Patient Safety Trends in 2022:

An Analysis of 256,679 Serious Events and Incidents From the Nation's Largest Event Reporting Database

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Abstract

Background: Pennsylvania is the only state that requires acute care facilities to report all events of harm or potential for harm. The Pennsylvania Patient Safety Reporting System (PA-PSRS) is the largest repository of patient safety data in the United States and one of the largest in the world, with over 4.5 million acute care event reports dating back to 2004. Herein, we examine patient safety event reports submitted to the PA-PSRS acute care database in 2022 and compare them to prior years.

Methods: We extracted data from PA-PSRS and obtained data from the Pennsylvania Health Care Cost Containment Council (PHC4). Counts of reports were calculated based on report submission date, and rates were calculated based on event occurrence date and calculated per 1,000 patient days for hospitals or 1,000 surgical encounters for ambulatory surgical facilities (ASFs).

Results: A total of 256,679 reports were submitted to PA-PSRS in 2022, representing an 11.1% decrease from 2021. Three facilities collectively submitted 18,601 fewer reports in 2022 compared to 2021, which accounted for 57.8% of the overall decrease. Reports of serious and high harm events increased by 7.7% and 11.1%, respectively. Of the 256,679 reports submitted, 95.9% were from hospitals, 3.9% were from ambulatory surgical facilities, and 0.2% were from birthing centers and abortion facilities. The vast majority of the 2022 reports were incidents (96.2%) as opposed to serious events (3.8%). For each of the past five years, the most frequently reported event type was Error Related to Procedure/Treatment/Test, accounting for 32.8% of all submitted acute care event reports in 2022. The second, third, and fourth most frequently reported event types in 2022 were Complication of Procedure/Treatment/Test, Medication Error, and Fall, accounting for 15.6%, 13.2%, and 12.8% of submitted reports, respectively. The reported event rate based on occurrence date for hospitals in the first half of 2022 was 27.5 reports per 1,000 patient days. For ASFs, the reported event rate for the first half of 2022 was 9.4 reports per 1,000 surgical encounters.

Conclusions: There was a decrease in the number of incident reports submitted to PA-PSRS in 2022 and an increase in serious and high harm event reports. PSA will continue to work with facilities, monitor reporting, and take further action as needed.

Keywords: *acute care, patient safety, event reports, annual report, incidents, serious events, reported event rate*

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Disclosure: The authors declare that they have no relevant or material financial interests.

Introduction

Pennsylvania is the only state that requires healthcare facilities to report all events that cause harm or have the potential to cause harm to a patient. These patient safety events are reported to the Pennsylvania Patient Safety Reporting System (PA-PSRS)[1], which is the largest repository of patient safety data in the United States and one of the largest in the world, with over 4.5 million acute care records.

This article provides details from the PA-PSRS acute care reports submitted in 2022, along with data and insights that can be used to focus improvements in patient safety.

Definitions

Terms describing patient safety occurrences, including "serious event," "medical error," "adverse event," "harm," and "incident," are often used interchangeably. However, within the context of this manuscript they have distinct meanings and indications for whether they must be reported to PA-PSRS in accordance with the Medical Care Availability and Reduction of Error (MCARE) Act (Act 13 of 2002).[1] An "incident" is defined as "an event, occurrence, or situation involving the clinical care of a patient in a medical facility which could have injured the patient but did not either cause an unanticipated injury or require the delivery of additional healthcare services to the patient."[1] A "serious event" is defined as "an event, occurrence, or situation involving the clinical care of a patient in a medical facility that results in death or compromises patient safety and results in an unanticipated injury requiring the delivery of additional healthcare services to the patient."[1]

Each event report includes a harm score—assigned by the reporting facility—that describes the potential or actual harm to the patient resulting from the event. **Table 1** lists the definition for each harm score, along with harm score groupings for incidents, serious events, and high harm events.

Methods

This analysis was performed using data extracted from PA-PSRS on February 1, 2023, and data from the Pennsylvania Health Care Cost Containment Council (PHC4)[2]. Counts of reports are based on report submission date; rates are based on the event occurrence date and calculated per 1,000 patient days for hospitals and per 1,000 surgical encounters for ASFs. Event occurrence date is

