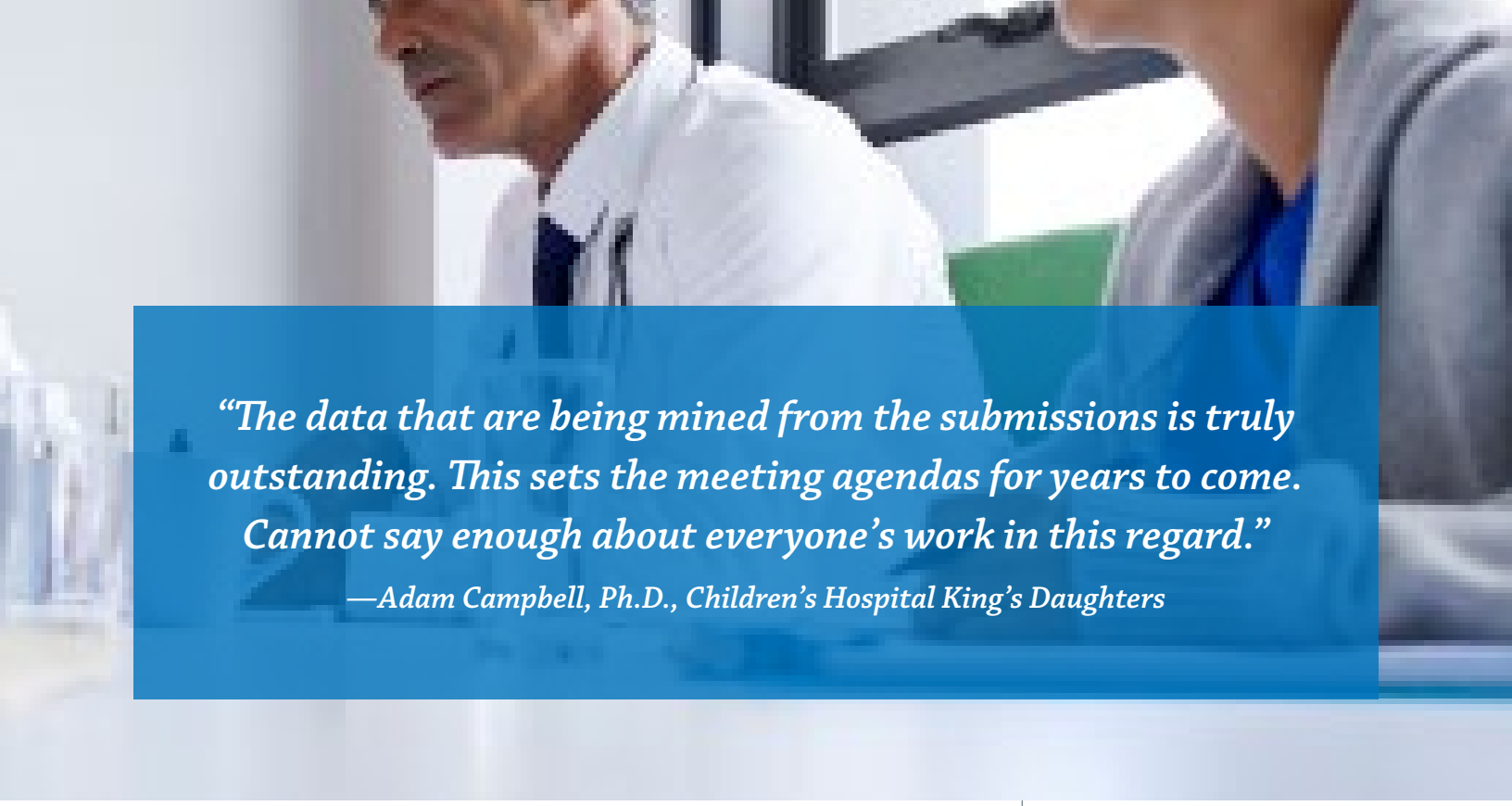
DIAGNOSTIC SAFETY AND COGNITIVE BIAS. Failure to Recognize/Lack of Situational Awareness and Errors in Medical Decision Making contribute to missed, delayed and wrong diagnosis, resulting in harm.

Understanding how to detect diagnostic errors from cognitive bias is a relatively new industry concern, and children's hospitals rely on case learning and practice sharing.

This theme was addressed at several past PSO Annual Meetings, in many Safe Tables and recently featured in the *Children's Hospitals Today* magazine. It will remain an area of deeper focus to help children's hospitals move toward risk mitigation strategies.

- *Children's Hospitals Today* article: *Cognitive Bias and How it Affects Health Care Providers' Decisions Making*
- The Society to Improve Diagnosis in Medicine focuses on reducing diagnostic error in medicine and offers conferences, resources and publications.

WRONG-SITE SURGERIES AND PROCEDURES. Wrong-site surgeries are estimated to occur 40 times per week in the U.S.[1] and are frequently reported to Child Health PSO. Errors include operating on the incorrect



"The data that are being mined from the submissions is truly outstanding. This sets the meeting agendas for years to come. Cannot say enough about everyone's work in this regard."

—Adam Campbell, Ph.D., Children's Hospital King's Daughters

side, correct side but incorrect location, and correct side and correct anatomical site, but incorrect operation.[2]

Today, children's hospital surgical teams struggle with procedures involving difficult-to-mark surgical sites and failed communication. Safe Tables offer a confidential setting to explore case details to understand issues for surgical teams and mitigating strategies.

