ANNUAL REPORT

2022

NCPS
Nebraska Coalition for Patient Safety

NCPS

Nebraska Coalition for Patient Safety

EXECUTIVE DIRECTOR MESSAGE

Dear Patient Safety Advocates:

Joining the Nebraska Coalition for Patient Safety team in 2022 has been a tremendous honor. I continue to be inspired by our members' commitment to our mission, *"to continuously improve the safety and quality of healthcare delivery in the region."* The 2022 annual report highlights the collaborative efforts of the NCPS workforce, members, and key stakeholders in ensuring that health care is safe, reliable, and free from harm. While important progress towards preventable harm has been made, we recognize the need for a renewed commitment to patient safety across our health systems. Moving to a more prospective approach to improving patient safety will support our teams in solving ingrained system challenges.
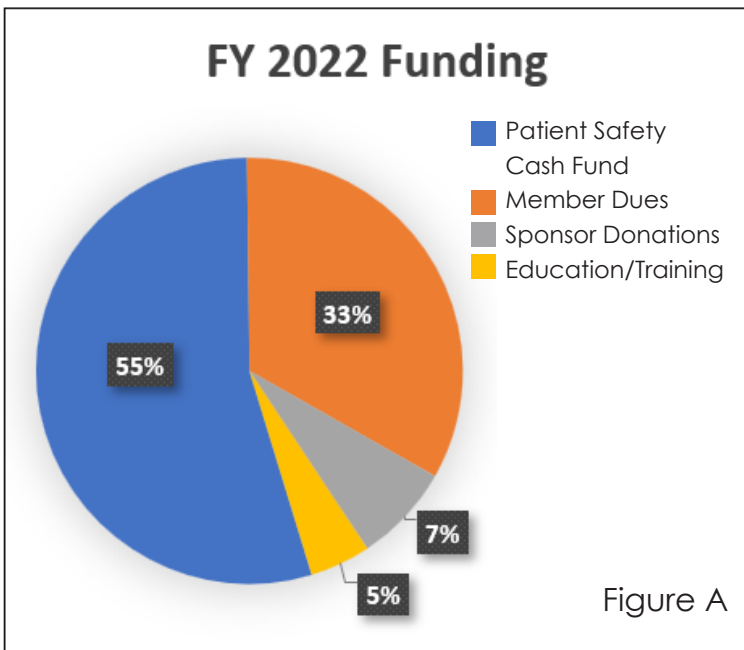
With the recognized need for transformational change to advance patient safety across the continuum of care, a focus on foundational areas as outlined in the *National Action Plan*, will support organization's actions in ensuring the safety of our patients. Prioritizing a Just Culture, authentic patient and family engagement, a commitment to workforce safety, and maintaining learning systems across organizations, are critical in moving towards total systems safety. The NCPS team is pleased to continue to offer services to our members to promote your internal strategies in advancing patient safety, including: Just Culture, TeamSTEPPS®, and Root Cause Analysis training; administration and deliberation on the Surveys on Patient Safety Culture (SOPS™); and support with conducting patient safety activities.

Lastly, I want to acknowledge the tireless efforts of the NCPS workforce and Board of Directors. The past year brought substantial growth to our team and operational capacity, and I am pleased with the remarkable progress towards our organization's goals. We look forward to the continued growth and enhancement of electronic reporting, as outlined in this report, along with further opportunities to deliver in-person training workshops. Thank you for your ongoing commitment to patient safety. Together, our coordinated actions will help create sustainable improvement in safety.

Emily Barr

Emily Barr, OTD, MBA, OTR/L, BCG
Executive Director

FUNDING OF NCPS

FY 2022 Funding

■	Patient Safety Cash Fund
■	Member Dues
■	Sponsor Donations
■	Education/Training

55%
33%
7%
5%

Figure A

FY 2022 Expenses

■	Contract Labor
■	Press Ganey
■	Education
■	Operations
■	Professional Fees

11%
9%
7%
6%
67%

Figure B

NCPS is financially supported through four primary sources: member dues, sponsor donations, member services, and the Patient Safety Cash Fund. (Figure A) As outlined in Figure A, The Patient Safety Cash Fund currently represents 55% of the operations budget for NCPS. 2022 marked the launch and implementation of the Press Ganey Electronic Reporting Platform for approximately 40% of the current NCPS membership base. Members using the Press Ganey Platform can upload patient safety event data through the file transfer process, eliminating the manual reporting process.

The funding from the Patient Safety Cash Fund supported two new workforce team members in 2022, a part-time Patient Safety Statistician and an Epidemiology Faculty Consultant. The growth in workforce will allow NCPS to revitalize its current adverse event reporting form to further align with the Agency for Healthcare Research and Quality Common Formats; transition to an online reporting database for all reported safety events; optimize data analytics; advance grant funding opportunities; and further promote patient safety activities for NCPS members.
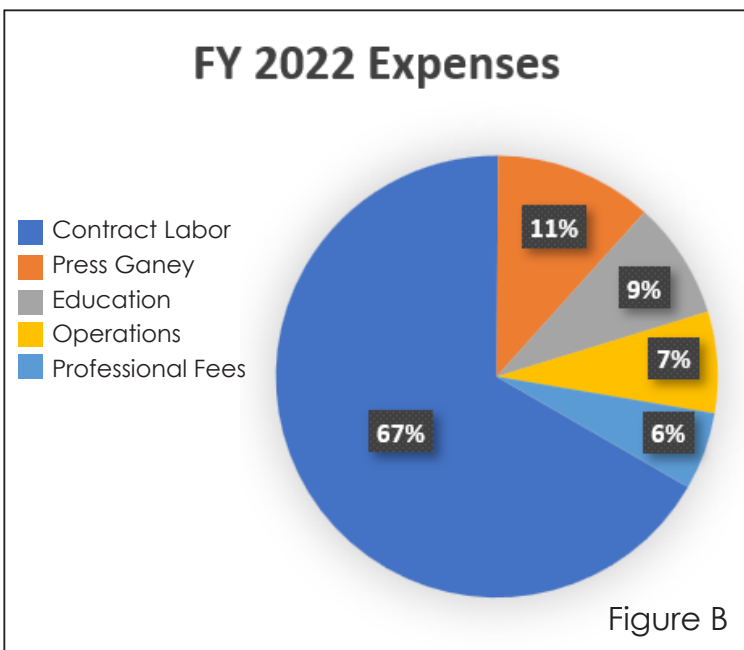
NCPS is grateful for the continued support from its members, sponsors, and those participating in education, training workshops, and Surveys on Patient Safety Culture this past year. We also are grateful to the physicians and physician assistants in Nebraska for supporting the Patient Safety Cash Fund.

NCPS ORGANIZATIONAL MEMBERS

Thank you to our 66 members for their support in 2022. We welcome new members for 2023. We welcome new ambulatory care practices as members for 2023.

LARGE HOSPITALS AND MEDICAL CENTERS
Bryan Medical Center
CHI Health Creighton University Medical Center
  Bergan Mercy
CHI Health Immanuel
CHI Health St. Elizabeth
Nebraska Methodist Hospital
Nebraska Medicine - Nebraska Medical Center

COMMUNITY HOSPITALS
CHI Health Good Samaritan
CHI Health Lakeside
CHI Health Mercy Council Bluffs
CHI Health Midlands
CHI Health St. Francis
Columbus Community Hospital
Faith Regional Health Services
Grand Island Regional Medical Center*
Great Plains Health
Kearney Regional Medical Center
Mary Lanning Healthcare
Methodist Fremont Health
Methodist Jennie Edmundson*
Nebraska Medicine - Bellevue Medical Center

SPECIALTY HOSPITALS
CHI Health Nebraska Heart Hospital
Lincoln Surgical Hospital
Methodist Women's Hospital
Midwest Surgical Hospital
Nebraska Spine Hospital
OrthoNebraska

CRITICAL ACCESS HOSPITALS
Antelope Memorial Hospital
Avera Creighton Hospital
Avera St. Anthony's Hospital
Beatrice Community Hospital
Boone County Health Center
Box Butte General Hospital
Brodstone Memorial Hospital
Butler County Health Care Center
Chadron Community Hospital & Health Services
Cherry County Hospital
CHI Health Mercy Corning
CHI Health Missouri Valley