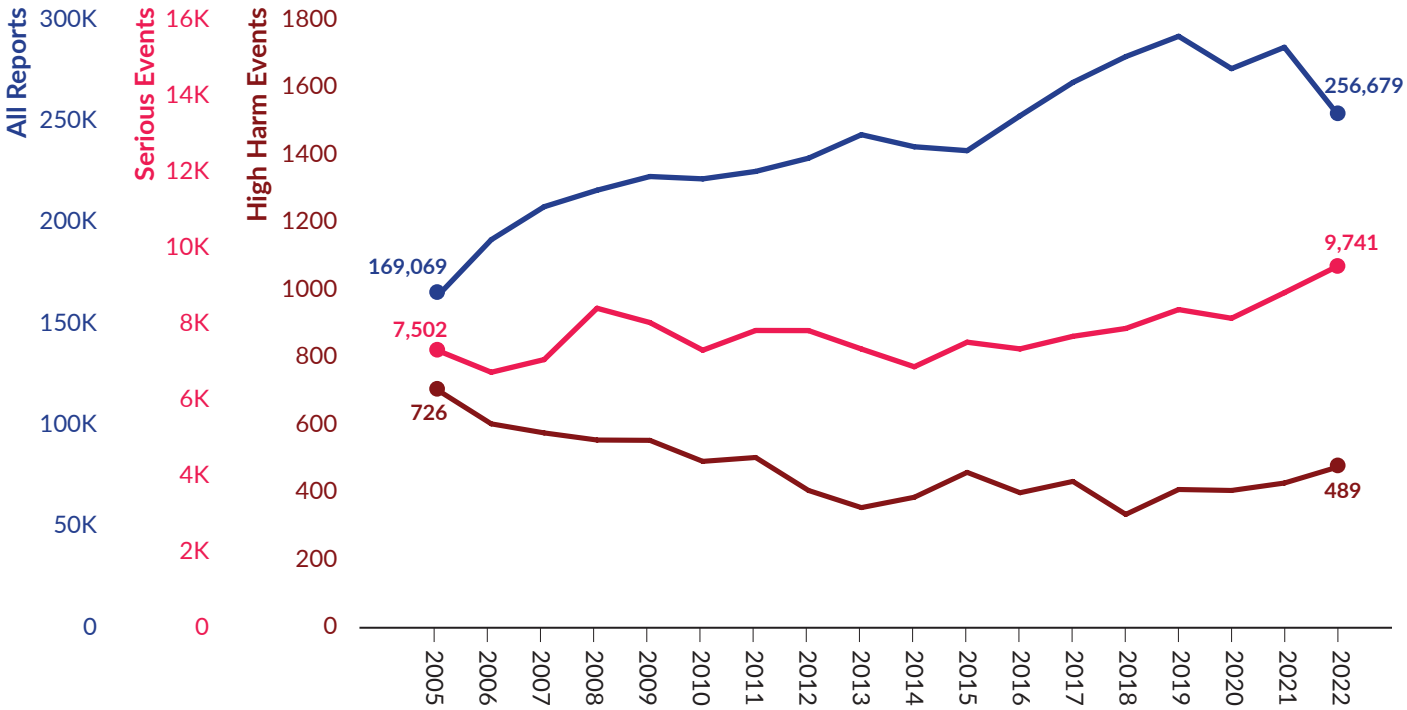
Table 1. PA-PSRS Harm Scores

	Harm Score	Definition
Incidents	A	Circumstances that could cause adverse events (e.g., look-alike medications, confusing equipment)
	B1	An event occurred but it did not reach the individual because of chance alone
	B2	An event occurred but it did not reach the individual because of active recovery efforts by caregivers
	C	An event occurred that reached the individual but did not cause harm and did not require increased monitoring
	D	An event occurred that required monitoring to confirm that it resulted in no harm and/or required intervention to prevent harm
Serious Events	E	An event occurred that contributed to or resulted in temporary harm and required treatment or intervention
	F	An event occurred that contributed to or resulted in temporary harm and required initial or prolonged hospitalization
High Harm	G	An event occurred that contributed to or resulted in permanent harm
	H	An event occurred that resulted in a near-death event (e.g., required ICU care or other intervention necessary to sustain life)
	I	An event occurred that contributed to or resulted in death

[1]PA-PSRS is a secure, web-based system through which Pennsylvania hospitals, ambulatory surgical facilities, abortion facilities, and birthing centers submit reports of patient safety–related incidents and serious events in accordance with mandatory reporting laws outlined in the Medical Care Availability and Reduction of Error (MCARE) Act (Act 13 of 2002).[1] All reports submitted through PA-PSRS are confidential and no information about individual facilities or providers is made public.

[2]The Pennsylvania Health Care Cost Containment Council (PHC4) is an independent state agency responsible for addressing the problem of escalating health costs, ensuring the quality of healthcare, and increasing access to healthcare for all citizens regardless of ability to pay. PHC4 has provided data to this entity in an effort to further PHC4's mission of educating the public and containing healthcare costs in Pennsylvania. PHC4, its agents, and its staff have made no representation, guarantee, or warranty, express or implied, that the data—financial-, patient-, payor-, and physician-specific information—provided to this entity are error-free, or that the use of the data will avoid differences of opinion or interpretation. This analysis was not prepared by PHC4. This analysis was done by the Patient Safety Authority. PHC4, its agents, and its staff bear no responsibility or liability for the results of the analysis, which are solely the opinion of this entity.

Figure 1. Total Reports, Serious Events, and High Harm Events Submitted to PA-PSRS



Note: The decrease in total number of reports in 2022 can primarily be attributed to three facilities that collectively submitted 18,601 fewer reports in 2022 compared to 2021, which accounted for 57.8% of the overall decrease.

used for rate calculations to be in line with the same timeframe in which the patient days or surgical encounters occurred. The most current data from PHC4 was for Q2 2022, which allowed us to calculate 2022 rates using the first two quarters of data.

Results

A total of 256,679 reports were submitted by Pennsylvania acute care facilities in 2022, of which 9,741 were serious events. Of those serious events, 489 were classified as high harm (see **Figure 1**). Serious and high harm events increased by 7.7% and 11.1%, respectively, between 2021 and 2022.

The total number of reports decreased 11.1% in 2022 compared to 2021, which represents the largest year-over-year decrease since the inception of PA-PSRS. Further analysis reflects that three facilities collectively submitted 18,601 fewer reports in 2022 compared to 2021, which accounted for 57.8% of the overall decrease.

Incidents and serious events expressed as a percent of reports are shown in **Figure 2**. The percentage of reports that were serious events in 2022 represents the largest year-over-year increase, going from 3.1% in 2021 to 3.8% in 2022. While there was an increase in the number of serious event reports submitted in 2022, the increase in percentage of serious events was due, in part, to a significant decrease in the number of incidents submitted.

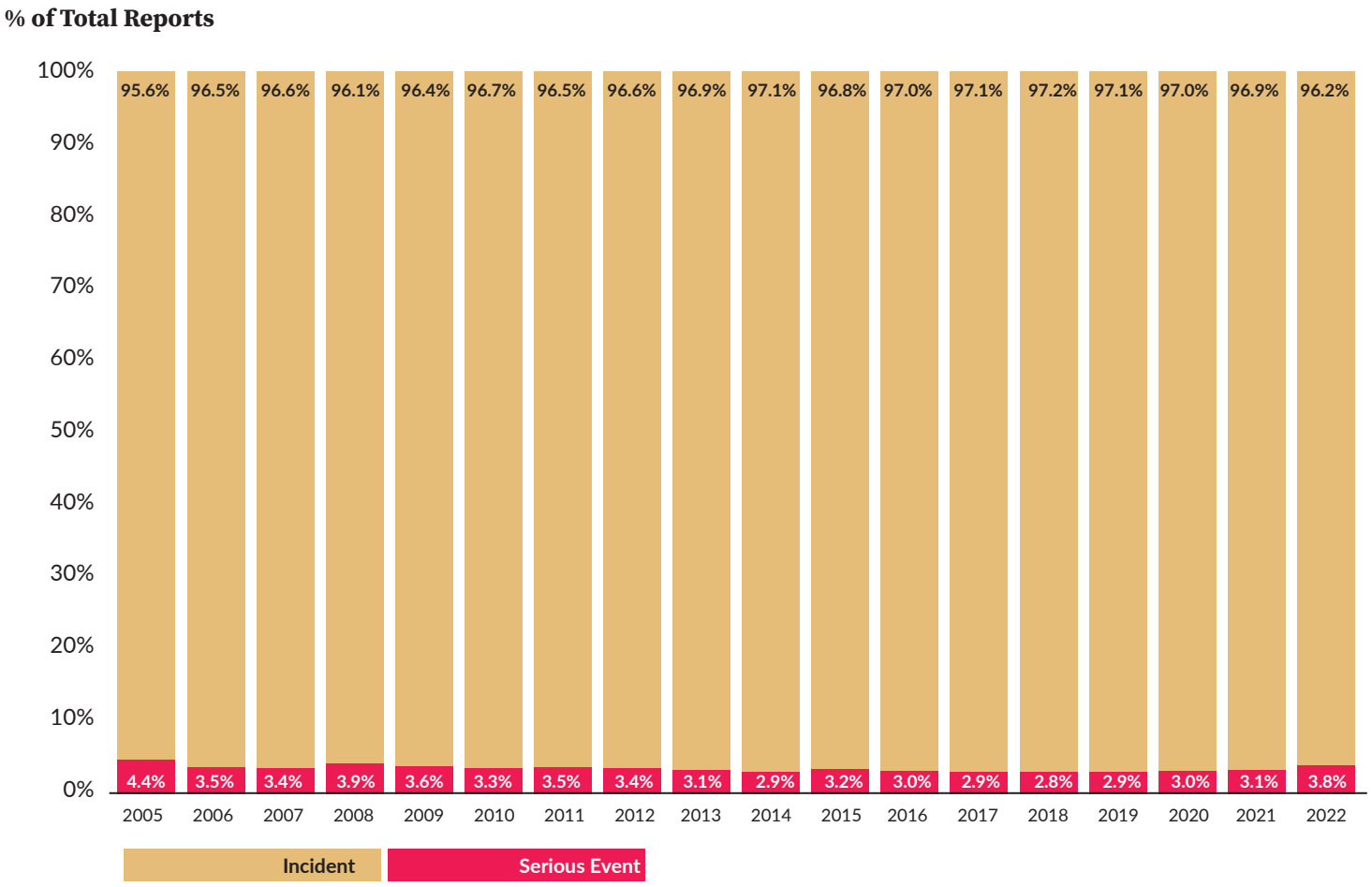
Table 2 shows a breakdown of incidents and serious events by facility type from the past three years. From 2021 to 2022, the number of hospital reports decreased by 33,432 (12.0%), whereas reports from other acute care facilities (ASFs, birthing centers [BRCs], and abortion facilities [ABFs]) increased by 1,253 (13.5%). The percentage of reports submitted by acute care facilities other than hospitals increased for the second straight year, going from 2.8% in 2020 to 3.2% in 2021 and to 4.1% in 2022. The 4.1% in 2022 was comprised of 3.9% from ASFs and 0.2% from BRCs and ABFs. The increase in 2022 is a result of the increase in reports submitted by other acute care facilities and the decrease in reports submitted by hospitals.

