Adverse Health Events in Minnesota

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Adverse Health Events in Minnesota
Annual Report | September 2023

Minnesota Department of Health
Division of Health Policy
P.O. Box 64882
Saint Paul, MN 55101
651-201-5807

https://www.health.state.mn.us/facilities/patientsafety

As requested by Minnesota Statute 3.197: This report cost approximately $8,000 to prepare, including staff time, printing and mailing expenses.

Upon request, this material will be made available in an alternative format such as large print, Braille or audio recording. Printed on recycled paper.

In Minnesota, all hospitals and ambulatory surgical centers are required to report whenever an adverse health event (AHE) occurs and to conduct a root cause analysis to identify the factors that led to the event. In the 20 years of public reporting of adverse health events, the Minnesota Department of Health has collected detailed information on more than 5,000 events. MDH and its partners have used the findings from those events to identify strategies for improving processes of care and preventing adverse health events. This annual report provides an overview of what the most recent year of data can teach us about the risk points for adverse health events and the best approaches for preventing them, with a focus on the most commonly reported events. It is important to keep in mind that these events represent only a subset of the patient safety risks that exist across the health care system.

Facility-level data from 2022 is available here: Adverse Health Events Reporting website: (https://www.health.state.mn.us/facilities/patientsafety/adverseevents/adverseselect.html)

Overview of findings

In 2022, the total number of reported events increased to 572 (up from 508 in 2021). As in years past, pressure ulcers and falls were the most reported events, accounting for 64 percent of the reportable events (Figure 1).

