醫院管理局
HOSPITAL AUTHORITY

ANNUAL REPORT
ON SENTINEL AND SERIOUS UNTOWARD EVENTS

October 2024 – September 2025

Acknowledgement

This is the 18th Annual Report on Sentinel and Serious Untoward Events. On 1 October 2007, the Hospital Authority (HA) introduced a Sentinel Event Policy (the Policy) to strengthen the reporting, management and monitoring of serious medical incidents. The first Annual Report followed in January 2009, covering all the Sentinel Events (SE) that occurred from October 2007 to September 2008. Since then, this Report has been published annually, and the Policy updated to incorporate Serious Untoward Events (SUE) in 2010 and include a supplementary note on definitions and qualification criteria of SE in 2015. The spirit of the Policy, however, has remained steadfast.

Over these eighteen years, we have witnessed the HA's ongoing efforts to enhance quality and safety by gathering incident reports through the Advance Incident Reporting System (AIRS), analysing root cause(s), formulating patient safety recommendations and implementing educational, systemic and cultural changes to prevent similar events.

We extend our sincere gratitude to colleagues across disciplines and settings who report incidents, participate in thorough investigations, implement corrective actions and speak up to prevent harm. We are equally grateful to teams who, amid heavy workloads and pressures, remain vigilant and steadfast in safeguarding patient safety. Your professionalism and dedication uphold our mission of helping people stay healthy and advancing the quality and safety of care for the community.

Patient Safety and Risk Management Department
Quality and Safety Division

Table of Content

1. Executive Summary

This Annual Report provides a summary of all Sentinel Events (SE) and Serious Untoward Events (SUE), comprising 27 SE and 76 SUE, reported between October 2024 and September 2025.

Sentinel Events

In the reporting period, 27 SE were reported, equating to an incident rate of 1.2 per 1,000,000 patient attendances, discharges and deaths. Most events occurred in acute settings: 23 cases (85%) in acute general hospitals with 24-hour Accident and Emergency services, three cases (11%) in acute hospitals of a special nature, and one case (4%) in a hospital providing a mix of acute and non-acute services.

The top three SE categories were:

- Retained instruments or other material after surgery/interventional procedure (13 cases)
- Death of an inpatient from suicide (including home leave) (seven cases)
- Surgery/interventional procedure involving the wrong patient or wrong body part (six cases)

Analysis of the 13 "Retained instruments or other material after surgery/interventional procedure" events found seven cases related to broken instruments/materials, three cases to incomplete integrity checks, two cases to incorrect counts, and one case to ineffective handover.

For the seven "Death of an inpatient from suicide (including home leave)" cases, investigation panels assessed overall case management as appropriate.

Of the six "Surgery/interventional procedure involving the wrong patient or wrong body part" events, five occurred in operating theatres or interventional suites, while one took place during a bedside procedure.

One additional SE was classified as "Other adverse events resulting in permanent loss of function or death (excluding complications)."

Eight of the 27 SEs resulted in death (seven inpatient suicides and one "Other" event). Among the remaining cases, five resulted in major or moderate consequences and 14 resulted in minor or insignificant consequences.

Serious Untoward Events

Of the 76 SUE which could have led to death or permanent harm, 73 were medication error and three were patient misidentification.

The three most common drugs involved in medication error were Antiplatelets/Anticoagulants (17 cases), Dangerous drugs (11 cases) and Insulins/Oral anti-diabetic drugs (10 cases).

In terms of outcomes, 62 cases resulted in minor or insignificant consequences, 12 led to moderate consequence, and two resulted in temporary major consequence.

Recommendations

To improve patient safety, recommendations would focus on enhancing communication, teamwork, and systematic checks within the healthcare environment. Training and education initiatives will continue to address identified issues, emphasising effective patient identification, medication management, and adherence to procedural guidelines.

The report underscored the commitment of the HA to learn from incidents and refined practices, aiming to minimise the recurrence of SE and SUE while advancing the safety and quality of care provided to patients.

2. Introduction

The Sentinel Event Policy was implemented in 2007, while Serious Untoward Event was incorporated later in 2010. After implementation of the Sentinel and Serious Untoward Event Policy (The Policy) in 2010, the Policy was updated in July 2015 (Annex I) with inclusion of supplementary notes on definitions and qualification criteria of SE as well as new Chinese translations of SE and SUE.

The Policy dictates how hospitals are to manage SE and SUE. This includes the reporting of these incidents, and how they are investigated using root cause analysis (RCA) methodology. The RCA panels are tasked to review and identify the root cause(s) and to make recommendations for the hospital and Hospital Authority Head Office (HAHO) management for improving patient safety.

This 18th Annual Report provided a summary and analysis of the SE and SUE reported via the Advance Incident Reporting System (AIRS) between 2024-25. The report aimed to share the lessons learnt from these incidents and to improve quality patient-centred care through system improvements and teamwork.

To facilitate understanding of the scope and definition of SE and SUE, the following abbreviated captions for SE and SUE categories will be used in this report:

Sentinel Events (Nine Categories)

Category 1	Surgery/interventional procedure involving the wrong patient or body part [Wrong patient/part]
Category 2	Retained instruments or other material after surgery/interventional procedure [Retained instruments/material]
Category 3	ABO incompatibility blood transfusion [Blood incompatibility]
Category 4	Medication error resulting in major permanent loss of function or death [Medication error]
Category 5	Intravascular gas embolism resulting in death or neurological damage [Gas embolism]
Category 6	Death of an in-patient from suicide (including home leave) [Inpatient suicide]

Category 7	Maternal death or serious morbidity associated with labour or delivery [Maternal death/morbidity]
Category 8	Infant discharged to wrong family or infant abduction [Wrong infant/abduction]
Category 9	Other adverse events resulting in permanent loss of function or death (excluding complications) [Others]

Serious Untoward Events (Two Categories)

Category 1	Medication error which could have led to death or permanent harm [Medication error]
Category 2	Patient misidentification which could have led to death or permanent harm [Patient misidentification]

3. Sentinel Events Statistics

3.1 SE Trend in Past 10 Years (4Q 2015 – 3Q 2025)

3.1.1 Overview

The annual number of episodes of patient attendance/discharge and death, and the SE incident rate per 1,000,000 episodes over the past 10 years were depicted in Figure 1.Total number of SE during this period was also appended in Figure 2 for reference.

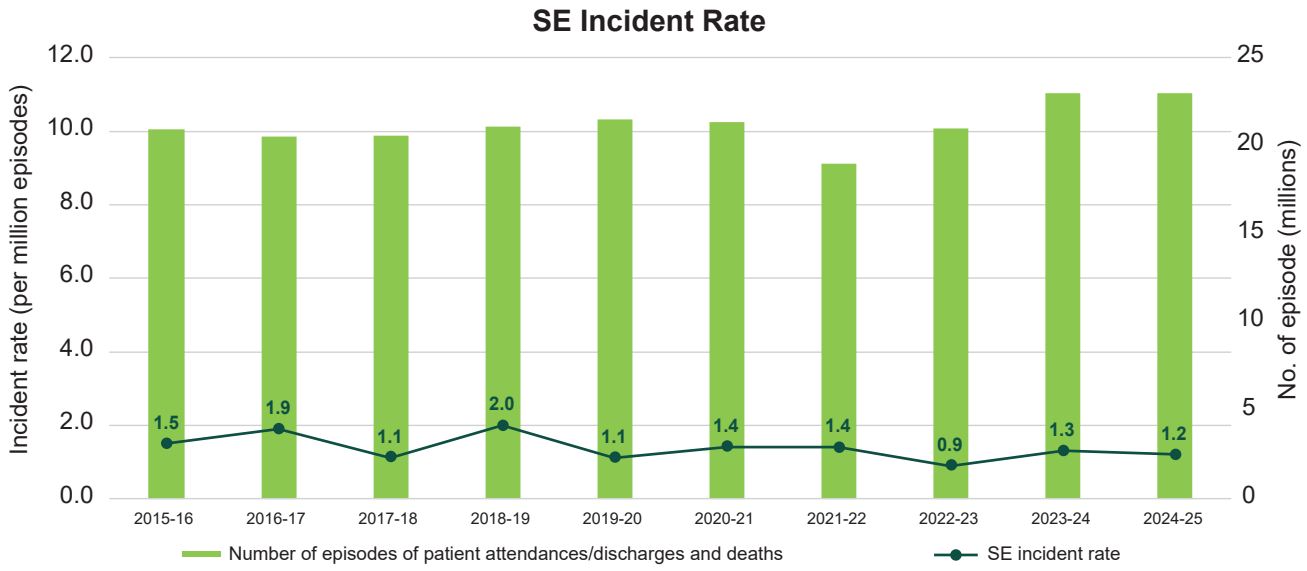


Figure 1

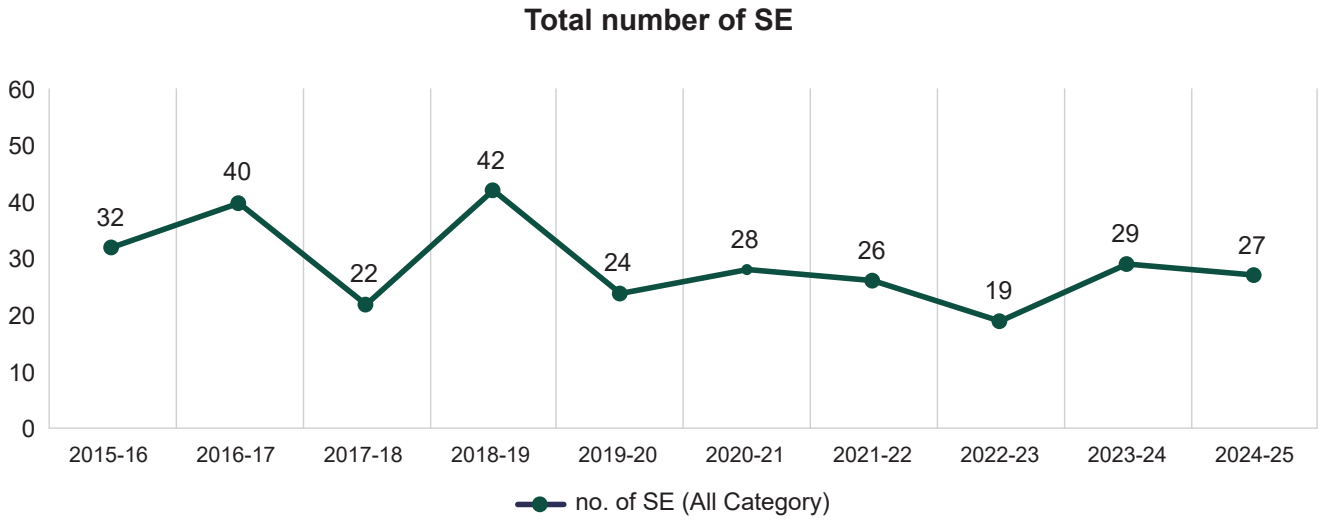


Figure 2

*Statistics from October to September of respective year

3.1.2 SE Category

Top Three Sentinel Events

Among the top three categories, "Retained instruments or other material after surgery/interventional procedure" remained the most common category with 13 cases, followed by "Surgery/interventional procedures involving the wrong patient or body part" (six cases), and in-patient deaths from suicide, including home leave (seven cases). Details are provided in Figure 3 and Table 1.

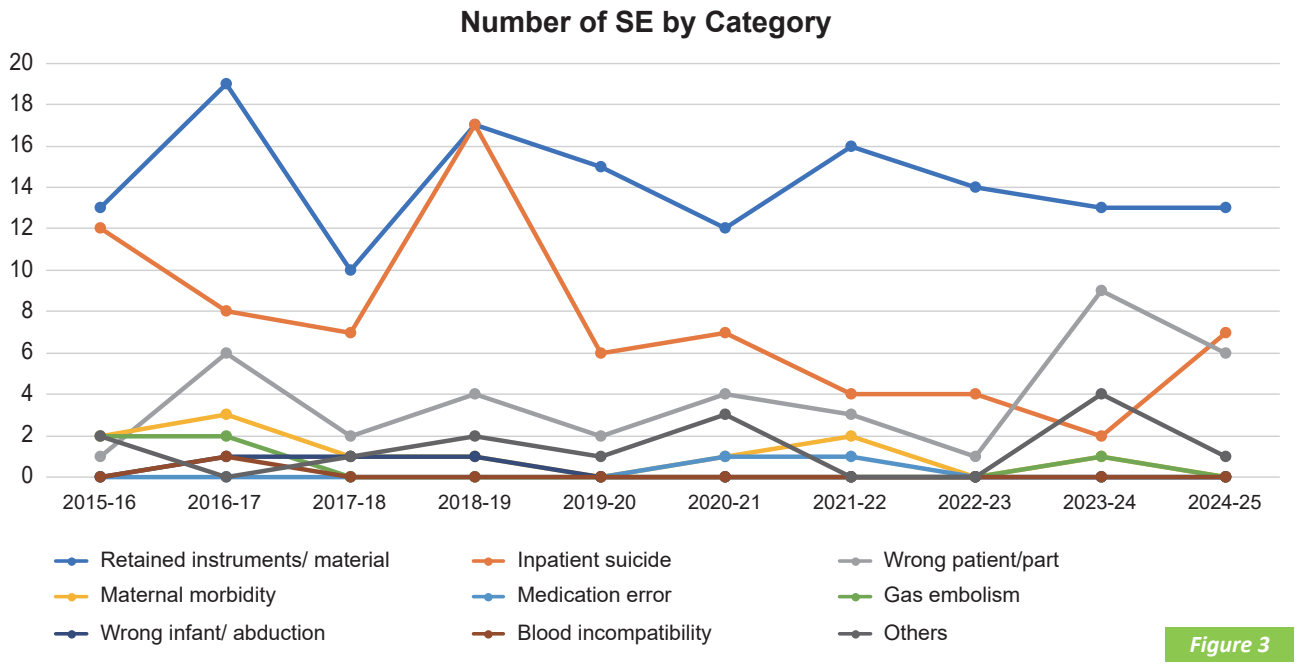


Figure 3

	2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025
Retained instruments/ material	13	19	10	17	15	12	16	14	13	13
Inpatient suicide	12	8	7	17	6	7	4	4	2	7
Wrong patient/part	1	6	2	4	2	4	3	1	9	6
Maternal morbidity	2	3	1	1	0	1	2	0	1	0
Medication error	0	0	0	0	0	1	1	0	0	0
Gas embolism	2	2	0	0	0	0	0	0	1	0
Wrong infant/abduction	0	1	1	1	0	0	0	0	0	0
Blood incompatibility	0	1	0	0	0	0	0	0	0	0
Others	2	0	1	2	1	3	0	0	4	1

