ANNUAL REPORT ON SENTINEL AND SERIOUS UNTOWARD EVENTS

October 2018 – September 2019

HOSPITAL AUTHORITY
HONG KONG

January 2020

醫院管理局
HOSPITAL AUTHORITY

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Acknowledgement

This 12th Annual Report on Sentinel and Serious Untoward Events manifests Hospital Authority's (HA) ongoing efforts in the improvement of patient safety and delivery of quality healthcare. Since the implementation of the Sentinel & Serious Untoward Event Policy twelve years ago, root causes of incidents were analysed and lessons learnt were shared for continuous learning. Our colleagues have also been formulating patient safety precautions and enhancing staff awareness to minimize the happening of similar events. Their hard work and dedication is well-appreciated.

We are pleased to extend our sincere gratitude to all colleagues who have participated in reporting and investigating incidents as well as providing invaluable advice and recommendations for the betterment of our healthcare system in the interest of our patients, staff and community.

Patient Safety and Risk Management Department
Quality and Safety Division

Contents

Executive Summary

1. This annual report provides a summary of all Events (SE) and Serious Untoward Events (SUE), comprising 42 SE and 92 SUE, reported between October 2018 and September 2019.

Sentinel Events

2. The 42 reported SE represented an incident rate of 2 per 1,000,000 episodes of patient attendances / discharges and deaths. Of these SE, 38 occurred in acute general hospitals with 24-hour Accident and Emergency (A&E) services.

3. The top three categories of SE were *retained instruments or other material after surgery / interventional procedure* (17 cases); *death of an inpatient from suicide (including home leave)* (17 cases) and *surgery / interventional procedure involving the wrong patient or body part* (4 cases).

4. Of the 17 *retained instruments or other material after surgery / interventional procedure* cases, 14 were related to the counting of instruments / material and the other 3 involved broken instruments / material.

5. Of the 17 cases of *death of an inpatient from suicide (including home leave)*, 6 were inpatients, 4 were patients on home leave and 7 were missing patients. The overall assessment and management of these 17 cases was determined to be appropriate by investigation panel.

6. The 17 reported cases of *death of an inpatient from suicide (including home leave)* represented a suicide rate of 1.5 per 100,000 inpatient admissions. For reference, the estimated inpatient suicide rates in general hospitals of the United States estimated the inpatient suicide rate among nonpsychiatric inpatients to be 0.03 per 100,000 nonpsychiatric admissions. Among psychiatric inpatients, the estimated rate is 3.2 per 100,000 psychiatric inpatient admissions.[1]

[1] Incidence and Method of Suicide in Hospitals in the United States. The Joint Commission Journal on Quality and Patient Safety, November 2018.

7. The 4 cases of *surgery / interventional procedure involving the wrong body part* all occurred in the Operating Theatre.

8. Other reported SE were *maternal death or serious morbidity associated with labour or delivery* (1 case), *infant discharged to wrong family or infant abduction* (1 case) and *other adverse events resulting in permanent loss of function or death (excluding complications)* (2 cases).

9. Among the 42 SE, 20 (comprising 17 cases of *death of an inpatient from suicide (including home leave),* 2 cases of *other adverse events resulting in permanent loss of function or death (excluding complications)* and 1 case of *maternal death or serious morbidity associated with labour or delivery*) resulted in mortality.

10. Of the remaining SE, 7 had major / moderate consequence and 15 had minor / insignificant consequence.

11. The major contributing factors of SE were grouped into communication, knowledge / skills / competence, work environment / scheduling, patient factors, equipment and policies / procedures / guidelines, and safety mechanisms. Recommendations were made to address these factors.

Serious Untoward Events

12. Of the 92 SUE which could have led to death or permanent harm, 86 were *medication error* and 6 were *patient misidentification*.

13. The four most common *medication error cases* were prescription of a *known drug allergy* (24 cases), involving a *dangerous drug* (13 cases), involving *insulin* (8 cases) and prescription of an *anticoagulant* (8 cases). Of all the *known drug allergy* cases, 8 were related to Penicillin, 4 were related to Paracetamol and 3 were related to Non-Steroidal Anti-Inflammatory Drugs (NSAID), which are the three most commonly involved drugs.

14. Of the 92 SUE, 9 had temporary major consequence, 18 had moderate consequence and 65 had minor / insignificant consequence.

Introduction

15. The Sentinel Event (SE) Policy was implemented in 2007, while the element of Serious Untoward Event (SUE) was incorporated later in 2010. After implementation of 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.

16. The Policy dictates how hospitals are to manage SE and SUE. This includes the reporting of these incidents, and how they are investigated, which is to utilise 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 to improve patient safety.

17. This twelfth annual report provides a summary and analysis of the SE and SUE reported via the Advance Incident Reporting System (AIRS) between October 2018 and September 2019 (4Q18 - 3Q19). The aim of publishing this Annual Report is to share the lessons learnt from SE and SUE, with a view of improving quality patient-centred care through system improvement and teamwork.

18. To facilitate understanding on the scope and definition of SE and SUE, the following abbreviated captions for various SE and SUE categories, highlighted in blue, will be used in this report:

Sentinel Events (9 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 inpatient from suicide (including home leave)
[Inpatient suicide]

Category 7 Maternal death or serious morbidity associated with labour or delivery
[Maternal 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 (2 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]

Sentinel Events Statistics

Yearly Trend

19. Figure 1 shows the yearly distribution of SE by category, with the total number of cases for each year and for the top three / two categories of the year indicated.

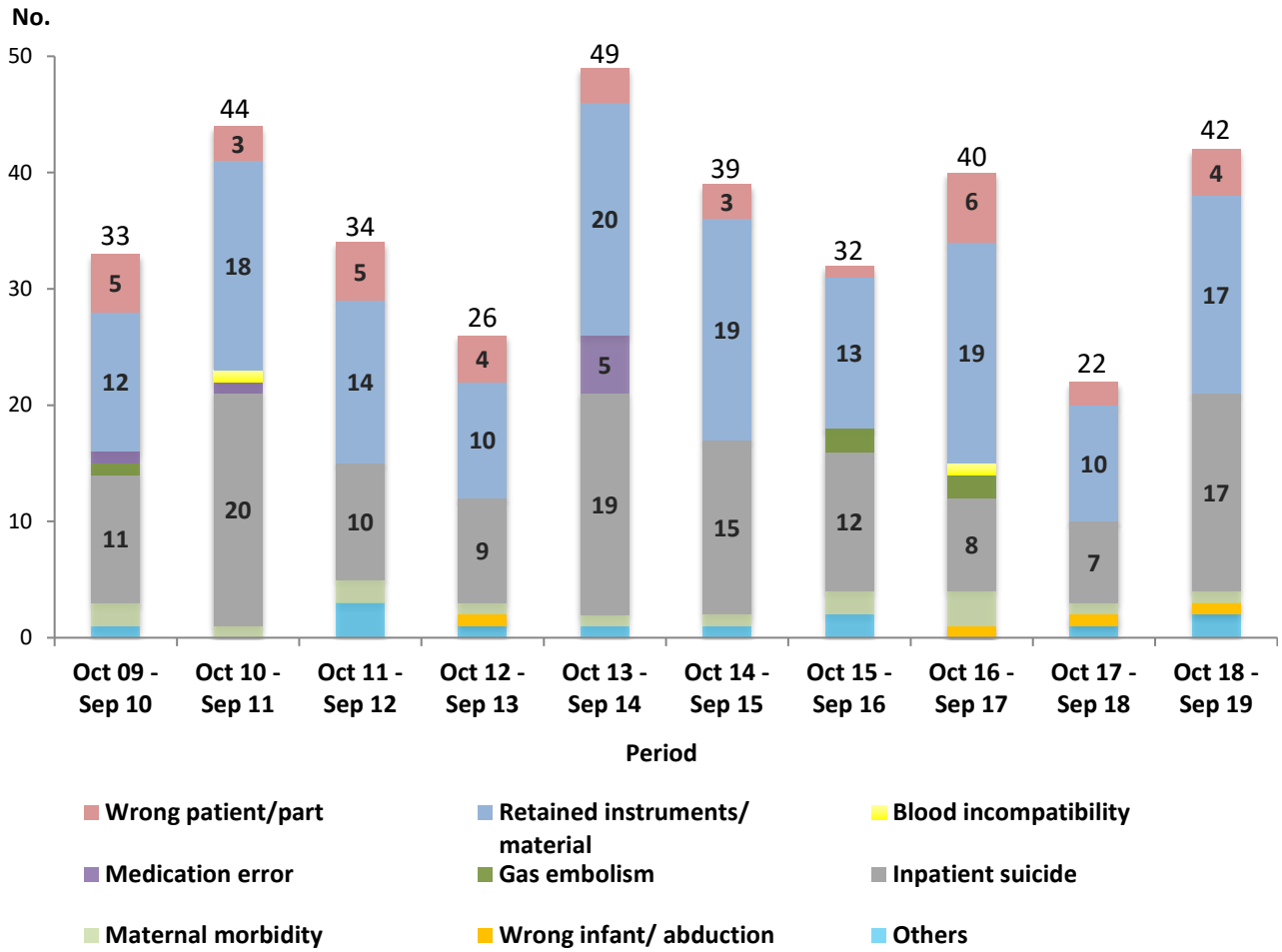

Figure 1: Yearly distribution of SE by category (last ten years)

20. Since the Sentinel Event Policy was implemented in 2007, the annual number of episodes of patient attendances / discharges and deaths had increased from approximately 16 million in 2007 to 21 million in 2019. The SE incident

rate per 1,000,000 episodes of patient attendances / discharges and deaths was 2.0 (Figure 2).