Figure 1: **Events by category 2022**

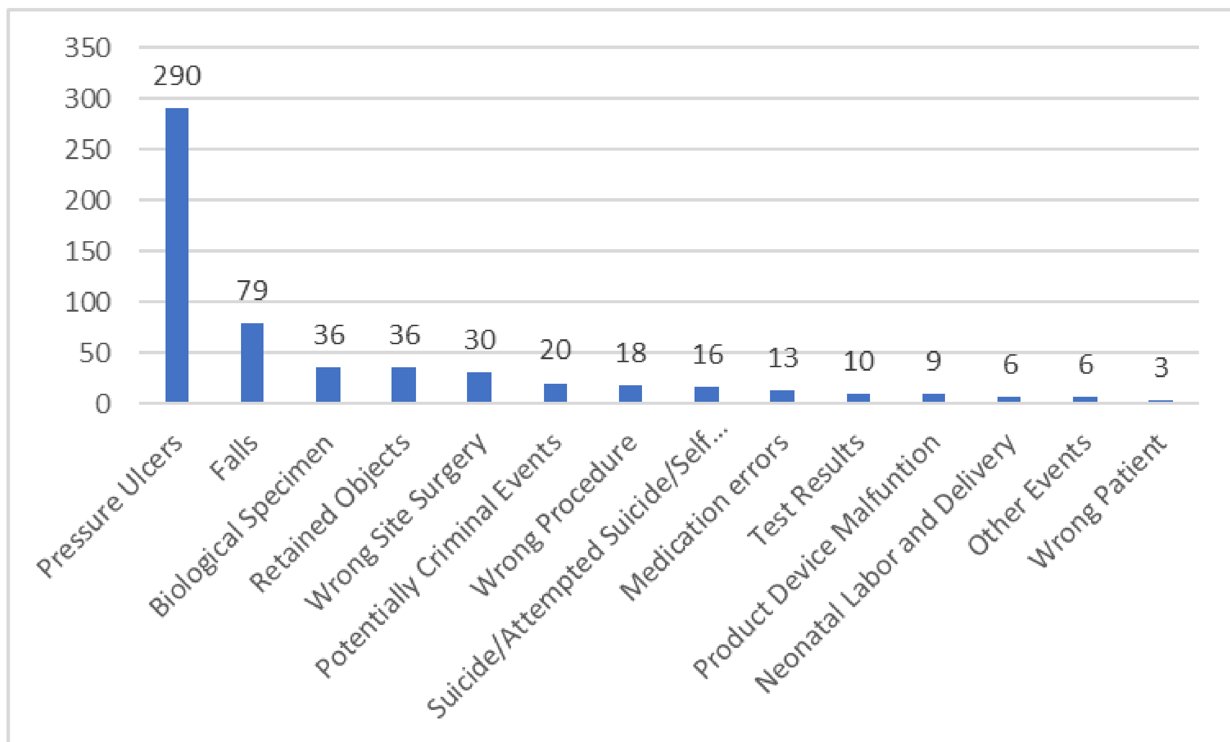

Figure 1: Pressure Ulcers: 290; Falls: 79; Biological Specimen: 36; Retained Objects: 36; Wrong site surgery: 30; Potentially Criminal events: 20; Wrong Procedure: 18, Suicide/attempted suicide/self-harm: 16, Medication errors: 13; Test results: 10 Product device malfunction: 9;; Neonatal Labor and delivery: 6, Other events: 6, Wrong patient: 3..

Of the reports submitted during this reporting period, 31 percent (decrease from 40 percent the prior year) resulted in serious injury (178 events), while approximately three percent (21 events) led to the death of the patient (Figure 2 & 3). Over the life of the reporting system, falls, medication errors and product/device malfunction have been the most common causes of serious patient injury. The pattern with events resulting in patient death was similar to years past as well; six of the 21 deaths were associated with falls, four were associated with a lack of follow up on test results, four with the death of a neonate, three with a product or device malfunction, two with a medication error, one with a patient suicide or self-harm event and one after an elopement.

It is important to note that not all the events under Minnesota's adverse health events reporting law have a threshold for the level of harm required to be reportable. Some events, such as retained foreign objects or the loss or damage of a biological specimen, are required to be reported regardless of the level of patient harm. Other events, like falls and medication errors, are only required to be reported when the level of harm to the patient reaches the definition of serious injury in law.