CRITICAL ACCESS HOSPITALS (condintued)
CHI Health Plainview
CHI Health Schuyler
CHI Health St. Mary's
Community Hospital (McCook)
Community Medical Center (Falls City)
Cozad Community Health System
Crete Area Medical Center
Fillmore County Hospital
Franciscan Health Care (West Point)
Harlan County Health System
Howard County Medical Center
Jefferson Community Health & Life
Kimball Health Services
Lexington Regional Health Center
Memorial Community Health (Aurora)*
Memorial Community Hospital & Health
  System (Blair)
Memorial Health Care Systems (Seward)
Merrick Medical Center
Nemaha County Hospital
Osmond General Hospital
Pawnee County Memorial Hospital
Pender Community Hospital
Saunders Medical Center
Syracuse Area Health
Thayer County Health Services
Tri Valley Health System
West Holt Medical Services

AMBULATORY SURGICAL CENTER
CHI Health Ambulatory Surgery Center at
  Midlands

AMBULATORY CARE PRACTICES
Bryan Heart
Bryan Physician Network
CHI Health Clinic
Nebraska Medicine Physicians

FEDERALLY QUALIFIED HEALTH CENTERS
OneWorld Community Health Centers*

New in 2022

NCPS FOUNDERS

Nebraska Academy of PAs

Nebraska Hospital Association

NMA
Nebraska Medical Association

NNA
NEBRASKA NURSES ASSOCIATION

NPA
Advocate. Educate. Connect.
Nebraska **Pharmacists** Association

NCPS SPONSORS

PLATINUM

GOLD

SILVER

MEMBER TESTIMONIALS

Members and non-members value collaborating with NCPS to evaluate and improve safety culture, implement evidence-based practices, and develop educational programs.

Surveys on Patient Safety Culture Improve Organizational Culture and Patient Safety
Since 2019, NCPS has administered Surveys on Patient Safety Culture for 18 unique healthcare organizations. For these18 organizations (8 members and 10 non-members), NCPS has administered the Hospital Survey on Patient Safety Culture (HSOPS) 21 times, the Medical Office Survey on Patient Safety Culture (MOS) six times, and the Nursing Home Survey on Patient Safety Culture once.

Jeannie Eylar, CNO and Patient Safety Officer, Pullman Regional Hospital in Pullman, WA: "NCPS makes it easy to administer the surveys, and the interpretation and tools provided are excellent. Conducting the HSOPS and MOS every two years improves organizational culture and patient safety within the hospital and clinic network. Our patient safety team reviews the overall results and departments review their individual results to understand the perceptions of our staff and providers, evaluate trends over time, and understand how we rank in relationship to other hospitals across the country. For example, we have used the composite, Nonpunitive Response to Error, to track our progress implementing Just Culture."

Brittany Bourgeois, Chief Quality Officer, St. James Parish Hospital, Lutcher, LA: "It would be a daunting task to interpret the HSOPS ourselves. Knowing how staff feels and what they know about patient safety is invaluable. After COVID, we scored lower in communication and leadership. So, we have plans to re-engage in TeamSTEPPS training and Leadership Development. As a Critical Access Hospital, the cost is something we can absorb every 2 years."

Implementing Evidence-Based Practice OneWorld Community Health Centers:
"As a result of joining NCPS, we have increased our focus on reliably implementing evidence-based practices in medication administration and specimen labeling. Collaborating with NCPS will help us to improve the quality and safety of care for our population."

Collaborating to Improve Patient Safety Nebraska Hospital Association (NHA): "NHA appreciates the opportunity to collaborate with NCPS on projects that improve patient outcomes and the safety of care across the state. We touch base with NCPS quarterly to ensure we are collaborating for the benefit of members of both organizations. For example, during October-December 2022, NHA and NCPS collaborated to present a six-part learning collaborative, Creating a Culture of Patient Safety, that focused on root cause analysis, systems approach to safety, TeamSTEPPS, and Just Culture. Sixty-eight individuals from 41 organizations participated in the learning collaborative. Evaluation of the collaborative revealed that participants improved their understand of tools and principles needed to implement safety culture and the NCPS's role as a PSO in improving patient safety. NCPS is a good partner to NHA and a great resource for the state. We appreciate their willingness to collaborate and their expert knowledge that brings value and resources to our hospitals."

REPORT AND ANALYZE
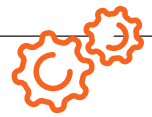
Impact of Electronic Reporting Process in 2022

Changes to the Reporting Taxonomy

In February 2022, NCPS used resources from the Patient Safety Cash Fund to subscribe to the Press Ganey Associates, Inc. Patient Safety Organization (PGPSO) platform to collect, manage, and analyze patient safety event reports. Seven PSOs, including NCPS, subscribe to this secure web-based platform that organizations can use to report individual events or upload files from their internal event reporting systems. The PGPSO platform uses the Agency for Healthcare Research and Quality (AHRQ) Common Formats to categorize events by type, assign a severity level according to the outcome to the patient, and identify factors that contributed to the event. Using the AHRQ Common Formats allows Press Ganey to validly compare data across PSOs and to contribute deidentified data to the national patient safety event database via the PSO Privacy Protection Center. NCPS works with Press Ganey and individual members to map their unique event reporting taxonomy to the AHRQ Common Formats prior to uploading the data to the PGPSO platform.

Twenty-four NCPS members used the PGPSO platform to report events to NCPS via file upload in 2022. To aggregate and analyze data from members reporting electronically and manually, we mapped the original NCPS event taxonomy, which was based on the National Quality Forum (NQF) Never Events, to a hybrid taxonomy of 21 event types. This hybrid taxonomy uses the 10 event types in the AHRQ Common Formats and adds 11 event types that NCPS members use but that would be categorized as "Other" in the AHRQ Common Formats (Table 1). We plan to implement this hybrid event taxonomy for all NCPS members in 2024.

Table 1. Nebraska Coalition for Patient Safety Hybrid Event Type Taxonomy	
NCPS Hybrid Event Types	**Source**
Airway/Respiratory Management (not associated with Anesthesia)	NCPS Members
Anesthesia	AHRQ Common Formats
Blood or Blood Product	AHRQ Common Formats
Care Coordination	NCPS Members
Care Management-Failure/Delay	NCPS Members
Care Management Not Otherwise Specified	NQF and NCPS Members
Device or Medical/Surgical Supply	AHRQ Common Formats
Diagnostic Error	AHRQ Common Formats
Diagnostic Imaging	NQF and NCPS Members
Environmental	NQF and NCPS Members
Fall	AHRQ Common Formats
Healthcare-Associated Infection	NQF and NCPS Members
Lab/Specimen	NQF and NCPS Members
Medication or Other Substance	AHRQ Common Formats
Patient Protection (Not Suicide/Attempt)	NQF and NCPS Members
Patient Protection (Suicide/Attempt Suicide only)	NQF and NCPS Members
Perinatal	AHRQ Common Formats
Pressure Injury	AHRQ Common Formats
Surgery	AHRQ Common Formats
Venous Thromboembolism	AHRQ Common Formats

1000-fold Increase in Number of Events Reported in 2022 as Compared to 2021

From 2008-2021, 39 of NCPS's 63 members manually reported 1,312 events using a fillable PDF form submitted via encrypted email. During 2022, 39 (59%) of NCPS's 66 members reported 114,993 events: 22 members manually reported 128 events, and 22 members electronically reported 114,813 events using the PGPSO platform (five of these 22 members reported both manually and electronically). The CAPTURE Falls project electronically reported 52 fall events (Figure 1).