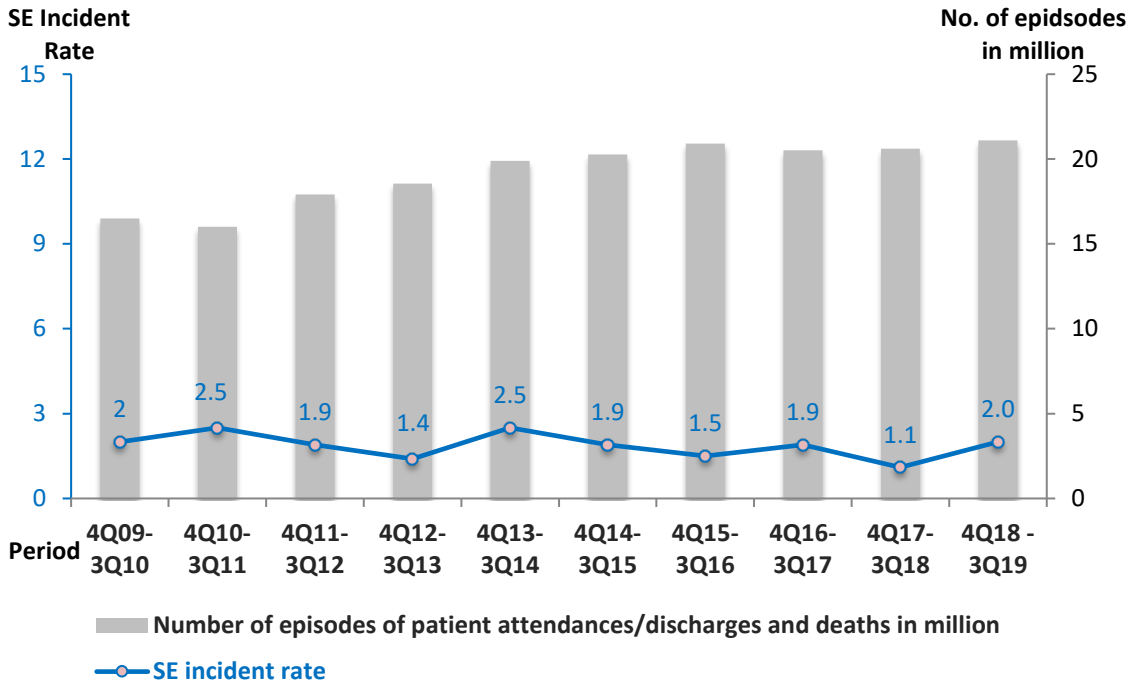

Figure 2: Yearly SE incident rates per million episodes of patient attendances/ discharges and deaths (last ten years)

21. The yearly trend of top three SE of last ten years and their figures are depicted in Figure 3 and Table 1 respectively. *Retained instruments / material*, *inpatient suicide* and *wrong patient / part* constituted most of the SE reported.

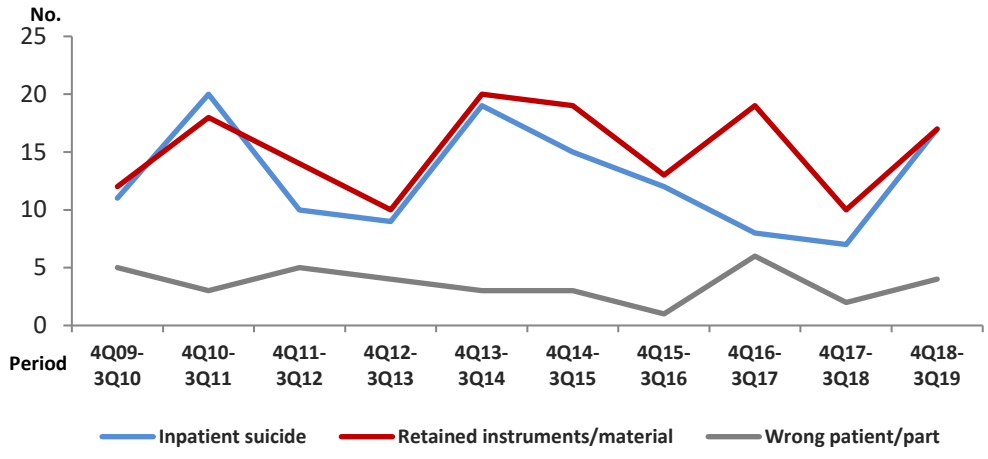

Figure 3: Yearly trend of top three SE (last ten years)

Category	4Q09-3Q10	4Q10-3Q11	4Q11-3Q12	4Q12-3Q13	4Q13-3Q14	4Q14-3Q15	4Q15-3Q16	4Q16-3Q17	4Q17-3Q18	4Q18-3Q19
Retained instruments/ material	12	18	14	10	20	19	13	19	10	17
Inpatient suicide	11	20	10	9	19	15	12	8	7	17
Wrong patient/part	5	3	5	4	3	3	1	6	2	4
Maternal morbidity	2	1	2	1	1	1	2	3	1	1
Medication error	1	1	0	0	5	0	0	0	0	0
Gas embolism	1	0	0	0	0	0	2	2	0	0
Wrong infant/ abduction	0	0	0	1	0	0	0	1	1	1
Blood incompatibility	0	1	0	0	0	0	0	1	0	0
Others	1	0	3	1	1	1	2	0	1	2
Total	**33**	**44**	**34**	**26**	**49**	**39**	**32**	**40**	**22**	**42**

Table 1: Number of SE by category (last ten years)

22. Throughout the years, *retained instruments / material; inpatient suicide (including home leave)* and *wrong patient / part* had remained the three top most frequently reported SE.

23. The yearly outcomes of SE of the last ten years are depicted in Figure 4. The outcomes are categorized into minor or insignificant consequences (i.e. no injury sustained / minor injury), major / moderate consequences (i.e. temporary / significant morbidity) and extreme consequences (i.e. major permanent loss of function / disability or death). A description of the consequences is illustrated in

Annex II.

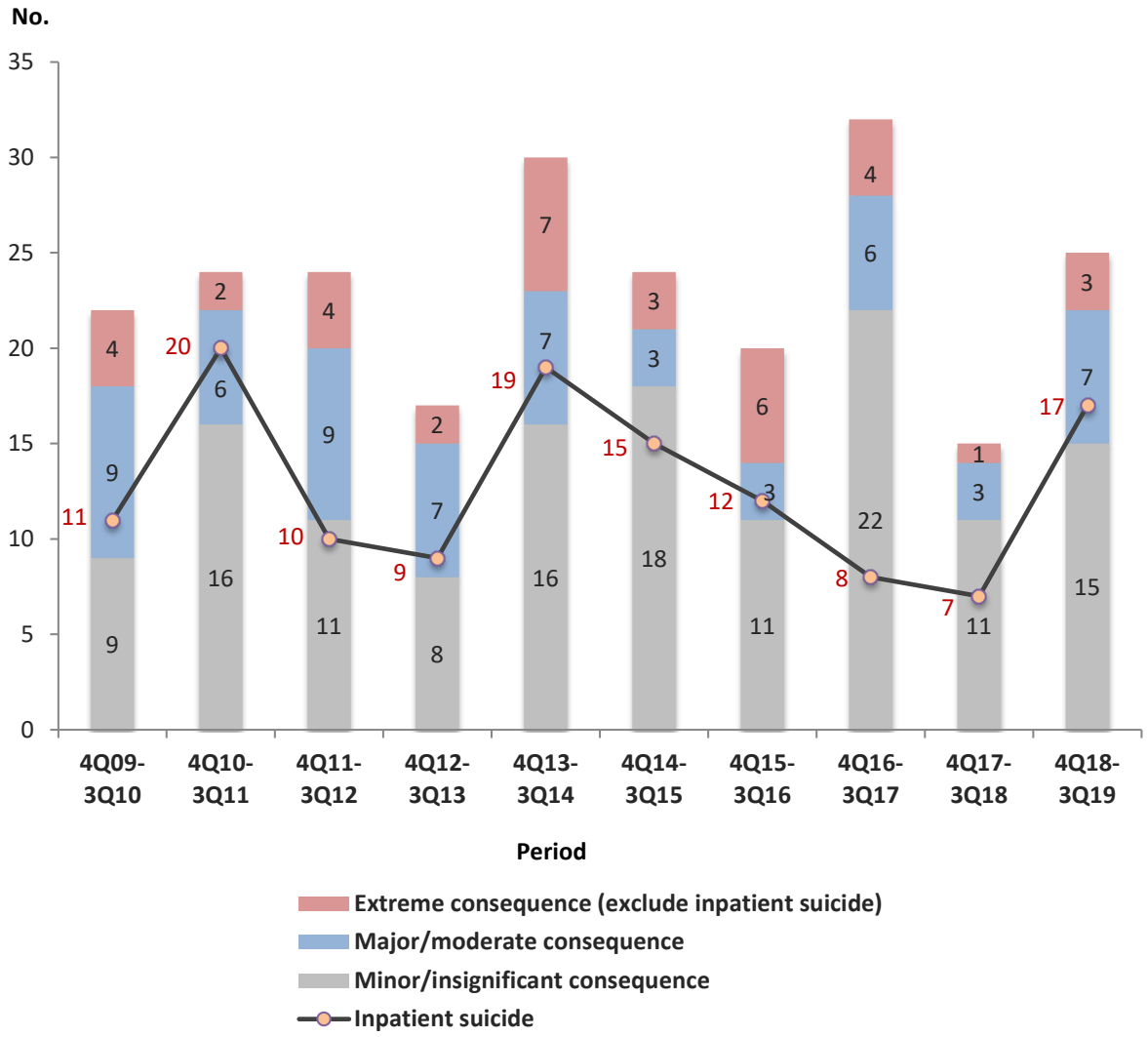

Figure 4: Yearly outcome of SE (last ten years)

SE Reported in 4Q18 – 3Q19

24. The distribution of the 42 reported SE in 4Q18 – 3Q19 by category is shown in Figure 5. The three most commonly reported categories were *retained instruments / material* (17 cases); *inpatient suicide* (17 cases) and *wrong patient / part* (4 cases).

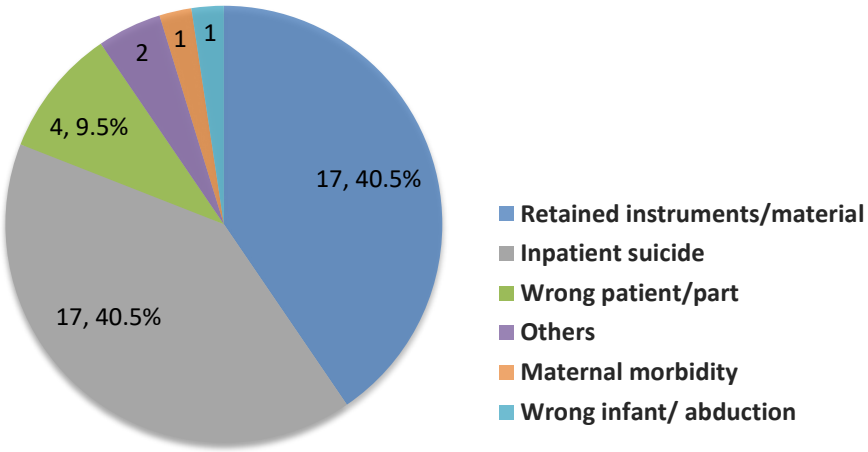

Figure 5: Distribution of SE by category

25. The quarterly distribution of 42 reported SE is illustrated in Figure 6.

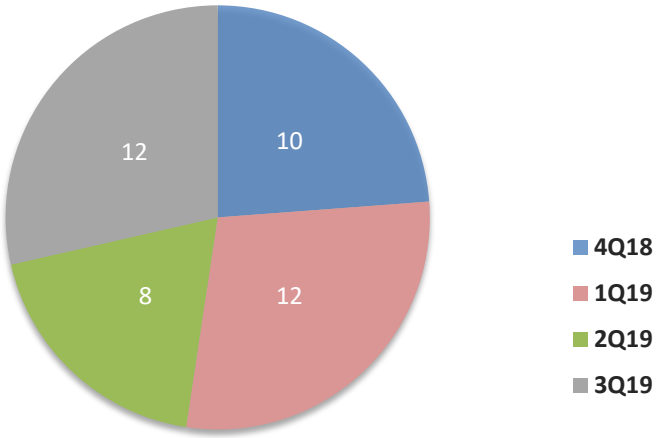

Figure 6: Quarterly distribution of SE

26. The following table shows the distribution of SE in different hospital settings:

Hospital Setting	Number of SE	Percentage
Acute general hospitals with 24-hour accident and emergency (A&E) services	38	90%
Hospitals with a mix of acute and non-acute services and psychiatric service	4	10%
Psychiatric hospitals	0	0%

Table 2: Distribution of SE by hospital setting

27. Among the 42 SE cases, 20 had resulted in mortality (comprising of 17 *inpatient suicide,* 2 *other adverse events* and 1 *maternal morbidity* case). For the remaining SE cases, none had extreme consequences, 7 had major / moderate consequences and 15 had minor / insignificant consequences (Figure 7).