Figure 2: **Events with harm**

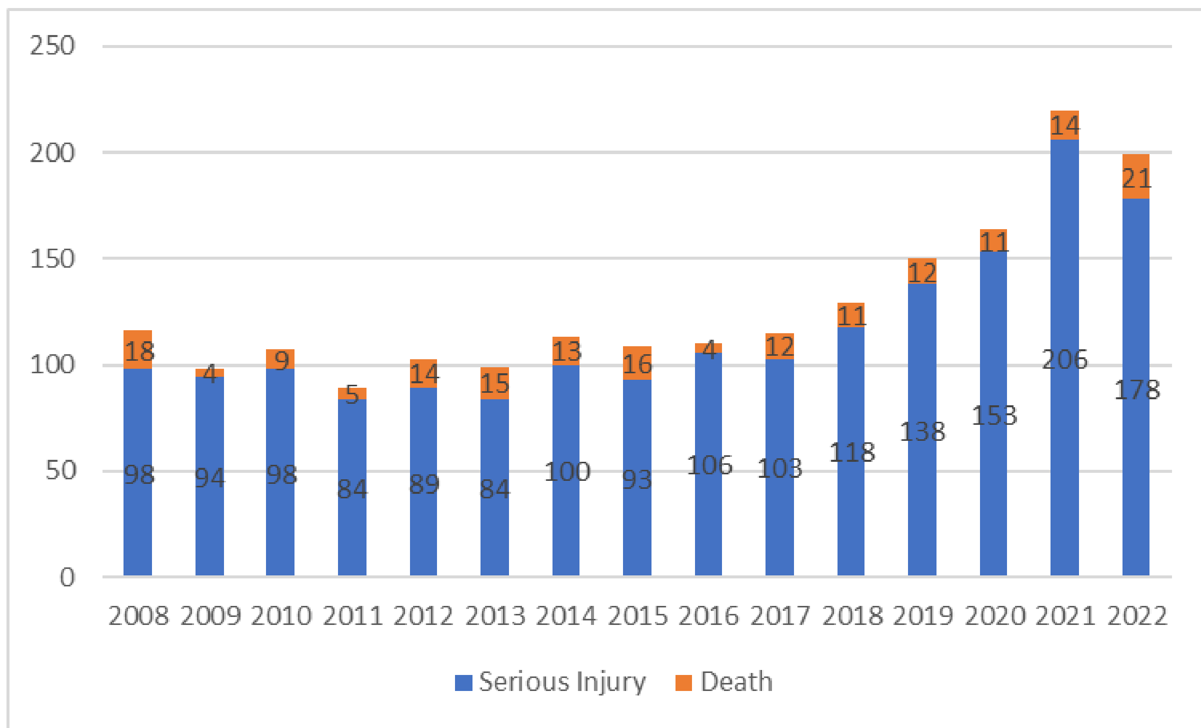

Figure 2: 2008: 98 serious injuries and 8 deaths. 2009: 94 serious injuries and 4 deaths. 2010: 98 serious injuries and 9 deaths. 2011: 84 serious injuries and 5 deaths. 2012: 89 serious injuries and 14 deaths. 2013: 84 serious injuries and 15 deaths. 2014: 100 serious injuries and 13 deaths. 2015: 93 serious injuries and 16 deaths. 2016: 106 serious injuries and 4 deaths. 2017: 103 serious injuries and 12 deaths. 2018: 118 serious injuries and 11 deaths. 2019: 138 serious injuries and 12 deaths. 2020: 153 serious injuries and 11 deaths. 2021: 206 serious injuries and 14 deaths. 2022: 178 serious injuries and 21 deaths.

Factors contributing to adverse events

Prior to 2021, the overall number of events had been stable, and the increase in events during 2021 was attributed primarily to new challenges and increased care associated with the COVID-19 pandemic. Many of those same challenges continued in health care in 2022.

The following issues as themes in 2022:

- Length of stay in Intensive Care Units/Critical Care Units continued to increase from previous years . Increased patient complexity due to COVID-19 and other complications arising from delays in seeking care contributed to longer lengths of stay.
- Ongoing shifts continue to occur year to year in patient complexity, partly due to the increasing age of the population. These patients have longer lengths of stay and increased risk for falls and pressure ulcers;
- Hospital patient volumes exceeded the number of inpatient beds. As a result, patients were being boarded in the emergency department and other locations within the hospital that are not otherwise used for inpatient stays. Workforce issues and shortages across the healthcare continuum are creating backups in transfers of care across facilities.
- Workforce challenges in post-acute care settings resulted in the inability to discharge hospital patients to the next setting of care, increasing the length of stay and risks associated with prolonged stays in the hospital.
- Workforce shortages in hospitals resulted in need to prioritize the most critical care requirements and fewer hands to assist with patient care needs such as repositioning and mobility. For more information on workforce shortages, see 2022 MHA Workforce Report (https://public.tableau.com/app/profile/mnhospitals/viz/Workforce2022/Report);
- Increased volume due to delays in care during the pandemic are driving productivity pressures, creating conditions in which steps within the surgical brief, time out and debrief are hurried and errors can occur.

The Minnesota Adverse Health Events Law directs the Commissioner of Health to review all reported events, root cause analyses, and corrective action plans, and provide direction to reporting facilities on how they can improve patient safety. In this work, MDH works closely with a variety of stakeholders including the Minnesota Hospital Association (MHA), and Stratis Health.
Highlights of the 2022 activities include:

- In person MHA Perinatal Safety Summit
- Webinar trainings to organizations on:
    - Pressure injury prevention;
    - Reducing falls with severe injuries;

- Best practices in biological specimen handling;
- Medication Safety; and,
- High Reliability Organizations.