*Statistics from October to September of respective year

Table 1

3.1.3 SE Outcome

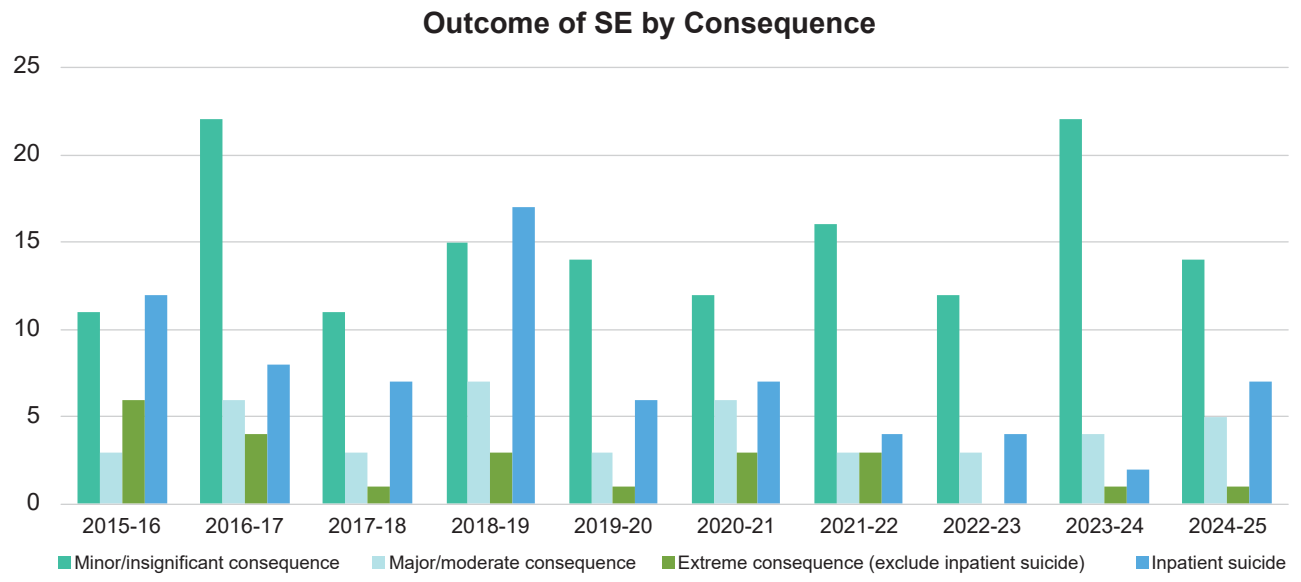


Figure 4

	2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025
Minor/insignificant consequence	11	22	11	15	14	12	16	12	22	14
Major/moderate consequence	3	6	3	7	3	6	3	3	4	5
Extreme consequence (exclude inpatient suicide)	6	4	1	3	1	3	3	0	1	1
Inpatient suicide	12	8	7	17	6	7	4	4	2	7
Total	**32**	**40**	**22**	**42**	**24**	**28**	**26**	**19**	**29**	**27**

*Statistics from October to September of respective year

Table 2

3.2 SE Report (4Q 2024 – 3Q 2025)

3.2.1 Overview

The charts below illustrated the quarterly distribution of SE (Figure 5), distribution by category (Figure 6) and by hospital setting (Figure 7).Excluding seven inpatient suicide cases, the remaining 20 SE resulted in the following outcomes: 70% (14 cases) had minor/insignificant consequences; 25% (five cases) had moderate/major consequences and 5% (one case) had extreme consequences (Figure 8).

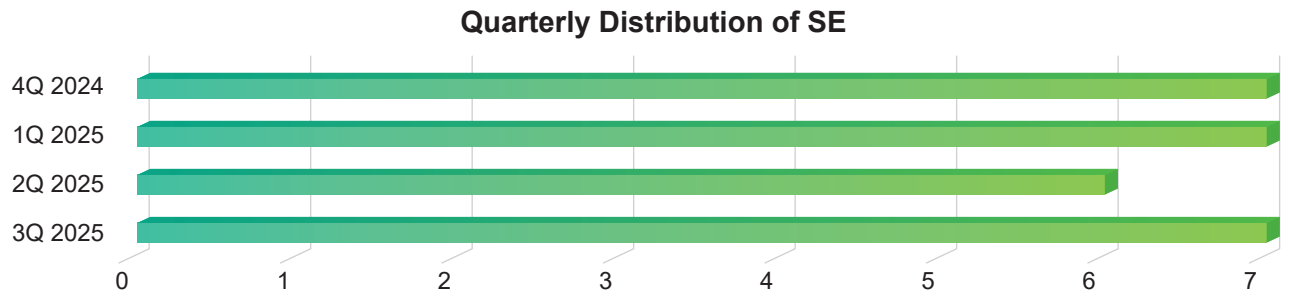


Figure 5

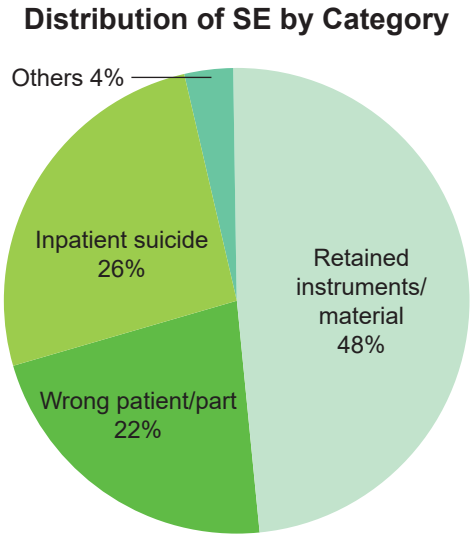


Figure 6

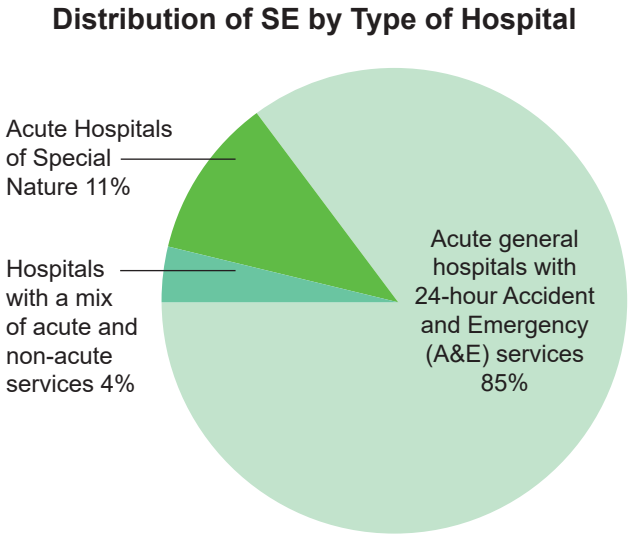


Figure 7

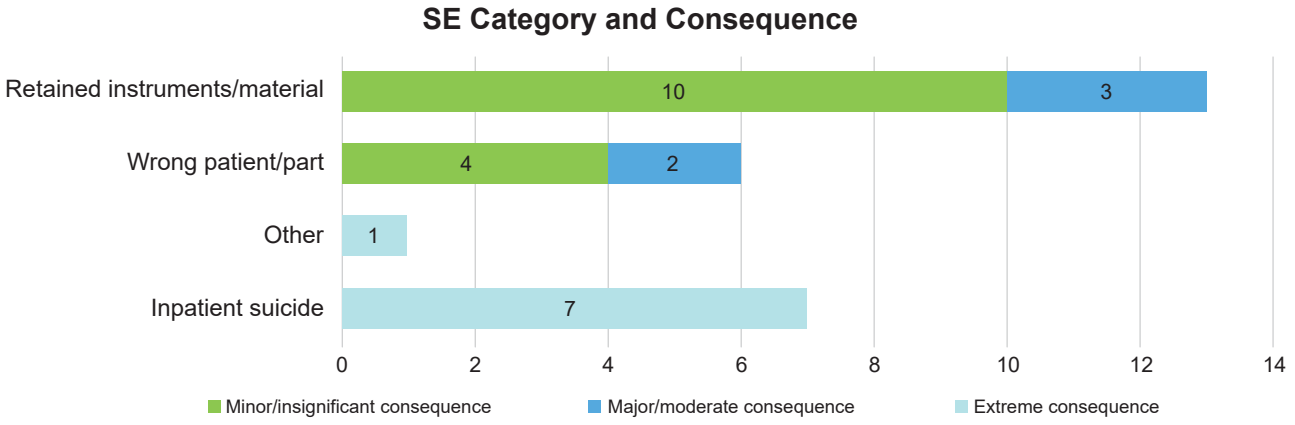


Figure 8

3.2.2 Category: Retained Instruments/Material

Of the 13 reported retained instruments/material cases, nine cases occurred in the operating theatre and four during bedside procedures. A greater proportion of the cases were associated with broken instruments or materials (seven cases), while incomplete integrity checks, incorrect counts and ineffective handover accounted for three cases, two cases and one case respectively (Figure 10). Broken instrument was the most common contributing factors of retained material.

Broken instruments/materials remained the predominant contributing factor. While this category continued to be the most frequently reported SE, the case count was remained unchanged from last year.

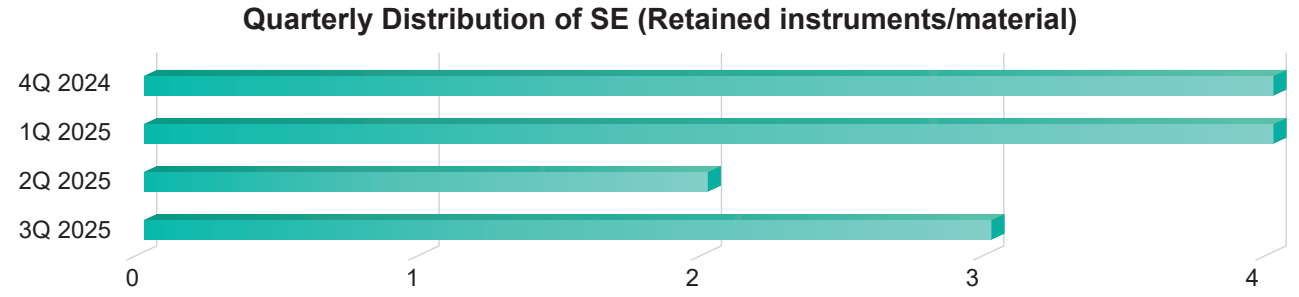


Figure 9

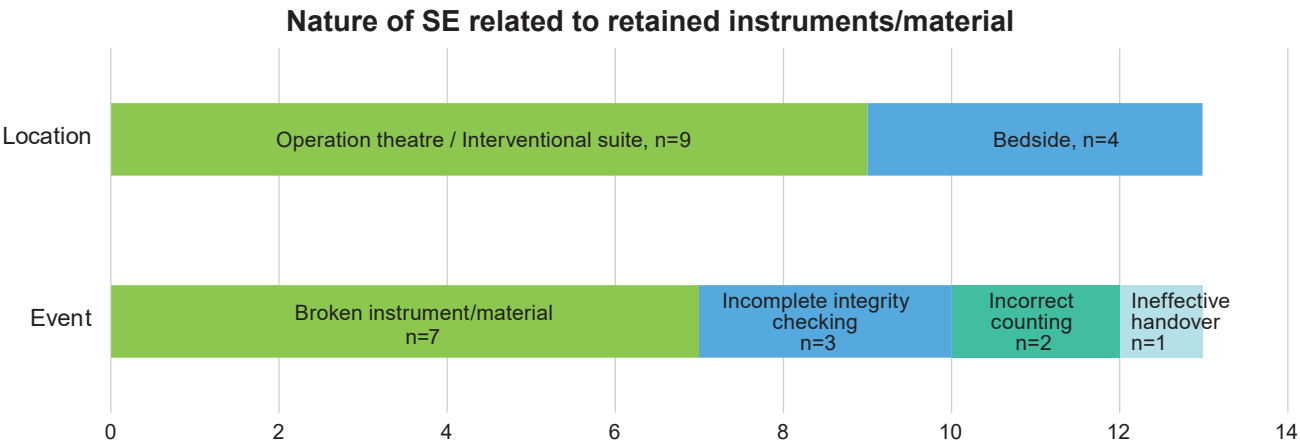


Figure 10

Type of Retained Instrument / Material
(n=13)

9 Surgical instrument/ material	2 Dressing/ Packing material	1 Guidewire	1 Nasogastric tube

Table 3

3.2.3 Category: Inpatient Suicide

Seven inpatient suicide cases were reported during this period (Figure 11). The incident rate was 0.3 per 100,000 inpatient admissions. The age and gender distribution were shown in Figure 12.

In this reporting period, one patient was reported missing and jumped from height. For the remaining six cases, they included suffocations (three cases), hangings (two cases), and strangulation (one case) (Figure 12). In the suffocation cases, patients used plastic bags they brought-in. In the hanging cases, ligature points were found at patient beds, including bedside rails and a monkey pulley.

