Igiene e Sanità Pubblica 2026; 99 (4)

Is incident reporting still an effective tool for improving the quality and safety of care? The experience of an Italian local health authority.

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Abstract

Incident Reporting Systems are in use worldwide.

They are designed to improve patient care by detecting and analyzing critical and adverse patient events and by taking corrective actions to prevent reoccurrence.

Patient safety, seen as the degree to which the risk of an intervention and risk in the care environment are reduced, is becoming a crucial health care issue in Italy. However, no overview yet exists of the reported incidents characteristics, their communication within institutions, or actions taken either to correct them or to prevent their recurrence.

Therefore, the objectives of this study are the following: to describe the five-year number of reports received of the ASL Roma 2; type of event reported; event classification; discipline/area of assistance involved; location where the event occurred; outcome of the event as well as the categories of contributing factors detected and the frequency of action plans.

Introduction

"Errare humanum est." – a well-known statement by Cicero in his 12th "Philippica" addressing the Roman Senate. As it seems, errors accompany us throughout our lives (1).

All human work involves a margin of error, and health care is no exception.

Despite years of advancements since the seminal report "To Err Is Human", patient safety continues to be a leading public health problem across countries. Each year, 5.7 to 8.4 million deaths are attributed to poor-quality health services in low- and middle-income countries.

Errors in hospitals contribute to at least 15% of hospital costs in the countries of the Organization for Economic Cooperation and Development (OECD), which represents the most economically developed and socially advanced countries in the world (2).

According to the Institute of Medicine (IOM), medical errors cause between 44,000 to 98,000 deaths annually in the United States alone (3). According to Flott, Fontana, in 2013, over 420 million hospitalizations around the world resulted in nearly 43 million Patient safety incidents (PSIs). Moreover, 134 million Patient safety incidents (PSIs) occur

in hospitals due to unsafe care, resulting in 2.6 million deaths, each year (National Academies of Sciences and Medicine, 2018) (4).

In high-income countries (HICs), one in ten patients experience harm during hospitalization.

In low-and middle-income countries (LMICs), the figure increases to four in ten, contributing to an estimated 2.6 million deaths annually.

Globally, unsafe care results in the loss of 64 million disability-adjusted life years and a monetary cost of 1 to 2 trillion US dollars each year. These substantial losses in life and financial burdens are attributed to a variety of patient safety incidents (5).

According to the World Health Organization, patient safety (PS) is about preventing medical errors and their adverse effects on patients during healthcare delivery. Unsafe medical practices can lead to patient injury, death, or disability. The proliferation of such incidents has led to the recognition of the need to improve patient safety culture (PSC) in the healthcare industry worldwide. Furthermore, patient safety has been considered as one of the strategic components of healthcare management (6).

In patient care, critical incidents (CIs) are unexpected events that may reach patients and thus threaten patient safety. By allowing reporting and analysis of such events, Critical Incident Reporting Systems (CIRS) are expected to induce organizational learning from these events and near misses to improve the safety of healthcare organizations before a sentinel event happens. Thus, they play a role of leading indicators to highlight the importance of CIRS and near misses for organizational learning. Critical incident reporting systems offer potential value as risk management instruments. Therefore, most health care institutions in industrialized countries are legally obliged to have them in place and to maintain strategies to optimize patient safety. Nonetheless, CIRS are increasingly falling into disrepute for not being effective in sustainable improving patient safety (7).

Voluntary reporting of adverse events to external agencies was initiated in the industrial and transport sectors. In these sectors, good levels of operational safety are achieved within high-risk environments.

A database of patient safety incident reports (the National Reporting and Learning System; NRLS) was created within the National Health Service (NHS) in England in 2003. It is now the largest repository of such incidents in the world. Similar systems to capture adverse events have now been established in many other countries. The NRLS was originally designed to enable analysis of frequently occurring and serious events. From these reports, the NRLS developed and issued national patient safety warnings and disseminated safety solutions to prevent such events recurring. Regulators currently scrutinize the rates of reported safety incidents to assess the relative safety of hospitals (8).

In 2005, the WHO released the first guidelines for patient safety incident reporting and learning systems, defining their essential components and standardizing their implementation. In 2016, it introduced a minimal information model for patient safety, specifying the core data to be included in incident reports. Consequently, patient safety incident reporting and learning systems should be adopted and implemented in accordance with WHO criteria to ensure their effective and efficient use. These systems are widely used across several high-income countries (HICs) (9).

In this context, the WHO Global Patient Safety Action Plan 2021–2030 promotes the

engagement and empowerment of patients and caregivers as key contributors to safer healthcare.

The plan recommends that healthcare organizations enable patients and caregivers to escalate safety concerns and actively submit reports to patient safety reporting systems. Patient-Reported Incident Measures (PRIMs) support this process by allowing patients and caregivers to report safety concerns related to their care directly to healthcare providers (10).

The Austrian social insurance system is based on compulsory insurance, solidarity and selfgovernance. According to the "Nationwide Patient Safety Strategy for Austria" patient safety has been established in all structures and processes of healthcare systems and based on defined intervention fields the introduction and extension of a system of reporting (error reporting and learning systems) without penalties was foreseen. Healthcare systems should provide the best possible diagnosis and treatment. In order to increase patient safety, a so-called Critical Incident Reporting System (CIRS) was introduced in healthcare systems several years ago aiming to support the identification of potential hazards (11).

While studies in Germany emphasise incident reporting systems as a key strategy for patient safety, other efforts in the Gulf Cooperation Council Countries focus on patient-centred care and addressing disparities in healthcare access.

Globally, incident reporting systems have been implemented in various healthcare systems with differing levels of success.

For example, countries such as the United Kingdom and the United States have long-established national reporting systems, like the National Reporting and Learning System (NRLS) and the Patient Safety Reporting System (PSRS), respectively (12).

After Denmark in 2004, Italy is the second European country to have a comprehensive law on patient safety, correlating patients rights to safe care, protection of health professionals, transparency of processes and outcomes, and fair compensation in the event of harm.

In this framework, on 8 March 2017, Italy enacted a law on patient safety and medical liability, marking a key step in formally recognizing safety of care as an integral component of the right to health. The first article states: "La sicurezza delle cure è parte costitutiva del diritto alla salute ed è perseguita nell'interesse dell'individuo e della collettività", meaning that patient safety is part of the right to health of the person and is promoted in the public interest through the provision of any healthcare service. This legislative framework also provides the basis for subsequent guidance aimed at improving the management and reporting of adverse events in healthcare (13).

The objective of the "Guidelines for Managing and Reporting Adverse Events in Healthcare" is to provide support for improving clinical risk management programs and strengthening the ability to analyze and respond to adverse events. The first phase describes and provides a logical process for managing adverse events and near misses, with the specific objective of identifying appropriate actions to protect patient safety in the healthcare system.

This document refers primarily to the system established within the National Observatory of Sentinel Events, operating within the Ministry of Health, on the basis of the State-Regions agreement on clinical risk of 20 March 2008 and the decree establishing the information system for monitoring errors in healthcare of 11 December 2009, published on 12 January 2010 (14).

