Patient Safety Learning Series

National Safety Event Reporting Analysis: A First Look

INTRODUCTION

As many providers know, in the early years of PSO program formation, AHRQ created a series of Common Format templates that were designed to standardize the taxonomy, specifically for hospitals, so that safety events may be collected and aggregated. Clarity PSO (CPSO) has been compiling and conducting analysis in Common Format reports since 2011, and we were one of the first PSOs in the country to develop a report that utilized the data elements from the Aggregate Common Format template.
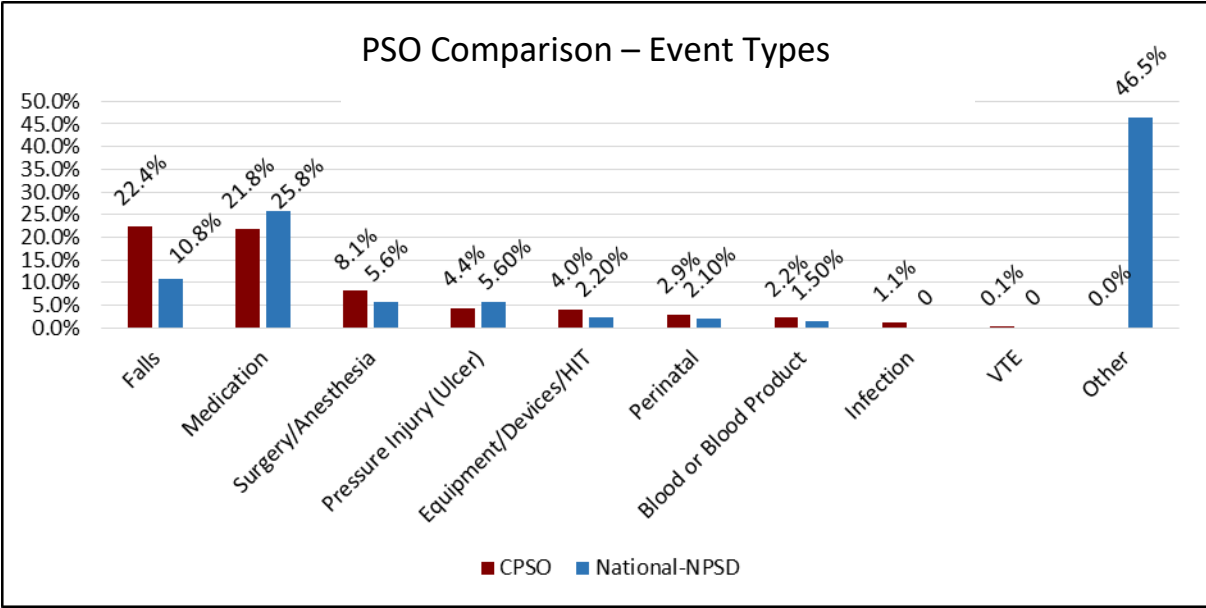
As a result of that analysis, the data that we have collected from our PSO participants has allowed us to perform a number of patient safety activities and comparatives across the country, including for ambulatory settings. This is one of the first reports of its kind to compare PSO-specific data with the national Network of Patient Safety Databases (NPSD). The NPSD, supported by AHRQ, is the vehicle by which PSOs may submit large aggregated data files in efforts to create a national database for safety events. For this report we focused only on the acute care hospital setting, with comparisons based on data presented by AHRQ from NPSD data submissions through 2018. In future reports we'll take a look at other healthcare settings.