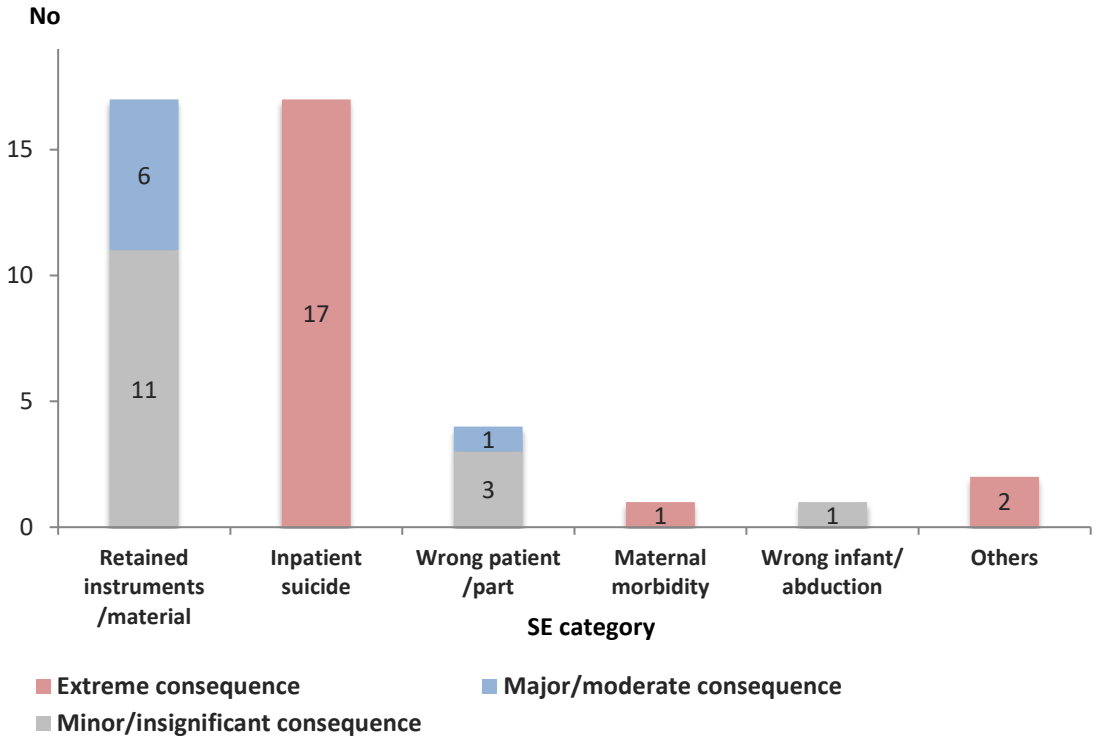

Figure 7: Outcome of SE by category

Retained instruments / material

28. Out of the 17 SE cases of *retained instruments / material*, 3 were broken instruments / material cases and the other 14 were related to the counting of instruments / material cases. Their quarterly distribution is shown in Figure 8.

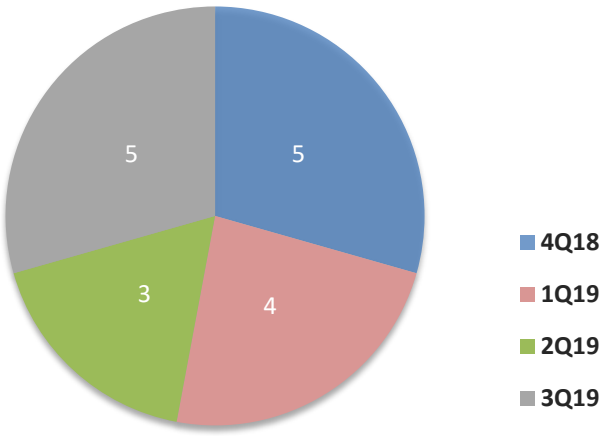

Figure 8: Quarterly distribution of retained instruments/material

29. The distribution of the nature of the 14 related to the counting of instruments / material cases is shown in Figure 9.

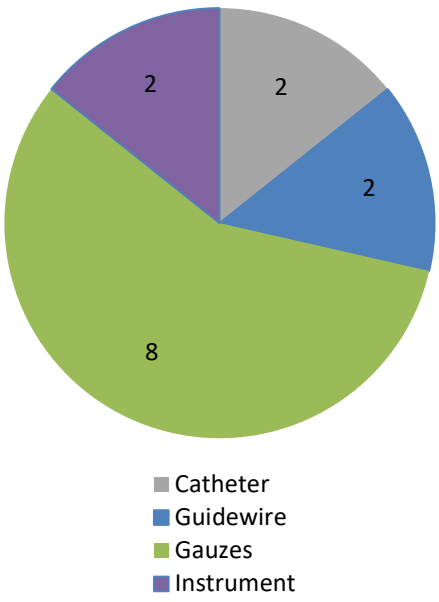

Figure 9: Nature of incidents related to the counting of instruments / material

Inpatient suicide

30. Figures 10 - 14 show the distribution of the 17 *inpatient suicide* cases by different categories during the reporting period.

31. Of the 17 *inpatient suicide* cases, 15 patients with malignancies or chronic disease were admitted to general wards (1 in oncology, 1 in emergency medicine, 1 in otorhinolaryngology, 4 in medicine, 1 in rehabilitative, 2 in orthopaedics and traumatology and 5 in surgery). 2 patients with mental illness were admitted to psychiatry wards.

32. 2 of the inpatients committed suicide by jumping from height. 4 of the inpatients committed suicide by either stabbing, suffocation, strangulation or electric shock. Among the 13 inpatients, 7 were missing patients who had committed suicide either by hanging or jumping from height in a premises near the hospital. The other 4 patients, who were on home leave, committed suicide by jumping from height. The inpatient suicide incident rate for the reporting period was 1.5 per 100,000 inpatient admissions.

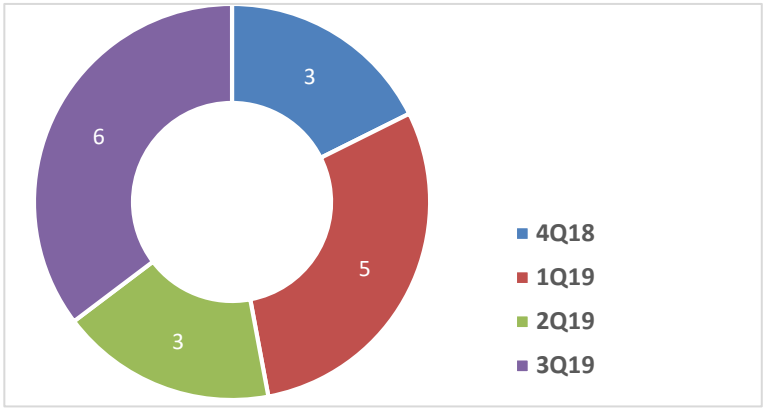

Figure 10: Quarterly distribution of inpatient suicide

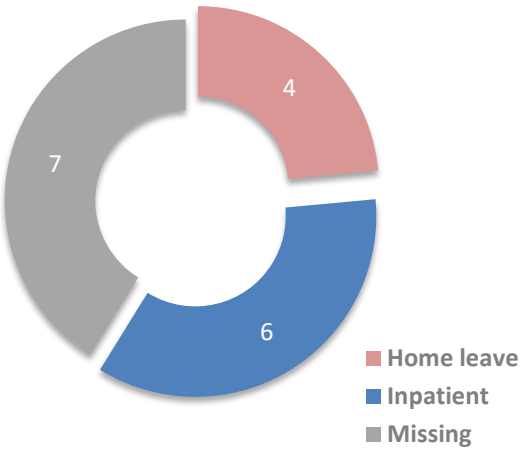

Figure 11: Location

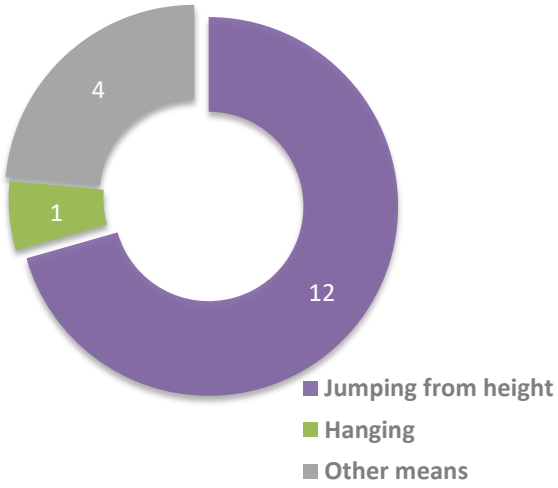

Figure 12: Method

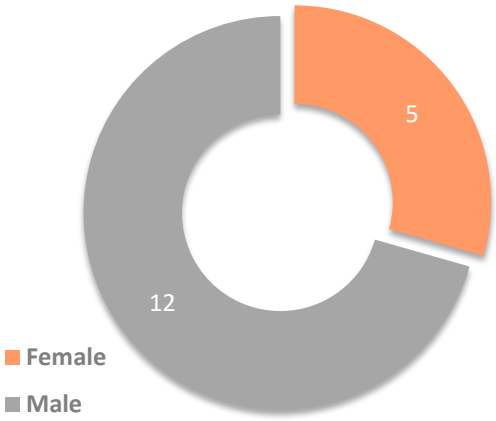

Figure 13: Gender

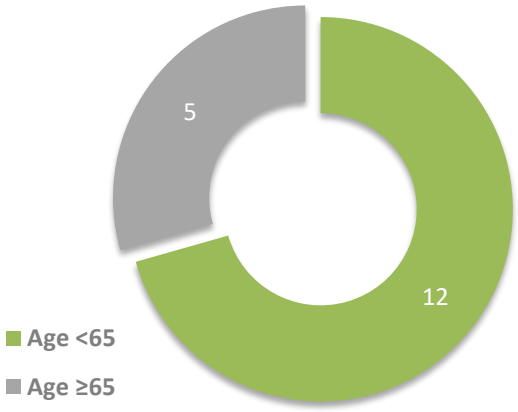

Figure 14: Age

Wrong patient / part

33. All 4 cases of *surgery / interventional procedure involving the wrong patient / part* occurred in the Operating Theatre.