The impact of the option for NCPS members to report electronically by uploading existing incident report files to the PGPSO platform is illustrated by the facts that:

- Nearly 99% (114,813) of the 116,305 events reported to NCPS since we began receiving reports in 2008 were electronically reported in 2022 using the PGPSO platform

- Approximately 83% (95,615) of the 114,813 events electronically reported in 2022 using the PGPSO platform occurred from 2018-2021

- The 114,993 events reported in 2022 represent a nearly 1000-fold increase from the 119 events reported in 2021
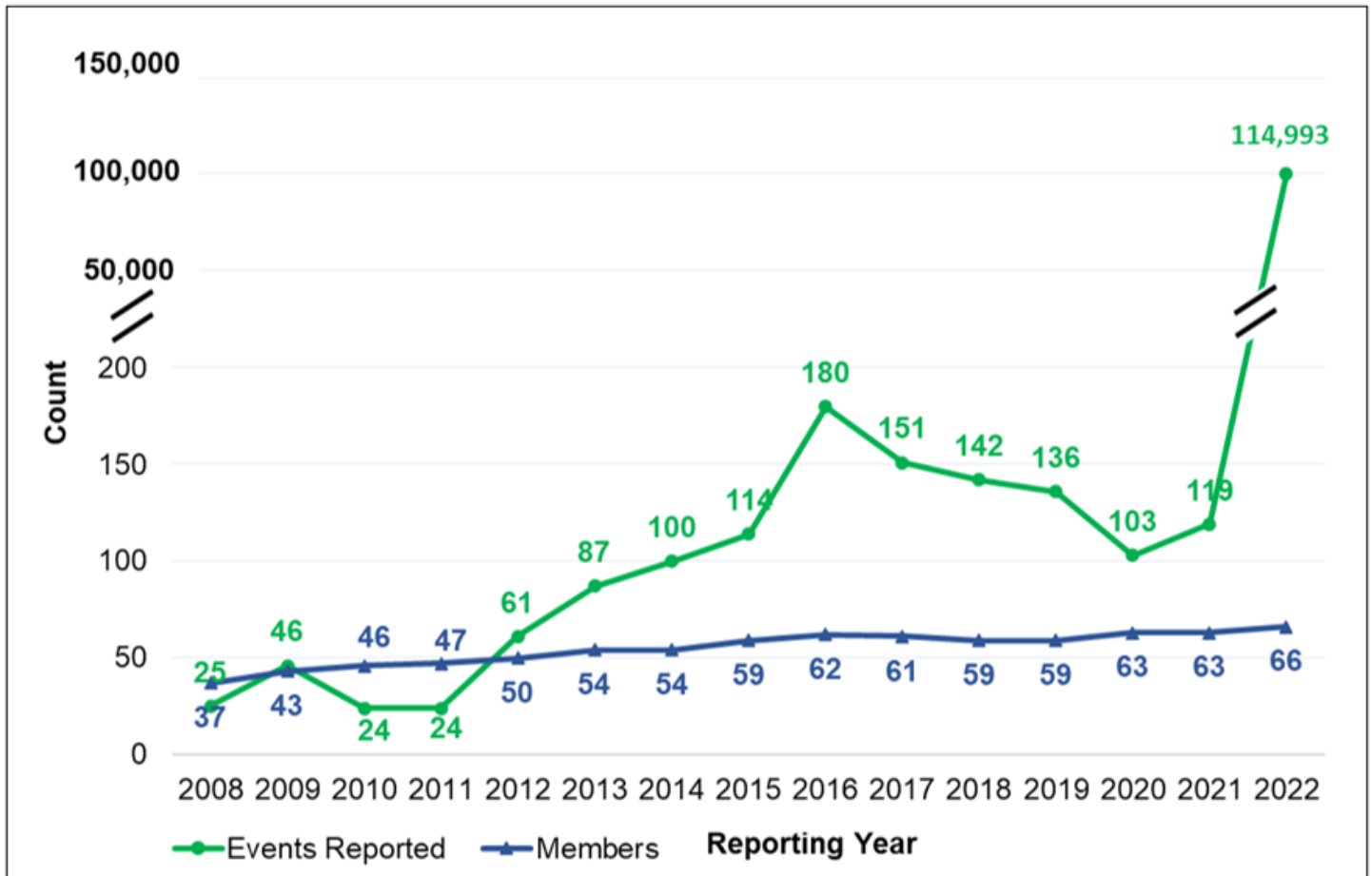

Figure 1. Number of members and number of events reported to Nebraska Coalition for Patient Safety 2008-2022

Of the 114,813 events reported electronically in 2022, 19,198 (16.7%) *occurred* in 2022. To support future annual comparisons, the remainder of this analysis will focus on the 19,326 events that occurred in 2022 and were reported both manually and electronically (Table 2). We excluded the 52 fall events reported by CAPTURE Falls from this comparison.

- Nearly 70% of events were reported electronically by large urban hospitals.
- The number of events reported electronically vastly exceeded those reported manually within all member size categories except for medium Critical Access Hospitals.

Table 2. Reported Events Occurring in 2022 by Member Size and Reporting Method			
Size Category	Electronically Reported	Manually Reported	Events (n=19,326)
Small Critical Access Hospital (<300 discharges/year)	539	11	550 (2.85%)
Medium Critical Access Hospital (300-499 discharges/year)	0	7	7 (0.04%)
Large Critical Access Hospital (>500 discharges/year)	171	9	180 (0.93%)
Community Hospital	3002	8	3010 (15.57%)
Large Urban Hospital	13,368	86	13,454 (69.61%)
Specialty Hospital	262	7	269 (1.39%)
Unknown	1856	0	1856 (9.60%)
Total	**19,198**	**128**	**19,326 (100.00%)**

Association between Event Type and Reporting Process

The distribution of event types for the 19,326 reported events that occurred in 2022 varied by reporting method (Figure 2).

- Events reported electronically included 20 of the 21 event types while events reported manually included 11 of the 21 types. None of NCPS's members reported the event type Venous Thromboembolism.
- The most frequent event types reported electronically were Other (22.9%), Care Management (not specified, 20.5%), and Medication or Other Substance (12.5%).

- The most frequent event types reported manually were Fall (39.8%), Medication or Other Substance (16.4%), Care Management (not specified,13.3%), and Surgery (including invasive procedures, 13.3%).
- Event types that were only reported electronically were Airway/Respiratory Care Management (0.2%), Anesthesia (0.1%), Blood or Blood Product (5.6%), Care Coordination (2.8%), Care Management-Failure/Delay (0.5%), Healthcare-Associated Infection (1.0%), Lab/Specimen (3.6%), Patient Protection (7.7%) and Pressure Injury (0.5%).
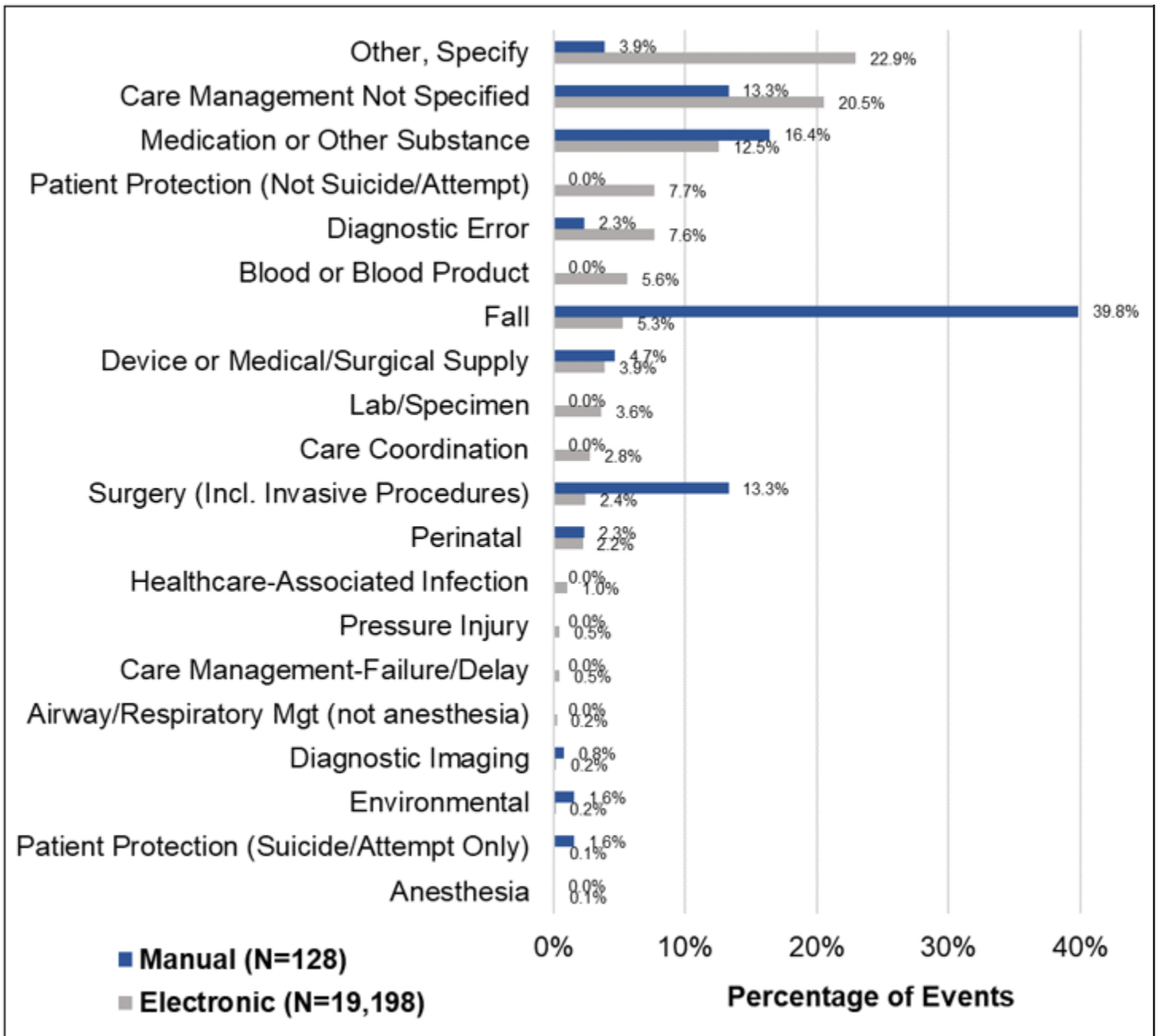
Figure 2. Association between event type and reporting method among the 19,326 events occurring in 2022