Therefore, patient safety improvement became an increasingly important goal in most healthcare systems. Within this context, Risk management (RM) is a methodological framework to systematically identify and assess potential risks and threats to prevent and minimize potential hazards.

Quality management (QM) is a complementary bundle of methodologies to increase the quality of structures, processes, and assorted outcomes. QM and RM have substantial overlaps within the organizational setting and are often combined in an integrated management system (quality- and risk management—QRM).

One of the commonly used methods to deal with risks in the context of healthcare-related RM and QM is the Critical Incident Reporting System (CIRS): CIRS is a reporting system for critical clinical incidents and near misses and is set either for internal organizational use (e.g., hospitals) or as a public platform (15).

Incident reporting systems in healthcare are systematically filled with information on adverse events and near misses, with the aim of identifying basic risk factors and thus enabling healthcare providers to improve their quality of care. For this purpose, reporting should be non-punitive, confidential or anonymous, independent, timely, systems oriented and responsive, and it should enable a systematic root cause analysis (16).

The Local Health Authority Roma 2 extends in the south-east area of the City of Rome.

The Company has a surface area of almost 470 km² and a population density of 2,730 inhabitants per km². The resident population as of December 31, 2024, was 1,272,057.

The Authority also operates three directly managed hospital facilities: the Sandro Pertini Hospital (hereinafter referred to as OP or Pertini), which houses a Level I Emergency Department (DEA), the S. Eugenio Hospital, which houses a Level I Emergency Department (OSE), and the Andrea Alesini Hospital, which houses a specialized orthopedic emergency department and a hospital specializing in orthopedic, trauma, and rehabilitation services.

Accredited public and private facilities are also located within the Authority, which contributes to the hospitalization of residents with health problems and requiring acute, long-term, and rehabilitation care within the National Health Service (NHS).

Within the ASL Roma 2 area of the IV Municipio, the ASL Roma 2 manages, with its own staff, care for inmates at the Rebibbia Penitentiary Complex. As required by National Recovery and Resilience Plan (NRRP), the following lists the Community Homes, Community Hospitals, and Local Operations Centers of the ASL Roma 2 (17).

The objectives of this study are the following: to describe the five-year number of reports received of the ASL Roma 2; type of event reported; event classification; discipline/area of assistance involved; location where the event occurred; outcome of the event as well as the categories of contributing factors detected and the frequency of action plans.

MATERIALS AND METHODS

The ASL Roma 2 uses specific forms for reporting incidents and/or near misses. These forms are available on the Company intranet in the Risk Management section, under Forms, and are listed below:

1. FALL: FALL REPORTING FORM
2. ACT OF VIOLENCE AGAINST AN OPERATOR: ASSAULT REPORTING FORM

Igiene e Sanità Pubblica 2026; 99 (4)

3.ANY OTHER EVENT: ADVERSE EVENT/SENTINEL EVENT/NEAR MISS REPORTING FORM

These elements are part of the corporate Incident Reporting system, which allows us to understand what is happening within our company. The reporting forms are also used to support the ministerial and regional reporting requirements regarding sentinel events, which represent a portion of adverse events, particularly those that, due to their severity or the way they occurred, can undermine citizens trust in the National Health Service.

The reports received by the Accreditation, Quality, and Risk Management Unit are also assessed for completeness, comprehensibility, and readability of the transmitted data, to ensure their correct coding (Regional portal and Internal database, specifically set up to systematically collect all data collected from the reports). Event classification is carried out in accordance with the relevant regional guidance document ("Guideline for the Classification of Adverse Events and Sentinel Events" adopted with Lazio Region Resolution No. G09850 of July 20, 2021).

The feedback provided to Strategic Management, the Medical Directorates of the Hospitals, and the affected Areas regarding the number and type of events/near misses is essential for raising awareness among operators and establishing a synergistic collaboration aimed at greater safety of care, promoting a "no blame" culture, and preventing and containing incidents.

In the five-year period 2021–2025, a total of 2,329 reports were received through the Company Reporting System, relating to events that occurred according to the Ministry of Health classification, distributed as follows: 416 in 2021; 410 in 2022; 485 in 2023; 524 in 2024; and 494 in 2025.

The data reported is raw data, not related to hospital activity volumes or community services (residential/outpatient).

This information has no epidemiological significance and does not represent incidence data; however, it is a fundamental element for strengthening a safety culture, promoting learning from mistakes and the implementation of interventions and corrective actions aimed at reducing the probability of Adverse Events occurring.

The data allow for a comprehensive understanding of the frequency of reports in relation to:

Type of event reported;

- Event classification;
- Discipline/area of care involved;
- Location of event occurrence;
- Outcome of the event, categories of contributing factors identified, and frequency of action plans activated.

The overall trend shows an increase in reports over the period considered, from 416 in 2021 to 524 in 2024, with a slight decrease in 2025 (494). As observed in previous years, most reports relate to patient falls.

There has also been a significant increase in reports of acts of violence against operators, rising from 12% (50/416) in 2021 to 22% (111/494) in 2025.

An analysis of the classification of events over the five-year period shows that NEAR MISSES are increasing, rising from 38% (159/416) in 2021 to 43% (211/485) in 2023, stabilizing at around 37% in subsequent years.

Igiene e Sanità Pubblica 2026; 99 (4)

SENTINEL EVENTS show a slight decrease, from 4% (15/410) in 2022 to 2% (9/494) in 2025.

ADVERSE EVENTS show a reduction from 60% (247/416) in 2021 to 56% (270/485) in 2023, followed by a further increase in the following two years, reaching 61% in 2024 and 61% in 2025.

The total number of events reported during the period (2,329) is distributed by category as follows: Patient falls: 1,744 (75%); Acts of violence against staff: 455 (20%); Other: 130 (5%), attributable to ordinary clinical and care activities (Table 1 and Figures 1 and 2).

The trend analysis shows that reports of patient falls, while remaining prevalent, are decreasing in percentage, from 80% (332/416) in 2021 to 74% (363/494) in 2025.

Reports of acts of violence against workers, however, have progressively increased, from 12% in 2021 to 22% in 2025.

Reports classified as "Other" have decreased, from 8% (34/416) in 2021 to 4% (20/494) in 2025.