International Sentinel Event Reporting

34. In the United States, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) reviewed 804 SE cases in 2017 and 801 in 2018.[2] The high number might be due to its much broader definition of SE. The number of reported SE recorded by Victoria, Australia was 122 in the period from July 2017 to June 2018 and the Department of Health, State Government of Western Australia (DH Western Australia) was 19 in 2018 – 2019.[3,4] The relative SE incident rates in Victoria and Western Australia were 4 per 100,000 patients and 30.9 per 1,000,000 inpatient episodes of care respectively.[5,6]

35. HA had a SE incident rate of 2.0 per 1,000,000 episodes of patient attendances / discharges and deaths. Since the different regions have, over the years, departed markedly in their definitions of SEs, we have not tabled the incident rates for comparison.

36. Inpatient suicide rates varied substantially worldwide and depended on the type of hospital and estimation methods. The inpatient suicide rate at HA over the past 12 years is between 0.6 and 2.8 per 100,000 admissions. For reference, the estimated inpatient suicide rates in general hospitals of the United States estimated the inpatient suicide rate among nonpsychiatric inpatients to be 0.03 per 100,000 nonpsychiatric admissions. Among psychiatric inpatients, the estimated rate is 3.2 per 100,000 psychiatric inpatient admissions.[7]

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[2] The US Joint Commission, Summary Data of Sentinel Events Reviewed by The Joint Commission: as of July 1, 2019.

[3] Sentinel events annual report 2017-2018. Safer Care Victoria, State Government of Victoria, Australia.

[4] Your Safety in our Hands in Hospital - An Integrated Approach to Patient Safety Surveillance in WA Hospitals, Health Services and the Community: 2019. Department of Health, State Government of Western Australia, Australia.

[5] In Victoria in 2016-2017, four patients in every 100,000 were impacted by a sentinel event. *(The latest figure in Sentinel events annual report 2016-2017. Safer Care Victoria, State Government of Victoria, Australia.)*

[6] Department of Health, State Government of Western Australia, Australia recorded 615,689 episodes of care in 2018/19 (Your Safety in our Hands in Hospital - An Integrated Approach to Patient Safety Surveillance in WA Hospitals, Health Services and the Community: 2019).

[7] Incidence and Method of Suicide in Hospitals in the United States. The Joint Commission Journal on Quality and Patient Safety, November 2018.

Serious Untoward Events Statistics

Yearly Trend

37. A total of 92 SUE were reported in 4Q18 – 3Q19. The yearly distribution of SUE by category since 2010 is depicted in Figure 15, with the total number of cases each year shown at the top of each bar.

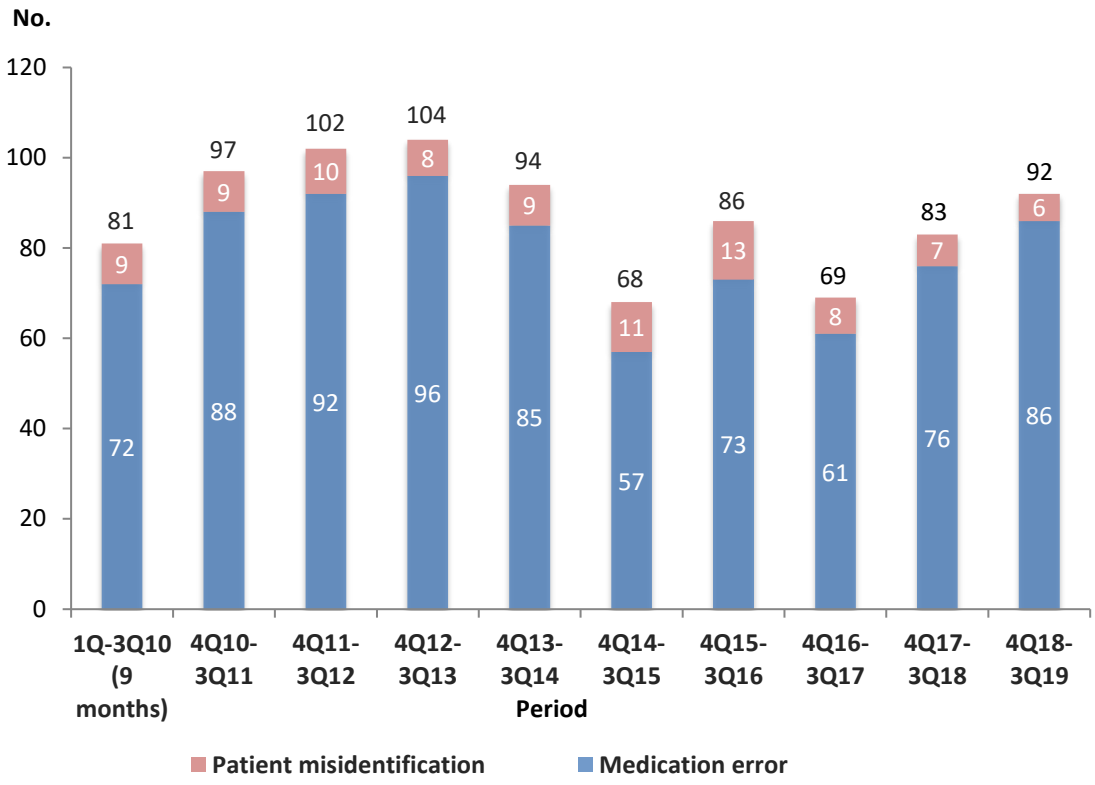

Figure 15: Yearly distribution of SUE by category

38. The yearly outcomes of SUE are depicted in Figure 16. The outcomes are categorized into minor or insignificant consequences, moderate consequences and temporary major consequences. A description of the consequences is illustrated in Annex II.

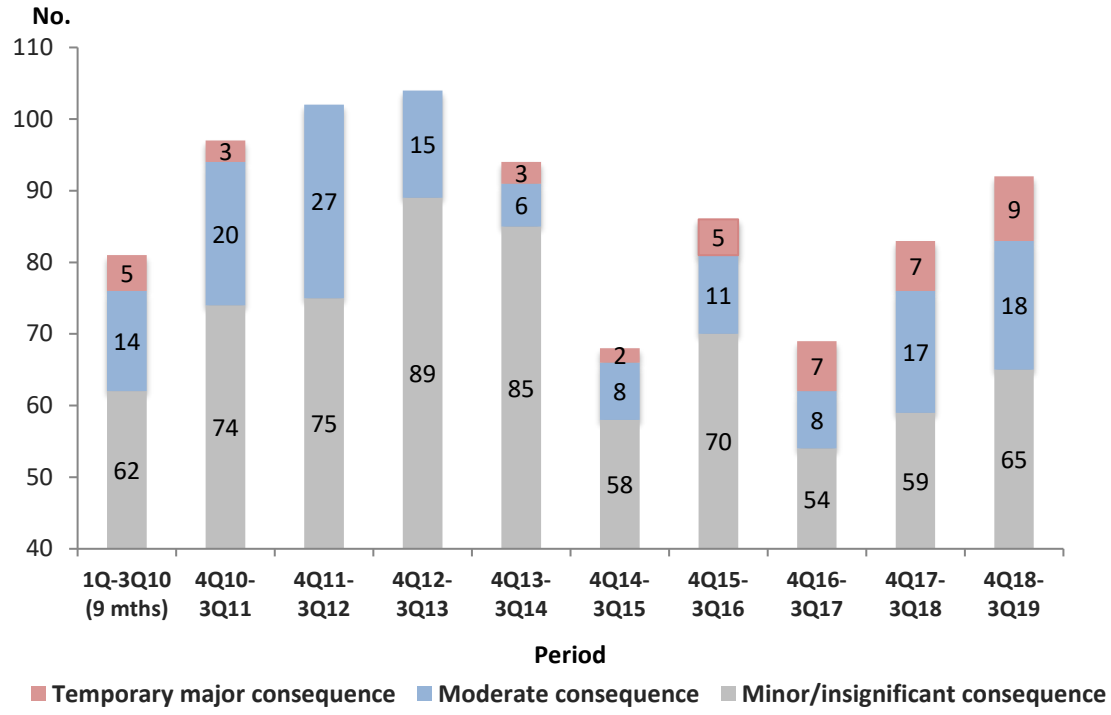

Figure 16: Yearly outcome of SUE

39. The yearly trend of the top three common nature of *medication error* is depicted in Figure 17. Other common drugs involved are insulin, chemotherapy, concentrated electrolytes etc. A list of high alert medications is listed in Annex III.

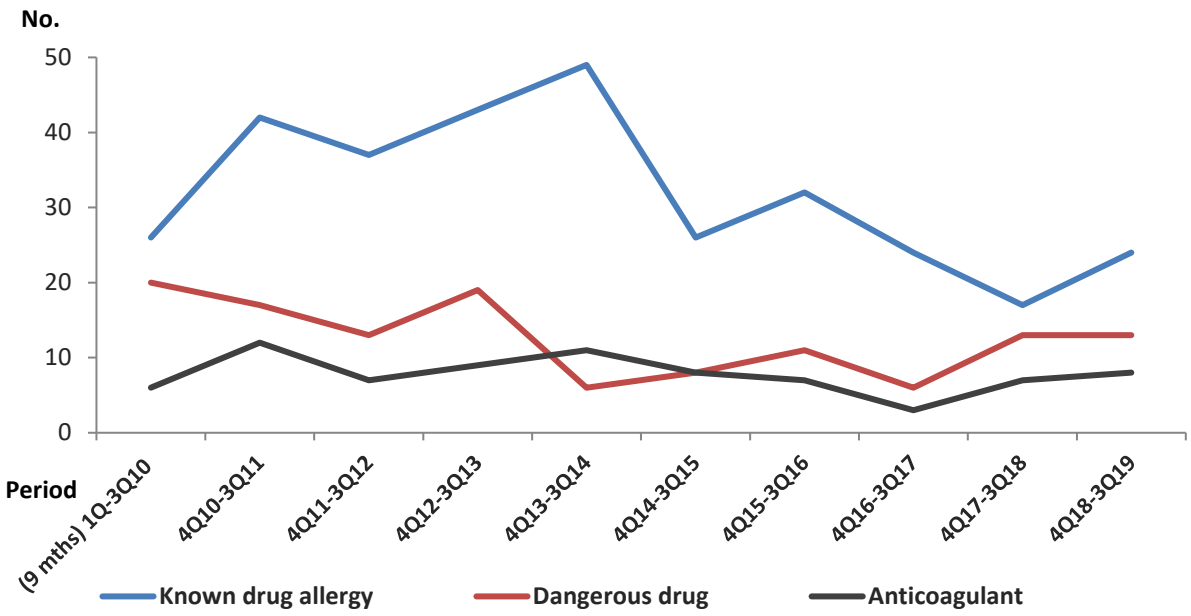

Figure 17: Yearly trend of top three common nature of medication involved in medication incidents