Today, there are 10 clinical topics, or event types, that have been developed for hospital Common Format reporting, and they are:

1. Surgery
2. Anesthesia
3. Infection
4. Perinatal
5. Device/HIT
6. Medication
7. Fall
8. Blood or Blood Product
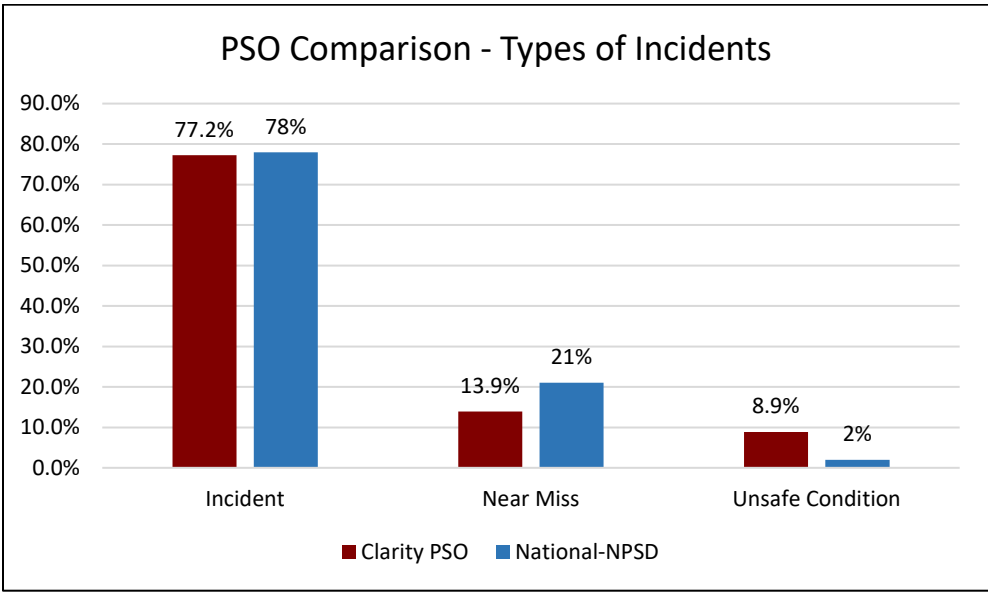9. Venous Thromboembolism
10. Pressure Injury

ANALYSIS & FINDINGS

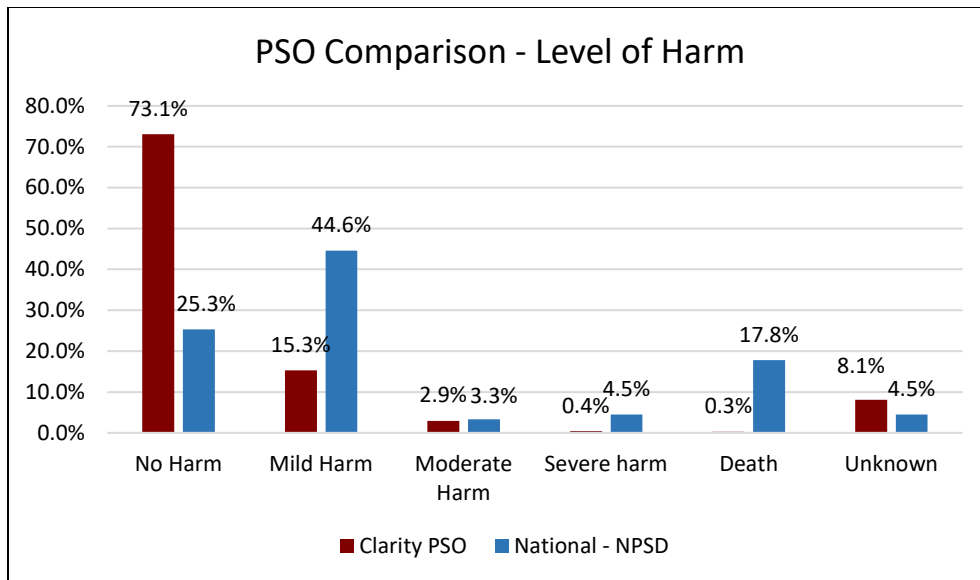Clarity PSO, as well as the other 16 PSOs reporting to the NPSD, are required to submit a minimum data set for any NPSD submission. 'Event Type' is at one of the highest levels of data segregation, and is generally where hospitals would look first to begin to conduct their own internal analysis. The chart on the following page describes Clarity PSO's event-type breakdown, as compared with the national NPSD.