TABLE 1: TOTAL REPORTS STRATIFIED BY YEAR AND CATEGORY					
YEAR	REPORTS	FALLS	AGGRESSION		OTHER
2021	416 18%	332 80%	50 12%		34 8%
2022	410 18%	316 77%	55 13%		39 10%
2023	485 21%	358 74%	111 23%		16 3%
2024	524 22%	375 72%	128 24%		21 4%
2025	494 21%	363 74%	111 22%		20 4%
Total	2329 100%	1744 75%	455 20%		130 5%

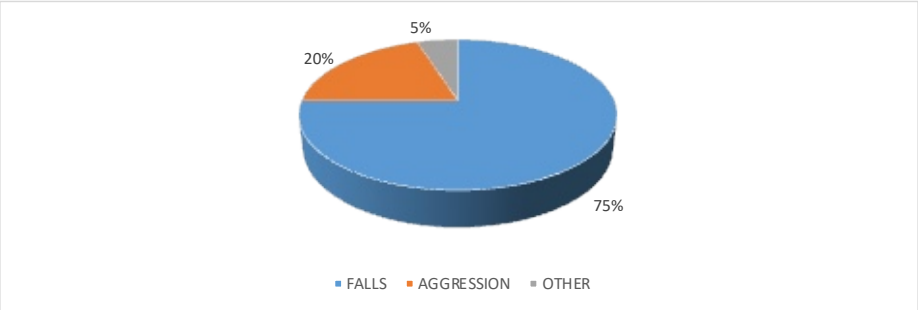

Fig. 1: Total reports stratified by category in the period 2021-2025

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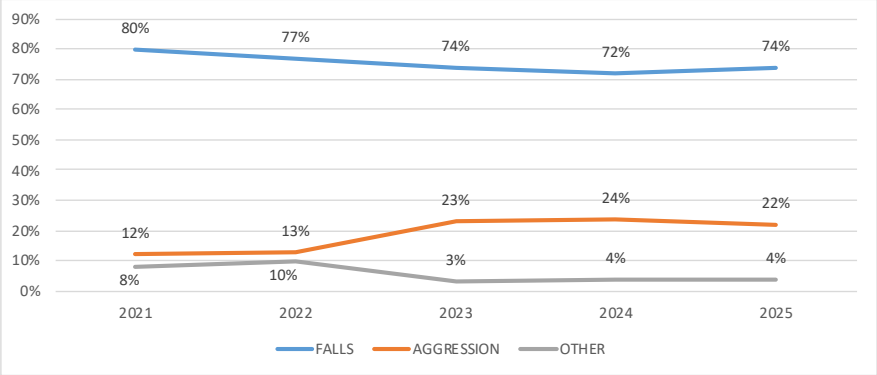

Fig.2: Total reports stratified by year and category

Regarding the classification of events, the following were recorded: Near Miss (NM) n. 939, 40%; Adverse Event (AE) n. 1,346, 58%; Sentinel Event (SE) n. 44, 2% (Table 2 and Figures 3 and 4).

TABLE 2: TOTAL REPORTS STRATIFIED BY YEAR AND CLASSIFICATION				
YEAR	REPORTS	SENTINEL EVENT	ADVERSE EVENT	NEAR MISS
2021	416	10 2 %	247 60%	159 38%
2022	410	15 4 %	208 51%	187 45%
2023	485	4 1%	270 56%	211 43%
2024	524	6 1%	319 61%	199 38%
2025	494	9 2%	302 61%	183 37%
Total	2329	44 2%	1346 58%	939 40%

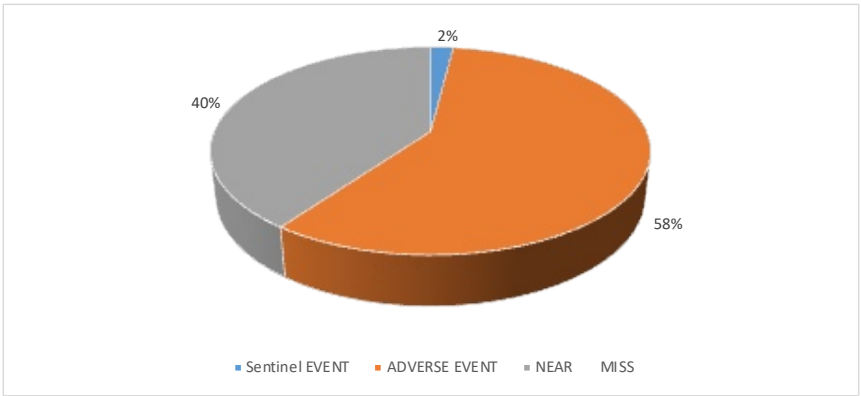

Fig. 3: Total reports stratified by classification in the period 2021-2025

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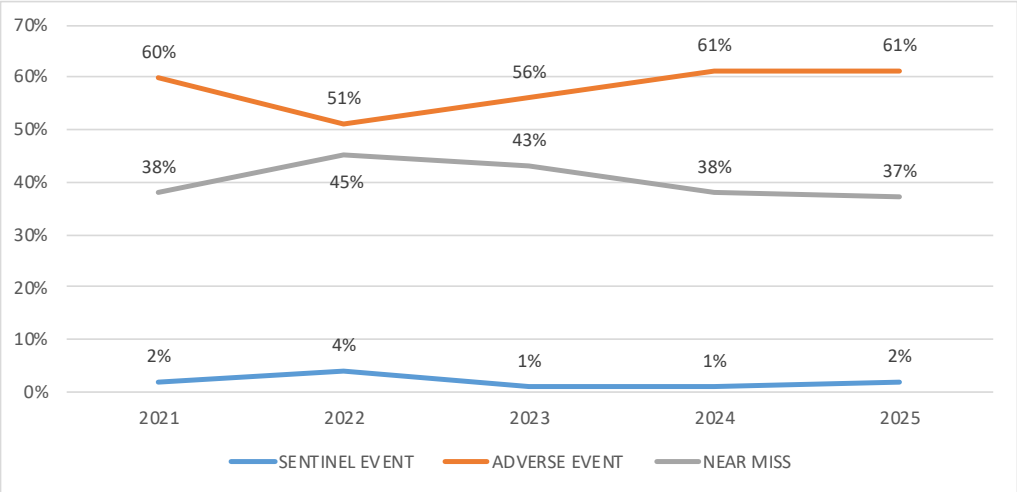

Fig.4: Total reports stratified by year and classification

STRATIFIED ANALYSIS BY EVENT CATEGORY
PATIENT FALL

Patient falls are one of the most frequent types of events, with 1,744 reports (75%) out of a total of 2,329 events.

It should be noted that, although the National Sentinel Event Monitoring Protocol refers to "death or serious injury due to patient falls," company reports also include incidents without serious outcomes and/or without injury.

From the analysis of the aggregate data, the outcome of falls is distributed as follows (Table 3 and Figures 5 and 6):

- no injury: 585/1,744 (34%);
- mild injury: 931/1,744 (53%);
- moderate injury: 203/1,744 (12%);
- severe injury or sentinel event (SE): 25/1,744 (1%).