SUE Reported in 4Q18 – 3Q19

40. The quarterly distribution of SUE reported is illustrated in Figure 18.

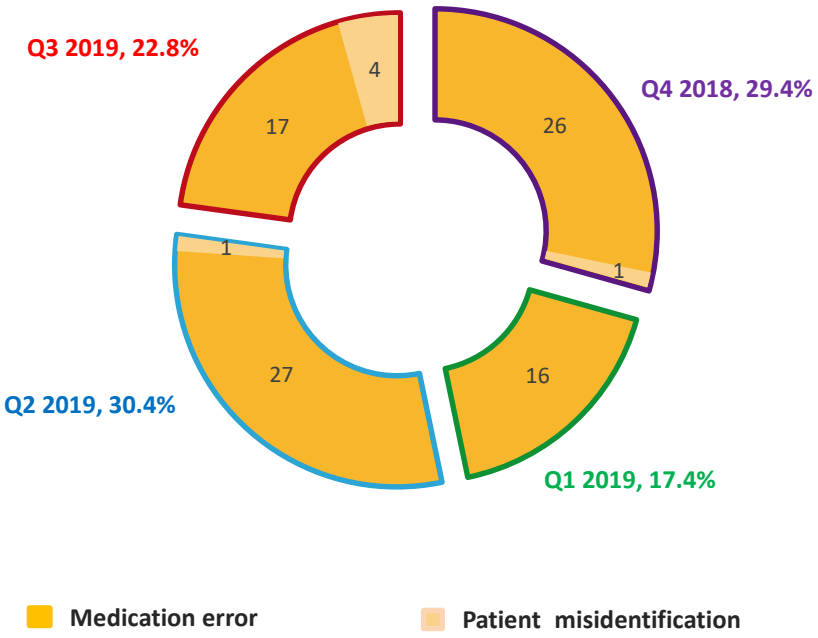

Figure 18: Quarterly distribution of SUE by category

41. Of the 92 SUE cases, 65 had minor / insignificant consequences, 18 had moderate consequences and 9 had temporary major consequences (Figure 19).

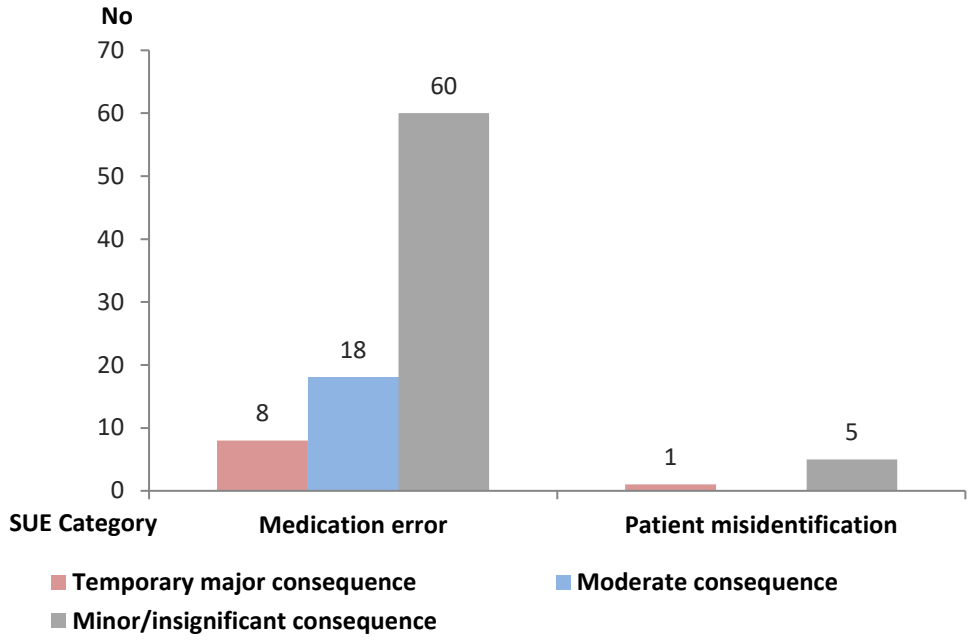

Figure 19: Outcome of SUE by category

Medication error

42. The nature of the four most common *medication errors* were prescriptions of *known drug allergy* (24 cases), *dangerous drug* (13 cases), *anticoagulant* (8 cases) and Insulin (8 cases). The distribution of drugs is shown in Figure 20. Drugs such as atropine and vancomycin were grouped under *other medications.*

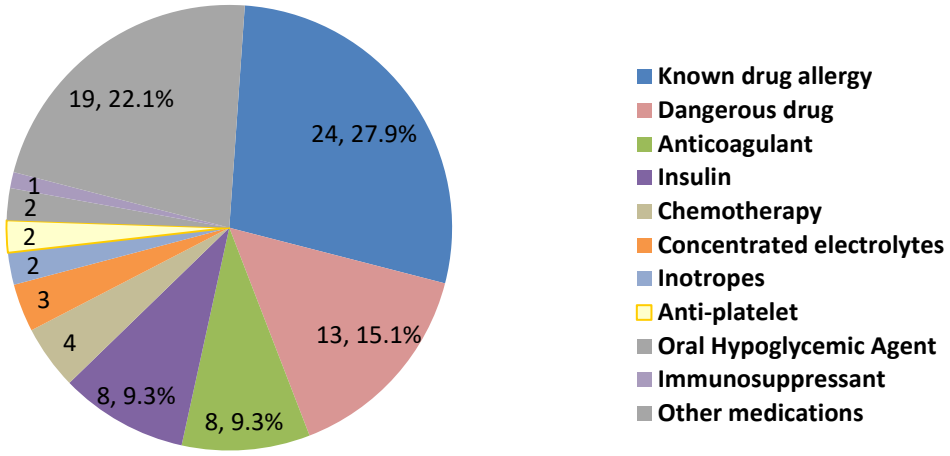

Figure 20: Distribution of medication error

43. Of the 24 *medication errors* related to *known drug allergy*, the five most commonly involved drugs were penicillin-related (8 cases), paracetamol-related (4 cases), and non-steroidal anti-inflammatory drugs (NSAID) (3 cases). These three drug groups constituted 62.5% of the total *known drug allergy* incidents. Their distributions are shown in Figure 21.

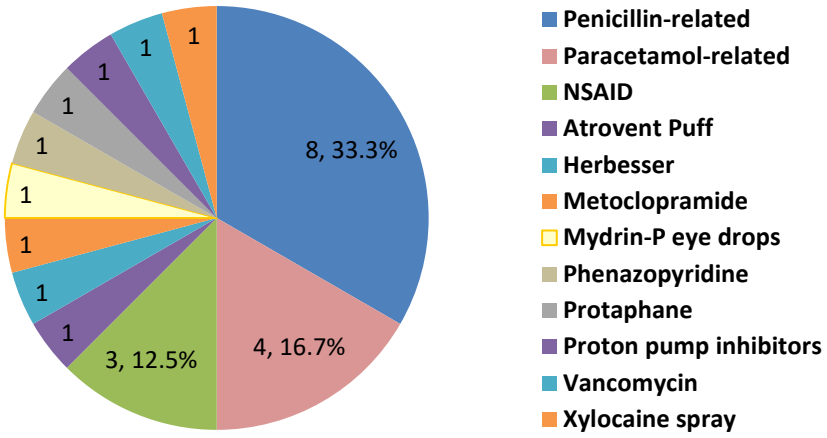

Figure 21: Distribution of drugs related to known drug allergy

44. Of the 24 *known drug allergy* cases, the two most common locations of occurrence were ward (14 cases) and Accident & Emergency Department (AED) (8 cases). These two locations constituted 91.7% of the total *known drug allergy* cases. Their distributions are shown in Figure 22.

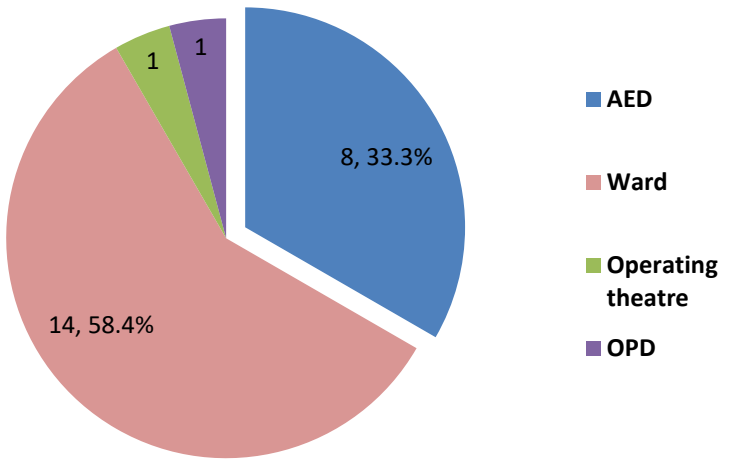

Figure 22: Location of occurrence of known drug allergy

45. Of the 24 *known drug allergy* cases, 23 had minor / insignificant consequences and 1 had temporary major consequences.

Patient misidentification

46. There were 6 SUE reported which were due to *patient misidentification*. These included 2 cases of *patient misidentification* during drug administration, 3 during drug prescription and 1 due to misfiling patient's laboratory report. Their quarterly distribution is summarised in Table 5.

Patient misidentification scenarios	4Q18	1Q19	2Q19	3Q19
During drug prescription	0	0	1	2
During drug administration	1	0	0	1
Misfiling patient's laboratory report	0	0	0	1
Total	**1**	**0**	**1**	**4**

Table 5: Quarterly distribution of patient misidentification by scenarios

47. Of the 6 *patient misidentification* cases, only 1 patient had temporary major consequence (Table 6). Their distribution is summarised in Table 6.

Patient misidentification scenarios	Minor/ Insignificant Consequence	Moderate Consequence	Temporary Major Consequence
During drug prescription	2	0	1
During drug administration	2	0	0
Misfiling patient's laboratory report	1	0	0
Total	**5**	**0**	**1**

Table 6: Consequences of patient misidentification

Analysis of Sentinel Events

48. In this chapter, the common contributing factors and recommendations revealed by the RCA panels (including recommendations which had been implemented or were being followed up by clusters / hospitals to prevent further recurrence) for each category of SE reported in 4Q18 – 3Q19 are analysed. They are classified into communication, knowledge / skills / competence, work environment / scheduling, patient factors, equipment and policies / procedures / guidelines, and safety mechanisms. HAHO would continue to work with clusters and hospitals to improve and redesign systems or work processes to enhance patient safety. A brief description of individual SE can be found in Annex IV.

Factors	Common Contributing Factors	Recommendations
Retained instruments / material – related to counting of gauzes (8 cases)		
Policies / procedures / guidelines	Lack of an established practice to count and document removed packing material during wound assessment and management by clinicians. Precise description of packing material was not documented.	Refine the wound management system with mandatory counting and documentation of wound packing and removal by all disciplines involved. Review the roles and responsibilities of the wound assessor in the department.
Communication	Inadequate communication between healthcare assistants, nurses and doctors during wound management.	Strengthen team communication regarding any change of plans, wound closure and number of gauze packed.
Communication (Clinical Handover) / Documentation / Skills	Inadequate communication about important information amongst different teams.	Standardisation of the wound management documentation to facilitate communication within HA services. Review the method of wound packing, such as leaving the gauze tail outside wound to facilitate detection and retrieval.