Association between Reporting Process and Event Severity

NCPS uses the National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP) scale to categorize the severity of errors based on the outcome to the patient (Table 3).

[1]*National Coordinating Council for Medication Error Reporting and Prevention. Medication Error Index. Available at: www.nccmerp.org/sites/default/files/index-bw-2022.pdf Accessed May 21, 2023.*

Table 3. NCCMERP Error Severity Scale

A. Circumstances or events that have the capacity to cause error
B. An error occurred but did not reach the patient
C. An error occurred that reached the patient but did not cause patient harm
D. An error occurred that reached the patient and required monitoring to confirm that it resulted in no harm to the patient, and/or required intervention to preclude harm
E. An error occurred that may have contributed to or resulted in temporary harm to the patient and required intervention
F. An error occurred that may have contributed to or resulted in temporary harm to the patient and required initial or prolonged hospitalization
G. An error occurred that may have contributed to or resulted in permanent patient harm
H. An error occurred that required intervention necessary to sustain life
I. An error occurred that resulted in the patient's death

The distribution of event severity for the 19,326 reported events that occurred in 2022 varied by reporting method (Figure 3).

- Approximately 14% of events reported electronically as compared to 2% of events reported manually did not reach the patient (Categories A-B).
- Approximately 7% of events reported electronically as compared to 73% of events reported manually reached the patient and resulted in harm (Categories E-I).
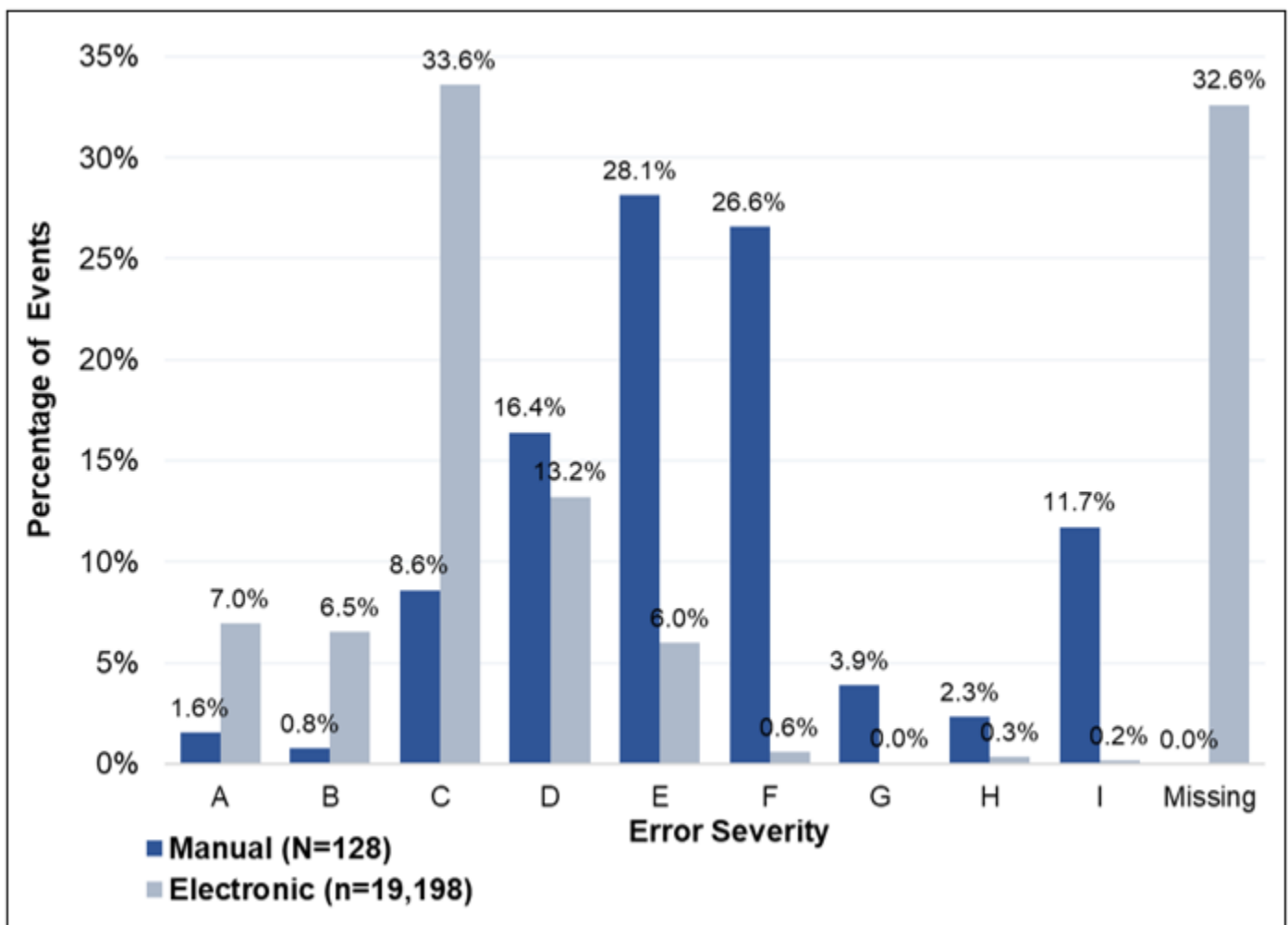- Nearly one-third of events reported electronically did not include error severity.

Figure 3. Association between event severity and reporting method among the 19,326 events occurring in 2022

Association between Event Type and Severity

Of the total 19,326 events that occurred in 2022, 13.4% did not reach the patient (Categories A-B), 46.7% reached the patient but did not result in harm (Categories C-D), 7.5% reached the patient and resulted in harm (Categories E-I), and 32.4% did not report event severity (all were reported electronically).