PSO Comparison – Event Types

Chart data (CPSO vs National-NPSD):

Event Type	CPSO	National-NPSD
Falls	22.4%	10.8%
Medication	21.8%	25.8%
Surgery/Anesthesia	8.1%	5.6%
Pressure Injury (Ulcer)	4.4%	5.60%
Equipment/Devices/HIT	4.0%	2.20%
Perinatal	2.9%	2.10%
Blood or Blood Product	2.2%	1.50%
Infection	1.1%	0
VTE	0.1%	0
Other	0.0%	46.5%

As mentioned, there are some other provider types that also submit to the NPSD, which does not separate event type by hospitals only, so you will see different types of providers represented in the NPSD aggregate. Clarity PSO and other PSOs have the ability to filter based on specific provider types, which creates a like-provider comparative for our participating providers.

There are essentially three ways to identify the types of events being reported by the hospital. The terminology does vary a bit, despite having Common Format definitions, and as a result many PSOs have faced continued challenges with inbound data management in creating clean and accurate comparisons. At Clarity PSO we've been able to deploy robust data management processes that allow us to make several comparisons, as seen in the graphs below and on the following page.

PSO Comparison - Types of Incidents

Chart data (Clarity PSO vs National-NPSD):

Type	Clarity PSO	National-NPSD
Incident	77.2%	78%
Near Miss	13.9%	21%
Unsafe Condition	8.9%	2%

PSO Comparison - Level of Harm

Level of Harm	Clarity PSO	National - NPSD
No Harm	73.1%	25.3%
Mild Harm	15.3%	44.6%
Moderate Harm	2.9%	3.3%
Severe harm	0.4%	4.5%
Death	0.3%	17.8%
Unknown	8.1%	4.5%

The following items are worth noting to explain trend differences:

- *Significant number of __infection events__ accounting for the higher frequency of Mild Harm at NPSD data level. These are not as commonly reported at the local Clarity PSO level. However, it is safe to assume that some event types would result in at least some level of harm 100%, such as an infection, or a VTE, or a pressure injury. Of course, this assumes that the event being reported is submitted as an error that happened in the course of treatment directly delivered, as opposed to, as an example, an infection present upon admission.*

- *Significant number of device events accounting for the higher frequency of Death at NPSD data level. This could be due to large provider types in a specialty industry reporting these types of events.*

- *Types of providers are not segregated so the NPSD data includes both inpatient and other provider data types. PSOs have direct relationships with providers and so they have the ability to discuss reporting habits as well as create additional filtering layers.*

With the variation in dispersion of events between Clarity PSO and the NPSD, it is interesting to consider what is more reflective of the frontlines. Harm is and has been a difficult classification to attribute to an event, even with the Common Format definitions. It is also challenging to capture an end-outcome to an event, when that outcome occurs after a lapse of time. Further, it is often difficult to capture full extent of harm in ambulatory or outpatient settings, and the follow-up of harm classification has been known to be a challenge when healthcare providers do attempt to identify full extent of harm.

Posing a question: What is the use of Harm Scale reporting? Harm has historically been used to escalate events and issues for organizations as a way to set the priorities on which events need more immediate

attention and follow-up. The more severe the harm, the more attention that event receives. While this is not an incorrect approach, it is somewhat limiting to safety learning because solutions to systemic process deviations cannot necessarily be fully understood by focusing on a single classification of safety events. Those singular events may indeed shed light on deviations that require solutions, but ultimately these events are less frequent and may be too far downstream. In other words, we miss a large number of opportunities to prevent errors.