The harm score distribution for reports submitted during years 2020–2022 is shown in **Table 3**. Consistently, the most frequent harm score is C (40.9% in 2022), followed by harm scores D, A, and B2. Harm scores B2, C, and D showed the largest decreases in number of reports submitted. Serious events comprised 3.8% of all reports in 2022, with harm scores E and F being reported most frequently.

Reported Event Rates Based on Occurrence Date

Rates are standardized statistics used for direct, per-unit comparisons over time. In this analysis, rates are based on the event occurrence date and calculated per 1,000 patient days for hospitals and per 1,000 surgical encounters for ASFs. **Figure 3** shows that

Figure 2. Incidents and Serious Events as a Percentage of Total Submitted PA-PSRS Reports



Note: While there was an increase in the number of serious event reports submitted in 2022, the increase in proportion of serious events to incidents was due, in part, to a significant decrease in the number of incidents submitted.

Table 2. Number and Percentage of Reports Submitted to PA-PSRS by Facility Type and Event Classification

Facility Types	Event Classification	Number of Reports			% of Total Reports		
		2020	2021	2022	2020	2021	2022
Hospitals	Incident	263,997	272,445	238,367	94.8%	94.3%	92.9%
	Serious Event	6,726	7,109	7,755	2.4%	2.5%	3.0%
	Subtotal	**270,723**	**279,554**	**246,122**	**97.2%**	**96.8%**	**95.9%**
Other Acute Care Facilities	Incident	6,169	7,370	8,571	2.2%	2.6%	3.3%
	Serious Event	1,638	1,934	1,986	0.6%	0.7%	0.8%
	Subtotal	**7,807**	**9,304**	**10,557**	**2.8%**	**3.2%**	**4.1%**
Totals	Incident	270,166	279,815	246,938	97.0%	96.9%	96.2%
	Serious Event	8,364	9,043	9,741	3.0%	3.1%	3.8%
	Grand Total	**278,530**	**288,858**	**256,679**	**100.0%**	**100.0%**	**100.0%**

Note: Other Acute Care Facilities include ambulatory surgical facilities, birthing centers, and abortion facilities.

The decrease in total number of reports in 2022 can primarily be attributed to three facilities that collectively submitted 18,601 fewer reports in 2022 compared to 2021, which accounted for 57.8% of the overall decrease.

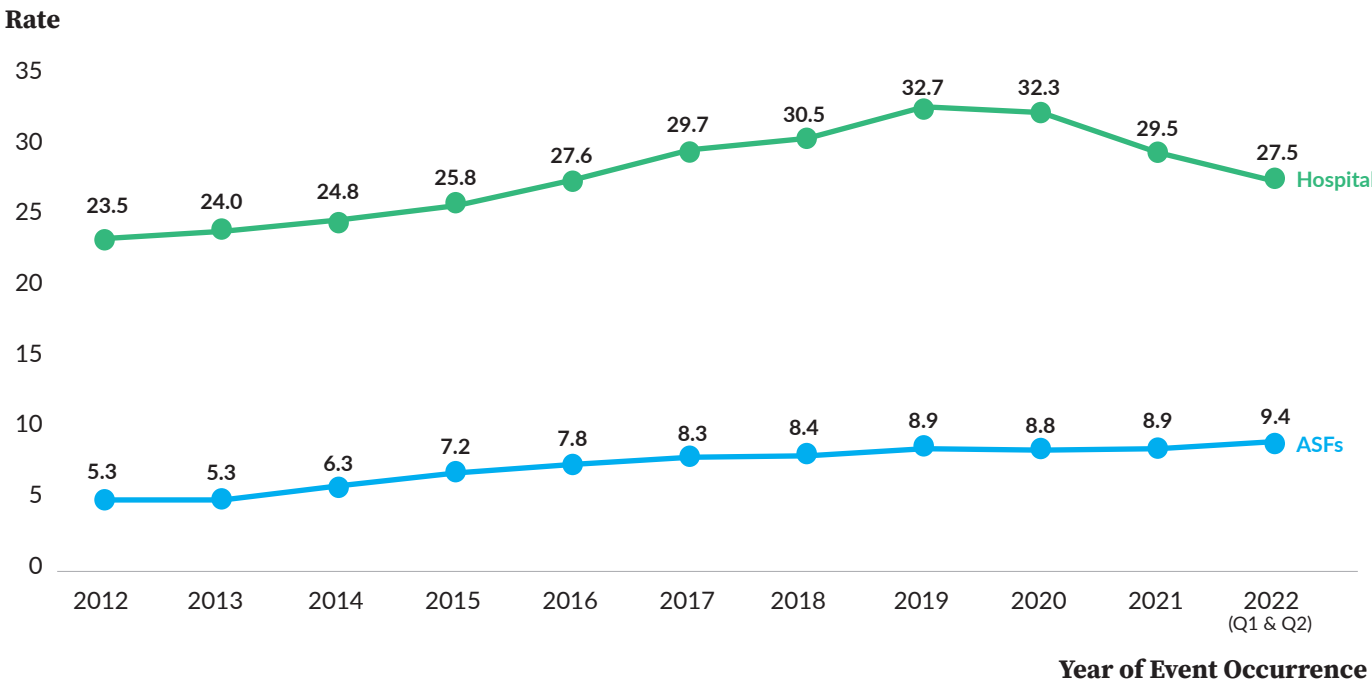
Numbers shown for prior years may differ from previously published numbers due to subsequent report deletions or classification changes made by reporting facilities.