Figure 4 illustrates the association between event type and the three levels of severity. Pressure Injuries, Healthcare-Associated Infections, and Care Management-Failures/Delays were most likely to result in harm to the patient. In terms of absolute number of harm events, three types accounted for nearly one-third of the 1,453 events that resulted in any harm. Specifically, of the 1,453 harm events, 216 (14.9%) were Fall Events, 162 (11.1%) were Diagnostic Errors, and 142 (9.8%) were Care Management Events (not otherwise specified).
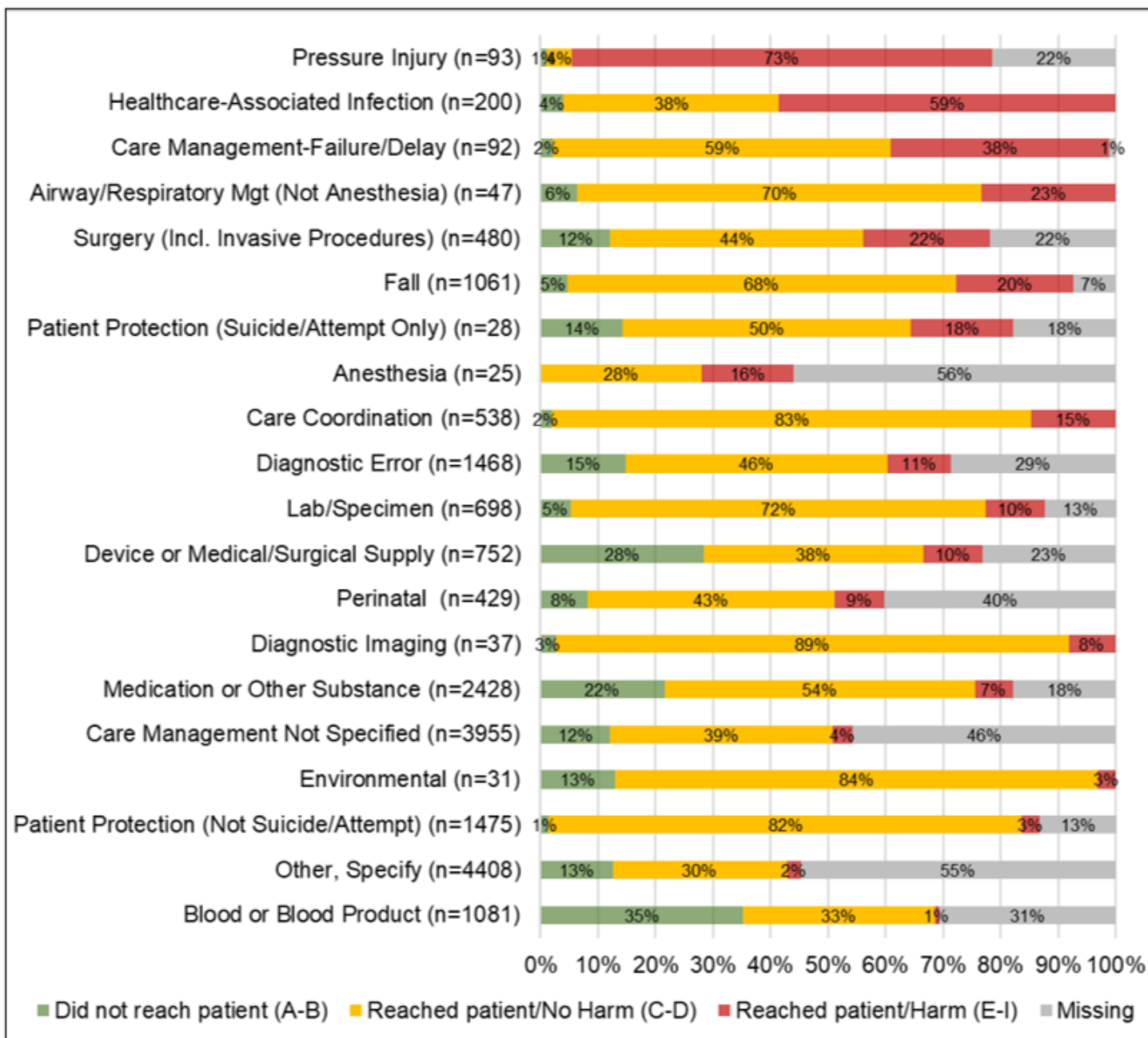

Figure 4. Association between event type and severity among the 19,326 events occurring in 2022

Approximately 1% (122) of the 13,063 events with known severity level resulted in permanent harm or death (Categories G-I) (Figure 5). Diagnostic Errors accounted for 40% (49) of these 122 events.
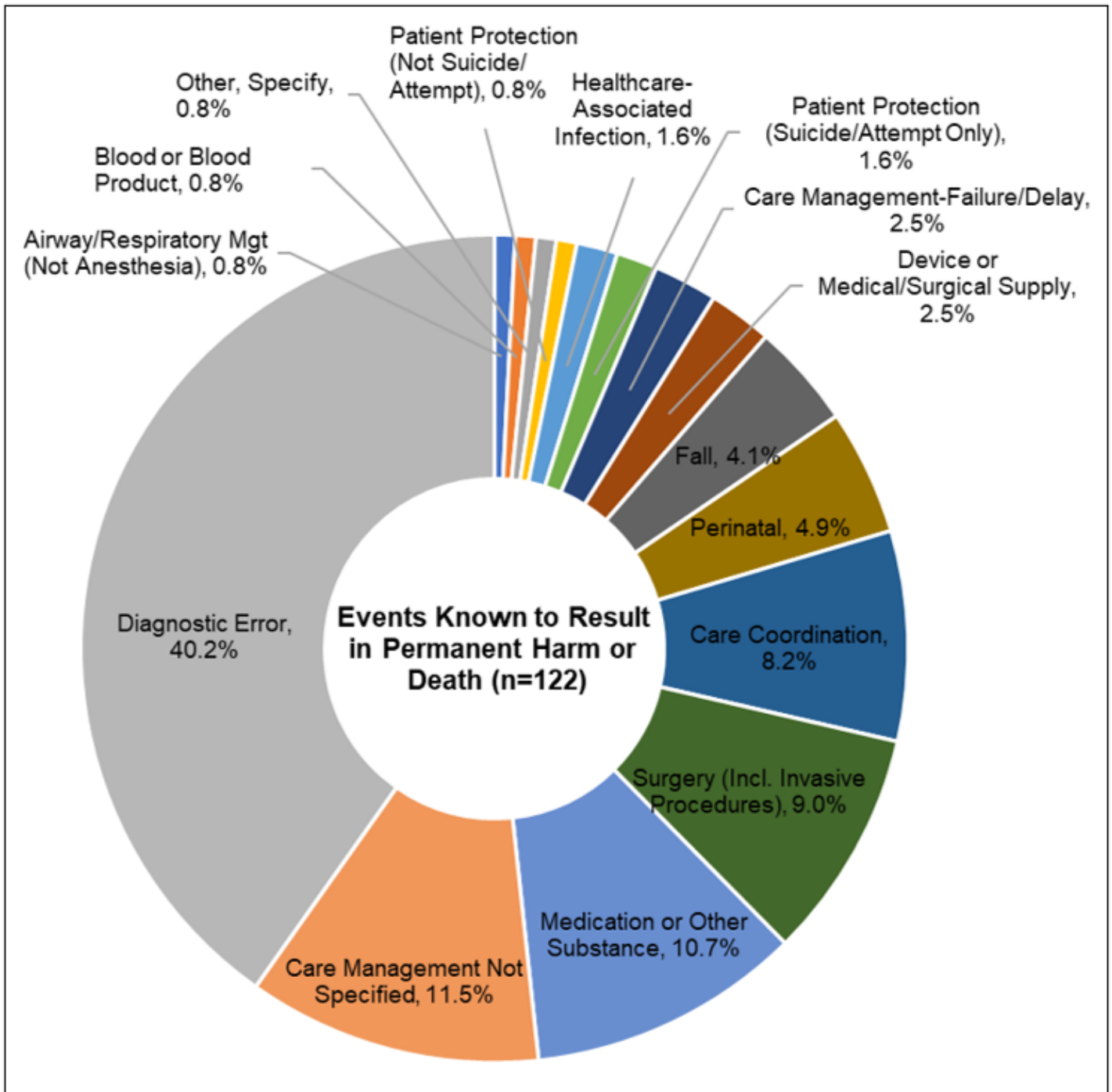

Figure 5. Type of 122 events that resulted in permanent harm or death occurring in 2022

Association between Event Type and Contributing Factors

The distribution of contributing factors varied by event type (Table 4).