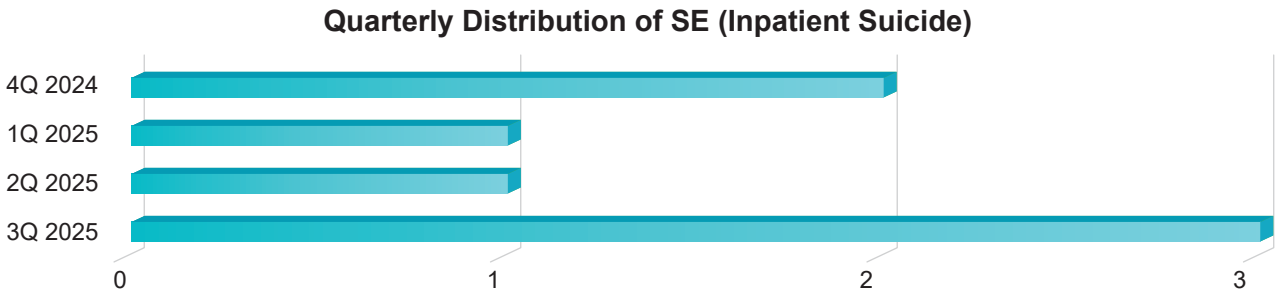


Figure 11

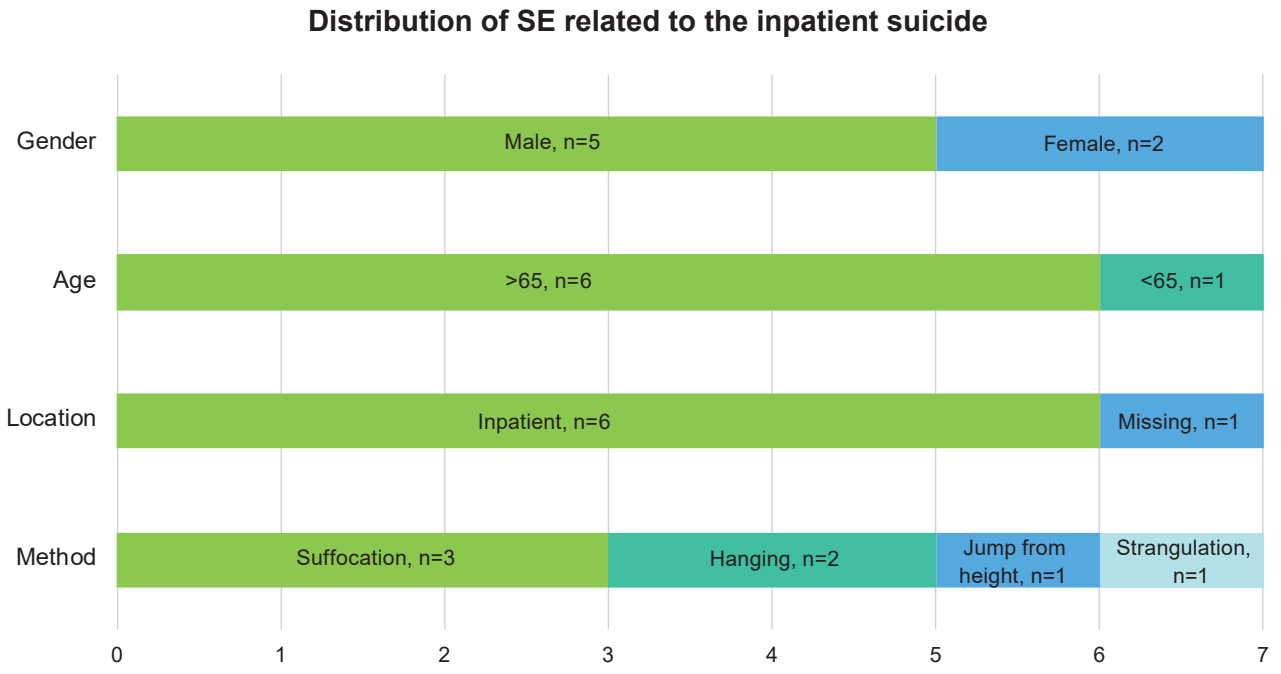


Figure 12

3.2.4 Category: Wrong Patient/Part

All six cases involved the wrong body part; none involved the wrong patient. Four occurred in the operating theatre, one in an interventional suite and one during a bedside procedure.

Most incidents were confined to localised procedures: two ophthalmology procedures, one interventional radiology procedure and one bedside procedure. Two incidents were surgical cases involving body parts (Figure 14).

While robust verification protocols had implemented in place, lessons learnt from these cases were shared in different platforms to strengthen surgery and procedure safety.

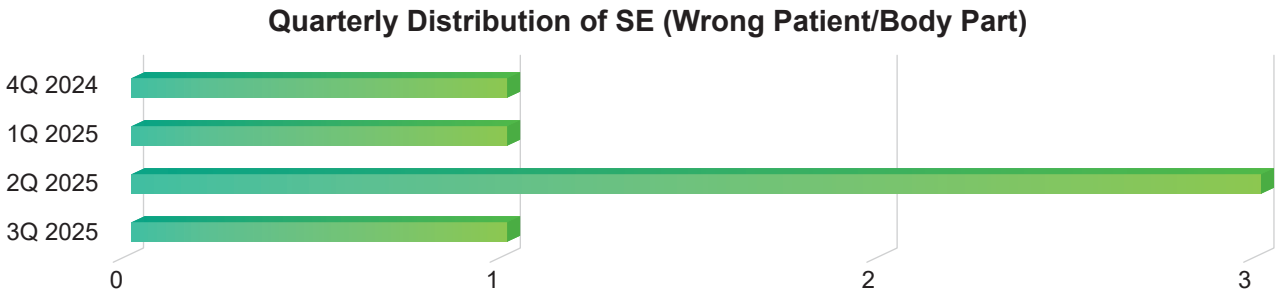


Figure 13

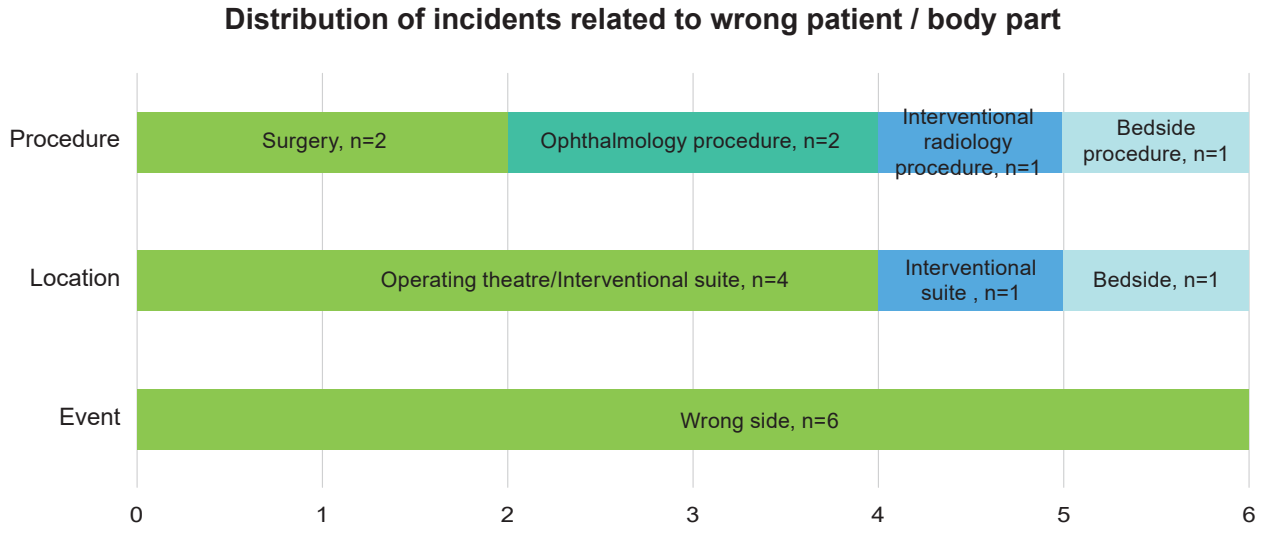


Figure 14

3.3 International Sentinel Events Reporting

In the United States (US), SE voluntarily reported to the Joint Commission on Accreditation of Healthcare Organisations were 1,411 in 2023 and 1,575 2024 respectively. These events were reported across a broad patient population and encompassed a range of incidents, including falls, wrong surgery, treatment delay, patient suicide/death by self-inflicted injurious behaviour and unintended retention of foreign objects. Of the reported SE, 21% of the cases resulted in death and about half led to severe harm (49%).

In Victoria, Australia, 193 SE were reported between July 2023 and June 2024. The leading categories were medication errors resulting in serious harm or death (13 cases), suspected suicide of a patient in an acute psychiatric unit or ward (six cases), and surgery or other invasive procedures performed on the wrong site leading to serious harm or death (three cases).

In Hong Kong (HK), the rate of SE per 1,000,000 patient attendances/discharges and deaths in the HA was 1.3 in 2023–24 and 1.2 in 2024-25. Including seven cases of inpatient suicide, 30% of these events led to significant consequences or death.
The incident rate of inpatient suicide in 2024–25 was 0.3 per 100,000 inpatient admissions, covering incidents from all inpatient clinical settings (both general and psychiatric).

Table 4 summarised the top three commonly reported SE in the HA (HK), the US Joint Commission (US) and the Safer Care Victoria (Australia) for reference.

HK: Hospital Authority	US: Joint Commission	Australia: Safer Care Victoria
Retained instruments/ material (13)	Patient falls (776)	Medication error resulting in serious harm or death (13)
Inpatient suicide (7)	Wrong-site/wrong-procedure/ wrong-patient surgery (127)	Suspected suicide of a patient in an acute psychiatric unit or acute psychiatric ward (6)
Wrong patient/part (6)	Delays in treatment (126)	Surgery or other invasive procedure performed on the wrong site resulting in serious harm or death (3)

Table 4

1. The US Joint Commission, Sentinel Event Data 2024 Annual Review
2. Safer Care Victoria: Sentinel Events Annual Report 2023-2024

4. Serious Untoward Events Statistics

4.1 SUE Trend in Past 10 Years (4Q 2015 – 3Q 2025)

4.1.1 SUE Category

From 4Q 2024 to 3Q 2025, 76 SUE were reported. The distribution of SUE by category since 2015 was depicted in Figure 15. The number of each SUE category since 2015 was shown in Table 5.

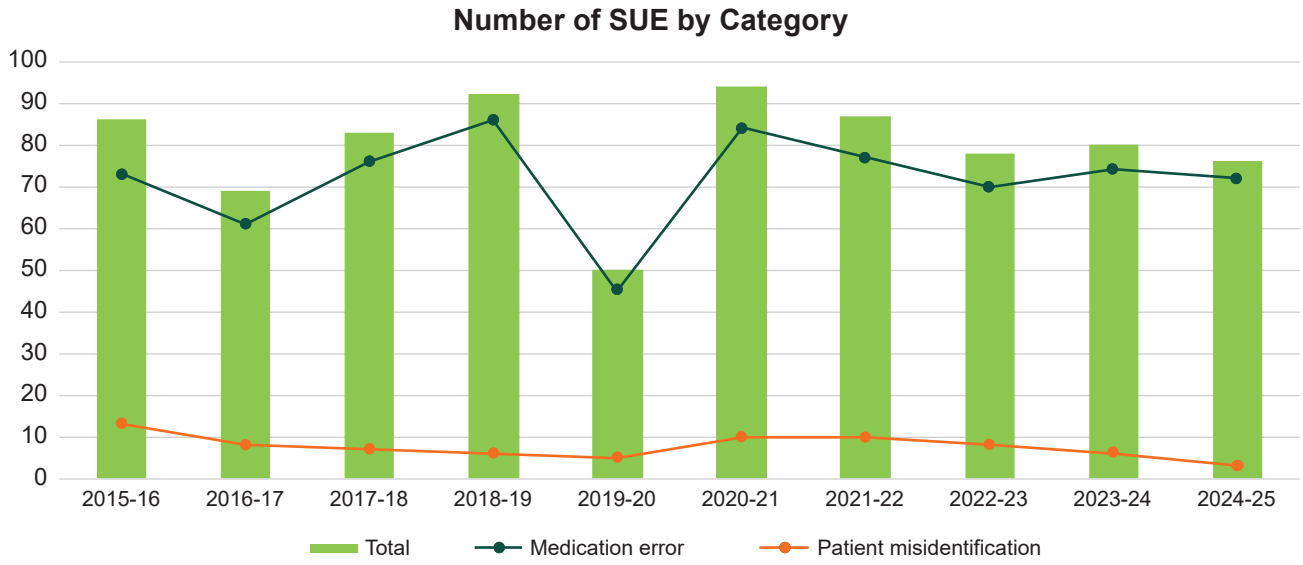


Figure 15

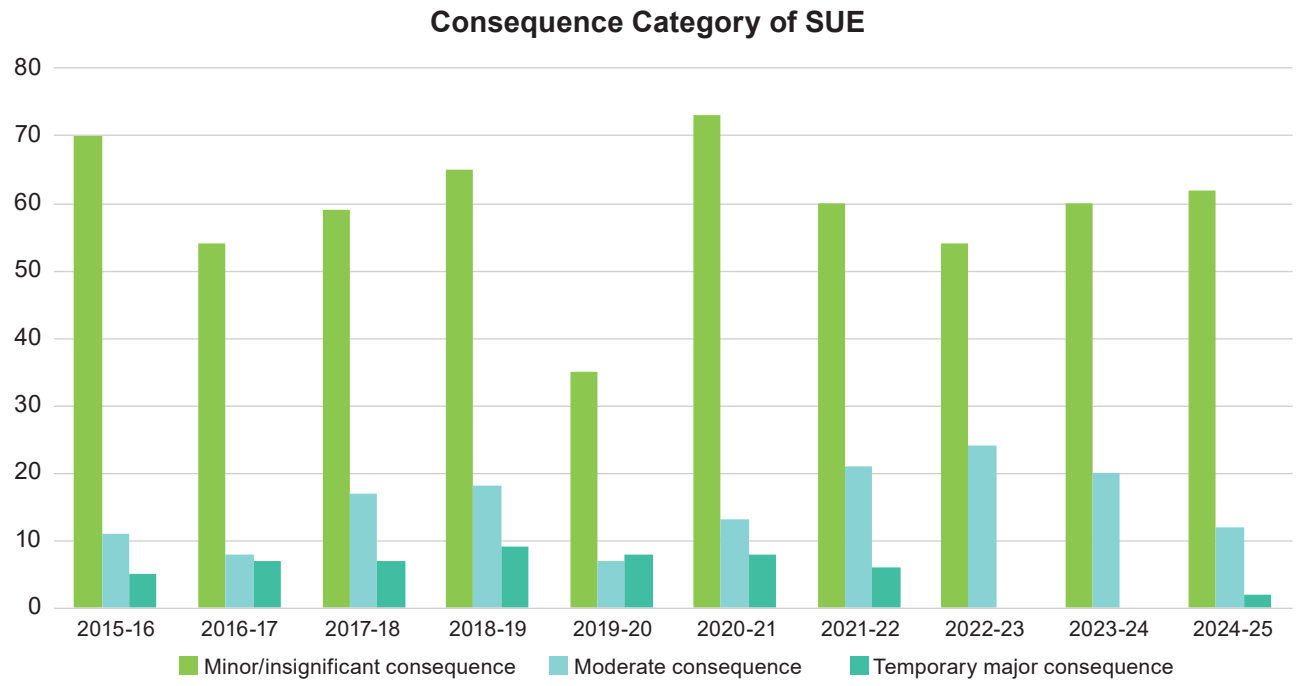
	2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025
Medication error	73	61	76	86	45	84	77	70	74	73
Patient misidentification	13	8	7	6	5	10	10	8	6	3
Total	**86**	**69**	**83**	**92**	**50**	**94**	**87**	**78**	**80**	**76**

*Statistics from October to September of respective year

Table 5

4.1.2 SUE Outcome

The outcomes were categorised as minor/insignificant consequence, moderate consequence, and temporary consequence as shown in Figure 16. A detailed description of each type of consequence is provided in Annex II.