TABLE 3: TOTAL FALL REPORTS STRATIFIED BY YEAR AND OUTCOME

YEAR	TOTAL	NEAR MISS	LIGHT	MODERATE	SEVERO/DEATH
2021	332	120 36%	169 51%	42 13%	1 0%
2022	316	125 40%	158 50%	24 8%	9 2%
2023	358	142 40%	175 49%	34 9%	7 2%
2024	375	103 28%	218 58%	52 14%	2 0%
2025	363	95 26%	211 58%	51 14%	6 2%
2021-2025	1744	585 34%	931 53%	203 12%	25 1%

Igiene e Sanità Pubblica 2026; 99 (4)

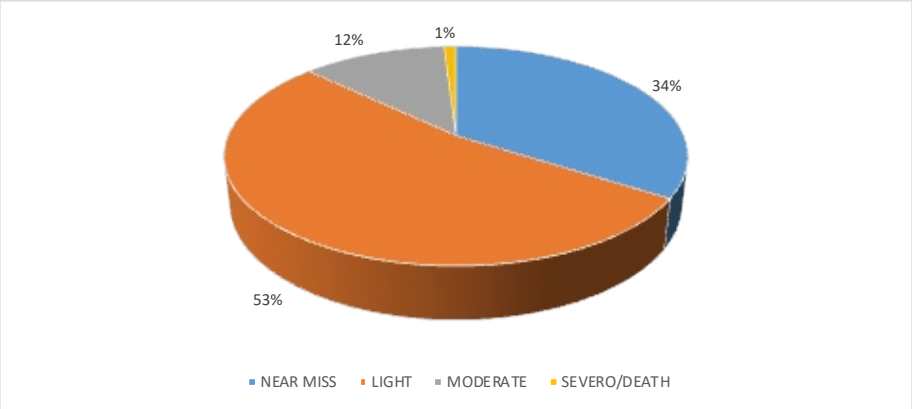

Fig. 5: Total fall reports stratified by outcome in the period 2021-2025

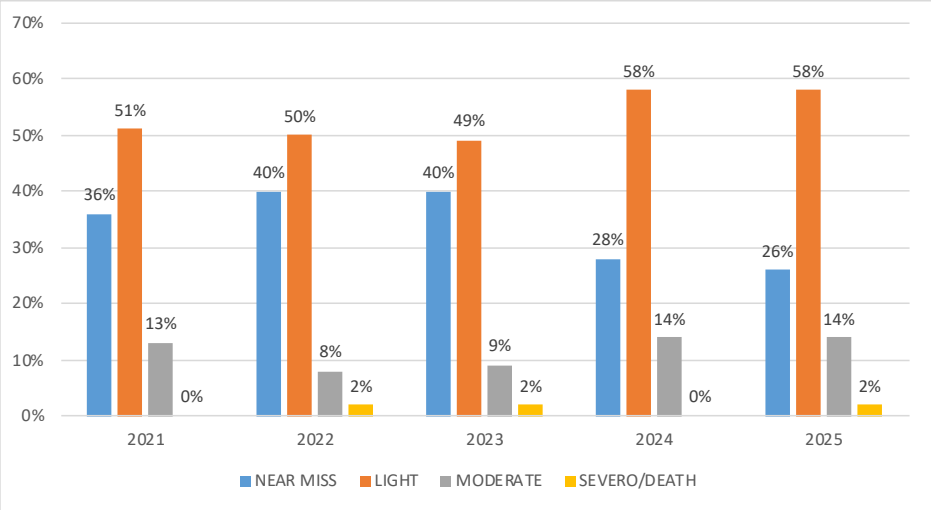

Fig.6: Total Fall Reports stratified by year and outcome

Hospital facilities represent the context in which the highest frequency of patient falls is recorded, equal to 92% (n. 1,612/1,744), as reported in Table 4 and Figures 7 and 8.

TABLE 4: TOTAL FALLS STRATIFIED BY YEAR AND SETTING			
YEAR	HOSPITAL	TERRITORY	COVID VACCINATION CENTER
2021	273 82%	10 3%	49 15%
2022	300 95%	16 5%	~
2023	345 96%	13 4%	~
2024	354 94%	21 6%	
2025	340 94%	23 6%	
2021-2025	1612 92%	83 5%	49 3%

Igiene e Sanità Pubblica 2026; 99 (4)

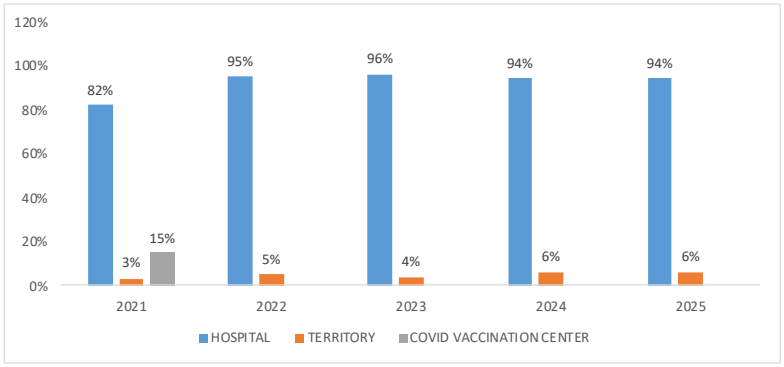

Fig.7: Total falls stratified by year and setting

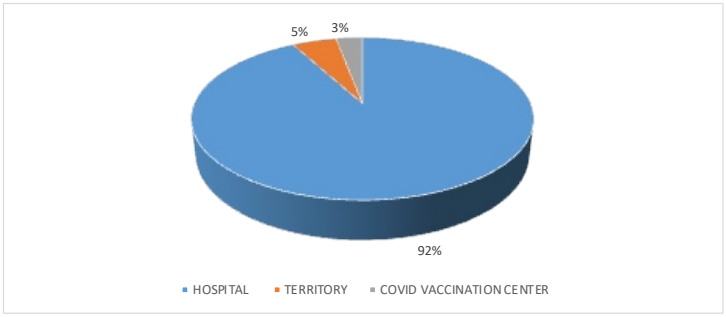

Fig. 8: Total falls stratified by setting in the period 2021-2025

The gender distribution shows that males are more involved in the event, with 60% (n. 1,052), compared to females who represent 40% (n. 689) (Table 5 and Figures 9 and 10).

TABLE 5: TOTAL NUMBER OF FALL REPORTS STRATIFIED BY YEAR AND GENDER

GENDER	2021	2022	2023	2024	2025	2021-2025
FEMALE	136 41%	129 41%	144 40%	140 37%	140 39%	689 40%
MALE	196 59%	187 59%	214 60%	234 63%	221 61%	1052 60%
UNDECLARED				1 0%	2 0%	3 0%
TOTAL	332	316	358	375	363	1744

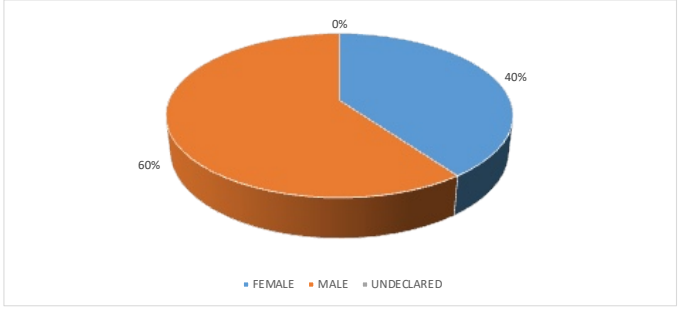

Fig. 9: Total number of falls reported stratified by gender in the period 2021-2025