Many of the issues impacting adverse health events in 2022 are related both to broad, systemic tensions in the health care delivery system and resources and systems within individual hospitals. It is important to continue to work to address both hospital-specific and systemic issues that impact safety. In 2023, MDH and its partners will continue their work to improve patient safety in the following ways:

- Exploring methods to collect and analyze data on how many events are occurring when a patient is being boarded on a different unit (e.g. emergency department), and on the length of stay for patients have experienced an adverse health event;
- Exploring ways to collect data around equity issues that may lead to an increased risk of adverse health events or additional demographic information for patients experiencing adverse health events;
- MHA will host a "Connecting for Quality" conference with learning sessions around pressure ulcer prevention, falls prevention and Just Culture/High Reliability;
- Acknowledging that staffing constraints can play a role in adverse events, MDH and its partners are focusing on workforce issues in the following ways:
    - MDH will continue to address hospital workforce shortages by administering a large portfolio of federal and state grant programs for hospitals, health professional training programs, and health care workers across Minnesota. These programs promote employee recruitment and retention by:
        - Expanding training opportunities (for primary care, immigrant medical graduates, and other health professions)
        - Offering loan forgiveness and scholarships
        - Addressing hospitals' infrastructure needs, such as capital improvement projects and new technology
        - Supporting mental health and seeking to prevent burnout among health care workers
    - MHA has been and will continue to focus on workforce solutions through several workforce initiatives such as hosting the 2nd annual workforce conference, implementing the new MHA workforce road map and supporting the healthcare pipeline through internship programs
- Working with experts in the field of biological specimen handling on a new roadmap of best practices in this area;
- Continuing to meet with expert committees to share best practices, successes, and challenges;

- Providing 1:1 consultation to hospitals and surgery centers regarding safety practices, root cause analysis, recognition of common causes and new risk factors, developing stronger action plans and monitoring for impact of changes put into place; and,
- Embarking on Phase II of the AHE System Evolution project, which aims to evolve and update the AHE system to better suit the needs of the changing health care environment in Minnesota. This project had been put on hold in 2020 due to COVID-19 constraints and will resume in the summer of 2023. The recommendations that came out of the first phase of the project included exploring a transition to a risk-based system or reporting rather than one focused on reporting of specific adverse health events, as well as expanding AHE concepts to long-term care and outpatient settings to promote greater learning and information sharing about risks to patient safety in those settings. Through this process, MDH is committed to making meaningful change to the reporting system to increase safety for patients statewide.

**Note*-Pursuant to Minnesota Statutes 2020, section 144.05, MDH will no longer publish a public annual report after 2023. The data will still be released publicly on the MDH website at least annually.*

Adverse events data 2004-2022

Hospitals began reporting adverse health events data to the Minnesota Department of Health in 2003, with ambulatory surgical centers joining the list of required reporting facilities in December 2004.