*Statistics from October to September of respective year

Figure 16

4.2 SUE Report (4Q 2024 – 3Q 2025)

4.2.1 Overview

The quarterly distribution of SUE was illustrated in Figure 17. Of the 76 SUE cases, 73 cases involved medication error and three involved patient misidentifications. The distribution of consequences was illustrated in Figure 18.

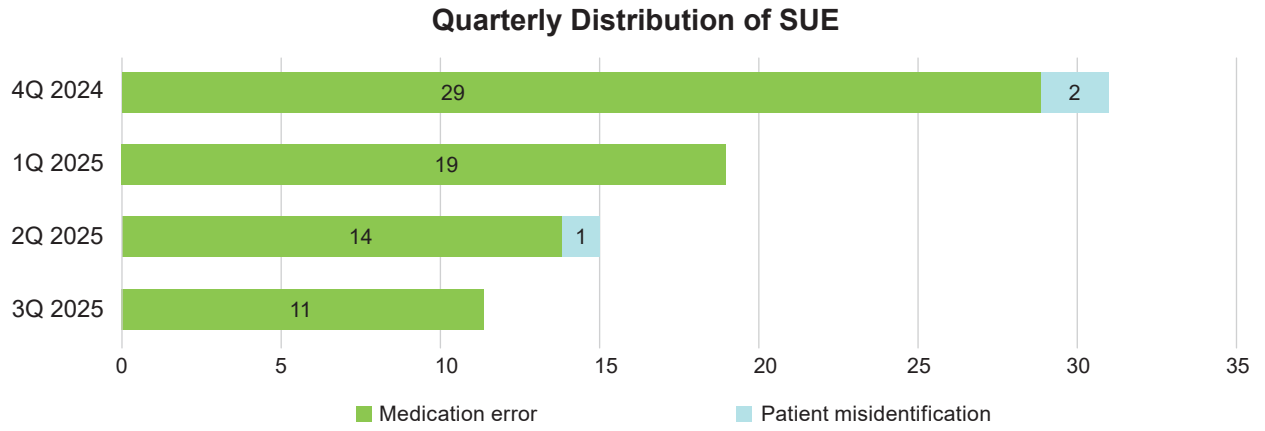


Figure 17

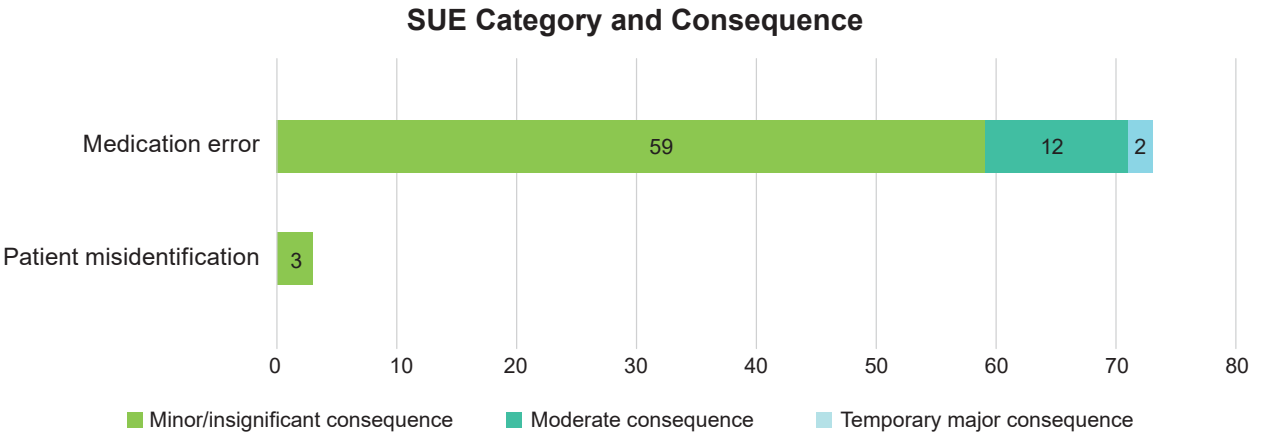


Figure 18

4.2.2 Category: Medication Error

From 4Q 2024 to 3Q 2025, the three drug classes most commonly involved in medication errors were Antiplatelets/Anticoagulants (17 cases), Dangerous Drugs (11 cases), and Insulins/Oral Anti-diabetic Drugs (10 cases) (Figure 19).

Similar to the previous reporting period, Antiplatelets/Anticoagulants remained the leading class involved.

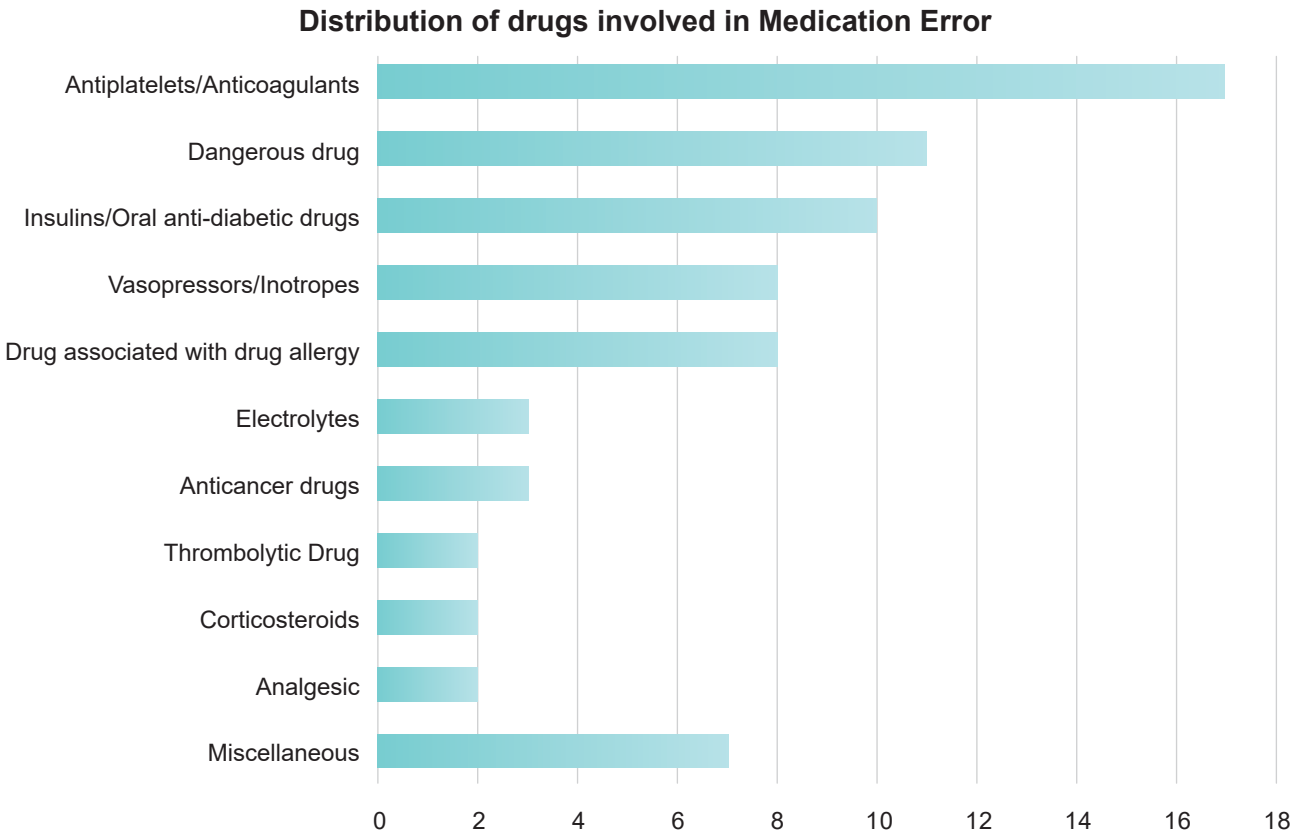


Figure 19

Known drug allergy incidents

Antibiotics were the most frequently involved drug group (three cases) (Figure 20), and out-patient clinics were the most common clinical context (three cases) (Figure 21). All eight cases resulted in minor/insignificant consequences.

A common contributing factor was overlooking allergy information in the Electronic Health Record Sharing System (eHRSS). Counter-checking eHRSS data would be essential step in prescription, and system enhancements would be explored to strengthen medication safety.

Drugs associated with Drug Allergy

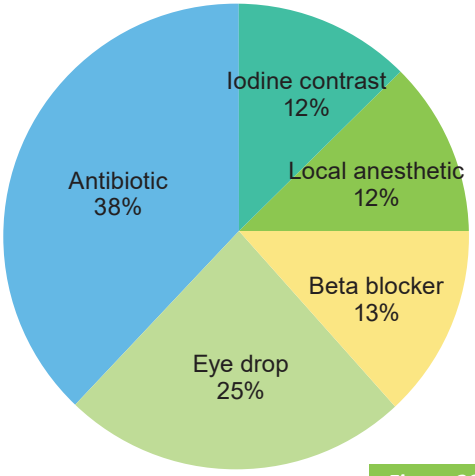


Figure 20

Distribution by Clinical Setting

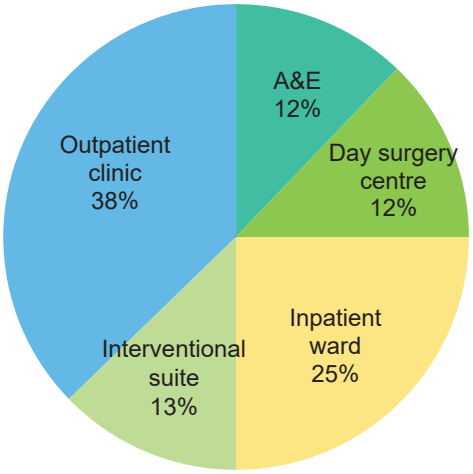


Figure 21

HA Risk Alert Issue 78

4.2.3 Category: Patient Misidentification

Three patient misidentification cases were reported. Two incidents occurred during drug administration and one occurred during specimen handling. All three incidents resulted in minor/ insignificant consequences.

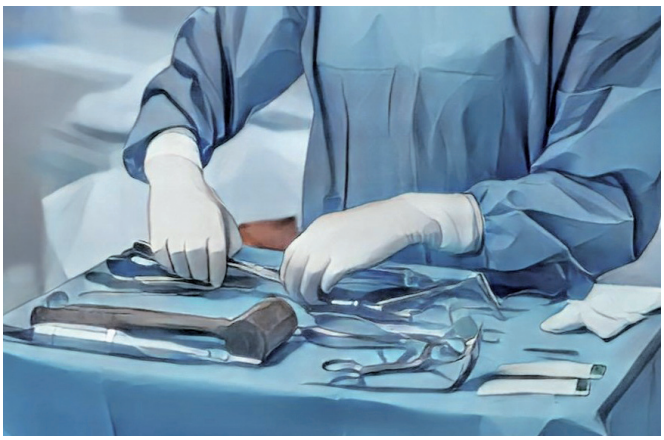
Patient Misidentification Scenario	4Q2024	1Q2025	2Q2025	3Q2025
During drug administration	-	-	2	-
During drug prescription	-	-	-	-
During specimen handling	1	-	-	-

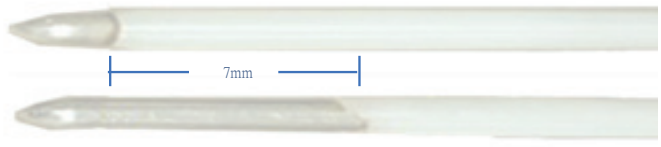
Table 6

5. Analysis of Sentinel Events

In this chapter, the common contributing factors and recommendations revealed by the RCA panels (including recommendations which had been implemented or being followed by clusters/hospitals to prevent recurrence) for each category of SE were analysed. HAHO would collaborate with clusters and hospitals to improve system, redesign and optimise work processes to enhance patient safety. A brief description of individual SE could be found in Annex IV.

5.1 Category 2 – Retained instruments/material (13 cases)





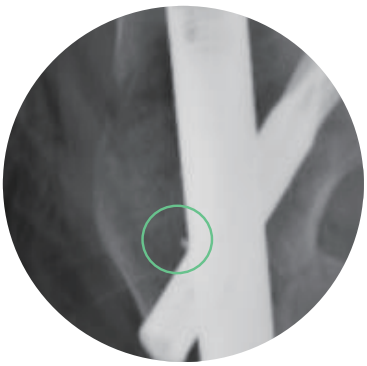
Broken insulating coating of electrode

Review of the 13 retained material incidents showed that most involved were surgical instrument/material (nine cases). Others included dressing/packing material (two cases), guidewire (one case) and nasogastric tube (one case).

In the incident involving guidewire, contributing factors included deficiencies in counting and communication breakdown. The clinical team was distracted due to the patient's critical condition. As a result, no checklist was applied during the counting and the guidewire was not detected.

Newly introduced instruments/devices or new procedures were involved in several incidents. Limited familiarity with these items contributed to inadequate integrity checks and failure to identify potential breakage points.

To mitigate these risks, pre-operative briefings should be conducted to review device characteristics, potential breakage risks, as well as integrity-check steps.