Table 3. Number and Percentage of Reports Submitted to PA-PSRS by Harm Score With Change in Reports From 2021 to 2022

	Number of Reports			% of Total Reports			Change in Reports 2021 to 2022	
Harm Score	2020	2021	2022	2020	2021	2022	Number	Percent
A	27,563	28,003	29,658	9.9%	9.7%	11.6%	1,655	5.9%
B1	2,803	2,772	2,043	1.0%	1.0%	0.8%	-729	-26.3%
B2	34,100	35,874	22,236	12.2%	12.4%	8.7%	-13,638	-38.0%
C	112,976	113,680	105,106	40.6%	39.4%	40.9%	-8,574	-7.5%
D	92,724	99,486	87,895	33.3%	34.4%	34.2%	-11,591	-11.7%
Incidents - Subtotal	270,166	279,815	246,938	97.0%	96.9%	96.2%	-32,877	-11.7%
E	5,863	6,330	6,811	2.1%	2.2%	2.7%	481	7.6%
F	2,084	2,273	2,441	0.7%	0.8%	1.0%	168	7.4%
G	56	64	53	0.0%	0.0%	0.0%	-11	-17.2%
H	115	143	165	0.0%	0.0%	0.1%	22	15.4%
I	246	233	271	0.1%	0.1%	0.1%	38	16.3%
Serious Events - Subtotal	8,364	9,043	9,741	3.0%	3.1%	3.8%	698	7.7%
Total	**278,530**	**288,858**	**256,679**	**100.0%**	**100.0%**	**100.0%**	**-32,179**	**-11.1%**

Note: The decrease in total number of reports in 2022 can primarily be attributed to three facilities that collectively submitted 18,601 fewer reports in 2022 compared to 2021, which accounted for 57.8% of the overall decrease.
Numbers shown for prior years may differ from previously published numbers due to subsequent report deletions or harm score changes made by reporting facilities.

Figure 3. PA-PSRS Reported Event Rates Based on Event Occurrence Date for Hospitals (Reports per 1,000 Patient Days) and ASFs (Reports per 1,000 Surgical Encounters)



Note: The 2022 reported event rate is based on event occurrence dates in Q1–Q2 only, due to lagged data related to patient days and surgical encounters.
The decrease in reported event rate in Q1–Q2 2022 can primarily be attributed to three facilities that collectively submitted 18,601 fewer reports in 2022 compared to 2021.
Rates shown for prior years may differ from previously published rates due to subsequent changes made by reporting facilities.

the 2022 reported event rate for hospitals for reports with event occurrence dates through Q2 2022 decreased by 2.0 percentage points from 2021, bringing the reported event rate for the first half of calendar year 2022 to 27.5, the lowest level it has been since 2016 when it was 27.6; for ASFs, the 2022 reported event rate through Q2 2022 is higher than the rate in 2021 (9.4 and 8.9, respectively).

Event Types

Each PA-PSRS report includes an event type and subtype(s) that are assigned by the reporting facility. The reporting taxonomy for incidents and serious events provides for 10 main event types, with 228 possible combinations of event type and subtype(s). **Table 4** shows the number of reports for each main event type over the past five years. For each of the past five years, the most frequently reported event type is Error Related to Procedure/Treatment/Test (P/T/T) with 84,287 in 2022 (32.8% of reports).

From a distribution perspective, the greatest increase in percent of reports in 2022 compared to 2021 occurred with event type Error Related to P/T/T, which increased by 1.5 percentage points, from 31.3% of reports in 2021 to 32.8% in 2022. The largest decrease occurred with event type Medication Error, which dropped 3.7 percentage points, from 16.9% in 2021 to 13.2% in 2022. This change can primarily be attributed to one facility that reported a much lower number of medication error incident reports in 2022 compared to 2021, accounting for 84% of the overall decrease in this event type.

The number and percentage of serious events submitted for each event type for the past five years are shown in **Table 5**. In 2022, Complication of P/T/T represented 15.6% of total reports and accounted for the majority (53.5%) of serious event reports. In terms of distribution, Adverse Drug Reactions showed the largest increase among serious event reports, increasing by 1.1 percentage points. The largest decrease was with Complication of P/T/T, which dropped 0.8 percentage points in 2022.

Event Subtypes

Each of the 10 main event types has between six and 13 subtypes to further classify the event. The total number of reports and serious events, as well as their associated percentage distributions, are shown in **Table 6**. This is a detailed accounting of reports submitted in 2022 by the first level of subtype for each main event type. The main event types in the left column are listed in descending order by their number of reports (i.e., the same ordering as **Table 4**). Within each main event type, the subtypes are listed in descending order as well.

While the total number of reports decreased by 32,179 from 2021 to 2022, a large percentage of the decrease (43.2% or 13,912 reports) was due to decreases in three event subtypes, each of which had a single facility comprising at least 75% of the decrease. These three subtypes are Medication Error–Wrong, Medication Error–Other (specify), and Adverse Drug Reaction–Nephrotoxicity.

There were another eight event subtypes for which two to five facilities collectively comprised at least 75% of the decrease. These eight subtypes, which accounted for 27.1% (8,761 reports) of the overall decrease in reports, were as follows: Equipment/Supplies/Devices–Inadequate supplies, Patient Self-Harm–Self-mutilation, Complication of P/T/T–Cardiopulmonary arrest outside of ICU setting, Complication of P/T/T–Emergency Department, Skin Integrity–Other (specify), Skin Integrity–Rash/hives, Equipment/Supplies/Devices–Electrical problem, and Error Related to P/T/T–Laboratory test problem.

If the decreases of 13,912 and 8,761 referenced above are combined, we have a total decrease in reports of 22,673, accounting for 70.5% of the overall decrease of 32,179.

Event Type and Harm Score

Table 7 displays a cross tabulation of submitted reports distributed by harm score for each of the 10 main event types. Colored cells reflect the intersections of event type and harm score that occurred most frequently in 2022, with darker shades representing higher concentrations of reports. For the most frequently reported event type, Error Related to P/T/T, harm score C was reported most frequently; this intersection of event type and harm score was the most common in 2022, with a total of 41,154 reports and representing 16.0% of all reports, increasing from 15.2% of all reports in 2021.

The next most common intersection was with event type Complication of P/T/T and harm score D, with a total of 20,975 reports and representing 8.2% of all reports (the same percentage as 2021).

Care Area and Harm Score

The care area (i.e., location where the event occurred) can help us determine whether there are patterns or trends in reports of specific patient safety concerns related to the location where care is delivered. Within the acute care data, there are 168 care areas for facilities to identify where events occur. We then place these care areas into one of 23 care area groups to produce a cross tabulation with harm score. In **Table 8** we show a cross tabulation of care area group with harm score. This reflects the same two areas of highest concentration as seen in the 2021 data, in the cross sections of the Med/Surg care area group and harm scores C and D. Together these two cells in the cross tabulation account for 16.0% of all reports in 2022.

Care Area and Event Type

Table 9 shows a cross tabulation of care area group and event type. The two highest concentrations of reports are at the intersections of Error Related to P/T/T with Surgical Services (n=18,684) and Emergency (n=13,280) care area groups. The third highest concentration is seen at the intersection of Fall and Med/Surg (n=12,351). These are the same three areas of highest concentration that were seen in the 2021 data.