- All reported event types had multiple contributing factors.
- When excluding "Other" as a contributing factor, Patient/Family Factors and Communication/Team Factors were the factors that contributed to a majority of an event type.
  - ¤ Patient/Family Factors contributed to 61% of Suicides/Attempted Suicides, 58% of Patient Protection Events (not suicides/attempts), and 52% of Falls.
  - ¤ Communication/Team Factors contributed to 54% of Diagnostic Imaging Events, 53% of Care Coordination Events, and 48% of Care Management-Failure/Delay Events.
- Five factors were identified as contributing to nearly all event types:
  - ¤ Communication/Team Factors
  - ¤ Human Factors (i.e., fatigue, inattention, cognitive bias)
  - ¤ Policies/Procedures (i.e., lack of policies/procedures, nonadherence, or lack of clarity)
  - ¤ Staff Qualifications (i.e., training, competence)
  - ¤ Supervision/Management/Culture

Table 4. Contributing Factors to Events Occurring in 2022 (n=19,325 events; Green 0-5%, Yellow >5-20%, Red >20%)

Event Type	Communication/ Team Factors	Environment	Equipment/ Devices/ Supplies	Handover/ Handoff	HIT/EHR/CPOE/ eMAR	Human Factors	Information Management	Patient/Family Factors	Policies/ Procedures	Staff Qualifications	Supervision/ Management Culture	No Known Factors	Other
Airway/Respiratory Care Management (not associated with anesthesia) (n=47)	17%	0%	11%	0%	0%	4%	0%	38%	11%	15%	0%	0%	28%
Anesthesia (n=25)	20%	0%	4%	0%	0%	8%	0%	0%	20%	4%	4%	8%	8%
Blood or Blood Product (n=1081)	3%	0%	0%	1%	7%	20%	21%	0%	9%	6%	11%	18%	10%
Care Coordination (n=538)	53%	0%	1%	0%	0%	4%	0%	0%	25%	2%	7%	1%	33%
Care Management Not Otherwise Specified (n=3955)	14%	2%	3%	5%	2%	35%	8%	5%	10%	9%	12%	11%	6%
Care Management Failure/Delay (n=92)	48%	0%	1%	0%	0%	7%	0%	3%	28%	5%	7%	2%	33%
Device or Medical/Surgical Supply (n=752)	5%	5%	32%	0%	1%	17%	0%	6%	16%	9%	5%	8%	18%
Diagnostic Error (n=1468)	13%	1%	4%	3%	4%	40%	11%	1%	10%	11%	9%	6%	10%
Diagnostic Imaging (n=37)	54%	0%	5%	0%	3%	11%	0%	14%	19%	11%	5%	0%	14%
Environmental (n=31)	16%	3%	29%	0%	0%	13%	0%	13%	3%	3%	3%	0%	45%
Fall (n=1061)	2%	12%	4%	0%	0%	10%	0%	52%	8%	9%	5%	17%	11%
Healthcare-Associated Infection (n=200)	11%	1%	3%	0%	0%	0%	0%	1%	23%	5%	0%	2%	67%
Lab/Specimen (n=698)	4%	0%	3%	1%	1%	31%	2%	0%	15%	9%	2%	3%	39%
Medication or Other Substance (n=2428)	11%	5%	3%	5%	13%	27%	0%	6%	9%	11%	4%	0%	22%
Other, Specify (n=4408)	3%	7%	1%	1%	1%	14%	5%	46%	5%	10%	14%	3%	11%
Patient Protection (Other) (n=1475)	4%	4%	1%	0%	0%	7%	0%	58%	28%	16%	1%	1%	16%
Patient Protection (Suicide/Attempted Suicide only) (n=28)	4%	11%	4%	0%	0%	18%	0%	61%	0%	7%	11%	14%	14%
Perinatal (n=429)	10%	1%	3%	2%	1%	15%	1%	1%	5%	5%	7%	30%	31%
Pressure Injury (n=93)	1%	0%	0%	1%	2%	19%	6%	34%	5%	2%	5%	2%	10%
Surgery (Including Invasive Procedures) (n=479)	14%	4%	8%	2%	2%	18%	3%	2%	11%	6%	4%	20%	23%

BENEFITS AND CHALLENGES OF ELECTRONICALLY REPORTED EVENTS

There are benefits and challenges associated with electronically uploading files directly from members' internal incident reporting systems to the PGPSO platform. A benefit is that electronically reported events tend to include the full range of types and severity levels that occur in patient care. As compared to electronically reported events, manually reported events have more severe patient outcomes and fewer event types because manually reported events are chosen for reporting to NCPS to ensure protection from legal discoverability. A challenge associated with electronically reported events is that they are more representative of NCPS's large urban as compared to our smaller Critical Access or Community Hospital members that are not electronically uploading their incident reports. An additional challenge associated with electronically reported events is that they are more likely to have missing data and random errors because they are uploaded from the incident reporting system without manual review.

STRENGTHS AND OPPORTUNITIES FOR IMPROVEMENT

Despite the above challenges, the increased volume and range of electronically reported events allows us to draw conclusions about members' strengths and areas in need of improvement. Strengths include the systems in place to intercept three event types before they reach the patient. Specifically, 35% of Blood or Blood Product Events, 28% of Device or Medical/Surgical Supply Events, and 22% of Medication or Other Substance Events did not reach the patient. It is likely that evidence-based technical and social interventions such as bar-coding and surgical time-outs help to preventing these events from reaching the patient. A summary of event types and contributing factors helps identify opportunities for improvement (Table 5).

Table 5. Summary of Event Types and Most Prevalent Contributing Factors	
Event Types	**Most Prevalent Contributing Factors**
Least Likely to Reach Patient	
Blood or Blood Product Events	Information Management, Human Factors
Device or Medical/Surgical Supply Events	Equipment/ Devices/ Supplies, Human Factors
Medication or Other Substance Events	Human Factors, HIT/EHR/CPOE/eMAR
Reach Patient and are Most Likely to Result in Harm	
Pressure Injuries	Patient Family Factors, Human Factors
Healthcare-Associated Infections	Policies/Procedures, Communication/Team Factors
Care Management-Failure/Delay Events	Communication/Team Factors, Policies/Procedures
Result in Permanent Harm or Death	
Diagnostic Error Events	Human Factors, Communication/Team Factors
Care Management Not Specified Events	Communication/Team Factors, Human Factors
Surgery Including Invasive Procedures	Human Factors, Communication/Team Factors
Care Coordination Event	Communication/Team Factors, Policies/Procedures
Perinatal Events	Human Factors, Communication/Team Factors
Fall Events	Patient/Family Factors

This analysis revealed that:

1. Many NCPS members do not regularly report events.
2. Information management and bar-coding systems likely prevent events involving blood or blood products, devices/equipment, supplies, and medications from reaching the patient. Thus, members should continue to improve the reliability of these systems and hold individuals accountable for using them to prevent errors.
3. Patient factors are associated with falls and pressure injuries. Consequently, it is important to consistently use evidence-based risk assessment tools to determine a patient's specific risk factors for falls and pressure injuries and then implement evidence-based interventions to address each risk factor followed by audit and feedback to ensure reliability.
4. Approximately 40% of the 122 events resulting in permanent harm or death are Diagnostic Errors. Seven event types account for nearly 90% of these events. Communication/Team Factors and Human Factors consistently contribute to these most harmful events. It is important to conduct credible, thorough, and acceptable root cause analyses of these events to determine all root causes and develop a comprehensive action plan for improvement. (Please see the root cause analysis section in this report and Root Cause Analysis Training Workshops available at: www.nepatientsafety.org/resources-tools/training/root-cause-analysis-training-workshops.html). Interventions that improve communication/teamwork and mitigate human factors that lead to these most harmful events include:
   - Using debriefs to learn from events in real time. (See Nebraska Debrief Implementation Toolkit available at: www.nepatientsafety.org/resources-tools/patient-safety-improvement-tools/debrief-toolkit.html)
   - Implementing the tools and principles of Just Culture to ensure that managers are held responsible for designing systems that account for human factors and individuals are held responsible for using those systems and team skills. See Just Culture Training Workshops available at: www.nepatientsafety.org/resources-tools/training/just-culture-training-workshops.html)
   - Training all providers and staff to use team skills as taught in the Team Strategies and Tools to Enhance Performance and Patient Safety curriculum. (See TeamSTEPPS Training Workshops available at: www.nepatientsafety.org/resources-tools/training/teamstepps-training-workshops.html and https://www.ahrq.gov/teamstepps-program/index.html

NEXT STEPS AND SUMMARY

In the next year we will:

1. Provide feedback to members using the PGPSO platform regarding strategies to improve the completeness and accuracy of their data.
2. Transition all members to electronic reporting by using the PGPSO platform for file transfer or the Research Electronic Data Capture (REDCap) application single events.
3. Conduct an in-depth qualitative analysis of those event types resulting in permanent harm or death to better understand contributing factors and make recommendations for mitigating action plans.