Retained instruments / material – other cases related to counting (6 cases)		
Knowledge / skills / competence / procedures	Low awareness to remove the guide wire / instruments during the procedure, and failure to confirm its removal at the end of the procedure.	To include a mandatory checking point to ensure complete removal of the guide wire before proceeding to the next step such as suturing or connecting the infusion set. Reinforce the importance of following the Bedside Procedure Safety Policy. Cultivate a mandated "SIGN OUT" step and team debriefing at second count.
Communication / procedures	Miscommunication among operation team. Counting process not carried out correctly.	Review and revise the workflow of counting of instruments used during operative procedures in OT to ensure the counting of all the instruments is completed and correct before the wound closure. Enhance the communication and collaboration among doctors and nurses, in particular regarding the instrument counting. Reinforce the importance of comprehensive checking of medical notes before performing any procedure.
Retained instruments / material – broken instruments (3 cases)		
Knowledge / skills / competence	Inadequate checking.	To allow reasonable time for "STOP and CHECK" of high risk instruments (i.e. those that are prone to breakage due to repeated use) before wound closure. Heighten staff awareness on checking the integrity of the used catheters.
Wrong patient / part (4 cases)		
Knowledge / skills / competence	Surgical Safety Checking process not adhered to.	Training on the proper Surgical Safety Checking procedure.
Policies / procedures / guidelines	"TIME OUT" procedure was not performed before the procedure.	"TIME OUT" must be performed before starting any procedure including regional nerve block.

		"TIME OUT" should be repeated and carried out when there is more than one procedure for different disease condition in the same patient. Following the Surgical and Procedure safety guideline, "TIME OUT" should be carried out just before the skin incision for each procedure.
	Unsatisfactory process in obtaining consent	Informed consent from patient or next-of-kin must be obtained for invasive procedures. The body part (i.e. joint) for operation must be specified in the consent form.

Learning from SEs

49. *Surgery / interventional procedure involving wrong body part* - Local Anaesthesia Injected into Wrong Eye

Key contributing factors:

i. The practice of covering non-operating eye with gauze does not safeguard against wrong eye injection.

ii. The environmental set up and restraints in the operating theatre led to local anaesthesia injection from the non-operating side.

Recommendations:

i. To eliminate the practice of covering the non-operating eye with gauze.

ii. To enable ophthalmologists to be stationed at the operating side by environmental enhancement.

50. *Surgery / interventional procedure involving wrong body part* – Wrong Thumb Joint Operated On

Key contributing factors:

i. The joint for operation (MCPJ) was not specified in the consent

form and the operation booking list.

ii. Relevant X-ray was not displayed inside the operating theatre.

iii. Surgical Safety Checking process not adhered to.

Recommendations:

i. The joint for operation must be specified in the consent form and the operation booking list.

ii. Relevant X-ray images to be displayed inside the operating theatre.

iii. Training on the proper Surgical Safety Checking procedure.

51. *Retained instruments / material (broken instrument)* - Broken Fragment of Urinary Catheter

Key contributing factors:

i. Knowledge gap as the recommended balloon capacity for a 12 French urinary catheter was 5-15ml of water only.

ii. Low alertness on the risk of fragment retention during balloon rupture. The integrity of the catheter was not checked.

iii. Inadequate communication between the surgeon and nurses on the use and the size of urinary catheter requested. The rupture of catheter balloon was not communicated.

Recommendations:

i. Enhance staff knowledge on correct selection of suitable size of urinary catheter for uterine tamponade and volume of balloon inflation allowed.

ii. Heighten staff awareness on checking the integrity of the used catheter.

iii. Strengthen team communication with clear instructions and avoid assumptions. Speak up and clarify when in doubt.

52. *Retained instruments / material* – Raytec Gauze

Key contributing factors:

i. Final count was not carried out resulting in failure to identify the discrepancy in gauze number.

ii. The fluoroscopy screening did not cover the area of packed gauze.

iii. Ineffective communication among team members regarding the change of plan, wound closure and number of gauze packed.

iv. The different sizes of Raytec gauzes (long and short Raytec) were not counted separately.

v. Lack of suitable device in Cath Lab to facilitate gauze counting and timely identification of missing gauze.

Recommendations:

i. Explore equipment / device that can ensure gauze to be in full view of the operating surgeon and nurse to facilitate counting.

ii. Ensure the first and final counting was conducted properly.

iii. When using fluoroscopy to search for retained instruments, it should cover the whole operative site.

iv. Strengthen team communication regarding the change of plan, wound closure and number of gauze packed.

53. *Wrong infant / abduction* – Baby Brought Away by Mother

Key contributing factors:

i. Patient and the parent were released from the ward without checking clearly their identities via the intercommunication system and the CCTV monitor.

ii. There was curtain near the main ward entrance, which blocked the view of staff when observing the entrance.

iii. Bracelet of security sensor tag was easily removed from patient.

Recommendation:

- Review and modify the current workflow of security system, to facilitate staff in recognizing the identity of visitors' in and out of the ward.

54. *Other adverse events resulting in permanent loss of function or death (excluding complications)* - Liver Biopsy on a Patient Receiving Anticoagulation Treatment

Key contributing factors:

i. Inadequate communication between parent and consultation team regarding the risk of bleeding for the procedure.

ii. There was no prompt for reviewing anticoagulants before the procedure, and the consultation team was preoccupied by the pre-procedural normal clotting profile.

Recommendations:

i. To enhance communication between parent team and consultation team, e.g. the recommendation of an invasive procedure by the consultation team and the decision made by the parent team should be well documented in clinical notes.

ii. To develop a preparation guide for bedside liver biopsy.

iii. To revise the local "Bedside Procedure Safety Checklist" and include checking clotting profile as well as anticoagulant medication before the bedside procedure.

55. *Other adverse events resulting in permanent loss of function or death (excluding complications)* - Incorrect Gastrectomy Anastomosis

Key contributing factor:

- Checking and tracing of the bowel loops was not well performed.

Recommendation:

- Reinforce proper checking during surgery to ensure correct anastomosis.

56. Having analysed the SEs reported in 4Q18 – 3Q19, we feel there needs to be a strong focus on the prevention of retained gauzes after surgical or interventional procedures given there is an obvious increase in related cases compared to the previous reporting period. Another area of concern is the continuing occurrence of SEs related to surgery or interventional procedures involving the wrong patient or body part and we need to continue to reinforce compliance with surgical and procedure safety guidelines.

Analysis of Serious Untoward Events

57. Since known drug allergy (27.9%) and dangerous drugs (15.1%) constituted the two most common categories of all the SUE reported in 4Q18 – 3Q19, recommendations from these cases are summarized below.

58. *Known Drug Allergy*

Recommendations:

i. Strengthen drug allergy documentation of renal dialysis patient by revising the haemodialysis record form to include the field for documenting drug allergy.

ii. Reinforce checking of drug allergy for patient with pseudo-ID by strengthening the Department Orientation program and Preceptorship program for new staff. Use alert card to remind staff to use 'Check ID' function in CMS for patients with pseudo-ID.

iii. Establish a system to check allergy status on CMS before eye drop administration.

iv. Enhance staff training on proper use of the drug return cabinet and procedures in returning medications. Eliminate the risk of known drug allergy due to administration of pending-for-return medications to other patient.

59. *Medication errors related to dangerous drugs*

Recommendations:

i. Some medication errors involved unlabeled drug-containing syringes e.g. Midazolam. The practice of proper labeling of drug-containing syringe if it is not being used immediately after preparation should be reinforced. Unidentified syringes should be discarded immediately when found.

ii. Standardize the drug packaging used in same specialty wards.

For example, only '5mg/1ml' Midazolam is available instead of both '15mg/3ml' and '5mg/1ml'.

iii. Reinforce dangerous drugs should not be ordered through verbal orders unless in predefined emergency situations and with endorsement. Perform dangerous drugs checking by two qualified staff independently before administration.

iv. When prescribing in IPMOE, check and ensure right drug with right dosage and right route was prescribed and documented in patient's Clinical Management Sheet, in particular dangerous drugs.

v. Equip smart infusion pump that have both mcg and mg as options to avoid conversion of unit. Formulate a conversion table for staff's reference for dangerous drugs e.g. Remifentanil.

60. In one of the SUE cases involving wrong dose, 6 times of the intended dosage of Atropine was given to a baby.

Key contributing factors:

i. Limitation of overseas Broselow Tape which was based on the overseas drug formulation, which led to local users' misconception.

ii. Ineffective clarification of doubt among the team.

iii. Atropine was clarified in "volume" instead of "dosage" (mg).

Recommendations:

i. Establish or adopt a standardized worksheet to calculate paediatric emergency medications based on locally available drug formulation.

ii. Be aware of the limitation of overseas Broselow Tape.

iii. Verbal order in terms of drug dosage in weight (e.g. "mg" or "mg/kg").

61. *Anticoagulant* constituted 9.3% of all reported SUE. One of the cases involved intravenous thrombolytic given to a patient already on anticoagulant Enoxaparin.

Key contributing factors:

i. Lack of checkpoint in existing workflow on thrombolytic therapy for ischaemic stroke patients.

ii. Ineffective communication between different teams involved.

Recommendations:

i. Workflow review to include the management of ischaemic stroke patients under different situations.

ii. Workflow review to ensure the inclusion and exclusion criteria for thrombolysis are checked, documented and communicated.

iii. Reinforce handover of critical clinical information by documentation and direct communication.

62. The number of medication items dispensed in HA per year has increased to 63.6 million in the first 9 months of 2019 alone compared to 62.1 million for the whole of 2018. Despite this increase, the rate of number of medication incidents reported (including medical incidents classified as SUEs) per 1 million medication items dispensed was 20.3 for the first 9 months of 2019 compared to 28.5 for 2018. From 2011 to 2017 this rate was consistently above 32. This drop coincides with the gradual introduction of "In-Patient Medication Order Entry System" (IPMOE) in HA since 2013.

Risk Reduction Measures

Various risk reduction measures have been implemented to enhance patient safety. Highlights of these measures are described below.

Prevention of Retained Guide Wire

An educational video emphasizing the critical steps in preventing CVC guide wire retention has been produced. The full length version includes details of how to handle complications while the short version focuses on the critical steps.