Other Acute Care Facilities

Given that the acute care data predominately reflects reports from hospitals, it is important to separately analyze data from the other acute care facilities that report to PA-PSRS (comprised mostly of ASFs, along with BRCs and ABFs). **Table 10** shows the distribution of all reports submitted by these other acute care facilities across the 10 main event types in 2022. These facilities show a different distribution compared to the overall data in **Table 4**. In 2022, they reported medication error and fall events less frequently than other event types when compared

Table 4. Number and Percentage of **Reports** Submitted to PA-PSRS by Event Type in Descending Order by 2022 Frequency

	Number of Reports					% of Total Reports				
Event Type	**2018**	**2019**	**2020**	**2021**	**2022**	**2018**	**2019**	**2020**	**2021**	**2022**
Error Related to P/T/T	89,154	96,440	89,335	90,452	**84,287**	31.4%	32.8%	32.1%	31.3%	**32.8%**
Complication of P/T/T	43,202	46,691	45,180	44,129	**40,145**	15.2%	15.9%	16.2%	15.3%	**15.6%**
Medication Error	51,979	52,884	46,559	48,714	**33,982**	18.3%	18.0%	16.7%	16.9%	**13.2%**
Fall	33,657	31,978	32,775	35,600	**32,919**	11.8%	10.9%	11.8%	12.3%	**12.8%**
Other/Miscellaneous	23,139	22,761	23,190	27,707	**26,654**	8.1%	7.7%	8.3%	9.6%	**10.4%**
Skin Integrity	21,752	20,546	19,697	20,583	**17,146**	7.6%	7.0%	7.1%	7.1%	**6.7%**
Equip./Supplies/Devices	7,805	8,792	8,062	7,806	**7,552**	2.7%	3.0%	2.9%	2.7%	**2.9%**
Adverse Drug Reaction	5,958	5,700	5,624	5,868	**6,527**	2.1%	1.9%	2.0%	2.0%	**2.5%**
Transfusion	5,264	6,195	5,779	5,648	**5,235**	1.9%	2.1%	2.1%	2.0%	**2.0%**
Patient Self-Harm	2,439	2,188	2,329	2,351	**2,232**	0.9%	0.7%	0.8%	0.8%	**0.9%**
Total	**284,349**	**294,175**	**278,530**	**288,858**	**256,679**	**100%**	**100%**	**100%**	**100%**	**100%**

Note: The decrease in total number of reports in 2022 can primarily be attributed to three facilities that collectively submitted 18,601 fewer reports in 2022 compared to 2021, which accounted for 57.8% of the overall decrease.
The decrease in number of medication error reports can primarily be attributed to one facility that accounted for 84% of the overall decrease in this event type.
Numbers shown for prior years may differ from previously published numbers due to subsequent report deletions or event type changes made by reporting facilities.

Table 5. Number and Percentage of Serious Events Submitted to PA-PSRS by Event Type in Descending Order by 2022 Frequency

	Number of Serious Events					% of Total Serious Events				
Event Type	**2018**	**2019**	**2020**	**2021**	**2022**	**2018**	**2019**	**2020**	**2021**	**2022**
Complication of P/T/T	4,183	4,529	4,577	4,907	**5,216**	51.7%	52.7%	54.7%	54.3%	**53.5%**
Fall	961	932	940	1,046	**1,140**	11.9%	10.8%	11.2%	11.6%	**11.7%**
Error Related to P/T/T	799	983	708	849	**850**	9.9%	11.4%	8.5%	9.4%	**8.7%**
Other/Miscellaneous	705	768	753	729	**831**	8.7%	8.9%	9.0%	8.1%	**8.5%**
Skin Integrity	779	654	575	610	**632**	9.6%	7.6%	6.9%	6.7%	**6.5%**
Adverse Drug Reaction	217	241	344	430	**577**	2.7%	2.8%	4.1%	4.8%	**5.9%**
Medication Error	188	182	166	172	**228**	2.3%	2.1%	2.0%	1.9%	**2.3%**
Patient Self-Harm	189	176	166	171	**141**	2.3%	2.0%	2.0%	1.9%	**1.4%**
Equip./Supplies/Devices	56	78	77	96	**86**	0.7%	0.9%	0.9%	1.1%	**0.9%**
Transfusion	17	52	58	33	**40**	0.2%	0.6%	0.7%	0.4%	**0.4%**
Total	**8,094**	**8,595**	**8,364**	**9,043**	**9,741**	**100%**	**100%**	**100%**	**100%**	**100%**

Note: Numbers shown for prior years may differ from previously published numbers due to subsequent report deletions or event type changes made by reporting facilities.

Table 6. Number and Percentage of Total Reports and Serious Events Submitted to PA-PSRS by Event Type and Subtype in Descending Order by 2022 Frequency

		2021				2022				Change in Reports 2021–2022	
Event Type	Event Subtype	Number of Reports	% of Total Reports	Number of Serious Events	% of Total Serious Events	Number of Reports	% of Total Reports	Number of Serious Events	% of Total Serious Events	Number	Percent
Error Related to P/T/T	Laboratory test problem	41,948	14.5%	28	0.3%	35,767	13.9%	50	0.5%	-6,181	-14.7%
	Surgery/invasive procedure problem	19,087	6.6%	515	5.7%	19,773	7.7%	592	6.1%	686	3.6%
	Radiology/imaging test problem	8,158	2.8%	37	0.4%	8,318	3.2%	46	0.5%	160	2.0%
	Other (specify)	7,826	2.7%	57	0.6%	8,124	3.2%	62	0.6%	298	3.8%
	Referral/consult problem	7,838	2.7%	17	0.2%	7,230	2.8%	16	0.2%	-608	-7.8%
	Respiratory care	3,419	1.2%	66	0.7%	2,897	1.1%	51	0.5%	-522	-15.3%
	Dietary	2,176	0.8%	9	0.1%	2,178	0.8%	14	0.1%	2	0.1%
Complication of P/T/T	IV site complication (phlebitis, bruising, infiltration)	11,896	4.1%	295	3.3%	10,756	4.2%	300	3.1%	-1,140	-9.6%
	Other (specify)	7,312	2.5%	368	4.1%	6,809	2.7%	410	4.2%	-503	-6.9%
	Complication following surgery or invasive procedure	6,414	2.2%	2,656	29.4%	5,831	2.3%	2,730	28.0%	-583	-9.1%
	Cardiopulmonary arrest outside of ICU setting	3,630	1.3%	84	0.9%	2,879	1.1%	84	0.9%	-751	-20.7%
	Maternal complication	2,527	0.9%	272	3.0%	2,830	1.1%	351	3.6%	303	12.0%
	Catheter or tube problem	3,206	1.1%	208	2.3%	2,653	1.0%	188	1.9%	-553	-17.2%
	Neonatal complication	2,591	0.9%	142	1.6%	2,451	1.0%	149	1.5%	-140	-5.4%
	Extravasation of drug or radiologic contrast	2,323	0.8%	27	0.3%	2,169	0.8%	65	0.7%	-154	-6.6%
	Healthcare-associated infection	1,184	0.4%	557	6.2%	1,149	0.4%	592	6.1%	-35	-3.0%
	Anesthesia event	1,142	0.4%	210	2.3%	1,116	0.4%	258	2.6%	-26	-2.3%
	Onset of hypoglycemia during care	918	0.3%	8	0.1%	936	0.4%	19	0.2%	18	2.0%
	Emergency department	983	0.3%	80	0.9%	562	0.2%	69	0.7%	-421	-42.8%
	Complication following spinal manipulative therapy	3	0.0%	-	-	4	0.0%	1	0.0%	1	33.3%
Medication Error	Wrong	23,666	8.2%	71	0.8%	13,027	5.1%	115	1.2%	-10,639	-45.0%
	Other (specify)	12,244	4.2%	33	0.4%	8,997	3.5%	26	0.3%	-3,247	-26.5%
	Dose omission	4,394	1.5%	20	0.2%	4,072	1.6%	26	0.3%	-322	-7.3%
	Prescription/refill delayed	2,951	1.0%	3	0.0%	2,730	1.1%	2	0.0%	-221	-7.5%
	Monitoring error (includes contraindicated drugs)	2,108	0.7%	15	0.2%	2,148	0.8%	22	0.2%	40	1.9%
	Extra dose	1,804	0.6%	21	0.2%	1,638	0.6%	25	0.3%	-166	-9.2%
	Medication list incorrect	743	0.3%	9	0.1%	666	0.3%	12	0.1%	-77	-10.4%
	Unauthorized drug	737	0.3%	-	-	643	0.3%	-	-	-94	-12.8%
	Inadequate pain management	67	0.0%	-	-	61	0.0%	-	-	-6	-9.0%
Fall	Found on floor	8,729	3.0%	329	3.6%	8,248	3.2%	399	4.1%	-481	-5.5%
	Ambulating	5,097	1.8%	229	2.5%	5,076	2.0%	263	2.7%	-21	-0.4%
	Other/unknown (specify)	5,000	1.7%	92	1.0%	4,239	1.7%	83	0.9%	-761	-15.2%
	Toileting	3,573	1.2%	149	1.6%	3,228	1.3%	139	1.4%	-345	-9.7%
	Lying in bed	3,258	1.1%	41	0.5%	3,056	1.2%	46	0.5%	-202	-6.2%
	Sitting in chair/wheelchair	3,101	1.1%	72	0.8%	2,731	1.1%	57	0.6%	-370	-11.9%
	Assisted fall	2,923	1.0%	21	0.2%	2,624	1.0%	30	0.3%	-299	-10.2%