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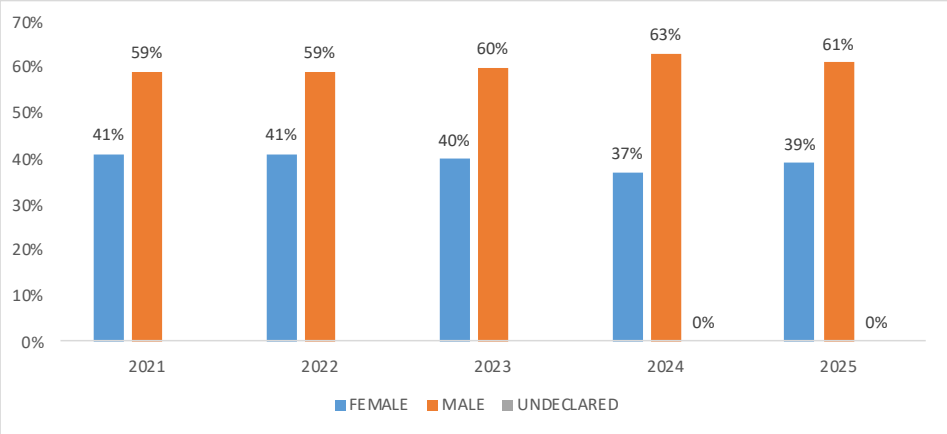


Fig.10: Total number of fall reports stratified by year and gender

The average age of patients is 69 years in 2021, 74 years in 2022, 73 years in 2023, 73 years in 2024, and 74 years in 2025, reflecting a slightly increasing trend.

The detailed distribution of the average age of patients in the period 2021–2025 is shown in Table 6 and Figure 11.

TABLE 6: TOTAL REPORTS STRATIFIED BY YEAR AND AVERAGE AGE

YEAR	AVERAGE AGE
2021	69
2022	74
2023	73
2024	73
2025	74

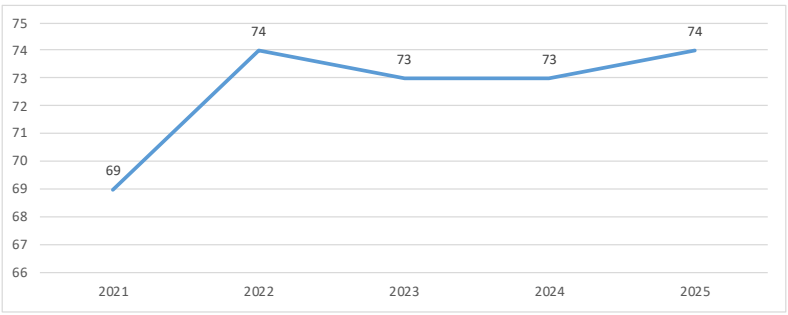


Fig.11: Total reports stratified by year and average age

ACTS OF VIOLENCE AGAINST THE OPERATOR

In the five-year period 2021–2025, the total number of reports relating to acts of violence against operators was 455, corresponding to 20% of the total reported events (2,329).

Igiene e Sanità Pubblica 2026; 99 (4)

The annual distribution is shown in Table 7 and Figure 12, which shows a significant increase in reports in 2024.

TABLE 7: TOTAL REPORTS OF ACTS OF VIOLENCE STRATIFIED BY YEAR						
YEAR	2021	2022	2023	2024	2025	TOTAL
	50(11%)	55(12%)	111(24%)	128 (28%)	11 (24%)	455

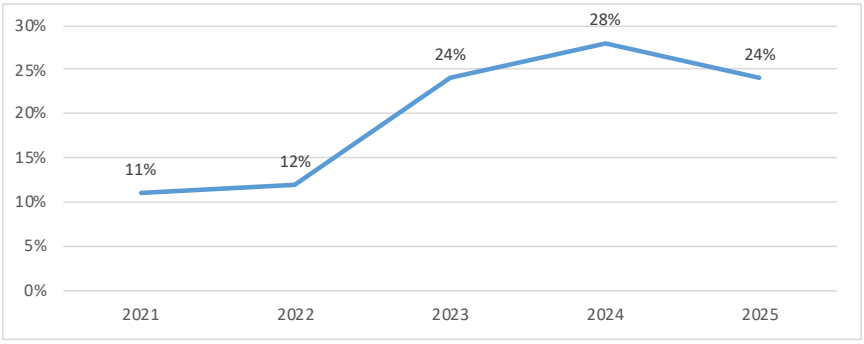


Fig.12: Total reports of acts of violence stratified by year

The distribution of aggressive acts, by type of care, shows a higher frequency in the hospital setting, with 284/455 (62%) of cases (Table 8 and Figures 13 and 14).

TABLE 8: TOTAL REPORTS OF ACTS OF VIOLENCE STRATIFIED BY TYPE OF CARE		
YEAR	HOSPITAL	TERRITORY
2021	35 70%	15 30%
2022	33 60%	22 40%
2023	78 70%	33 30%
2024	79 62%	49 38%
2025	59 53%	52 47%
TOTAL	284 62%	171 38%

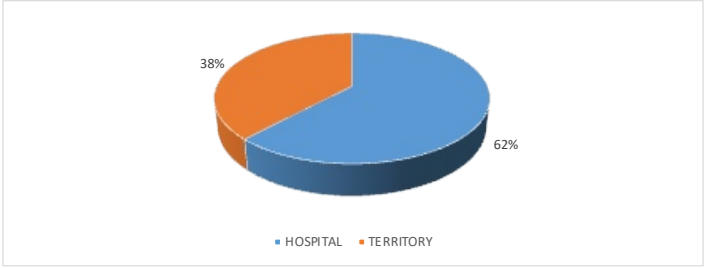


Fig. 13 Total reports of acts of violence stratified by type of care in the period 2021-2025

Igiene e Sanità Pubblica 2026; 99 (4)

Fig.14: Total Reports of Acts of Violence stratified by type of care per year

Regarding the typology of aggressive events reported, verbal aggression predominates with 315/455 (70%); physical and mixed aggression (verbal and physical) both amount to 70/455 (15%), as reported in Table 9 and Figures 15 and 16.