In summary, this analysis confirms that electronic reporting using the PGPSO platform increases the volume and types of reported events and that adverse events have multiple root causes. These root causes reflect the traditional categories considered in a credible, thorough, and acceptable root cause analysis: Communication/Team Factors, Culture/Organizational Factors, Environment/Equipment, Information Management, Rules/Policies/Procedures, Staffing Factors, and Task Factors/Training. This analysis also confirms that NCPS is on the right track by seeking to become the recognized expert in the state for training in Just Culture, Teamwork, and Root Cause Analysis to improve safety culture.
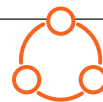
SHARE

Shared Learning Reports: Each month NCPS provides members with a patient safety resource whose purpose is to aid the member in mitigating the risk of patient harm events occurring in their practice setting. These reports are the result of the review and analysis of events reported to NCPS and include de-identified events, patient safety alerts, patient safety briefs, workforce safety alerts, and reporting committee summaries. Each shared learning report contains evidence-based best practice recommendations and an organizational self-assessment tool which asks, *"Could this happen in your organization?"*

Table 6. Shared Learning Reports, Job Aides and Best Practice Documents 2022

Month	Type of Resource	Topic
January	Reporting Committee Summary	Incorrect medications given to a patient at inpatient discharge
February	Patient Safety Alert	Failed/delayed response to a change in patient's condition
March	De-identified Event	Retain surgical items
April	Reporting Committee Summary	Pre-surgical patient with positive COVID lab test admitted without proper precautions
May	Job Aid	Cause Mapping
June	Patient Safety Alert	Preventing surgical fires
July	Reporting Committee Summary	Inpatient attempted suicide
August	Best Practices Document	National Transitions of Care's revised 7 Elements for a Safe Transition of Care
September	Workforce Safety Alert	Workplace violence prevention
October	Reporting Committee Summary	High alert medication infused at a rapid, incorrect rate
November	NCPS President's Message	Fatal medication error demonstrates the value of implementing a Just Culture
December	Webinar Recordings	Creating a Culture of Safety (six sessions)

Shared Learning Reports are a "members only" benefit and are part of the feedback loop of the provider-PSO patient safety evaluation and learning system. The Member Resources portal of the NCPS website contains a library of Shared Learning Reports covering a wide variety of patient safety topics.

LEARN

Virtual Education Offerings:

Medication Safety, Updates to the Clinical Management of Mild Chronic Hypertension in Pregnant Patients (Webinar)
Presenter: Dr. Sean Kenney, MD

Creating a Culture of Patient Safety, Six-session cohort with the Nebraska Hospital Association (Webinars)
Presenters: Emily Barr, OTD, MBA, OTR/L, BCG
Executive Director
Carla Snyder, MHA, MT(ASCP)SBB, CPHQ
Patient Safety Program Director

1. Importance of Total Systems Safety, Just Culture Basics, and Workforce Safety
2. Tools for Investigating Events of Harm
3. Patient Safety for Care Transitions and Integrating Patient and Family Engagement
4. TeamSTEPPS Basics and Integrating Surveys on Patient Safety Culture into the Work Setting
5. Quality Improvement Processes and Tools to Address Patient Safety
6. PSO Reporting Framework

NCPS offers its members virtual education offerings about topics related to patient safety trends and priority areas. In 2022, NCPS partnered with the Nebraska Hospital Association to conduct a 6-session education webinar series on Creating a Culture of Patient Safety. Attendees engaged in content topics of workforce safety, root cause analysis, care transitions, and strategies to adopt evidence-based practices into quality improvement and patient safety efforts.

NCPS is uniquely positioned to support proactive safety initiatives with our member organizations. We can assist in facilitating collaborative conversations, provide meaningful education, and analyze patient safety data to embed best-practices into members' organizational strategies. Members may contact the NCPS team to conduct patient safety activities and improvement projects.

Did you miss one or more of these live webinars? All webinars are recorded and available in the Members Resources portal of the NCPS website.

NCPS affiliate members and teams may view recordings of all webinar offerings in their Members Resource portal on the NCPS website.

ROOT CAUSE ANALYSIS SHOULD BE CREDIBLE, THOROUGH, AND ACCEPTABLE

Root cause analysis (RCA) is a structured process used to determine the underlying system failures that contributed to a near miss or an adverse event regardless of the presence/absence of harm.[1] Multiple similar events that result in minor or no harm can be bundled together in an aggregate RCA. High reliability learning organizations use the RCA process to make sense of their environment— to identify risks and hazards to patients within the structures and processes of care. The most fundamental information about these risks and hazards is the lived experience of fallible frontline staff as they provide care within imperfect systems. Fundamentally, sensemaking of risks and hazards using the structured RCA process is a conversation among those individuals involved in the event who each have unique knowledge about what happened. When guided by a skilled facilitator, they determine why the event happened and the changes needed to decrease the risk of recurrence across the system.[2]

An effective RCA is credible, thorough, and acceptable[3,4,5]

- To be credible, during the RCA, an interdisciplinary team lead by a skilled facilitator must question why about each fact within a detailed timeline leading up to the event.
- To be thorough, the interdisciplinary RCA team must construct a causal map and/or causal statements that clearly show the causes of the facts in the timeline and how these causes led to the outcome for the patient.
- To be acceptable, the action plan developed by the interdisciplinary RCA team must include:

  ✓ Actions that address the root causes of the event, which will vary in strength.
  - ¤ Weak actions include education/ training, policy/procedure change.
  - ¤ Intermediate actions include audit/ feedback, checklists, redundancy and standardization.
  - ¤ Stronger actions change the structure of care and include changes in the environment, equipment, and information technology.
  ✓ Process and outcome measures to assess the effectiveness of the actions.

RCAS SUBMITTED TO NCPS

For manually reported events, NCPS requests that members submit evidence of an RCA for events that resulted in harm to the patient (severity levels E – I). We encourage members to report events of any severity level (i.e., near misses and errors that do not result in harm) that may have educational value for other members. Of the 1,440 events manually submitted to NCPS from 2008-2022, 846 (58.7%) resulted in harm to the patient. Of these 846, NCPS received evidence that a root cause analysis was conducted for 746 (88.2%).

To assess the completeness of the RCA documentation we received, we purposively sampled RCAs conducted by 10 members since 2018. These 10 RCAs were representative of our membership: three were from large urban hospitals, two were from community hospitals, one was from a large Critical Access Hospital (CAH), two were from medium-sized CAHs, and one was from a small CAH.

Table 7 summarizes information about the events in the 10 sampled RCAs. All of the events except one occurred among older adults. The events included falls (4), surgical

events (3), medication errors (2), and a product/device (1). Seven of the 10 events resulted in harm.

There was room for improvement across all elements of documentation among the 10 RCAs (Table 8).

- 4 of 10 submitted considerable evidence that they had used a detailed timeline of the event, which is integral to conducting a credible RCA.
- 3 of 10 submitted considerable evidence that their RCA was thorough by providing a causal map or causal statements.
- Although 8/10 submitted considerable evidence that their proposed actions would reduce the risk of recurrence and 7/10 included intermediate and stronger actions, just 3 of 10 specified process and outcome measures for the proposed actions.

RECOMMENDATIONS TO IMPROVE THE CREDIBILITY, THOROUGHNESS, AND ACCEPTABILITY OF RCA

This limited review of the documentation we receive from members' RCAs likely does not reflect the quality of the RCA process. However, this review may help members decide how to improve the credibility, thoroughness, and acceptability of the RCAs that they conduct.

1. Begin with a detailed timeline of the facts leading up to the event. Often hospitals will submit a detailed timeline of the care provided post-event rather than the facts leading up to the event.

2. If possible, include the perspective of the patient and family; begin by asking, "What happened?" Only 2 of 10 RCAs included considerable documentation that had included the perspective of the patient and family. The patient's perspective is particularly relevant when a fall occurs.
3. Integrate the perspectives of all front-line staff involved in the patients care.
4. Go to the scene of the event and reconstruct it; take pictures.
5. Include a causal map or causal statements; a thorough RCA must include at least one of these tools to ensure that it is acceptable—that the identified causal factors actually increased the likelihood of the outcome to the patient.
6. If your proposed actions include training, be sure to include measures of knowledge and skill assessment annually and for new hires.
7. Always consider how to reengineer the environment to make it easier to do the right thing.