Event Type	Event Subtype	2021 Number of Reports	2021 % of Total Reports	2021 Number of Serious Events	2021 % of Total Serious Events	2022 Number of Reports	2022 % of Total Reports	2022 Number of Serious Events	2022 % of Total Serious Events	Change in Reports 2021–2022 Number	Change in Reports 2021–2022 Percent
Fall (cont.)	Sitting at side of bed	1,230	0.4%	24	0.3%	1,145	0.4%	26	0.3%	-85	-6.9%
	Transferring	1,038	0.4%	33	0.4%	956	0.4%	34	0.3%	-82	-7.9%
	Hallways of facility	584	0.2%	11	0.1%	590	0.2%	20	0.2%	6	1.0%
	From stretcher	378	0.1%	22	0.2%	368	0.1%	25	0.3%	-10	-2.6%
	Grounds of facility	333	0.1%	12	0.1%	341	0.1%	8	0.1%	8	2.4%
	In exam room/from exam table	356	0.1%	11	0.1%	317	0.1%	10	0.1%	-39	-11.0%
Other/ Miscella-neous	Other (specify)	18,231	6.3%	381	4.2%	17,327	6.8%	396	4.1%	-904	-5.0%
	Unanticipated transfer to higher level of care	8,205	2.8%	401	4.4%	7,883	3.1%	376	3.9%	-322	-3.9%
	Inappropriate discharge	1,140	0.4%	11	0.1%	1,327	0.5%	12	0.1%	187	16.4%
	Other unexpected death	125	0.0%	51	0.6%	108	0.0%	57	0.6%	-17	-13.6%
	Death or injury involving restraints	3	0.0%	3	0.0%	6	0.0%	6	0.1%	3	100%
	Death or injury during inpatient elopement	2	0.0%	2	0.0%	3	0.0%	3	0.0%	1	50.0%
	Electric shock to patient	1	0.0%	-	-	-	-	-	-	-1	-100.0%
Skin Integrity	Pressure injury	8,068	2.8%	483	5.3%	6,510	2.5%	464	0	-1,558	-19.3%
	Other (specify)	6,974	2.4%	40	0.4%	5,859	2.3%	56	0	-1,115	-16.0%
	Skin tear	3,507	1.2%	15	0.2%	2,998	1.2%	40	0	-509	-14.5%
	Abrasion	851	0.3%	3	0.0%	730	0.3%	5	0	-121	-14.2%
	Blister	532	0.2%	5	0.1%	470	0.2%	1	0	-62	-11.7%
	Laceration	292	0.1%	33	0.4%	285	0.1%	33	0	-7	-2.4%
	Burn (electrical, chemical, thermal)	203	0.1%	27	0.3%	176	0.1%	32	0	-27	-13.3%
	Rash/hives	145	0.1%	4	0.0%	108	0.0%	1	0	-37	-25.5%
	Venous stasis ulcer	11	0.0%	-	-	10	0.0%	-	-	-1	-9.1%
Equipment/ Supplies/ Devices	Equipment malfunction	2,519	0.9%	29	0.3%	2,677	1.0%	36	0.4%	158	6.3%
	Equipment not available	952	0.3%	4	0.0%	795	0.3%	-	-	-157	-16.5%
	Sterilization problem	696	0.2%	4	0.0%	763	0.3%	-	-	67	9.6%
	Other (specify)	942	0.3%	12	0.1%	756	0.3%	8	0.1%	-186	-19.7%
	Medical device problem	724	0.3%	24	0.3%	684	0.3%	17	0.2%	-40	-5.5%
	Broken item(s)	627	0.2%	14	0.2%	641	0.2%	16	0.2%	14	2.2%
	Equipment misuse	281	0.1%	2	0.0%	311	0.1%	1	0.0%	30	10.7%
	Disconnected	190	0.1%	4	0.0%	209	0.1%	4	0.0%	19	10.0%
	Equipment safety situation	230	0.1%	1	0.0%	202	0.1%	2	0.0%	-28	-12.2%
	Equipment wrong or inadequate	196	0.1%	-	-	171	0.1%	1	0.0%	-25	-12.8%
	Inadequate supplies	189	0.1%	2	0.0%	151	0.1%	-	-	-38	-20.1%
	Electrical problem	165	0.1%	-	-	130	0.1%	-	-	-35	-21.2%
	Outdated items(s)	95	0.0%	-	-	62	0.0%	1	0.0%	-33	-34.7%