TABLE 9: TOTAL REPORTS OF ACTS OF VIOLENCE STRATIFIED BY TYPE

TYPOLOGY	2021 No. %	2022 No. %	2023 No. %	2024 No. %	2025 No. %	2021-2025
VERBAL	28 56%	36 65%	76 69%	94 74%	81 73%	315 70%
PHYSICAL	15 30%	13 24%	19 17%	17 13%	6 5%	70 15%
VERBAL AND PHYSICAL	7 14%	6 11%	16 14%	17 13%	24 22%	70 15%
TOTALE	50	55	111	128	111	455

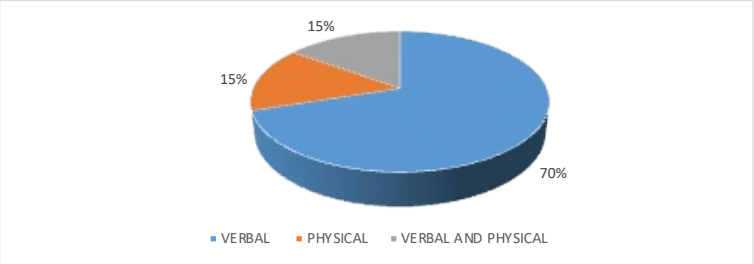


Fig. 15: Total reports of acts of violence stratified by type in the period 2021-2025

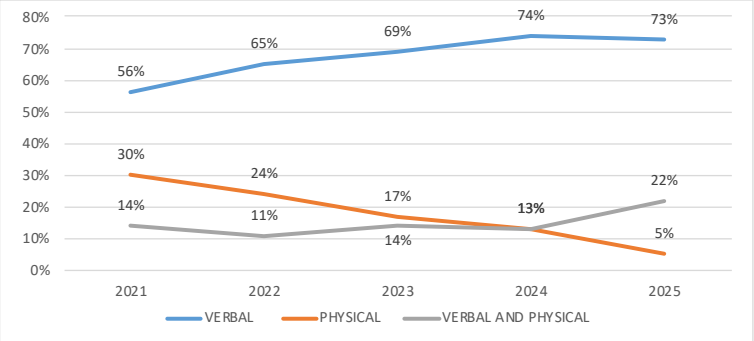


Fig.16: Total reports of acts of violence stratified by type per year

Igiene e Sanità Pubblica 2026; 99 (4)

From the analysis of the aggregate data, it emerges that the outcome of the acts of violence against the operator is distributed as follows: no harm in 285/455 cases (63%), Adverse Event (AE) in 169/455 cases (37%), and Sentinel Event (SE) or severe outcome in 1/455 cases (0%) (Tables 10 and 11, Figures 17 and 18).

TABLE 10: TOTAL REPORTS OF ACTS OF VIOLENCE STRATIFIED BY YEAR AND CLASSIFICATION

CLASSIFICATION	2021 No. %	2022 No.%	2023 No. %	2024 No. %	2025 No. %
NEAR MISS	24 48%	34 62%	60 54%	88 69%	79 71%
ADVERSE EVENT	26 52%	21 38%	51 46%	39 30%	32 29%
SENTINEL EVENT				1 1%	
TOTAL	50	55	111	128	111

TABLE 11: TOTAL REPORTS OF ACTS OF VIOLENCE STRATIFIED BY CLASSIFICATION IN THE PERIOD 2021-2025

2021-2025	NEAR MISS	ADVERSE EVENT	SENTINEL EVENT
	285 63 %	169 37%	1 0 %

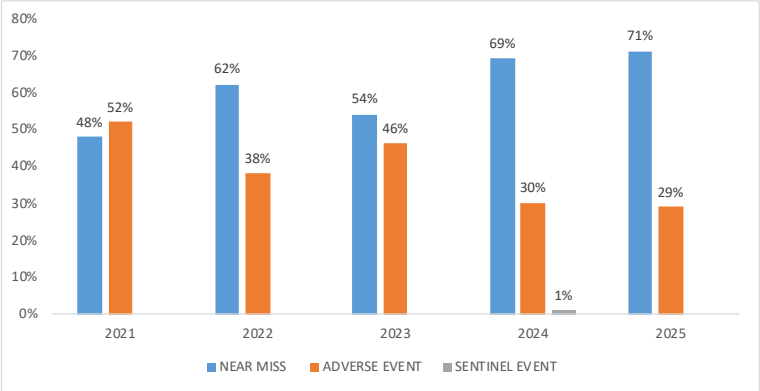


Fig.17: Total reports of acts of violence stratified by year and classification

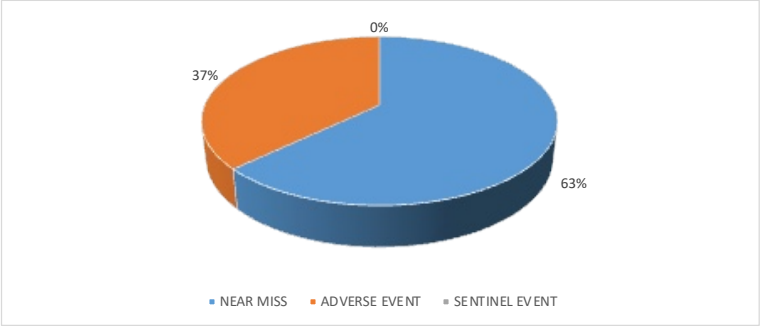


Fig. 18: Total reports of acts of violence stratified by classification in the period 2021-2025

Igiene e Sanità Pubblica 2026; 99 (4)

The total number of multi-operator assaults stratified by year is shown in Table 12.

TABLE 12: SAMPLE STRATIFIED BY YEAR AND MULTI-OPERATOR TYPE

MULTIOPERATOR	
YEAR	No. %
2021	9/50 18%
2022	9/55 16%
2023	28/111 25%
2024	41/128 32%
2025	36/111 32%
TOTAL	123/455 27%

The trend in multi-operator assaults shows an increase in the five-year period, going from 9/50 (18%) in 2021 to 36/111 (32%) in 2025 (Figure 19).

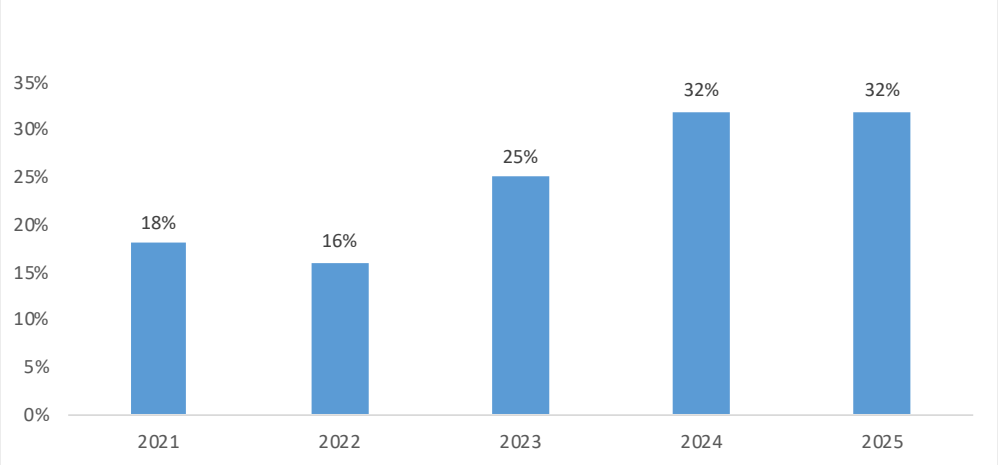


Fig.19: Sample stratified by year and multi-operator type

The person most involved in acts of violence against healthcare workers is the nurse, accounting for 259/455 (57%) of cases. This role involves managing patients/users in conditions of high emotionality, vulnerability, and frustration.

The stratified distribution by year is shown in Table 13 and Figure 20.

Females are more likely to be involved in aggressive acts.