NCPS will conduct a series of on-line workshops this winter to assist members to learn the skills needed to conduct RCAs that are credible, thorough, and acceptable.

A Root Cause Analysis Audit Tool to help you judge the credibility, thoroughness, and acceptability of the RCAs conducted in your organization is available on the NCPS website: www.nepatientsafety.org/resources-tools/patient-safety-improvement-tools/rca-audit-tool/

Table 7. Information about the Events in the 10 Sampled RCAs

Patient Age	9/10 patients were older adults aged > 65 years
Event Type	• 1 Product/Device Event • 2 Medication Errors (1 wrong time, 1 wrong dose) • 3 Surgical Events (2 wrong site, 1 wrong procedure) • 4 Falls
Event Severity	• 1 Category B – Error did not reach the patient (near miss) • 3 Category D – No Harm, required monitoring • 3 Category E – Temporary harm • 1 Category F –Temporary harm and required initial or prolonged hospitalization • 1 Category H – Required intervention necessary to sustain life • 1 Category I – Contributed to patient's Death

Table 8. Level of Evidence within the 10 Sampled RCAs

	Number of RCAS Documenting Considerable Evidence
Credible RCA	
Constructed a detailed timeline	4/10
Investigated key events in the timeline by asking why multiple times	6/10
Understood/viewed the environment in which the event occurred	5/10
Integrated perspectives of front-line staff involved in event	4/10
Integrated perspectives of clinical experts	4/10
Integrated perspectives of managers	6/10
Integrated information from all relevant disciplines	7/10
Integrated perspectives of patient/family	2/10
Thorough RCA	
Constructed causal map or causal statements to determine root causes	3/10
Identified all relevant root causes	5/10
Acceptable RCA	
Specifies actions that will reduce the risk of recurrence	8/10
Incudes stronger or intermediate actions	7/10
Specifies process and outcome measures for improvement (VHA)	3/10

[1] VHA National Center for Patient Safety. Guide to Performing a Root Cause Analysis. Available at: https://patientsafety.va.gov/PATIENTSAFETY/docs/RCA-Guidebook_02052021.pdf Accessed April 27, 2023.

[2] Battles JB, Dixon NM, Borotkanics RJ, et al. Sensemaking of Patient Safety Risks and Hazards. HSR: Health Services Research. 2006; 41(Part II):1555-1575.

[3] Bagian JP, King BJ, Mills PD, McKnight SD. Improving RCA performance: the Cornerstone Award and the power of positive reinforcement. BMJ Qual Saf 2011;20:974e982. doi:10.1136/bmjqs.2010.049585.

[4] Hettinger AZ, Fairbanks RJ, Hegde S, et al. An Evidenced-Based Toolkit for the Development of Effective and Sustainable Root Cause Analysis System Safety Solutions. J Healthc Risk Manag. 2013; 33:11–20. doi:10.1002/jhrm.21122.

[5] National Patient Safety Foundation. RCA2 Improving Root Cause Analyses and Actions to Prevent Harm. Boston, MA: National Patient Safety Foundation; 2016. Available at: www.ihi.org/resources/Pages/Tools/RCA2-Improving-Root-Cause-Analyses-and-Actions-to-Prevent-Harm.aspx

NCPS BOARD OF DIRECTORS

The Nebraska Coalition for Patient Safety is governed by a 12–15-member Board of Directors that includes representation from each of the founding organizations and at least on consumer member. Current board directors include:

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Adjunct Associate Professor
College of Public Health
University of Nebraska Medical Center

Jason Kruger, MD, Vice-President (NMA)
CHI Health St. Elizabeth
Lincoln, NE

Douglas V. Elting, Treasurer (Consumer)
TRANSCEND Health Consultants
Lincoln, NE

Nicole Blaser, MSN, RN, Secretary (NHA)
Director of Quality and Compliance
Columbus Community Hospital
Columbus, NE

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Physician Assistant Education
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University of Nebraska Medical Center
Omaha, NE

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Assistant Professor, Emeritus
University of Nebraska Medical Center
Kearney, NE

NAPA: Nebraska Academy of Physician Assistants
NHA: Nebraska Hospital Association
NMA: Nebraska Medical Association

NNA: Nebraska Nurses Association
NONL: Nebraska Organization of Nurse Leaders
NPA: Nebraska Pharmacists Association

BOARD PRESIDENT MESSAGE

Dear Patient Safety Advocates:

It has been a profound honor to participate in the evolution of patient safety in Nebraska as a member of the NCPS Board of Directors (BOD) since 2006. I want to thank members of the NCPS BOD, committees, and workforce who helped NCPS to evolve into an organization that now serves 66 members and has a database containing over 116,000 patient safety events. Stephen Smith, MD, first BOD President, set the vision to use an electronic platform to expand reporting. Britt Thedinger, MD, BOD member, led the Nebraska Medical Association's efforts to pass LB25, which created the Patient Safety Cash Fund that funds our subscription to the Press Ganey PSO electronic reporting platform. Key contributors from NCPS's former workforce include:

- Monica Seeland, previous Vice-President Quality Initiatives at NHA, ensured NCPS met the criteria to become a 501c3 non-profit organization.
- Amy Thimm, RN, BSN, MSHSM, our first field coordinator (2009-2010), initiated our reporting and RCA assistance programs.
- Ann McGowan, RN, MSN, our first executive director (2011-2017), grew membership by nearly one-third and expanded RCA and Just Culture education.
- Kayleigh Samson, MS, our first data analyst (2014-2016), improved the structure of our reporting and analytic processes.
- Ashley Dawson, MS, began as a data analyst in 2017 and is now a Patient Safety Statistician leading the administration of Surveys on Patient Safety Culture.
- Regina Nailon, RN, PhD, our first Patient Safety Program Director (2019-2021), improved our web site and strengthened our education programs and Reporting Committee.
- Gail Brondum, LPN, BS, our second executive director (2017- 2022), brought us into the era of electronic reporting and strengthened our policies and procedures.

Throughout my tenure at NCPS, I have sought to ensure that our efforts to improve the safety and quality of healthcare reflect current evidence in the medical, safety, and social sciences. The findings in this report reinforce my call for NCPS to support healthcare organizations that seek to improve patient safety and quality of care by evaluating their culture of safety and reliably reporting and learning from near misses and adverse events. Learning requires the use of Just Culture principles and tools to guide our reaction to adverse events; team strategies and tools to coordinate and communicate; and thorough, credible, and acceptable root cause analyses.

Katherine J. Jones, PT, PhD
President, Board of Directors (July 2017 – June 2023)

NCPS PARTNERSHIPS

NCPS is appreciative for the continued collaboration with regional and national organizations that support our mission of improving the quality and safety of healthcare delivery:

✓ Agency for Healthcare Research and Quality (AHRQ)
www.ahrq.gov

✓ Alliance for Quality Improvement and Patient Safety (AQIPS)
www.aqips.org

✓ Nebraska Association for Healthcare Quality, Risk, and Safety (NAHQRS)
www.nahqrs.org

✓ Nebraska Perinatal Quality Improvement Collaborative (NPQIC)
www.npqic.org

✓ University of Nebraska Medical Center, College of Allied Health Professions, CAPTUREFalls (UNMC-CAHP)
www.unmc.edu/patient-safety/capturefalls/index.html

✓ University of Nebraska Medical Center, College of Public Health (UNMC-COPH)
www.unmc.edu/publichealth

NCPS STAFF

Emily Barr, OTD, MBA, OTR/L, BCG
Executive Director
embarr@unmc.edu
(402) 559-8421

Carla Snyder, MHA, MT(ASCP)SBB, CPHQ
Patient Safety Program Director
carlasnyder@unmc.edu
402-559-8946

Patrick Maloney, PhD, MPH
Assistant Professor, Epidemiologist
UNMC College of Public Health
pamaloney@unmc.edu
402-552-7261

Ashley Dawson, MS
Patient Safety Statistician I
Ashley.dawson@unmc.edu

Snehal Jadhav
Research Assistant, 2022-2023
UNMC College of Public Health

Please contact Emily Barr, Executive Director, for questions or further information about NCPS and this report.

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