		2021				2022				Change in Reports 2021–2022	
Event Type	Event Subtype	Number of Reports	% of Total Reports	Number of Serious Events	% of Total Serious Events	Number of Reports	% of Total Reports	Number of Serious Events	% of Total Serious Events	Number	Percent
Adverse Drug Reaction	Other (specify)	3,939	1.4%	216	2.4%	4,621	1.8%	319	3.3%	682	17.3%
	Skin reaction (rash, blistering, itching, hives)	1,289	0.4%	121	1.3%	1,251	0.5%	145	1.5%	-38	-2.9%
	Mental status change	160	0.1%	34	0.4%	201	0.1%	50	0.5%	41	25.6%
	Hypotension	127	0.0%	30	0.3%	144	0.1%	26	0.3%	17	13.4%
	Hematologic problem	130	0.0%	12	0.1%	117	0.0%	17	0.2%	-13	-10.0%
	Nephrotoxicity	125	0.0%	12	0.1%	99	0.0%	14	0.1%	-26	-20.8%
	Dizziness	67	0.0%	3	0.0%	65	0.0%	2	0.0%	-2	-3.0%
	Arrhythmia	31	0.0%	2	0.0%	29	0.0%	4	0.0%	-2	-6.5%
Transfusion	Event related to blood product sample collection	1,470	0.5%	-	-	1,533	0.6%	-	-	63	4.3%
	Other (specify)	1,674	0.6%	3	0.0%	1,510	0.6%	2	0.0%	-164	-9.8%
	Event related to blood product administration	912	0.3%	5	0.1%	795	0.3%	7	0.1%	-117	-12.8%
	Apparent transfusion reaction	783	0.3%	24	0.3%	615	0.2%	31	0.3%	-168	-21.5%
	Event related to blood product dispensing or distribution	428	0.1%	-	-	425	0.2%	-	-	-3	-0.7%
	Consent missing/inadequate	259	0.1%	-	-	237	0.1%	-	-	-22	-8.5%
	Wrong patient requested	48	0.0%	-	-	45	0.0%	-	-	-3	-6.3%
	Special product need not issued	16	0.0%	-	-	21	0.0%	-	-	5	31.3%
	Special product need not requested	17	0.0%	1	0.0%	18	0.0%	-	-	1	5.9%
	Wrong component issued	17	0.0%	-	-	18	0.0%	-	-	1	5.9%
	Mismatched unit	11	0.0%	-	-	11	0.0%	-	-	0	0.0%
	Wrong component requested	8	0.0%	-	-	7	0.0%	-	-	-1	-12.5%
	Wrong patient transfused	5	0.0%	-	-	-	-	-	-	-5	-100.0%
Patient Self-Harm	Other self-harm (specify)	1,271	0.4%	61	0.7%	1,351	0.5%	58	0.6%	80	6.3%
	Self-mutilation	827	0.3%	19	0.2%	644	0.3%	20	0.2%	-183	-22.1%
	Ingestion of foreign object or substance	229	0.1%	70	0.8%	215	0.1%	50	0.5%	-14	-6.1%
	Suicide attempt - Injury	17	0.0%	17	0.2%	11	0.0%	11	0.1%	-6	-35.3%
	Anorexia/bulemia	3	0.0%	-	-	9	0.0%	-	-	6	200.0%
	Suicide - Death	4	0.0%	4	0.0%	2	0.0%	2	0.0%	-2	-50.0%
Total		**288,858**	**100%**	**9,043**	**100%**	**256,679**	**100%**	**9,741**	**100%**	**-32,179**	**-11.1%**

Note: The decrease in total number of reports in 2022 can primarily be attributed to three facilities that collectively submitted 18,601 fewer reports in 2022 compared to 2021, which accounted for 57.8% of the overall decrease.

Numbers shown for prior years may differ from previously published numbers due to subsequent report deletions or event type changes made by reporting facilities.

Table 7. Number of Reports Submitted to PA-PSRS in 2022 by Event Type and Harm Score in Descending Order by Event Type Frequency

Event Type	A	B1	B2	C	D	E	F	G	H	I	Total
Error Related to P/T/T	15,187	795	10,310	41,154	16,010	600	167	15	24	25	**84,287**
Complication of P/T/T	2,067	110	784	10,993	20,975	3,315	1,626	29	98	148	**40,145**
Medication Error	3,443	465	6,766	15,865	7,215	174	41	0	4	9	**33,982**
Fall	128	45	214	16,929	14,463	872	243	2	14	9	**32,919**
Other/Miscellaneous	5,364	426	2,186	8,489	9,339	521	240	4	14	71	**26,654**
Skin Integrity	521	5	47	4,253	11,688	607	24	1	0	0	**17,146**
Equip./Supplies/Devices	1,650	130	1,333	3,200	1,153	72	12	0	0	2	**7,552**
Adverse Drug Reaction	69	3	16	1,294	4,568	493	71	1	8	4	**6,527**
Transfusion	1,193	56	536	2,048	1,362	29	9	0	1	1	**5,235**
Patient Self-Harm	36	8	44	881	1,122	128	8	1	2	2	**2,232**
Total	**29,658**	**2,043**	**22,236**	**105,106**	**87,895**	**6,811**	**2,441**	**53**	**165**	**271**	**256,679**

Table 8. Number of Reports Submitted to PA-PSRS in 2022 by Care Area Group and Harm Score in Descending Order by Care Area Group Frequency

Care Area Group	A	B1	B2	C	D	E	F	G	H	I	Total
Med/Surg	4,800	268	2,702	20,318	20,720	1,218	219	5	30	48	**50,328**
Surgical Services	6,241	567	5,290	12,637	9,081	2,483	1,533	22	62	75	**37,991**
Emergency	5,443	188	2,002	13,338	6,521	336	87	6	12	31	**27,964**
ICU	2,098	78	1,099	7,230	8,947	544	46	1	14	32	**20,089**
Specialty Unit	1,479	73	950	5,782	6,645	283	47	3	9	14	**15,285**
Imaging/Diagnostic	1,036	101	1,241	6,057	6,434	284	94	4	11	14	**15,276**
Other	1,480	149	1,341	4,089	3,316	259	133	2	8	12	**10,789**
Laboratory	784	122	1,038	6,803	1,799	33	7	2	0	0	**10,588**
Psychiatric Unit	526	60	273	4,139	4,073	318	39	0	3	8	**9,439**
Clinic/Outpatient Office	543	73	1,405	3,578	3,177	192	58	0	3	3	**9,032**
Rehab Unit	211	63	267	3,687	3,240	119	42	0	0	8	**7,637**
Pediatric	994	68	978	3,631	1,758	45	10	0	0	2	**7,486**
Intermediate Unit	811	38	470	2,732	3,019	111	17	1	6	6	**7,211**
Labor and Delivery	252	21	196	1,512	3,711	247	39	3	5	3	**5,989**
PICU	1,259	45	608	2,581	684	30	2	0	1	1	**5,211**
NICU	517	17	404	2,880	1,307	43	6	1	0	6	**5,181**
OB/GYN Unit	461	34	313	1,393	1,792	218	47	3	1	4	**4,266**
Pharmacy	361	53	1,122	1,095	458	4	1	0	0	0	**3,094**
Rehab Services	81	9	66	966	498	26	7	0	0	1	**1,654**
Nursery	72	3	61	291	596	13	2	0	0	3	**1,041**
Administration	98	6	380	137	46	3	2	0	0	0	**672**
Respiratory	111	7	30	230	73	2	3	0	0	0	**456**
Total	**29,658**	**2,043**	**22,236**	**105,106**	**87,895**	**6,811**	**2,441**	**53**	**165**	**271**	**256,679**

Table 9. Number of Reports Submitted to PA-PSRS in 2022 by Care Area Group and Event Type in Descending Order by Care Area Group Frequency