Igiene e Sanità Pubblica 2026; 99 (4)

TABLE 13: SAMPLE STRATIFIED BY YEAR AND TYPE OF ASSAULT NURSE	
NURSE	
YEAR	
2021	23/50 44%
2022	25/55 45 %
2023	73/111 66%
2024	76/128 59%
2025	62/111 59%
TOTAL	259/455 57%

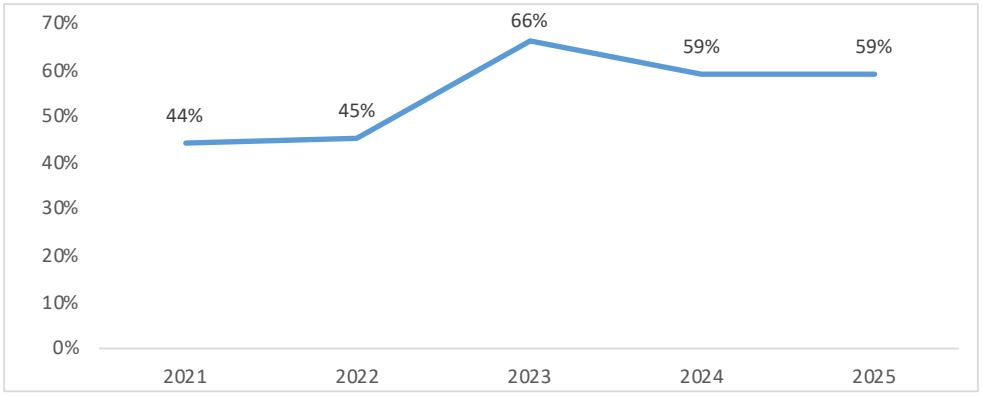


Fig.20: Sample stratified by year and type of assault Nurse

The perpetrator often involved in acts of violence against the worker is the patient, accounting for 298/455 (65%) of cases.

The stratified distribution by year is shown in Table 14 and Figure 21.

TABLE 14: SAMPLE STRATIFIED BY YEAR AND TYPE OF ATTACKER PATIENT	
PATIENT	
YEAR	
2021	31/50 62%
2022	38/55 69%
2023	61/111 55%
2024	87/128 68%
2025	81/111 73%
TOTAL	298/455 65%

Igiene e Sanità Pubblica 2026; 99 (4)

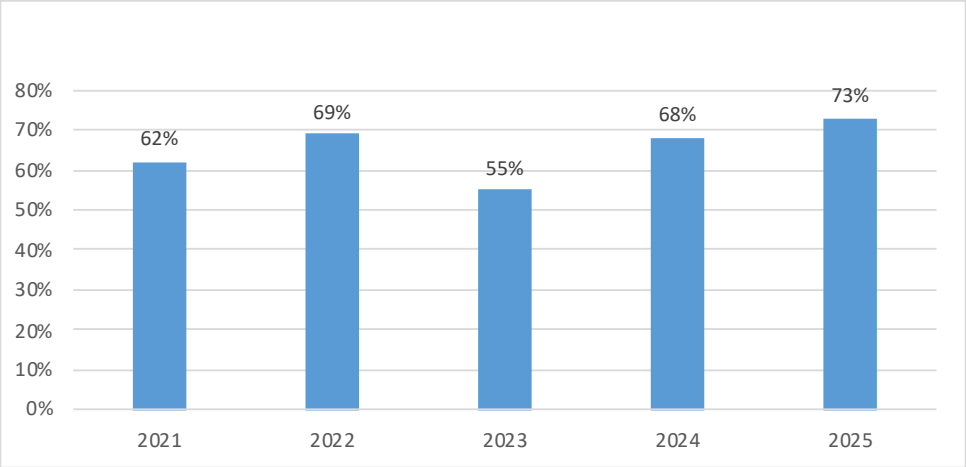


Fig.21: Sample stratified by year and type of attacker Patient

"OTHER" EVENT STRATIFICATION

Reports classified as "Other event" accounted for 130 of 2,329 cases (6%); these were incidents related to normal clinical care.

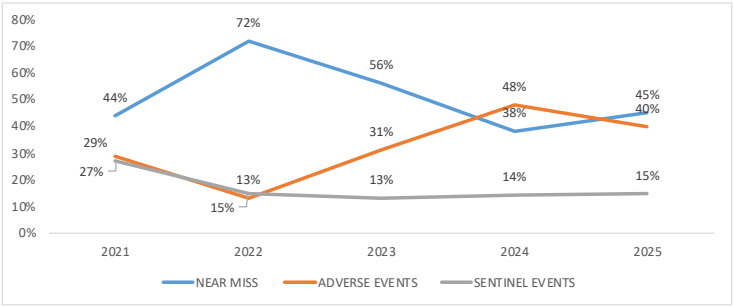
The distribution of outcomes was as follows: no harm in 69 of 130 cases (53%), Adverse Event (AE) in 38 of 130 cases (29%), Severe Event and/or Sentinel Event (SE) in 23 of 130 cases (18%), as reported in Tables 15 and 16 and Figure 22.

TABLE 15: TOTAL "OTHER" REPORTS STRATIFIED BY CLASSIFICATION

CLASSIFICATION	2021 No. %	2022 No. %	2023 No. %	2024 No. %	2025 No. %
NEAR MISS	15 44%	28 72%	9 56%	8 38%	9 45%
ADVERSE EVENTS	10 29%	5 13%	5 31%	10 48%	8 40%
SENTINEL EVENTS	9 27%	6 15%	2 13%	3 14%	3 15%
TOTAL	34	39	16	21	20

TABLE 16: TOTAL "OTHER" REPORTS STRATIFIED BY CLASSIFICATION

	NEAR MISS	ADVERSE EVENTS	SENTINEL EVENTS
2021-2025	69/130 53%	38/130 29%	23/130 18%



Igiene e Sanità Pubblica 2026; 99 (4)

Fig. 22: Total "Other" reports stratified by classification and year

DISCUSSION

The number of reports, intended as an indirect indicator of healthcare facilities ability to monitor the quality and safety of care provided, appears to be slightly increasing and could be indicative of an implementation of a safety culture. The increase in reports is not necessarily indicative of a deterioration in the quality and safety of the facilities and/or clinical care services. Rather, it likely reflects, given the numerous awareness-raising interventions implemented, a greater propensity among healthcare providers to report every incident, whether harmed or not, and/or intercepted. This increase is therefore indicative of an improvement and greater diffusion of a safety culture within the company. The growing figure therefore confirms the increasingly proactive, as well as reactive, involvement of healthcare providers.

Data analysis shows that falls are the most frequently reported event, however, a small percentage of them result in severe and/or serious injury, while a greater percentage result in no outcome or mild and/or moderate outcome. The patients involved are predominantly male and over 65 years of age; the departments most affected are Medicine and the Emergency Room (ER).

Falls can cause by patients: fear of falling again, loss of safety, anxiety, depression, factors that can lead to a decrease in autonomy, increased disability and, in general, to a very significant reduction in the quality of life. In addition to physical and psychological damage, falls that occur in a hospital setting lead to an increase in hospital stay, additional diagnostic and therapeutic activities and/or possible further hospitalizations after discharge, with an increase in health and social costs (18).