Figure 3: **AHE Deaths per year 2004-2022**

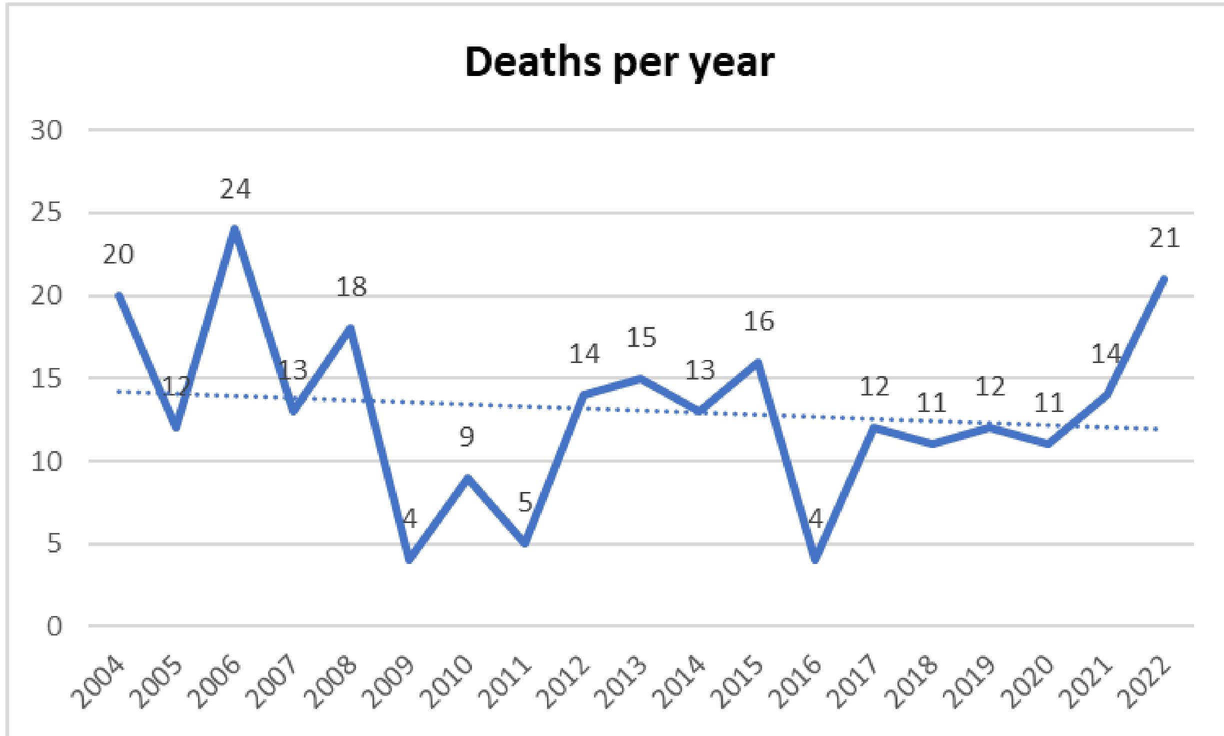

Figure 3: 2004: 20 deaths. 2005: 12 deaths. 2006: 24 deaths. 2007: 13 deaths. 2008: 18 deaths. 2009: 4 deaths. 2010 : 9 deaths. 2011: 5 deaths. 2012: 14 deaths. 2013: 15 deaths. 2014: 13 deaths. 2015: 16 deaths. 2016: 4 deaths. 2017 : 12 deaths. 2018: 11 deaths. 2019: 12 deaths. 2020: 11 deaths. 2021: 14 deaths.2022: 21 Deaths.