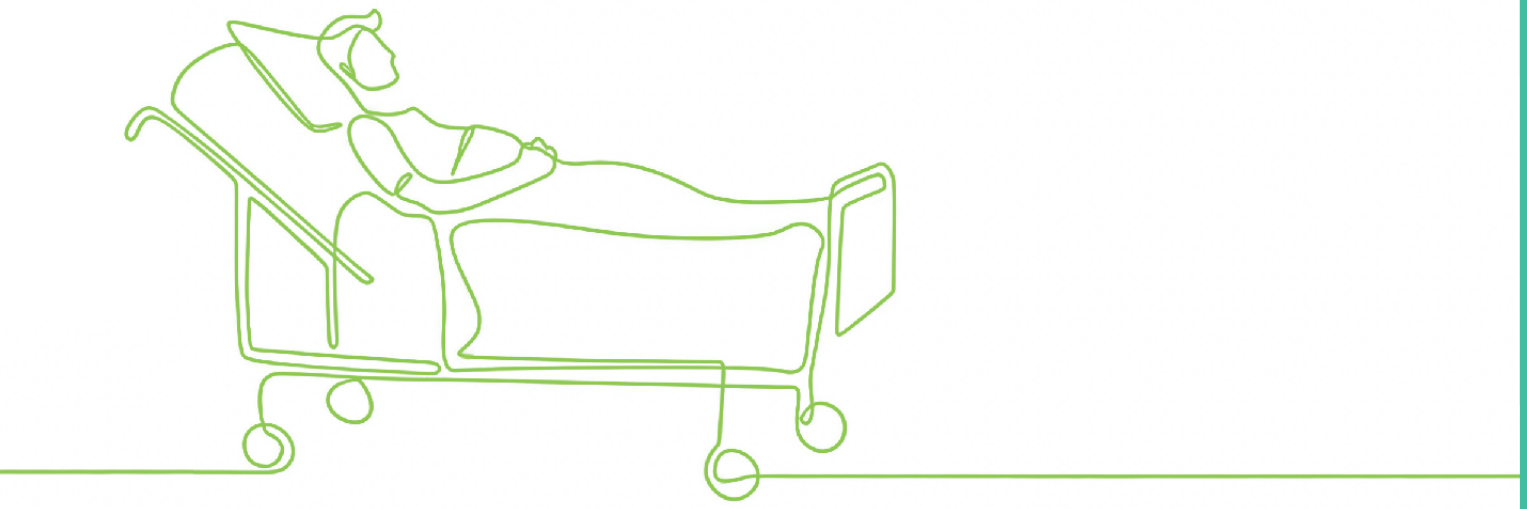
Retained metal debris

5.2 Category 6 – Death of an in-patient from suicide (including home leave) (seven cases)

Of these incidents, three involved patients with long-term illnesses and one involved a patient newly diagnosed terminal condition. No disease-related factors were identified in the remaining three cases.

Methods of suicide included suffocation using brought-in plastic bags (three cases), hanging using personal clothing or an unidentified ligature (two cases) and strangulation (one case). In one case, a missing patient was found jump from height outside the hospital compound and died.

Plastic bags were used in the suffocation cases. In usual practice, hospitals had restricted the availability and use of large plastic bags. Potentially hazardous items such as plastic bags and long cables were removed from at-risk patients. Early engagement of multidisciplinary teams was recommended to provide assessment and support.

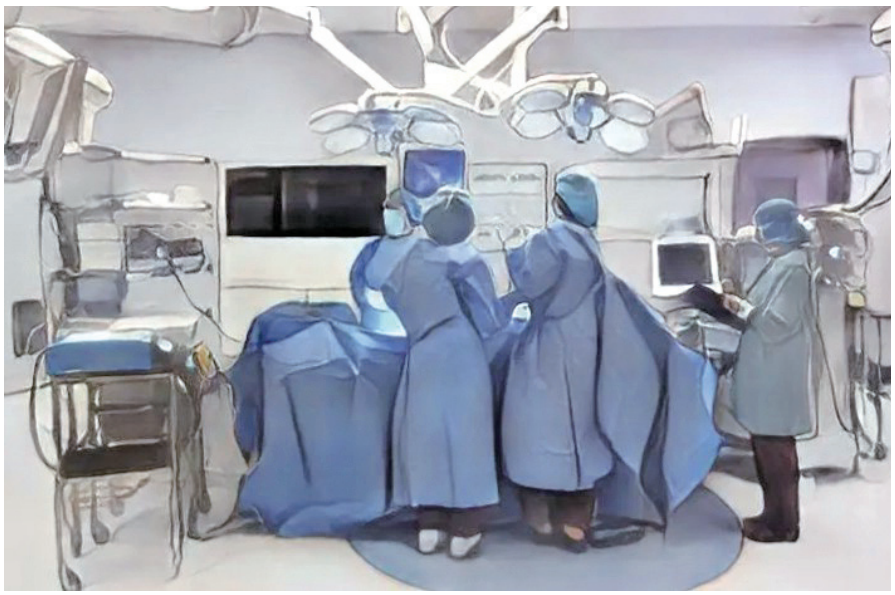


5.3 Category 1 – Surgery/interventional procedure involving the wrong patient or body part (six cases)

Six incidents were reported. These involved surgical procedure (two cases) ophthalmology procedures (two cases), interventional radiology procedure (one case) and bedside procedure (one case). Except for the two surgical cases, all incidents resulted in minor or insignificant consequences.

Two cases involved consent-related issues: one with incorrect laterality documented on the consent form and another with unclear laterality. The consent form was a reference for checking operation or procedural details, rigorous verification was essential.

To strengthen correct-site and correct-procedure assurance, clinical teams should verify the consent form against the operative/procedural booking information, site-marking, and relevant clinical information from prior radiology and pathology reports before proceeding with the operation or procedure.



6. Analysis of Serious Untoward Events

A total of 76 SUE were reported in 4Q 2024–3Q 2025. Over 95% involved medication errors (73 cases), with the remaining cases related to patient misidentification (three cases). These SUE were discussed in the subsequent sections, with essential recommendations and safety messages provided.

6.1 Category 1 – Medication error (73 out of 76 SUE cases)

The number of medication items dispensed in HA was 58.6 million in the first nine months of 2025, compared with 78 million for the entire of 2024. The rate of medication incidents reported (including those classified as SUE) per one million items dispensed was 8.9 for the first nine months of 2025, compared with 11.0 for 2024. The incident rates remained under 15 in recent years.

Three types of most commonly involved drug groups included: Antiplatelets/Anticoagulants (17 cases), Dangerous Drugs (11 cases), and Insulins/Oral anti-diabetic drugs (10 cases).

6.1.1 Medication error: Antiplatelets/Anticoagulants

Anticoagulant is classified as high alert medications according to the HA Medication Safety Committee. Overdose or omission of antiplatelets or anticoagulant could lead to severe adverse events. Unintentional omission of prescription or inadequate prescription duration during transitions of care were observed in this reporting period (e.g., failure to continue Apixaban/Clopidogrel after Percutaneous Coronary Intervention (PCI) or clinic follow-up). Other issues included wrong dose or unnecessary administration were commonly implicated in warfarin related cases.

The most common contributing factors were incomplete medication reconciliation process and drug profile review at admission/discharge/follow-up, together with communication and handover gaps among clinical teams.

Recommended actions include strengthening drug reconciliation and implementing decision support feature in system to support drug prescription.

6.1.2 Medication error: Dangerous Drugs

Most incidents in this category were related to miscalculation of drug concentration or various factors involving drug dilution/preparation. Incomplete independent counter-checking was another major contributing factor in this category.

Recommended action is to strengthen independent double-check during drug administration.

6.1.3 Medication error: Insulin/Oral anti-diabetic drugs

Medication incidents in this category typically occurred when anti-diabetic regimens were adjusted but the original therapy was not discontinued, resulting in duplication or administration of extra doses with hypoglycaemia. Other incidents involved resuming outdated insulin doses or missed insulin doses.

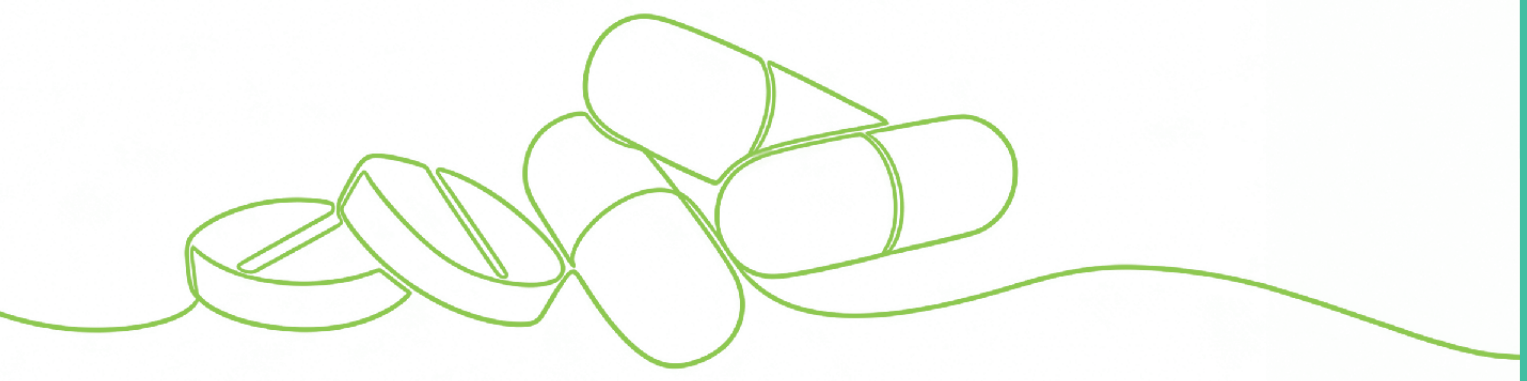
Recommended measures include verifying against the latest clinical prescribing orders and ensuring regimen changes were clearly documented and communicated during transitions of patient care.

6.2 Category 2 – Patient misidentification (three cases)

Three cases of patient misidentification were reported. Patient identification and verification was mandatory prior to all procedures, but not limited to medication administration. It was also crucial before drug prescription and preparation for procedure. Misidentification of patient in such scenario could potentially cause significant harm or lead to undesirable outcome. Strict compliance with proper patient identification procedure and restarting the patient identification process when interrupted should help avoid these incidents. In these three cases, they involved patient misidentification process during laboratory or point-of-care testing which would affect the subsequent patient care process.

- A surgical specimen was labelled with another patient's information after hysteroscopy in the operating theatre, resulting in a mismatched pathology report at follow-up. The misidentification was picked up at clinic follow-up and patient care was not affected.
- A critical laboratory result for hyperkalaemia belonging to a discharged patient was misfiled into an inpatient's record, prompting treatment for the wrong patient.
- Bedside glucose monitoring was mistakenly recorded for another patient, resulting in an incorrect prescription of 40ml of IV Dextrose 50% to that patient.

Recommended actions are to enforce strict patient identification during specimen collection, medication prescription/administration, and point-of-care testing.



7. Ongoing Risk Reduction Measures

Various risk reduction measures have been implemented or are being adopted to enhance patient safety. The highlights of these measures are outlined below:

7.1 Medication Safety related to Infusion-related incidents

To minimise infusion-related medication errors, staff education on infusion safety has been enhanced. A two-minute education video for junior nursing staff has been designed and will be launched in early 2026, emphasising three key practices: line tracing, clear labelling and independent counter-checking. This concise resource supports quick, focused learning and workplace refresher training.

The corporate-wide standard dilution templates for four high-risk medication classes (vasopressors, insulin, opioids and anticoagulants), developed in the last annual report, have now been implemented across all HA clusters. In collaboration with the Coordinating Committee (Intensive Care), standard dilution templates for these four high-risk medication classes have also been developed.

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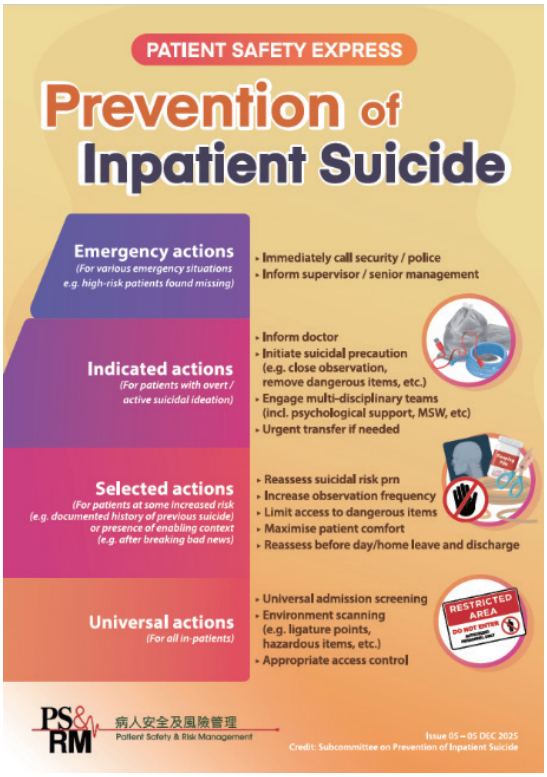
7.2 Prevention of Inpatient Suicide

HA is committed to proactive measures to reduce self-harm risk in inpatient settings. During the reporting period, seven inpatient suicide cases were reported. Although no definitive root cause was identified, the in-patient suicide SE cases were reviewed and preventive measures were strengthened to mitigate this risk.

To enhance staff awareness and vigilance against inpatient suicide, key prevention measures were promulgated through Patient Safety Express issued on 5 December 2025 and other channels. The tips and recommendations would help highlight subtle warning signals in high-risk patients for staff to initiate appropriate response when situation arises.

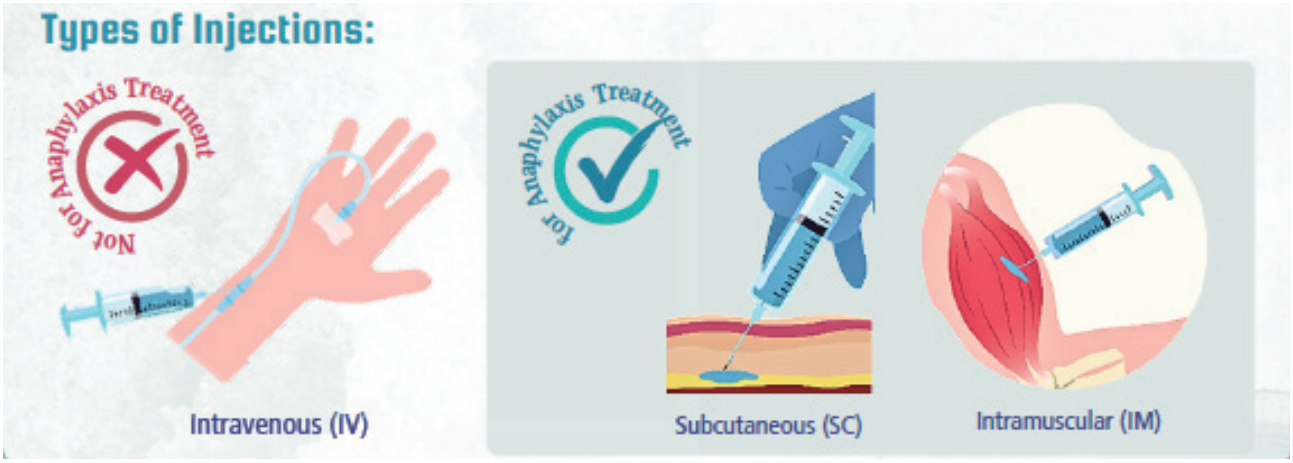


Patient Safety Express Issue 05

7.3 Adrenaline autoinjector for anaphylaxis treatment

In this reporting period, several incidents occurred in which adrenaline 1:1000 was mistakenly administered intravenously (IV) during anaphylaxis management instead of intramuscular (IM) route. To mitigate wrong-route of adrenaline administration errors during anaphylaxis treatment, PS&RM, in collaboration with the Coordinating Committee (Accident & Emergency) and the Chief Pharmacist's Office, introduced adrenaline autoinjectors across all Accident & Emergency Departments in 2Q 2025.