The growing dimensions of the phenomenon are linked to a progressive diffusion of the culture of reporting (19).

To obtain satisfactory results it is therefore necessary to act simultaneously on three levels: organizational (dedicated work group, procedures), staff/communication (fostering the culture of reporting through training initiatives and communication between operators) and patient (assessment of intrinsic risk factors and extrinsic and their possible modification - multi-drug therapy, restraint, inadequate footwear) (20).

The number of reports, to be understood as an indirect indicator of the attitude of healthcare facilities to monitor the quality and safety of the care provided, appears to be slightly increasing. The phenomenon of violence against healthcare workers is still strongly underestimated today, due to the frequent underreporting of aggression, especially verbal abuse. In order to increase the reporting of accidents, it is important that the different forms of violence are discussed, that workers are encouraged to report acts of violence, that there are systematic recording systems for all forms of violence, including psychological violence, in all workplaces or at least in those with a high risk of violence and that reports of violent incidents are managed in a non-blaming atmosphere (21).

Assaults occur most frequently in healthcare settings such as the Psychiatric Diagnosis and Treatment Service (SPDC), Emergency Department, and Medicine Department; the victim of violence is the nurse, and the aggressor is most often the patient.

Several risk factors for violence in emergency departments have been reported. These include infrastructure (inadequate staffing and security, poor lighting and other environmental issues), problems with care delivery (long waits, crowding, lack of privacy)

and the wider social context. In some countries, the latter includes civil unrest. Patient circumstances are another risk factor, for example, prisoners in pre-trial detention or patients who receive a devastating diagnosis or prognosis. Patient diagnoses involving altered mental status due to dementia, delirium, intoxication and decompensated mental illness are the most frequent characteristics associated with perpetrators of violence in healthcare settings.

In fact, emergency room physicians have the highest rates of burnout among all physicians, which, by definition, include emotional exhaustion, feelings of ineffectiveness, and treating others as objects rather than human beings. Among emergency room nurses, post-traumatic stress was significantly negatively associated with being empathetic, providing emotional support, and being able to control emotional reactions. These conditions set the stage for negative interactions with patients who may have an altered mental state and for accompanying people with intense emotions, including anxiety and frustration (22).

Regarding the type of aggression, verbal aggression predominates, it is mainly directed at one operator, in 123/455 (27%) of the reported cases it is directed at more than one operator. Nonetheless, most studies have determined that the different characteristics of the perpetrators have led to more frequent documentation of verbal violence than physical violence. Dissatisfied patients or family members were more likely to perpetrate more episodes of verbal abuse, either because of their medical conditions or dissatisfaction with the services provided. This remarkable finding has stimulated new ideas, indicating that the variance in the form of violence could also be determined by the role of the healthcare environment (23).

The overwhelming majority of aggressive acts are reported to be committed by nurses. Nurses are more likely to be assaulted by both patients and co-workers than other staff, which is consistent with previous studies showing that nurses are at risk for workplace aggression. Patient contact is a risk factor for aggression, and because nurses administer medications, manage intravenous lines, and provide physical and emotional support, they are more likely to be present when patients are in pain, stressed, and cognitively impaired. Additionally, we found that women are more likely to be assaulted by patients than men (24).

The aggressor turns out to be the patient. In most cases, aggressors are patients, usually male and acting alone. Risk factors are often multiple, but the most frequent are the negative attitudes of patients and/or relatives towards operators, the expectations of family members and long waiting times. Of lesser importance are the medical problems of the aggressors (drug addiction, alcoholism, psychiatric and chronic diseases), inappropriate requests and cultural and/or linguistic barriers.

Knowing the many risk factors that can trigger violence is essential to prevent and reduce aggressive events and to understand the exposure to the risk of violence in the various services. In fact, risk factors vary from facility to facility, depending on the type of patients and the services provided. Emergency and Admission Departments should have written guidelines for the management of aggressive patients and their companions (25).

In this regard, a training program would be useful to improve communication strategies of operators with “difficult” patients, to reduce risk, to improve assistance for citizens and to improve relationship skills with family members and companions. Training must focus on early identification and management of violence through De-escalation techniques,

using sedation or restraint only when all other strategies have failed. For example, Massimo Biondi created the END method (Empathy, Normalization, Descalation) in 2010, based on three communication sequences, centered on empathic, normalizing and descaling communication skills. Empathic Communication allows one to recognize pain, worry, fear or desperation and to create a relationship with others; Normalizing communication aims to reduce fear, worry and cognitive errors or distortions that intensify such experiences; Descalation aims to reduce aggression and emotional experiences (25).

Factors contributing to the occurrence of falls and aggressive behavior are often related to the patient's intrinsic status, personality, and clinical condition, and/or failure to adhere to the care plan, which themselves constitute risk factors, but also to violations of company procedures. For illustrative purposes, the actual use of the device for raising the electric bed, which can reduce patient harm, is often considered a device present and in use. However, in specific analyses of the individual falls reported, 90% of them were not in use at the time of the patient's fall from the bed.

Although a small number of events occurred, inadequate training among staff on relevant company procedures was found.

Furthermore, it was found that the application of company procedures related to the performance of healthcare activities, where specific procedures exist, is not always tracked in healthcare documentation.

Regarding acts of violence against healthcare workers, it was analyzed that they occur predominantly in emergency care settings and hospital and community psychiatric facilities, where the increase in patients with acute and chronic psychiatric disorders, long waits in emergency areas or clinical areas, can foster frustration in patients or their companions due to the inability to promptly obtain the requested services.

The ASL Roma 2 has long been focusing its efforts on multidimensional strategies and interventions, in synergy with the Units/Services and the support of occupational safety, to address the causal and contributing factors that led to the aggressive incident, including through communication initiatives aimed at stigmatizing all forms of violence against healthcare workers.

The analysis of reports also highlighted the need to train mental health workers in the implementation of de-identification techniques and context and patient analysis to contain patient aggression wherever possible.

The relatively small number of assaults that occurred in the medical area, however, demonstrates that they can be contained if spaces are appropriately closed and visiting hours are clearly identified.

Assaults in the emergency room, however, require two considerations: actions to reduce overcrowding certainly reduce litigation, while the problem of patients arriving with alcohol or substance abuse or mental health-related issues requiring countermeasures, as is the case in mental health settings, remains. Finally, it must be noted that the correct procedure or forms are not always used, nor are the exact structures to which reports should be sent.

Incident analysis is extremely important for identifying system deficiencies and identifying the causes and areas for intervention and consequently designing appropriate protective barriers (learn from experience).

To improve the quality and safety of care, procedures older than three years are being reviewed, aiming to create corporate procedures that can help mitigate risks through behaviors identified as effective by best practices.

The documentation review also includes standardizing procedures to ensure the same standards of fairness, accessibility, and sustainability of care for all patients and users within the company's territory.

Finally, the strategic management is evaluating the application of the regional directive regarding the reporting of serious assaults to the judicial authorities, even in the event of failure by the victim to file a complaint against the aggressor.

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