Figure 4: **Falls per year 2004-2022**

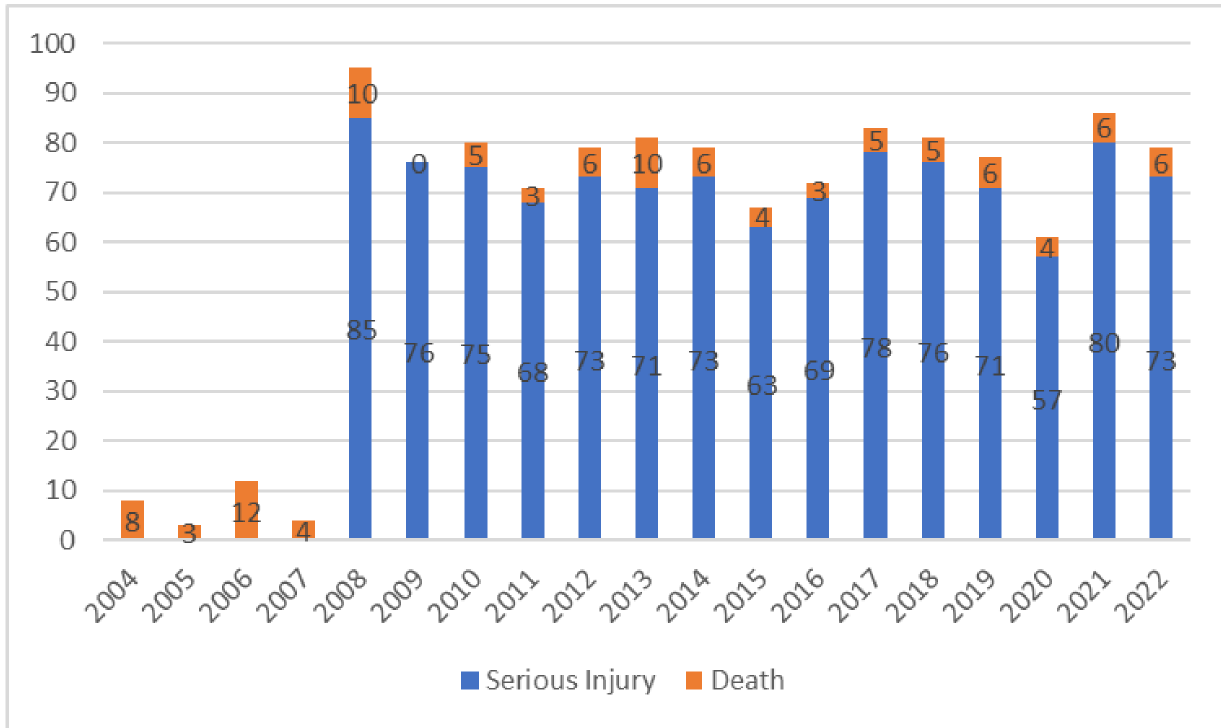

Figure 4: 2004: 8 deaths. 2005: 3 deaths. 2006: 12 deaths. 2007: 4 deaths. 2008: 85 serious injuries and 10 deaths. 2009: 76 serious injuries and 0 deaths. 2010: 75 serious injuries and 5 deaths. 2011: 68 serious injuries and 3 deaths. 2012: 73 serio us injuries and 6 deaths. 2013: 71 serious injuries and 10 deaths. 2014: 73 serious injuries and 6 deaths. 2015: 63 serious in juries and 4 deaths. 2016: 69 serious injuries and 3 deaths. 2017: 78 serious injuries and 5 deaths. 2018: 76 serious injuries and 5 deaths. 2019: 71 serious injuries and 6 deaths. 2020: 57 serious injuries and 4 deaths. 2021: 80 serious injuries and 6 death s.2022: 73 serious injuries and 6 deaths.

*Note, prior to 2008, facilities were only reporting falls that resulted in patient death. In 2008, the law was expanded to include falls resulting in serious injury as well.

Figure 5: **Surgical events 2004-2022**

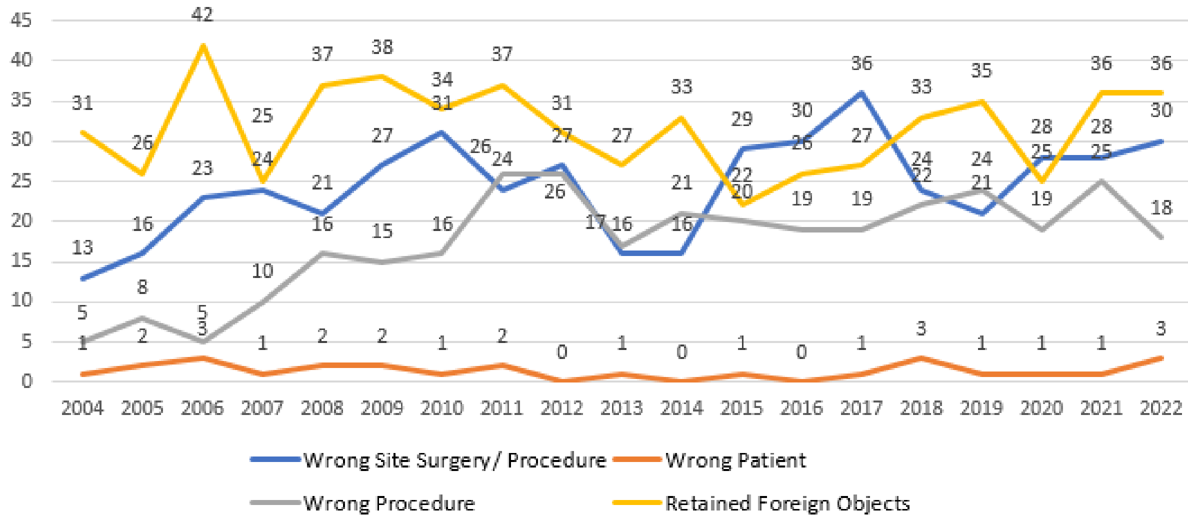

Figure 5 Graph results:

2004: Retained foreign objects (31), wrong procedure (5), wrong patient (1), wrong site surgery/procedure (13).
2005: Retained foreign objects (26), wrong procedure (8), wrong patient (2), wrong site surgery/procedure (16).
2006: Retained foreign objects (42), wrong procedure (5), wrong patient (3), wrong site surgery/procedure (23).
2007: Retained foreign objects (25), wrong procedure (10), wrong patient (1), wrong site surgery/procedure (24).
2008: Retained foreign objects (37), wrong procedure (16), wrong patient (2), wrong site surgery/procedure (21).
2009: Retained foreign objects (38), wrong procedure (15), wrong patient (2), wrong site surgery/procedure (27).
2010: Retained foreign objects (34), wrong procedure (16), wrong patient (1), wrong site surgery/procedure (31).
2011: Retained foreign objects (37), wrong procedure (26), wrong patient (2), wrong site surgery/procedure (24).
2012: Retained foreign objects (31), wrong procedure (26), wrong patient (0), wrong site surgery/procedure (27).
2013: Retained foreign objects (27), wrong procedure (17), wrong patient (1), wrong site surgery/procedure (16).
2014: Retained foreign objects (33), wrong procedure (21), wrong patient (0), wrong site surgery/procedure (16).
2015: Retained foreign objects (22), wrong procedure (20), wrong patient (1), wrong site surgery/procedure (29).
2016: Retained foreign objects (26), wrong procedure (19), wrong patient (0), wrong site surgery/procedure (30).
2017: Retained foreign objects (27), wrong procedure (19), wrong patient (1), wrong site surgery/procedure (36).
2018: Retained foreign objects (33), wrong procedure (22), wrong patient (3), wrong site surgery/procedure (24).
2019: Retained foreign objects (35), wrong procedure (24), wrong patient (1), wrong site surgery/procedure (21).
2020: Retained foreign objects (25), wrong procedure (19), wrong patient (1), wrong site surgery/procedure (28).
2021: Retained foreign objects (36), wrong procedure (25), wrong patient (1), wrong site surgery/procedure (28).
2022: Retained foreign objects (36), wrong procedure (18), wrong patient (3), wrong site surgery/procedure (30)