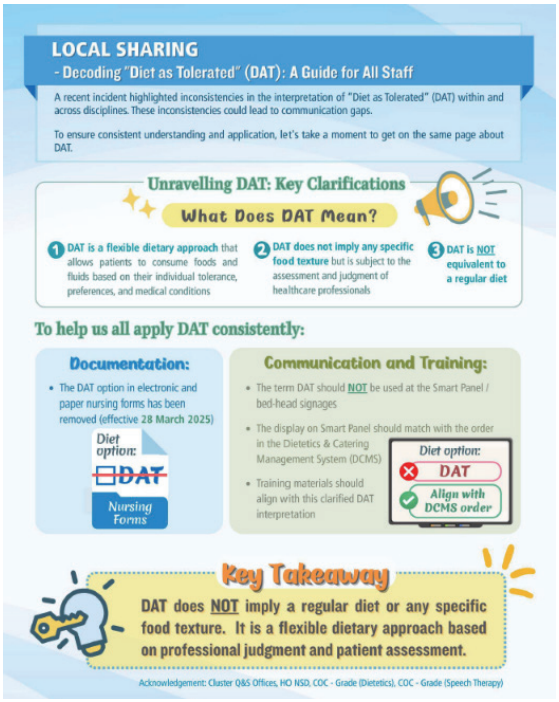
Leveraging human factors engineering, this route-specific, fixed-dose design supports standardized and safe practice. This helped reduce errors during drug administration, especially in an emergency clinical context. The ready-to-use packaging shortens time to treatment, enabling rapid, reliable care in emergency care.



7.4 Alignment on "Diet as Tolerated" (DAT) interpretation

One SE case highlighted inconsistent interpretation on the "Diet as Tolerated" (DAT) order within and across disciplines, creating potential communication gaps.

To address this, DAT has been clarified as a flexible dietary approach that allows patients to consume food and fluids based on their individual tolerance, preferences, and medical conditions. It does not imply any specific food texture but is subject to the assessment and judgement of healthcare professionals. It is not equivalent to a regular diet.



HA Risk Alert Issue 78

As risk mitigation measures, the DAT option has been removed from both electronic and paper hospital forms to ensure explicit selection of the appropriate diet or texture. Additionally, the term DAT shall not be used on smart panel displays or bedhead signage. Training materials have been updated to reflect this clarified interpretation, ensuring consistent understanding and communication across disciplines.

7.5 Medication Journey and Clinical intention

The Medication Journey initiative would strengthen continuity of care and safety across transition of patient care journey by enabling clear tracing of drug changes over time. It would consolidate a single, integrated view of medications prescribed by different specialties. By making -the drug prescription and adjustment history transparent at the point of care, clinicians could quickly recognise and understand what had been modified, reducing medication reconciliation errors and improving handovers between clinical teams.

The Clinical Intention enhancement, coupled with decision support could facilitate appropriate continuation or discontinuation, helping teams align actions with treatment goals and patient context during admissions, transfers and discharge. Together, these measures provide a coherent medication storyline, support informed decisions, and improve reliability in managing both short-term and chronic therapies.

8. Learning and Sharing

In 2025–26, the HAHO Patient Safety and Risk Management Department (PS&RM) continued its commitment to fostering a culture of learning and sharing across the organisation.

Staff Forums

Four staff forums were conducted biannually, drawing over 5,000 healthcare professionals from across all levels, including hospital executives, safety managers, frontline doctors, nurses, and allied health professionals. These forums provided a platform for discussing SE and SUE and sharing important learning points to strengthen patient safety practices.

Sharing at Committees and Working Groups

Key learning points from incidents were shared across Coordinating Committees (COC), Central Committees (CC), and other working groups. These discussions ensured that safety lessons were widely disseminated and integrated into clinical practices and operational improvements.

Electronic Patient Safety Publications

Four issues of the HA Risk Alert (HARA) and one special issue of Patient Safety Express focusing on key prevention measures for inpatient suicide were released via electronic platforms. This approach enhanced accessibility and awareness of patient safety information among staff.

University Training for Medical Students

As part of efforts to build a safety-aware culture from the ground up, PS&RM staff delivered lectures on clinical incidents to medical students at universities. These sessions provided valuable lessons on patient safety measures, empowering the next generation of healthcare professionals to prioritise safety in their practice.

Promoting a Safety Culture

In 2025, HA joined the World Health Organisation's World Patient Safety Day for the first time, reaffirming its commitment to safer care across the public healthcare system. Centred on the theme "Together for Patient Safety" 「醫患同心，安全同行」, the PS&RM hosted a hybrid seminar on 17 September 2025, which attracted over 250 in-person attendees and 900 virtual participants from all clusters.

The cluster sharing session highlighted practical advancements in four key areas aimed at mitigating risks associated with various types of incidents.

- **Artificial Intelligence (AI) Decision Support:** Electronic result screening and data-driven early-warning systems, including specialty tuned predictive models, were highlighted for their ability to help clinical teams in identifying patient deterioration earlier and support timely interventions.
- **Smart Devices and Standardisation:** Initiatives to optimise infusion pump safety through smarter alarms and standardised practices helped to reduce unwarranted variation and improve reliability across care settings.
- **Workforce Capability and Safety Culture:** Structured patient safety training programmes empowered staff, reinforced foundational practices, and encouraged speaking-up behaviours and shared accountability.
- **Patient Partnership and System Enablement:** Initiatives focused on empowering patients in their own care while improving system workflows and infrastructure to ensure safer, more consistent care delivery.

The strong turnout and engagement during World Patient Safety Day highlighted the importance of shared learning and collaboration in advancing patient safety. Through the active participation of staff from all levels, the event fostered meaningful discussions on safety innovations and reinforced the value of learning from each other's experiences. Clusters extended these efforts by conducting complementary activities throughout the month, localising safety messages and encouraging broader participation. These initiatives strengthened the culture of learning and sharing across the organisation, ensuring that safety lessons were embraced and applied system-wide.

By embedding safety as a core value and promoting shared learning, HA continues to drive progress towards a stronger safety culture across all settings. The collective commitment of staff, patients, and families to safety as a shared responsibility supports ongoing improvements in patient care. Through these collaborative efforts, HA remains aligned with international best practices and is well-positioned to deliver safer, higher-quality care across the healthcare system.

9. The Way Forward

Looking ahead, our efforts will prioritise risk reduction, enhanced reliability, and the continued cultivation of a robust culture of safety across all settings, with a particular focus on staff training and competency development.

Promoting patient safety culture

- To further enhance patient safety and embed a sustainable culture of safety across all settings, staff training and competency development will be strengthened in the upcoming year.
- Two mandatory core training courses, focusing on "Speak-Up Culture" and "Patient Safety Culture", will be introduced for all newly appointed medical, nursing, and allied health staff to instil fundamental safety principles from the outset of their employment.

Surgical safety

- Educational materials will be developed and disseminated to reinforce adherence to the Surgical Safety Policies, with emphasis on the critical safety steps "SIGN IN", "TIME OUT" and "SIGN OUT".
- Good practices and practical safety tips, such as proper labelling of drains, will be shared through multiple platforms, including staff forums and publications, to ensure widespread understanding and application.
- Key learning points and recommendations arising from incident investigations will be shared with relevant committees to support continuous improvement in surgical safety practices.

Prevention of inpatient suicide

- Incidents will be reviewed systemically to identify and recommend strategies aimed at reducing the risk of such events within hospital settings.
- A dedicated webinar series will be organised in the second quarter of 2026, providing a platform for case sharing and discussions on topics such as breaking bad news, symptom management, and environmental safety measures.

ANNEX I –
HA Sentinel and Serious Untoward Event Policy

HA SENTINEL AND SERIOUS UNTOWARD EVENT POLICY (July 2015)

1. Purpose

The Sentinel and Serious Untoward Event Policy defines the process for identification, reporting, investigation and management of Sentinel Events (SE) 「醫療風險警示事件」and Serious Untoward Events (SUE)「重要風險事件」in the Hospital Authority.

2. Scope

This Policy applies to sentinel and serious untoward events related to care procedures.

3. Objectives

- To increase staff's awareness to SE and SUE.
- To learn from SE and SUE through Root Cause Analysis (RCA), with a view to understand the underlying causes and make changes to the organisation's systems and processes to reduce the probability of such an event in the future.
- To have positive impact on patient care and services.
- To maintain the confidence of the public and regulatory/accreditation bodies.

4. Definition of Mandatory Reporting Events

4.1 Sentinel Events

1. Surgery/interventional procedure involving the wrong patient or body part.
2. Retained instruments or other material after surgery/interventional procedure.
3. ABO incompatibility blood transfusion.
4. Medication error resulting in major permanent loss of function or death.
5. Intravascular gas embolism resulting in death or neurological damage.
6. Death of an inpatient from suicide (including home leave).
7. Maternal death or serious morbidity associated with labour or delivery.
8. Infant discharged to wrong family or infant abduction.
9. Other adverse events resulting in permanent loss of function or death (excluding complications).

4.2 Serious Untoward Events

1. Medication error which could have led to death or permanent harm.
2. Patient misidentification which could have led to death or permanent harm.

5. Management of SE and SUE

5.1 Immediate response upon identification of a SE or SUE

5.1.1 Clinical Management Team shall assess patient condition and provide care to minimise harm to patient.

5.1.2 Attending staff shall notify senior staff of Department without delay (evenoutside office hours). Hospitals should establish and promulgate a clear line of communication for SE and SUE to all staff.

5.1.3 Department and hospital management shall work out an immediate response plan, including

- Disclosure to patient/relatives;
- When to notify HAHO;
- Public relation issues and media, (making reference to HAHO Corporate Communication Section's protocol/advice); and
- Appropriate support/counselling of staff.

5.2 Reporting (within 24 hours)

5.2.1 Hospitals must report SE and SUE through the Advance Incident Report System (AIRS) within 24 hours of their identification to

- Provide an initial factual account; and
- Mark the case as "SE" or "SUE" in AIRS accordingly.

5.2.2 Hospitals shall consider additional reporting requirements as indicated, for example, to Coroner in accordance to statutory requirement.

5.3 Investigations

5.3.1 Within 48 hours

5.3.1.1 For SE, HAHO shall appoint an RCA Panel, composing of members from hospital RCA team, respective COCs, external senior clinicians, HAHO coordinator and/or lay persons from Hospital Governing Committee, to evaluate the event reported.

5.3.1.2 For SUE, the RCA Panel shall be formed by respective hospital.

5.3.2 Hospital shall submit a detailed factual account to HAHO in 2 weeks.

5.3.3 The RCA Panel shall submit an investigation report to the Hospital Chief Executive in 6 weeks.

5.3.4 Hospital shall submit the final investigation report to HAHO in 8 weeks.

5.4 Follow-up (post 8 weeks)

5.4.1 Implicated departments shall implement the action plan as agreed in the RCA report, and risk management team/personnel shall monitor compliance and effectiveness of the measures in due course.

5.4.2 The panel at HAHO shall review RCA reports to identify needs for HA-wide changes, and to share the lessons learned through Safety Alert, HA Risk Alert (HARA), Patient Safety Forum, SE and SUE Report (to public) and follow-up visits.

5.4.3 The HAHO would visit respective hospitals for the implementation of improvement measures.

Supplementary Notes to Sentinel Event

If an incident involves a criminal act, a deliberately unsafe act, substance abuse, or deliberate patient harm or abuse, the incident should not be scrutinised by the Sentinel Event Policy.

Definition of common terms of Sentinel Event

1. Surgery/interventional procedure

Any procedures, regardless of setting in which it is performed, that involves any of the following:

- Creation of surgical wound on skin or mucous membranes.
- Making a cut or a hole to gain access to the inside of a patient's body.
- Inserting an instrument or object into a body orifice.
- Use electromagnetic radiation for treatment.

It includes fine needle aspiration, biopsy, excision and cryotherapy for lesions, radiology interventional procedures, anaesthetic block and vaginal birth or Caesarean delivery.

2. Permanent loss of function

It means sensory, motor, physiologic, or intellectual impairment not present on admission requiring continued treatment or lifestyle change. When "permanent loss of function" cannot be immediately determined, applicability of the policy is not established until either the patient is discharged with continued major loss of function, or two weeks have elapsed with persistent major loss of function, whichever occurs first.

Reportable Sentinel Event

1. Surgery/interventional procedure involving the wrong patient or body part

Any surgery/interventional procedure performed on an unintended patient or unintended body part.

The event can be detected at any time after the surgery/interventional procedure begins which is the point of surgical incision, tissue puncture or the insertion of instrument into tissue, cavities or organs.

Not to be included

- Unsuccessful procedure as a result of unknown/unexpected anatomy of the patient.
- Changes in plan during surgery with discovery of pathology in close proximity to the intended place where risk of a second surgery or procedure outweighs benefit of patient consultation or unusual physical configuration (e.g. adhesion, spine level/extra vertebrae).
- Blood taking, parenteral administration of drug, and use of otoscope without any intervention.

2. Retained instruments or other material after surgery/interventional procedure

Unintended retention of a foreign object in a patient after a surgical/invasive procedure ends. It also includes items were inserted into patient 's body during a surgery/interventional procedure and not removed as planned. The size of the retained foreign object and the potential for harm from the retained foreign object, or whether the object is removed after discovery is irrelevant to its designation as a Sentinel Event.

'Instrument or other material' includes any items (such as swabs, needles, wound packing material, sponges, catheters, instruments and guide wires) left unintended.

'Surgery/interventional procedure' ends after all incisions have been closed in their entirety, and/or all devices, such as probes or instruments, that are not intended to be left in the body have been removed, even if the patient is still in the operation theatre or interventional suite under anaesthesia.