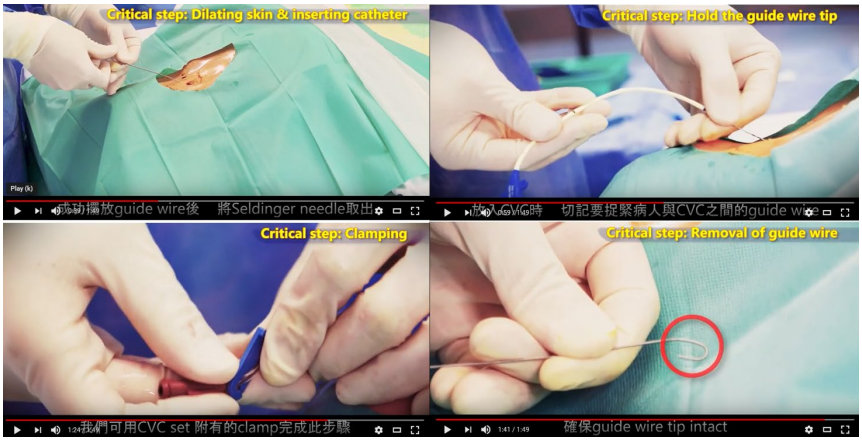

Figure 23: Snapshots of educational video showing critical steps

The "The Bedside Procedure Checklist" was updated with a mandatory checking point to ensure removal of the guide wire during "SIGN OUT" process.

Sign Out – before completion of procedure:

Remove Guide wire	**For procedure with guide wire:**	☐ NA *(please proceed to check point 3 - 6)*		
	1. Guide wire(s) removed	☐ Yes	In	Out
			Number of guide wire	
	2. Guide wire integrity and number checked, nil abnormalities	☐ Yes	☐ No, follow-up action documented	

Figure 24: Updated section on "The Bedside Procedure Checklist"

In-Patient Medication Order Entry System

To increase the efficiency and accuracy of medication prescription processes, enhancements have been made to IPMOE. The first new feature introduced allows copying of previous prescriptions as a template for new prescriptions. The second feature introduced allows temporary "switching" of dosage and delivery method to support and facilitate in-patient insulin management.

Free-text Drug Allergy Records in CMS

HA started systematically converting free-text allergy records to structured records, which enables HA's "Clinical Management System" (CMS) to prompt clinicians of any patient allergy to recorded medications. 2 batches of free-text allergy records were converted and a third batch was started in November 2019. The process of discouraging the use of "free-text" allergy records continues. A monitoring mechanism for free-text drug allergy records and its log report shows a decreasing trend in the use of free-text in new records.

Enhancing Baby Tagging System

HA has explored an alternative baby tagging system which gives off an alert when no signal from the baby tag is received. The system is being introduced to safeguard against in-patients aged 12 months or below being discharged to a wrong family or taken away from the hospital ward without prior notice to the hospital. The tender process of the new baby tagging system commenced in 4Q 2019.

Figure 25: Sample of new baby tag

Learning and Sharing

In 2018/19, HAHO Patient Safety and Risk Management Department (PSRM) had conducted 13 staff forums for almost 2,389 colleagues. Participants of these forums included hospital leaders, patient safety managers, doctors, nurses and others. Participants' responses were collected for future program planning and development.

Important learning points of incidents were also shared in different Coordinating Committees (COC), Central Committees (CC), Specialties Advisory Groups (SAG), Safety Committees (SC) and other working groups. A total of 24 sharing sessions had been conducted in the year. Electronic platforms had also been used to promote and disseminate information on patient safety issues.

The Way Forward

Surgical Safety Practice

A number of initiatives are planned for 2020 to enhance surgical safety practice at our hospitals.

Surgical Counting

HA will review and revise existing surgical counting procedures and documentation to improve surgical counting practices. A particular focus will be on the counting of gauze due to the increase in related clinical incidents.

Prevention of Retained Guide Wire

An online course on "Safety Precautions in CVC Insertion" is being designed to address the risk of retained guide wires and will be rolled out in 2020.

Prevention of Operating on Wrong Patient or Body Part

An education video on "Correct patient, Correct procedure, Correct side" will be produced in 2020 to address the risks associated with surgical operations on the wrong patient or wrong body part of the patient.

High Risk Medication – Perioperative Management of Anticoagulant and Antiplatelet Medication

The practice of withholding anticoagulant and antiplatelet medication during the peri-operative period for patients with high bleeding tendency undergoing invasive procedures presents significant risks if not properly managed. The increased use of Direct oral anticoagulants[8] (DOACs) have presented additional challenges to the recommended withholding period considering the high inter-patient variability of DOACs plasma levels and the variety of DOACs available. A number of international expert groups have issued several

[8] Also referred to as novel oral anticoagulants (NOACs)

guidelines on perioperative management in such situations and these have undergone numerous updates as clinical experience is developing.

To address this risk and taking into account the developing expert knowledge in this field, HA will look into its existing processes of managing anticoagulant and antiplatelet medication during the peri-operative period to identify and implement safety enhancements.

In-Patient Medication Order Entry System

As of December 2019, apart from Kwong Wah Hospital, all other acute hospitals and a number of non-acute hospitals have implemented IPMOE. To ensure a consistent and continuous patient care journey, IPMOE implementation phase II began in 2018 to include convalescent and rehabilitative hospitals and IPMOE was rolled out to 5 of these hospitals[9]. Implementation phase II continues in 2019/2020 and is being further rolled out to 6 convalescent and rehabilitative hospitals[10] and another 5 hospitals[11] in 2020/2021. Furthermore, additional features for chemotherapy, intensive care and accident & emergency units will be introduced.

Conversion of Allergy Records from eHRSS to CMS

To work towards a seamless interface between private and public healthcare in Hong Kong, we will explore the possibility of importing and converting "Electronic Health Record Sharing System" (eHRSS) allergy records to HA's CMS as structured allergy fields. This will enable HA clinicians to be informed of patients' allergy history if these were previously recorded at private healthcare institutions. A pilot will be conducted at the beginning of 2020 to import and convert eHRSS allergy records belonging to "PENICILLIN", "CEPHALOSPORINS" and "NSAID" groups.

[9] Shatin Hospital, Bradbury Hospice, Cheshire Home (Shatin), Tai Po Hospital and Haven of Hope Hospital

[10] Tung Wah Eastern Hospital, Wong Chuk Hang Hospital, Cheshire Home (Chung Hom Kok), St. John Hospital, Siu Lam Hospital and Castle Peak Hospital

[11] Hong Kong Buddhist Hospital, Hong Kong Eye Hospital, Kowloon Hospital, Our Lady of Maryknoll Hospital and Wong Tai Sin Hospital

RCA training

In 2020, Patient Safety and Risk Management Department will host a Root Cause Analysis (RCA) training workshop led by an overseas trainer. The aim is to improve the quality and consistency of RCA reports with higher quality recommendations which will in turn improve the quality and safety of systems and processes. The workshop will be targeting colleagues involved with the RCA process and producing RCA reports.

ANNEXES

Annex I

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 organization'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 labor 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 minimize harm to patient.

5.1.2 Attending staff shall notify senior staff of Department without delay (even outside 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 / counseling 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 scrutinized 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, anesthetic 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 anesthesia.

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 hemodialysis 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 labor 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 November 2017.

	Categories of Medications
1.	Concentrated electrolytes
2.	Chemotherapeutic agents (parenteral and oral)
3.	Drugs commonly associated with drug allergies (e.g. penicillin, aspirin, NSAIDs)
4.	Vasopressors and inotropes
5.	Anticoagulants (parenteral and oral)
6.	Neuromuscular blocking agents (e.g. atracurium, rocuronium)
7.	Oral hypoglycaemics
8.	Insulins
9.	Narcotics (e.g. fentanyl) and opioids

Annex IV

INDIVIDUAL SENTINEL EVENTS

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

Case 1: Trigger finger release on wrong finger

A patient was admitted for endoscopic carpal tunnel release and middle finger trigger finger release of RIGHT hand under local anaesthesia. Operative sites were marked with arrows by the surgeon before the operation. 'SIGN IN' and 'TIME OUT' were performed.

RIGHT hand was fully exposed after skin preparation. Incision lines for both procedures were marked by the surgeon, but the incision line for middle finger trigger finger release was marked at the ring finger instead. After RIGHT carpal tunnel release, the surgeon proceeded to RIGHT trigger finger release. The arrow marked at middle finger was not noted.

After completion of trigger finger release of the ring finger, the error was noted. Trigger finger release of the middle finger was proceeded.

Key contributing factors:

1. Wrong marking of incision line on the RIGHT ring finger instead of middle finger.
2. Patient underwent two procedures in the same operative field. Recapitulation of surgical site and the second operation was not carried out.

Recommendations:

1. 'TIME OUT' should be repeated and carried out when there is more than one procedure for different disease condition in the same patient.
2. Follow the Surgical and Procedure safety guideline, and perform the 'TIME OUT' procedure just before the skin incision for each procedure.

Case 2: Wrong side nerve block

An elderly patient with cognitive impairment was admitted for trochanteric fracture of LEFT femur, and underwent an operation for closed reduction and fixation. 'SIGN IN' was performed by an anaesthetist and a nurse.

During the induction of general anaesthesia, a second anaesthetist who was not the original anaesthetist decided to perform a nerve block (LEFT fascia iliacus block) for better post-operative pain control. The procedure was not explained to patient and relatives before the operation.

The second anaesthetist performed RIGHT sided nerve block without performing 'TIME OUT'. The incident was noted before the operation. LEFT sided nerve block was not performed. The operation proceeded and the patient recovered after the operation.

Key contributing factor:

The nerve block was an unplanned procedure and was performed by the anaesthetist who did not take part in the 'SIGN IN'. 'TIME OUT' was not performed before the nerve block.

Recommendations:

1. 'TIME OUT' must be performed before starting any regional nerve block.
2. Informed consent from patient or next-of-kin must be obtained for invasive procedures.

Case 3: Wrong eye injection

A patient had a planned RIGHT eye cataract operation under local anaesthesia. The operating RIGHT eye was marked and was confirmed by the surgeon, and the non-operating LEFT eye was covered with gauze according to operating theatre practice. 'SIGN IN' and 'TIME OUT' were performed by surgeon, scrub nurse and circulating nurse.

During local anaesthesia injection, in order to aid the fixation of the patient's operating eye in the correct direction, the LEFT eye gauze was flipped up. The surgeon injected the local anaesthesia to LEFT instead of RIGHT eye, with the assistance from a nurse not involved in 'SIGN IN' and 'TIME OUT'.

The incident of wrong eye injection was noted by circulating nurse who had momentarily turned around. The LEFT eye was checked with no injury resulted. The patient consented to proceed for RIGHT eye operation under local anaesthesia and was discharged the next day.

Key contributing factors:

1. The practice of covering non-operating eye with gauze does not safeguard against wrong eye injection.
2. The environmental set up and restraints in the operating theatre led to local anaesthesia injection from the non-operating side.

Recommendations:

1. To eliminate the practice of covering the non-operating eye with gauze.
2. To enable ophthalmologists to be stationed at the operating side by environmental enhancement.

Case 4: Wrong thumb joint

A young patient with RIGHT thumb metacarpophalangeal joint (MCPJ) dislocation required emergency operation for closed reduction with open reduction and K-wire fixation if required. The joint for operation was not specified either in the consent form or the OT booking list.

Site marking was performed using an arrow pointing to the thumb at wrist dorsum. The 'SIGN IN', 'TIME OUT' and 'SIGN OUT' were performed. The relevant X-ray was not displayed in the operating theatre.