A safety alert is in development to raise awareness of why wrong-site procedures are occurring and highlight strategies to prevent harm.

MEDICATION SAFETY.
Medication errors are a top concern when looking deeper into communication failures. Administering medications is a multilayered process crossing several disciplines and require organizational procedures for safe prescribing, dispensing, compounding and monitoring.

Child Health PSO found medication reconciliation is a critical, but troublesome, step in medication safety, especially during hospital discharge. Ineffective medication reconciliation can lead to the wrong medication or dose administered in a home setting.

Error can occur at any step, making it imperative that all disciplines involved in the child's care are engaged in the process and efforts to improve the process. SPS recently released best practices in the Adverse Drug Event Prevention Roadmap.[3]

Recognizing the need for deeper pediatric analysis and expertise, Child Health PSO hospitals and CHA's Pharmacy Directors Forum participated in the Institute for Safe Medication Practices (ISMP) High Alert Medication Assessment. Assessment results provide participating children's hospitals an understanding of their risks compared to peer hospitals. Opportunities to learn from the aggregate results will be explored through future Safe Tables,

Child Health PSO: By the Numbers

59
PARTICIPATING CHILDREN'S HOSPITALS

50
HOSPITALS REPORTING CASES

52
HOSPITALS REPORTING SERIOUS SAFETY EVENT DATA

Data as of 7/31/18

> *"The way policies are written does not necessarily reflect how it is done over time."*
>
> *—Carol Kemper, Child Health PSO Patient Safety Team Chair*

along with a potential PSO risk assessment.

Reconciling medications for opioid prescriptions is also an issue. Patients who take regular opioid prescriptions can be at greater risk (e.g., constipation, nausea and vomiting, rash, respiratory depression, withdrawal, addiction, overdose), which adds complexity to their treatment. Other medications may exacerbate the opioid effects and complications.

Opioid-related preventable serious harm cases have not been reported to Child Health PSO, but a recent publication indicates rapid increases in opioid-related admissions, especially in the PICU, and the importance for children's hospitals to engage in harm prevention solutions.[4] Many PSOs have begun work to share best practices to reduce overprescribing and addiction based on their state's epidemiological patterns (e.g., the North Carolina Quality Center PSO). We will continue monitoring this issue and accept input on how Child Health PSO can help.

THERMAL INJURIES. Child Health PSO's first risk assessment was a result of multiple reports of serious patient harm from thermal devices, including severe burns, pressure ulcers and scarring. While this issue arises in pediatric care, it has widespread applicability. Pediatric safety experts collaborated to generate a public Child Health PSO safety alert and risk assessment.

From PSO data analysis, the primary contributor of thermal-related harm is Failure to Recognize/Lack of Situational Awareness. This was addressed in a Safe Table after the risk assessment was released to ensure awareness and encourage implementation of risk mitigation tactics to prevent injuries.

- Child Health PSO safety alert: Thermal Injury

DIABETES CARE MANAGEMENT. The second risk assessment was a result of cases reported in high-risk patient populations served by children's hospitals. These patients have a complex disease process that can lead to other co-morbidities. It can be life-threatening if potential diabetes complications aren't anticipated or recognized early.

Based on reported cases, the top causal factors were Failure to Communicate Effectively, Failure to Recognize/Lack of Situational Awareness, Process Failures, and Insufficient Coordination of Care. These issues were addressed in the risk assessment and safety alert. A Safe Table followed to discuss the causes of harm and tactics to prevent harm in children with diabetes.

- Child Health PSO safety alert: High-risk Pediatric Populations: Improving Safety and Reliability in Diabetes Care Management

A Call to Action

The 10 issues in this report were detected from analyses of member reported cases. These represent a high risk for repeating preventable serious harm. A deeper understanding of these processes should unfold by following these steps:

1. Assess risk in your organization
2. Identify gaps causing vulnerability to patients
3. Take action to close gaps
4. Close loops to ensure reliability of implementation

In the confidential setting offered by Child Health PSO, children's hospitals are assured it is safe to learn about the most difficult aspects of patient care. For pediatrics, where harm events are typically infrequent, aggregating and analyzing these events across children's hospitals provides richer context and unprecedented value in harm reduction efforts.

Patients do not need to experience harm for a hospital to learn how to prevent reoccurrence. Take action now to eliminate preventable pediatric harm.

childrenshospitals.org/pso

Child Health PSO: By the Numbers

249

HUDDLES

707

FYIs FOR EARLY WARNING

1,147

CASES REVIEWED

Data as of 11/1/18

PEOPLE

It takes a team of patient safety experts to advance harm reduction efforts.

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Thank you to our Board of Directors, Patient Safety Team, and contracted partners, SPS and NextPlane Solutions LLC.

Resources

1. Cobb, T. K. "Wrong Site Surgery—Where are We and What is the Next Step?" *Hand*, 7(2), 229-232. doi:10.1007/s11552-012-9405-5, 2012.

2. Fraser, S. G., & Adams, W. "Wrong site surgery," *British Journal of Ophthalmology*, 90(7), 814-816. doi:10.1136/bjo.2006.094276, 2006.

3. Billman, G., Cash, J., O'Neil, S., Schmidt, K. (2017 March), Adverse Drug Event (ADE) Prevention Roadmap.

4. Kane, J., Colvin J., Bartlett, A., Hall, M. (April 2018), "Opioid-Related Critical Care Resource Use in US Children's Hospitals," *Pediatrics* 141 (4).

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