Not to be included

- Objects that are intentionally (i.e. by conscious decision) left in place during the surgery/interventional procedure.
- Objects are known to be missing prior to the completion of the surgery or interventional procedure and may be within the patient (e.g. screw fragments, drill bits) but where further action to locate and/or retrieve would be impossible or carry greater risk than retention.

3. ABO incompatibility blood transfusion

Administration of blood or blood product(s) having ABO incompatibilities, regardless of whether it results in transfusion reaction or other complications.

Not to be included

- Clinically indicated transfusion of ABO incompatible blood or blood product.

4. Medication error resulting in major permanent loss of function or death

Medication error includes error in the prescribing, dispensing, or administration of a medicine resulting in permanent loss of function or death. It includes, but not limited to, an error involving the wrong drug, the wrong dose, the wrong patient, the wrong time, the wrong rate, the wrong preparation, or the wrong route of administration.

Not to be included

- Death or permanent loss of function associated with allergies that could not be reasonably known or discerned in advance of the event.
- Variance in clinical practice on drug selection, dose and route of administration agreed by professional.

5. Intravascular gas embolism resulting in death or neurological damage

Death or neurological damage as a result of intravascular air embolism introduced during intravascular infusion/bolus administration or through a haemodialysis circuit.

Not to be included

- The introduction of air emboli: via surgical site (particularly Ear, Nose and Throat surgery and neurosurgery), during foam sclerotherapy and during the insertion of a central venous catheter.
- Where the introduction of the air embolism is deliberately by the patient.

6. **Death of an in-patient from suicide (including home leave)**

   Death from suicide of in-patient committed any time after in-patient admission and before discharge, including home leave.

   Not to be included

   - Deaths resulting from self-inflicted injuries that committed before admission.
   - Deaths from suicide committed while waiting for admission to the hospital.
   - Suicidal death of a patient attending an out-patient service (such as Out-patient Department, Accident and Emergency Department).
   - Unsuccessful suicide attempts.

7. **Maternal death or serious morbidity associated with labour or delivery**

   It includes death or serious morbidity of a woman during or following childbirth from any cause related to or aggravated by labour, delivery or its management. It also includes obstetric complications resulting in death or serious morbidity. Serious morbidity means permanent loss of function.

   'Associated with' means that it is reasonable to initially consider that the incident was related to the course of care. Further investigation and/or root cause analysis of the event may be needed to confirm or refute the presumed relationship but this should not delay reporting of event.

8. **Infant discharged to wrong family or infant abduction**

   An in-patient aged 12 months or below is discharged to a wrong family or taken away from the hospital ward without prior notice to the hospital.

9. **Other adverse events resulting in permanent loss of function or death**

   An injury related to medical management, in contrast to the natural course of patient 's illness or underlying condition or known complications of treatment, resulting to permanent loss of function and death.

   Medical management includes all aspects of care including diagnosis and treatment, and the systems and equipment used to deliver care.

   Not to be included

   - Event relating to the natural course of the individual 's illness or underlying condition or to known complications of treatment.
   - A death or loss of function following a discharge against medical advice (DAMA).
   - Hospital-acquired infection(s).

   Final decision-making around individual events is for HAHO consultation with cluster SDs.

ANNEX II – Description of Consequences

Sentinel Events

Category of Consequence	Severity Index of Incident	Description
Minor/ Insignificant	1	- Incident occurred (reached patient) but no injury sustained - Monitoring may be required - No investigation or treatment required
	2	- Minor injury - Monitoring, investigation or minor treatment required - No change in vital signs
Major/ Moderate	3	- Temporary morbidity - Monitoring, investigation or simple treatment required - Some changes in vital signs
	4	- Significant morbidity - Transfer to a higher care level, emergency treatment, surgical intervention or antidote required - Significant changes in vital signs
Extreme	5	- Major permanent loss of function or disability
	6	- Death

Serious Untoward Events

Category of Consequence	Severity Index of Incident	Description
Minor/ Insignificant	1	- Incident occurred (reached patient) but no injury sustained - Monitoring may be required - No investigation or treatment required
	2	- Minor injury - Monitoring, investigation or minor treatment required - No change in vital signs
Moderate	3	- Temporary morbidity - Monitoring, investigation or simple treatment required - Some changes in vital signs
Temporary Major	4	- Significant morbidity - Transfer to a higher care level, emergency treatment, surgical intervention or antidote required - Significant changes in vital signs

ANNEX III – High Alert Medications List

The table below contains a list of high alert medications extracted from the "HAHO Safety Solutions on High Alert Medications" paper published by the Medication Safety Committee in September 2025.

Categories of Medications
1. Concentrated electrolytes
2. Anticancer drugs
3. Drugs commonly associated with drug allergies (e.g., antibiotics, Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), Sulphonamides)
4. Vasopressors and inotropes
5. Anticoagulants
6. Neuromuscular blocking agents
7. Oral anti-diabetic drugs
8. Insulins
9. Narcotics and opioids

ANNEX IV – Individual Sentinel Events

Category 1: Surgery/interventional procedure involving the wrong patient or body part

Case 1

A patient was scheduled for LEFT eye cataract surgery. Following the completion of site marking on the patient's LEFT forehead and the "SIGN IN" process, the patient exhibited involuntary movements. To stabilise the patient's head, a micropore tape was applied to the patient's head, unintentionally covering the surgical site marking.

Despite the "TIME OUT" procedure, retrobulbar local anaesthesia was mistakenly administered and skin preparation was performed to the patient's RIGHT eye without re-verifying the surgical site.

The procedure commenced with two incisions (<0.5 mm) made in the RIGHT eye. Upon recognition that the local anaesthesia had been administered to the wrong side, the operation was promptly aborted. The incisions were closed with stromal hydration, without the need for sutures. The patient experienced no further adverse effects.

Areas for Improvement Identified:

1. Ensure visibility of surgical site marking to facilitate surgical team's verification of the laterality
2. Perform "TIME OUT" procedure and document the standardised surgical safety checklist just before anaesthesia and incision

Case 2

During the investigation of suspected interstitial lung disease, a patient was diagnosed with a multinodular goiter. Following this diagnosis, ultrasound (US) of the thyroid and Fine Needle Aspiration Cytology (FNAC) were conducted. A suspicious lesion was identified on the LEFT side and hemithyroidectomy was scheduled for the patient. However, the diagnosis of RIGHT thyroid atypia of undetermined significance (AUS) nodule and operation of RIGHT hemithyroidectomy were inadvertently booked via Operating Theatre Management System (OTMS).

The patient subsequently attended the Pre-Operative Assessment Clinic (POAC) for pre-operative assessment where the eConsent was signed, but the site of operation was incorrectly indicated as RIGHT. The patient was admitted to Day Ward on the date of operation. Surgical safety 123 form for RIGHT hemithyroidectomy was prepared and site marking on RIGHT side was done. Subsequently, the operation of RIGHT hemithyroidectomy was proceeded. During the patient's recovery from anesthesia, the attending surgeon identified the laterality discrepancy while reviewing preoperative imaging and FNAC findings. The patient's relative was promptly informed of the situation. After discussion and consent, a LEFT hemithyroidectomy was performed in the same operation.

Areas for Improvement Identified:

1. Implement a system to double-check the laterality before confirming the operation list and signing the consent
2. Document the laterality of diagnosis and planned surgical procedure clearly in the consultation notes

Case 3

A refractive target of -1.5 diopters (D) was planned during the preoperative assessment for the patient's RIGHT eye cataract surgery, which was selected based on the patient's visual needs.

On the day of surgery, a reprint of intraocular lens (IOL) power measurement, A-scan and Keratometry (A&K) scan, was done by optometrist. The patient was transferred to the operating theatre (OT) and underwent the "SIGN IN" process just after the A&K result was reprinted. The LEFT eye A&K data sheet was inadvertently used instead, hence the corresponding IOL was selected. The error was not detected in subsequent "TIME OUT" process and the surgery was completed accordingly. The patient's right eye wound healed uneventfully and the cataract surgery for the opposite eye was scheduled at a later date.

The day before the patient was scheduled to undergo left eye cataract surgery, another surgeon reviewed the patient's records and noticed the left eye IOL selection label had been completed during the previous surgery, and the incident was subsequently identified. The surgical outcome for both eyes were acceptable, with no significant deviation from the target refraction.

Areas for Improvement Identified:

1. Adjust patient flow to make sure A&K results are available before transfer to OT
2. Include eye laterality on the IOL selection label
3. Enhance A&K data sheet formatting to improve identification of the correct eye data
4. Verify the IOL with the corresponding laterality and parameters at each critical step, including IOL collection, "TIME OUT" and just before implantation

Case 4

A patient diagnosed with appendicitis underwent an emergency laparoscopic appendicectomy performed by a higher surgical trainee. During the operation, a mildly inflamed tubular structure, believed to be the inflamed appendix, was excised. The operation was complicated by a ruptured ovarian cyst with continue oozing; haemostasis was successfully achieved with specialist on site support.

Postoperatively, the patient developed fever and abdominal pain. A subsequent computerised tomography (CT) scan suggested the tubular structure to be appendiceal in origin, and the pathology report confirmed the excised tissue was a fallopian tube. A second laparoscopic appendicectomy was performed. The patient was subsequently discharged following an uneventful recovery.

Areas for Improvement Identified:

1. Strengthen the framework on scope of practice for trainee with the use of workplace-based assessment guidelines which includes supervision, coaching and evaluation
2. Strengthen Crew Resource Management (CRM) training to enhance situational awareness and team communication

Case 5

A patient with a history of breast cancer, multiple metastases, and bilateral pleural effusion was admitted for management of malignant pleural effusion. Bilateral chest drains were inserted and labelled as LEFT side chest drain (Drain A) and RIGHT side chest drain (Drain B).

A flush of Drain A was ordered and a RIGHT pleurodesis was planned. The plan was documented as "proceed to pleurodesis to right chest drain (Drain B)" and talc powder was prescribed via In-Patient Medication Order Entry (IPMOE). The procedure was delegated to another doctor.

Pleurodesis was carried out at the bedside with nursing assistance. However, due to the bedside curtains limiting visibility of Drain B, and without confirmation through standard pre-procedure checks, the pleurodesis was inadvertently carried out via Drain A. The error was identified after the procedure.

Areas for Improvement Identified:

1. Strengthen staff adherence to mandatory pre-procedure verifications for bedside procedures

Case 6

A patient with end-stage renal failure had received two kidney transplants. The first graft was placed in the RIGHT iliac fossa and the second graft was placed in the LEFT iliac fossa.

Following the second transplant, post-transplant lymphoproliferative disorder was suspected, prompting the request of an ultrasound-guided kidney biopsy via the Generic Clinical Request System (GCRS). The request and the informed consent form did not specify the intended graft's laterality or location.

On the procedure day, during "SIGN IN" and "TIME OUT", both the nursing team and the interventional radiologist assumed that pre-procedural site marking was not required, as laterality was not documented in the GCRS or the consent form by the clinical team. The radiologist presumed the graft kidney was in the RIGHT iliac fossa —a typical location— and confirmed a graft kidney there via ultrasound before proceeding with the biopsy. The error was discovered in the recovery room after the procedure.

Areas for Improvement Identified:

1. Emphasise the importance of complete clinical documentation and clear interdisciplinary communication to ensure procedural safety
2. The second graft kidney on the left is suspected to have clinical pathology which warranted diagnosis by invasive renal biopsy. Site marking to indicate laterality will ensure procedure to be performed on the intended side/site.

Category 2: Retained instruments or other material after surgery/ interventional procedure

Case 1

Guide Wire

A patient was admitted to the Cardiac Care Unit (CCU). Due to persistent hypotension, a fluid challenge was administered, along with an intravenous (IV) Dopamine infusion was prescribed. Central line insertion for inotropic support was decided.

Nurses prepared the trolley and necessary materials for central line insertion. A triple lumen central venous catheter (CVC) was inserted by a doctor via patient's right femoral vein. The doctor flushed all three lumens with 0.9% Sodium Chloride solution to assess patency, revealing that the distal lumen did not yield any blood, while the proximal and middle lumens were patent. The concern of potential blockage was raised and another 0.9% Sodium Chloride flush was applied to distal lumen again. Since the other two lumens were patent, the doctor instructed to clamp the distal lumen, and Dopamine infusion was administered through the remaining lumens. The distal lumen was then covered by gauze.

A guide wire inside the distal port of the central line was noted during CVC removal in the patient.

Areas for Improvement Identified:

1. Implement voice command with response for procedures requiring guide wire technique to prevent error
2. Enhance speak-up culture and reinforce clarification of queries

Case 2

Segments of CVC Inner Lumen

A patient with a history of complex congenital heart disease was admitted for a single-stage Fontan operation. On the day of the operation, a 4-lumen CVC was inserted into her left subclavian vein and anchored.

During the operation, the surgeon observed that the surgical field over the patient's left superior vena cava was obscured by the tip of CVC. The tip of the CVC was cut and kept for further completeness checks. The operation was completed uneventfully.

The catheter was removed post-operatively, and the integrity check could not identify two dislodged inner catheter segments. Post-operative chest X-ray later revealed radiopaque lines, and the retained two tiny inner catheter segments of the CVC (Figure 1) were retrieved by endovascular procedure.

Areas for Improvement Identified:

1. Avoid cutting the tip of such specific design of CVCs, as this may result in unexpected dislodgement of tube segments
2. Formulate a standardised practice to manage situation whenever part of CVC obstructs/obscures the surgical field intra-operatively

Case 3

Suture Needle

An obese patient was admitted for right pleural effusion. Four attempts for chest drain insertion were made, but all were unsuccessful.

During the second attempt, a 4-O Dermalon suture needle failed to pierce the chest wall. The case doctor removed the needle from its rear end using a needle holder but did not check the needle's integrity.

A 3-O Dermalon suture was requested, but the nurses mistakenly provided 4-O Dermalon packs. A total of three additional Dermalon packs were given before the doctor proceeded to anchor the chest drain. Aspiration from the chest drain was absent, so the drain and sutures were removed.

The two-hour procedure involved three nurses, with inadequate communication regarding the number of suture packs used. Pleural tapping was ultimately performed as an alternative.
The next day, a retained foreign body (the suture needle) was identified on a follow-up X-ray and successfully retrieved.