To respond more proactively and holistically, time must be spent in analysis of less severe harm events (Near Misses, No Harm, Mild Harm) and this type of analysis must be prioritized as well as correlated to improved patient outcomes, cost, and reliability. In the PSO, we find that certain types of providers, in addition to harm, will capture severity and potential severity of the safety event. In this way, providers might document that while an event may not have resulted in significant harm to a patient, it could in the future. Another possibility is that the less severe harm events may happen often enough that they affect larger and/or more important processes within the organization.
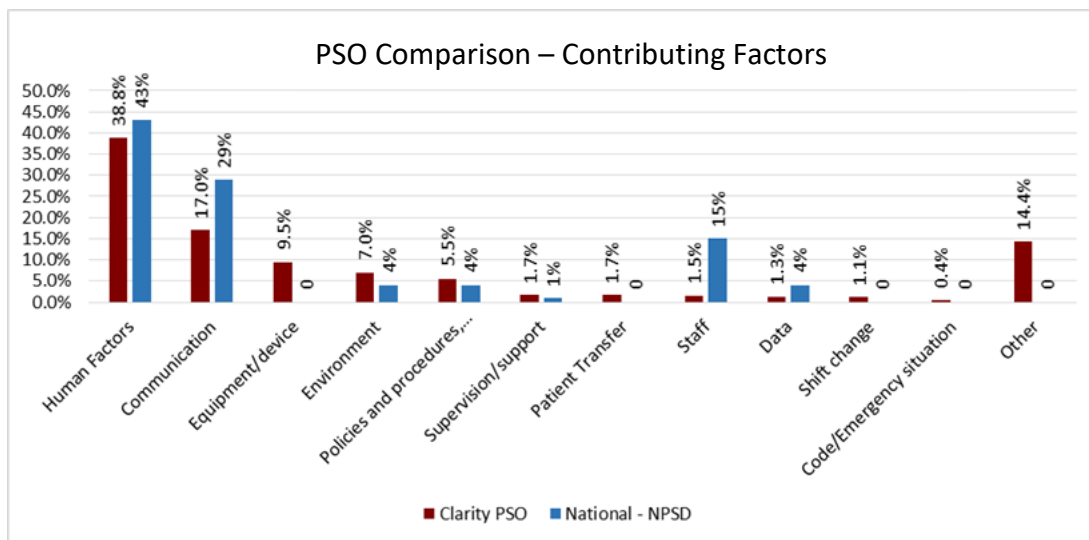
In our experience, contributing factors are generally poorly documented within the safety event itself. Where we see it documented more thoroughly is in additional investigations and analyses such as RCAs, which are usually done in relation to events of higher severity or priority. So again, we miss a large opportunity to affect the safety culture. The AHRQ Common Formats where contributing factors are eligible for data capture include:

Environment
- Culture of safety, management
- Physical surroundings (e.g., lighting, noise)

Staff qualifications
- Competence (e.g., qualifications, experience)
- Training

Supervision/Support
- Clinical supervision
- Managerial supervision

Policies and procedures, includes clinical protocols
- Presence of policies
- Clarity of policies

Data
- Availability
- Accuracy
- Legibility

Communication
- Supervisor to staff
- Among staff or team members
- Staff to patient (or family)

Human factors
- Fatigue
- Stress
- Inattention
- Cognitive factors
- Health issues
- Other

CONCLUSION

Yes, it is important to have accurate data, and there has always been concern about the accuracy and consistency of self-reported data even in light of standardized taxonomy such as the Common Formats. The concerns have hindered safety event data as one of the focal data sources for many statistical and analytical models. However, this is still one of the only safety data sources we have, and if this can help to create awareness which leads to safer care, then it should certainly be the focus behind the development of safety initiatives.

These data not only allow an organization to capture reportable events, but also to evaluate the culture, the teamwork, any process deviations, resource needs, costs, and many others things that cannot be gleaned from an EHR. These data provide a wealth of information that can contribute to the overall health and safety of an organization, its providers, clinicians, staff members, patients and their families. We look forward as leaders in this data-driven movement at the possibilities of combined data sources for fostering a larger scope of safety understanding. Indeed, it is part of our vision of healthcare delivery free of preventable harm.