Figure 6: **Retained Foreign Objects 2004-2021**

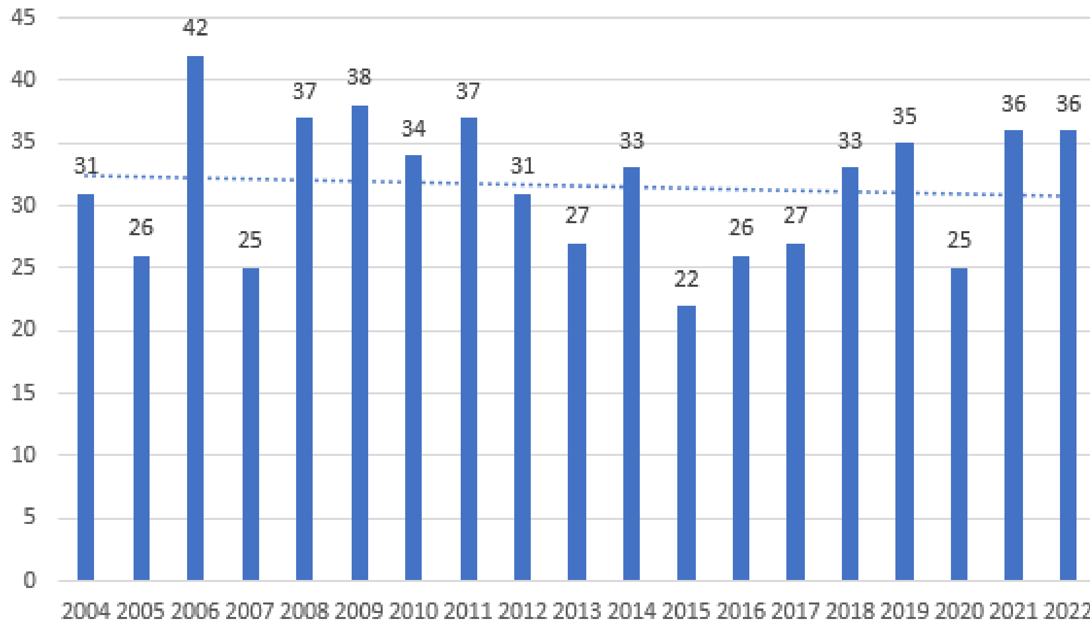

Figure 6 Graph Results: 2004: 31. 2005: 26. 2006: 42. 2007: 25. 2008: 37. 2009: 38. 2010: 34. 2011: 37. 2012: 31. 2013: 27. 2014: 33. 2015: 22. 2016: 26. 2017: 27. 2018: 33. 2019: 35. 2020: 25. 2021: 36. 2022: 36.

Figure 7: **Reported pressure ulcers 2004-2021**

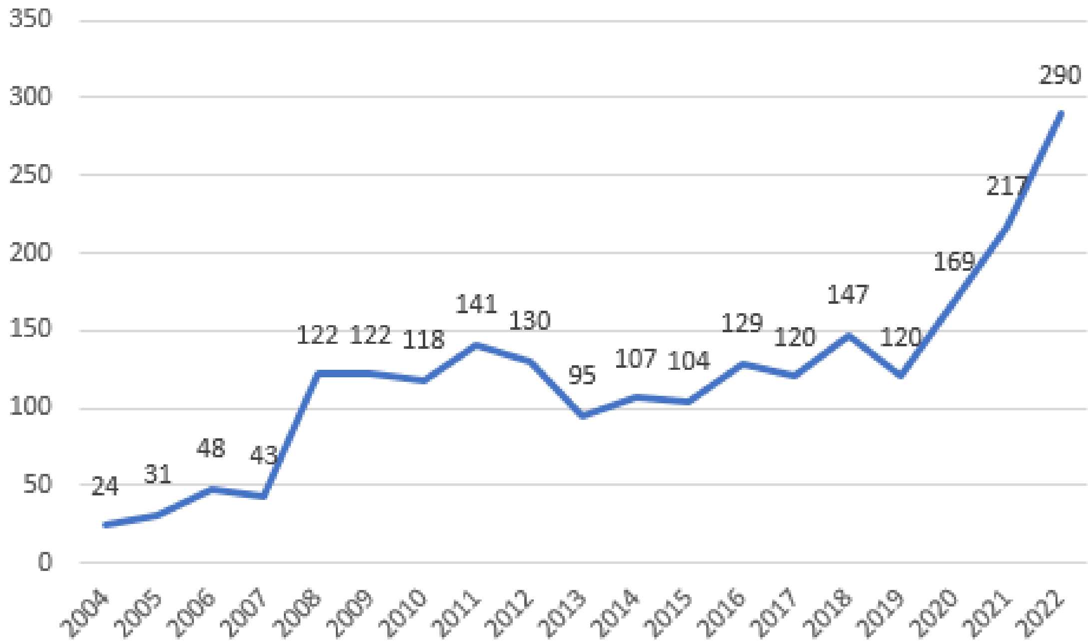

Figure 7 Graph results: 2004: 24. 2005: 31. 2006: 48. 2007: 43. 2008: 122. 2009: 122. 2010: 118. 2011: 141. 2012: 130. 2013: 95. 2014: 107. 2015: 104. 2016: 129. 2017: 120. 2018: 147. 2019: 120. 2020: 169. 2021: 217. 2022:290.

*Note, prior to 2008, facilities were only reporting "stage III and IV" pressure ulcers. In 2008, the law was expanded to include "unstageable" pressure ulcers.