Areas for Improvement Identified:

1. Instrument Integrity Checks: Perform stringent checks of needle integrity after removal from patients
2. "SIGN OUT" Process: Conduct joint verification of needle integrity and count during the "SIGN OUT" process by doctors and nurses involved in the procedure
3. Seniors' Assistance: Junior doctors should seek seniors' assistance when encountering difficulties
4. SBAR Communication: Implement structured communication for clinical handover using SBAR (Situation, Background, Assessment and Recommendation)

Case 4

Metal Debris

A patient was admitted for intertrochanteric fracture of right hip. A closed reduction and fixation of the patient's right proximal femur with Proximal Femoral Nail Antirotation (PFNA) was performed. A post-operative X-ray confirmed the implant in situ.

The patient was transferred to another hospital three days later. On admission, the post-operative X-ray showed a 2mm metal debris (Figure 1) on the proximal femoral nail near the insertion of the PFNA blade and suspected detachment of the PFNA blade implant. The patient opted for conservative management.

Areas for Improvement Identified:

1. Strengthen staff alertness to the possibility of debris detachment from PFNA blade
2. During intraoperative X-ray screening of fracture fixation cases
   - Check the quality of reduction and fixation
   - Assess the implant position
   - Monitor the soft tissue condition around the fracture site and implant

Case 5

Insulating Coating of Coagulation Probe

A patient with intractable epilepsy underwent elective stereoelectroencephalography (SEEG) to localise the seizure onset zone. Following successful identification of the seizure onset region, the surgeon proceeded to therapeutic radiofrequency ablation and removal of SEEG electrode 2 weeks later.

A postoperative computed tomography (CT) brain revealed a high-density lesion in the right frontal region, located between the entry sites of two previous SEEG electrode leads. Subsequent inspection of surgical instruments found a 7mm missing segment of ceramic insulating coating from a single-use dura coagulation electrode. Follow-up radiological analysis confirmed the retention of the insulating coating fragment in the patient's brain. The removal of the retained fragment was arranged as part of the patient's epilepsy surgery.

Areas for Improvement Identified:

1. Raise clinical team's awareness about the potential breakage of the insulation coating of the dura coagulation electrode and inspect it thoroughly during each integrity check
2. For new procedures, especially involved consignment items, conduct a pre-operative briefing to review specific instruments to be used during the surgery

Case 6

Cement

A patient underwent a right total knee replacement. A postoperative X-ray revealed a radiopaque material over the posteroinferior knee joint, suspected to be retained cement.

Subsequent CT scan of the right knee showed the presence of a radiopaque material in the suprapatellar lateral recess, potentially indicating intra-articular cement or a bone fragment.

A second operation was performed to revise the knee arthroplasty and remove the foreign body. A 0.8 x 0.8 cm intra-articular cement fragment was found at the posterolateral aspect.

Case 7

Cement

A patient with right neck of femur fracture underwent right bipolar hip hemiarthroplasty. A postoperative X-ray revealed a suspected retained cement fragment at the surgical site.

Subsequent CT scan confirmed the presence of a 0.9 x 0.3 × 0.9 cm radiopaque fragment in the anteromedial region of the right femoral neck, likely representing bone cement. The patient agreed with conservative management.

Area for Improvement Identified (for case 6 & 7):

1. Enhance training and coaching on the techniques and precautions for handling different types of bone cement

Case 8

Gauze

A patient with multiple comorbidities was admitted to the medical ward for hypotension, and passed orange to red colored stool. An intern performed a per-rectal examination with proctoscopy and inserted an adrenaline-soaked packing gauze into the rectum to control bleeding, with an order for removal after a predefined duration. Due to persistent rectal bleeding, a nurse decided to keep the gauze for a longer period and secured the suture tip outside the anus with Tegaderm. During handover, Nurse B informed Nurse F that the gauze was not removed. However, Nurse F mistakenly believed that gauze had been removed and documented the information in the Intake & Output Chart.

As the patient's rectal bleeding continued, another adrenaline-soaked packing gauze was added without acknowledging the presence of a previously inserted gauze. Following the cessation of rectal bleeding, only one gauze was removed and documented. The patient was discharged with a follow-up appointment. Several days later, the patient was admitted to another hospital due to shortness of breath, where the first inserted gauze secured with a suture was discovered on the patient's napkin.

Areas for Improvement Identified:

1. Enhance staff communication and awareness of gauze packing through the use of electronic systems, such as "Wound and Packing Module", "Clinical Dashboard" and the "Electronic bed panel system"
2. Check the integrity of gauze packing regularly and ensure proper documentation

Case 9

Segment of Nasogastric (NG) Tube

A case nurse instructed a Temporary Undergraduate Nursing Student (TUNS) to remove a NG tube prior to the Flexible Endoscopic Evaluation of Swallowing (FEES) test. The case nurse did not directly supervise the process to the TUNS and the tube's integrity was not checked prior to disposal. Following FEES, a chest X-ray (CXR) revealed a retained segment of the NG tube, which was subsequently removed.

Areas for Improvement Identified:

1. Accentuate the importance of supervising the TUNS to ensure the nursing standards for patient care are followed
2. Emphasise the checking of NG tube integrity and appropriate nursing documentation after removal
3. Include this topic in new staff orientation and training programmes

Case 10

Guidewire Coating

A patient underwent Percutaneous Nephrolithotomy (PCNL) for management of right upper urinary tract stone. Due to the presence of a full staghorn stone that rendered limited space between the stone and the calyceal system, the guidewire was manipulated multiple times within the metal needle. However, upon removal, the coating on the guidewire was found to be torn, exposing the inner wire. Intraoperative integrity checking suggested that the length and tip of the guidewire remained intact. Intraoperative nephroscopy failed to visualise the retained coating due to bleeding near the kidney puncture site.

Postoperative kidney, ureter and bladder (KUB) X-ray revealed that a portion of the guidewire coating was retained within the kidney. A second PCNL was performed.

Areas for Improvement Identified:

1. Use higher-dose X-rays intraoperatively to detect any retained foreign bodies
2. Retain torn instruments for subsequent inspection and verification by the supplier if necessary

Case 11

Broken Drill Bit

A patient with osteogenesis imperfecta and a history of multiple fractures underwent revision of K-wire fixation and open reduction internal fixation (ORIF) of the left forearm. The surgery was performed under regional anaesthesia.

During the operation, the patient exhibited unexpected movement, requiring assistance from the circulating nurse. This left the scrub nurse to perform the surgical count independently. A suturing needle was reported as lost during muscle-layer closure, causing increased distraction for the surgical team. Instruments and implants were subsequently counted and their integrity checked. Later, the Sterile Supply Unit identified a 1.5 mm drill bit with a 1 cm segment missing. Retrospective review of intraoperative fluoroscopic images revealed a metallic fragment beneath the plate within dense bone substitute that matched the missing segment. The patient agreed to conservative management.

Areas for Improvement Identified:

1. Establish an escalation protocol for nurses to promptly alert nursing management when a standard two-person surgical count cannot be performed
2. Implement an education program for perioperative nurses on surgical counting standards and instrument integrity checks, with emphasis on high-risk items

Case 12

Metal Debris

An emergency operation was scheduled for a patient with a cut injury to repair the extensor tendon of the hand, along with closed reduction and fixation to left phalange.

During the procedure, two attempts to insert a Zimmer 1.0 mm JuggerKnot suture anchor were unsuccessful. Device integrity was checked after each attempt. The surgeon then proceeded with K-wire fixation across the distal interphalangeal joint. Intraoperative fluoroscopy showed no foreign body. However, a follow-up X-ray revealed two small radio-opacities at the dorsal base of the distal phalanx, suspected to be metal clips from the failed anchor attempts. The patient opted for conservative management.

Areas for Improvement Identified:

1. Conduct pre-procedure briefings on new or rarely used equipment
2. Reinforce the good practice for multiple angles of x-ray images after procedures

Case 13

Nasal Packing

A patient underwent bilateral functional endoscopic sinus surgery (FESS), septoplasty, turbinoplasty, and nasopharynx biopsy. Three nasal packs were packed in each nostril. On post-operative day 2, the packings were removed as planned, and the patient was discharged.

During the first follow-up, the patient reported improved nasal obstruction. Nasal endoscopy (NE) crusting from the left nasal passage was removed and revealed clear nasal passages and open middle meatal antrostomies and ethmoid sinus openings. Subsequent follow-ups confirmed continued improvement, with NE showing clear nasal cavities and minimal crusting, particularly on the left side.

During the fourth follow-up, a retained nasal pack was found and removed from the left superior middle meatus.

Areas for Improvement Identified:

1. Establish written guidance for packing record review, counting, integrity check, and documentation
2. Incorporate packing review standards into relevant training materials

Category 6: Death of an inpatient from suicide (including home leave)

Case 1

A patient was admitted for a scheduled operation on a suspected infected right knee, showed no abnormal or depressive behavior before admission. A suicide assessment was conducted, and no risks were identified. The patient complained of increasing right knee pain and swelling. Panadol was prescribed.

A plastic bag was left at the patient's request during visiting hours. On a routine midnight ward round, the patient was observed sleeping. Shortly afterwards, the patient was found unresponsive with her head covered by a blanket. Upon uncovering her, the patient was found with a plastic bag over her head and a charger cable around her neck. The patient succumbed despite resuscitation.

Case 2

A patient with history of depressed mood and chronic bone pain, presented to Accident and Emergency Department (AED) expressing suicidal ideation and requesting euthanasia. She was diagnosed with severe elderly depression by a psychiatric liaison nurse and admitted to a medical ward for blood pressure control. The patient was assigned to a bed close to the nursing station due to high risk of suicide. Suicidal precautions were implemented, including hourly vital signs monitoring and mood assessments.

At midnight, the patient was discovered attempting suicide by suffocation using a scarf, a patch, and fragments of a compressed plastic bag (reshaped and remoulded into small beads) to block both nostrils (Figure 1). Cardiopulmonary resuscitation (CPR) was initiated and the patient regained spontaneous circulation. However, the patient subsequently passed away.

Areas for Improvement Identified (for case 1 & 2):

1. Remind staff and patient relatives about the importance of removing nearby dangerous items
2. Evaluate the patients' pain level and provide effective pain management as part of suicide prevention in inpatient care

Case 3

A patient with metastatic prostate cancer was admitted for heart failure and later transferred to an isolation ward for disseminated herpes zoster. The patient had opted for Do-Not-Attempt Cardio-Pulmonary-Resuscitation (DNACPR). Suicide risk assessment was performed with no risk identified. A cardiac monitor and fall alarm sensor pad were applied for continuous monitoring.

During assessment in a nurse's round, the patient reported no complaints. 15 minutes later, the fall alarm was triggered. Supporting staff found the patient sitting on the edge of the bed and assumed that he was urinating. 30 minutes after that, the nurse noticed there was no signal from the cardiac monitor via the central monitor panel. Upon assessment, the patient's neck was found tied to the bed frame with a pair of trousers being fastened with a plastic bag urinal. Resuscitation was initiated immediately and the patient passed away.

Areas for Improvement Identified:

1. Provide disposable paper urinal instead of plastic bag to patient
2. Ensure timely action is taken when equipment alarms are triggered

Case 4

A patient with a history of metastatic pancreatic cancer was admitted for bilateral lower limb edema. On admission, the patient was emotionally stable and a suicide risk assessment revealed no identified risk.

Following clinical assessment, the patient was informed of the diagnosis of pancreatic cancer with liver and peritoneal metastases. He expressed keenness to proceed with palliative chemotherapy at that juncture. On the next day, the patient remained calm on bed initially, but later found unconscious with a rope around his neck attached to the bed hanger. Resuscitation was initiated immediately and the patient passed away. The origin of the rope remained unknown.

Areas for Improvement Identified:

1. Ensure storerooms and passcode-secured rooms are locked and closed at all times to prevent unauthorized access to potentially dangerous items, such as plastic bags or ropes, which could pose a risk to patient safety

Case 5

A patient was admitted for dyspnea with no identified suicidal risk during admission. He was informed of suspected malignancy with metastases and was referred to Clinical Psychology. Throughout the stay, he remained calm and was encouraged to report any discomfort.

The patient was last observed entering the toilet. Around 15 minutes later, staff did not hear the patient so they unlocked the door. He was found with a wrist injury and his head covered by two plastic bags. A broken bowl was found in the washbasin. Resuscitation was initiated immediately and the patient regained spontaneous circulation. However, he subsequently passed away.

Case 6

A patient with history of gastric ulcer and known lung mass was admitted for hypertensive urgency. Despite being informed about the progression of the lung mass, he refused the recommended CT Thorax. Throughout the stay, he remained calm and cooperative, showing no signs of distress.

On the day of event, the patient was found missing from his bed. Local ward search and hospital-wide search were conducted and the case was reported to the Police. The Police later informed that the patient had jumped from height outside hospital compound.

Case 7

A patient with chronic kidney disease was admitted for chest discomfort and hypertension. No suicidal risk was identified upon admission. He remained emotionally stable with symptom improvement.

The patient was found sitting on the bed using his mobile phone. Shortly afterward, he was found hanging by his own jacket looped over the trapeze bar attached to the bed. Resuscitation attempt was unsuccessful.

Area for Improvement Identified (for Case 5-7):

Emotional Support

- Provide holistic support and maximise patient comfort after breaking bad news

Managing Missing Patients

- Establish a hospital-wide workflow with defined roles for managing missing patients
- Reinforce staff awareness in handling missing patients

Environmental Safety

- Minimise the use of sizeable plastic bags in clinical areas
- Advise relatives of high-risk patients to avoid bringing in potentially dangerous items

Category 8: Other adverse events resulting in permanent loss of function or death

Case 1

A Patient Experienced Cardiac Arrest While Being Fed a Regular Diet

An old age home (OAH) resident was admitted for constipation and abdominal pain. The electronic Patient Assessment Form (ePAF) documented a "minced diet" based on information from relatives and the OAH note, stating that the patient was on a special diet. Doctor prescribed NPO (nil by mouth) except medications, with intravenous fluid replacement.

On the 4th day of admission, "Diet as Tolerated (DAT)" was ordered. As DAT was not a default option in the hospital's smart panel system, it was entered manually as free text, and the Dietetics & Catering Management System (DCMS) was not updated accordingly.

DAT was equated as a regular diet, and the patient was assisted with feeding. While initially tolerating some food, the patient began choking. Feeding was stopped and suction was performed. Shortly after, the patient suffered cardiac arrest and resuscitation was initiated. A piece of food residue from the patient's pharyngeal cavity was removed. Intubation was performed and resuscitation was continued. However, the patient was certified dead later.

Areas for Improvement Identified:

1. Provide training to align the interpretation of "DAT" across different discipline(s)
2. Eliminate "DAT" as diet selection in all electronic systems and standardise hospital forms to ensures accuracy and clarity in dietary management

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