Care Area Group	Error Related to P/T/T	Complication of P/T/T	Medication Error	Fall	Other/ Miscellaneous	Skin Integrity	Equipment/ Supplies/ Devices	Adverse Drug Reaction	Transfusion	Patient Self-Harm	Total
Med/Surg	8,571	6,659	8,612	12,351	6,182	5,263	642	993	958	97	**50,328**
Surgical Services	18,684	7,789	1,506	615	3,903	1,564	3,141	299	480	10	**37,991**
Emergency	13,280	2,250	3,615	3,226	3,222	255	367	468	1,099	182	**27,964**
ICU	5,846	2,692	3,510	1,131	1,151	4,054	657	282	748	18	**20,089**
Specialty Unit	2,710	1,884	2,795	3,312	2,017	1,561	171	391	424	20	**15,285**
Imaging/Diagnostic	6,931	4,816	188	739	735	496	390	949	31	1	**15,276**
Other	3,721	1,277	1,462	1,199	1,608	481	275	544	204	18	**10,789**
Laboratory	9,708	107	41	72	210	27	33	3	387	0	**10,588**
Psychiatric Unit	427	204	791	3,868	1,959	297	26	48	3	1,816	**9,439**
Clinic/Outpatient	2,976	853	1,171	687	621	162	248	2,107	194	13	**9,032**
Rehab Unit	602	473	1,119	2,892	1,012	1,376	75	60	21	7	**7,637**
Pediatric	1,824	1,733	1,704	540	968	206	337	33	115	26	**7,486**
Intermediate Unit	1,569	980	1,160	1,154	1,092	768	143	132	195	18	**7,211**
Labor and Delivery	1,149	3,793	324	88	331	30	120	38	116	0	**5,989**
PICU	2,020	1,028	1,155	37	296	202	373	8	91	1	**5,211**
NICU	2,334	916	822	6	489	141	387	2	84	0	**5,181**
OB/GYN Unit	1,074	1,983	486	140	383	31	72	22	73	2	**4,266**
Pharmacy	64	8	2,848	1	23	0	9	141	0	0	**3,094**
Rehab Services	148	116	49	827	279	204	25	2	1	3	**1,654**
Nursery	361	525	58	5	59	8	22	1	2	0	**1,041**
Administration	69	32	481	15	53	5	7	1	9	0	**672**
Respiratory	219	27	85	14	61	15	32	3	0	0	**456**
Total	**84,287**	**40,145**	**33,982**	**32,919**	**26,654**	**17,146**	**7,552**	**6,527**	**5,235**	**2,232**	**256,679**

Table 10. Number and Percentage of Reports Submitted to PA-PSRS by Other Acute Care Facilities (ASF, BRC, ABF) by Event Type in Descending Order by 2022 Frequency

	Number of Reports					% of Total Reports				
Event Type	**2018**	**2019**	**2020**	**2021**	**2022**	**2018**	**2019**	**2020**	**2021**	**2022**
Error Related to P/T/T	3,092	3,538	3,048	3,333	**4,126**	35.5%	38.2%	39.0%	35.8%	**39.1%**
Other/Miscellaneous	2,504	2,417	1,766	2,283	**2,845**	28.8%	26.1%	22.6%	24.5%	**26.9%**
Complication of P/T/T	2,426	2,478	2,265	2,816	**2,659**	27.9%	26.7%	29.0%	30.3%	**25.2%**
Skin Integrity	209	246	206	245	**272**	2.4%	2.7%	2.6%	2.6%	**2.6%**
Fall	141	150	161	222	**225**	1.6%	1.6%	2.1%	2.4%	**2.1%**
Equip./Supplies/Devices	133	180	145	160	**213**	1.5%	1.9%	1.9%	1.7%	**2.0%**
Medication Error	104	173	129	137	**130**	1.2%	1.9%	1.7%	1.5%	**1.2%**
Adverse Drug Reaction	84	79	77	100	**79**	1.0%	0.9%	1.0%	1.1%	**0.7%**
Patient Self-Harm	6	2	10	5	**6**	0.1%	0.0%	0.1%	0.1%	**0.1%**
Transfusion	3	1	0	3	**2**	0.0%	0.0%	0.0%	0.0%	**0.0%**
Total	8,702	9,264	7,807	9,304	**10,557**	100%	100%	100%	100%	**100%**

Note: Numbers shown for prior years may differ from previously published numbers due to subsequent report deletions or event type changes made by reporting facilities.

Table 11. Number and Percentage of Serious Events Submitted to PA-PSRS by Other Acute Care Facilities (ASF, BRC, ABF) by Event Type in Descending Order by 2022 Frequency

	Number of Serious Events					% of Total Serious Events				
Event Type	**2018**	**2019**	**2020**	**2021**	**2022**	**2018**	**2019**	**2020**	**2021**	**2022**
Complication of P/T/T	1,198	1,272	1,179	1,372	**1,343**	68.2%	67.1%	72.0%	70.9%	**67.6%**
Other/Miscellaneous	434	478	300	417	**473**	24.7%	25.2%	18.3%	21.6%	**23.8%**
Error Related to P/T/T	54	57	74	55	**74**	3.1%	3.0%	4.5%	2.8%	**3.7%**
Skin Integrity	23	30	23	21	**36**	1.3%	1.6%	1.4%	1.1%	**1.8%**
Adverse Drug Reaction	17	17	24	17	**23**	1.0%	0.9%	1.5%	0.9%	**1.2%**
Fall	18	17	18	29	**23**	1.0%	0.9%	1.1%	1.5%	**1.2%**
Equip./Supplies/Devices	5	10	10	13	**11**	0.3%	0.5%	0.6%	0.7%	**0.6%**
Medication Error	5	14	5	8	**2**	0.3%	0.7%	0.3%	0.4%	**0.1%**
Patient Self-Harm	1	1	5	1	**1**	0.1%	0.1%	0.3%	0.1%	**0.1%**
Transfusion	1	1	0	1	**0**	0.1%	0.1%	0.0%	0.1%	**0.0%**
Total	1,756	1,897	1,638	1,934	**1,986**	100%	100%	100%	100%	**100%**

Note: Numbers shown for prior years may differ from previously published numbers due to subsequent report deletions or event type changes made by reporting facilities.

to the overall data (see **Tables 4** and **10**). The three event types reported most frequently were Error Related to P/T/T, Other/Miscellaneous, and Complication of P/T/T, which together account for 91.2% of all reports submitted by these facilities in 2022. **Table 11** shows the distribution of serious events reported by other acute care facilities in 2022; the Complication of P/T/T event type accounted for over two-thirds of these reports.

Discussion

While we are unable to reach a firm conclusion as to the primary reason for the decrease in reports of incidents and increase in reports of serious events to PA-PSRS in 2022, many factors are likely involved. Based on an analysis of the PA-PSRS data alone, more than half of the overall decrease can be attributed to a few facilities that submitted a much lower number of incidents in 2022 compared to 2021. PSA has been working with facilities to identify and correct issues and will continue to monitor their reporting and take further action as needed. Throughout the year, PSA provided ongoing support and education for facilities regarding the accurate reporting of events and contacted patient safety officers in many facilities regarding reports classified as incidents that appeared to describe serious events or nonreportable situations.

Conclusion

There was a decrease in the number of incidents submitted to PA-PSRS in 2022, an increase in serious and high harm event reports, and shifts in the number and distribution of reports for certain event types and subtypes. There was a notable change in reporting activity by three facilities, which had a considerable impact on the number, rate, and types of events reported in 2022. PSA will continue to monitor reporting and take further action as needed.

Note

This analysis was exempted from review by the Advarra Institutional Review Board.

References

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