After the operation finished, patient was transferred to the recovery room. It was then noted that the K-wire fixation was performed at the wrong joint - interphalangeal joint (IPJ) instead of MCPJ. Patient's parent was informed for the need of reoperation. K-wire at IPJ was removed and fixation was performed at the correct MCPJ.

Key contributing factors:

1. The joint for operation (MCPJ) was not specified in the consent form and the operation booking list.
2. Relevant X-ray was not displayed inside the operating theatre.
3. Surgical Safety Checking process not adhered to.

Recommendations:

1. The joint for operation must be specified in the consent form and the operation booking list.
2. Relevant X-ray images to be displayed inside the operating theatre.
3. Training on the proper Surgical Safety Checking procedure.

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

Broken Instruments / Material

Case 1: Metallic fragment

An elderly patient with a displaced fracture of the femur shaft underwent an operation for internal fixation with an intramedullary nail. Cannulated reaming was performed to drill holes for blade insertion. After blade insertion, intraoperative fluoroscopic X-ray was taken to check implant alignment and position.

The patient had a sudden drop in blood pressure and required resuscitation. All instruments were checked after use prior to completion of the operation. Sterile Services Department noted the tip of the blade reamer was broken later that day. A suspicious radio-opaque foreign body was seen in the post-operative X-ray image.

Key contributing factors:

1. Despite checking instrument integrity, the defect was not detected. The patient had a change in condition and required intensive management during instrument check.
2. The blade reamer was an on-loan item from the supplier. The durability of such consignment items could not be ensured.

Recommendation:

To allow reasonable time for "stop and check" of high risk instruments (i.e. those that are prone to breakage due to repeated use) before wound closure.

Case 2: Broken Fragment of Urinary Catheter

A patient underwent emergency surgical evacuation of uterus following the diagnosis of missed miscarriage. The patient was not identified as high risk of bleeding pre-operatively. Patient developed persistent heavy uterine bleeding despite medications. Intrauterine balloon tamponade was decided. A 12 French two-way urinary catheter was inserted. It ruptured during water inflation by syringe.

Another 12 French urinary catheter was then inserted, and the balloon was inflated by 40ml of water. Bleeding was controlled and the urinary catheter was removed the next day. Patient was discharged 3 days later.

During subsequent follow-up, patient reported increased vaginal discharge. Ultrasound scan detected a tubular structure in endocervical canal. The retained fragment of urinary catheter was retrieved by hysteroscopic forceps.

Key contributing factors:

1. Knowledge gap as the recommended balloon capacity for a 12 French urinary catheter was 5-15ml of water only.
2. Low alertness on the risk of fragment retention during balloon rupture. The integrity of the catheter was not checked.
3. Inadequate communication between the surgeon and nurses on the use and the size of urinary catheter requested. The rupture of catheter balloon was not communicated.

Recommendations:

1. Enhance staff knowledge on correct selection of suitable size of urinary catheter for uterine tamponade and volume of balloon inflation allowed.
2. Heighten staff awareness on checking the integrity of the used catheter.
3. Strengthen team communication with clear instructions and avoid assumptions. Speak up and clarify when in doubt.

Case 3: Retained Metallic Fragment Following Implant Removal

A patient had LEFT tibia fracture 2 years ago and was fixed with a locking plate. Patient underwent implant removal which was smooth. X-ray screening was performed after implant removal and drain insertion. A 2mm opacity, which was likely metallic debris, was found retained when the post-operative X-ray was reviewed.

Findings:

1. The surgery was performed by experienced surgeon, and the process was smooth without difficulties.
2. All instruments and implants were confirmed intact during usual checks.
3. The small debris could be left from the first surgery, or could be fatigued metal materials left behind or chipped during second surgery.

Recommendation:

By taking X-ray prior to placement of drain may avoid the possibility of the radio-opacity of the drain obscuring the detection capacity of foreign bodies by X-ray.

Incorrect Counting of Instruments / Material

Case 1: Aiming guide

A patient had a traumatic fracture of the LEFT proximal humerus, and was scheduled for an elective operation of open reduction and internal fixation under fluoroscopy guidance.

During the operation, surgeon A applied an aiming device onto the humeral plate. Fluoroscopy was used to check for the position of the screws. After exchanging one of the screws, surgeon A left the operation room and surgeon B took over to screen the length of screws. Surgeon B was not aware of the aiming guide, and started wound closure.

During counting of the instruments, the circulating nurse reported that the number of gauze was correct. It was not mentioned that the counting of special instruments had not yet started. While the second counting was still in progress, the wound was closed. The patient was reversed from general anaesthesia and was transferred to the recovery area.

Upon counting of the special instruments, it was identified that an aiming device was missing. The retained aiming device was located after an urgent X-ray was performed. The patient was transferred back to the operating theatre for removal of the aiming guide.

Key contributing factors:

1. Nurses involved in counting of instruments were inexperienced and unfamiliar with the operative procedures and the instrument sets.
2. Quantity of instrument sets in this operation was large, and the time required to count all the instruments was much longer than that required to close the wound.
3. Miscommunication among nurses and surgeons on the counting of instruments as the nurses did not specify it was the basic instruments that had been counted but not the special instruments.

Recommendations:

1. Review and revise the workflow of counting of instruments used during operative procedures in OT to ensure the counting of all the instruments is completed and

correct before the wound closure.

2. Enhance the communication and collaboration among doctors and nurses, in particular regarding the instrument counting.

Case 2: Drainage catheter

A patient underwent a RIGHT thigh incision and drainage procedure for RIGHT thigh chronic osteomyelitis. Three drains (2 Redi-vac drains and 1 Exudrain) were inserted intra-operatively and was documented.

On day 5 post-operation, the case doctor instructed to remove all drains. The number of holes of the Redi-vac drains and the length of Exudrain were matched against the Intraoperative Nursing Record.

A follow-up CT scan on day 12 showed a 15cm long catheter in the RIGHT thigh with both tips in the subcutaneous layer. The retained drainage catheter was removed under local anaesthesia. It was subsequently found that the retained catheter was part of the Exudrain. The catheter had fractured before or during Exudrain removal.

Key contributing factors:

1. Nurses did not recognize that the removed Exudrain was incomplete.
2. Nurses might have mixed up the removed drains upon measurement.

Recommendations:

1. Test the fixation of drains during 'SIGN OUT' by orthopaedic surgeon to prevent cutting through the drain.
2. Avoid applying anchoring stitches too tightly on drainage catheters and/or too close to the skin.
3. Standardize catheter measurement, e.g. measure from the end hole to the indicator, rather than counting the number of holes.

Case 3: Angiocatheter

A patient underwent chest drain insertion for LEFT pleural effusion. In view of the patient's thick chest wall, the doctor used a 14G angiocatheter to access the pleural space for local anaesthetic injection, and to facilitate guide wire insertion by Seldinger technique.

The doctor sustained needle stick injury during the procedure. The guide wire insertion by Seldinger technique was unsuccessful, and the chest drain was inserted by blunt dissection. The

assisting nurse was not aware of the inserted angiocatheter. The quantity of used needles were checked, but the angiocatheter was not included in the items to be counted.

Bedside Procedure Safety Checklist was filled in retrospectively. After chest drain removal, thoracic computed tomography scan showed a suspected foreign body. Wound exploration was done to retrieve the angiocatheter.

Key contributing factors:

1. The angiocatheter was not considered a countable item.
2. The thick chest wall of patient made the procedure difficult. Additional instruments were used and improvised methodology was employed deviating from the original plan.
3. The needle stick injury would have contributed to the event by procedural interruption and distraction.
4. The Post Procedural Sign Out Safety Checklist was not properly completed.

Recommendations:

1. Review the current Bedside Procedure Safety Checklist in the Hospital.
2. Define the countable items needed to be checked and documented for chest drain insertion in the department.
3. Reinforce the importance of complying with the Bedside Procedure Safety Policy.

Case 4: Raytec gauze

A patient who had an Implantable Cardioverter Defibrillator (ICD) was admitted for extraction of old leads and insertion of transvenous pacemaker in the Cardiac Catheterization Lab (Cath Lab). Significant bleeding was noted during the operation and a cardiothoracic surgeon was consulted.

Haemostasis was achieved and the case was handed over back to the original caring team. The initial plan for device implantation was withheld but nurses were not aware of the change of plan and the wound was being closed.

7 doctors were involved in the procedure, and a total of 110 Raytec gauzes were used. During the first gauze counting, 3 gauzes were thought to be missing which should indeed be 4 gauzes. 3 gauzes were later located outside patient's body after searching and fluoroscopy. Final count was not performed. The gauze count was documented to be correct. A retained gauze was suspected during review of Chest X-ray, and a Raytec gauze was retrieved by wound exploration.

Key contributing factors:

1. Final count was not carried out resulting in failure to identify the discrepancy in gauze number. The fluoroscopy screening did not cover the area of packed gauze.
2. Ineffective communication among team members regarding the change of plan, wound closure and number of gauze packed.
3. The different sizes of Raytec gauzes (long and short Raytec) were not counted separately.
4. Lack of suitable device in Cath Lab to facilitate gauze counting and timely identification of missing gauze.

Recommendations:

1. Explore equipment / device that can ensure gauze to be in full view of the operating surgeon and nurse to facilitate counting.
2. Ensure the first and final counting was conducted properly.
3. When using fluoroscopy to search for retained instruments, it should cover the whole operative site.
4. Strengthen team communication regarding the change of plan, wound closure and number of gauze packed.

Case 5: Ribbon gauze

A patient with giant cell tumor of the sacrum underwent an operation of sacral ostectomy and curettage of bone lesion. Due to wound disruption 3 weeks after the operation, daily wound dressing with wound packing was required. Two pieces of ribbon gauzes were packed and documented.

Daily wound dressing was performed, and the number of gauzes were documented. The patient subsequently underwent wound exploration and suturing by the case doctor in the treatment room twice. The procedures were documented in the Operation Record, but the number of gauzes removed and packed during the procedure was not documented.

In view of persistent wound discharge, the case doctor performed wound exploration and debridement in operating theatre. A piece of ribbon gauze was found retained in the wound.

Key contributing factors:

1. Lack of an established practice to count and document removed packing material during wound assessment and management by doctors.
2. Inadequate communication between doctors and nurses during removal of wound

packing material.

Recommendation:

Refine the wound management system with mandatory counting and documentation of wound packing and removal by all disciplines involved.

Case 6: Guide wire

A patient with ruptured hepatocellular carcinoma developed shock and required inotropic support and intubation. An urgent angiogram and embolisation was arranged. The angiocatheter at the right neck was dislodged before transferal.

A tri-lumen central venous catheter was inserted at LEFT neck under ultrasound guidance, but the inflow of the distal lumen was not smooth despite adjusting the catheter position. The distal lumen was clamped and inotropes were infused via the proximal lumen.

The patient was then urgently transferred for angiogram. During angiogram, a guide wire was noted within the catheter and was removed.

Key contributing factor:

Low awareness to remove the guide wire during the procedure, and failure to confirm its removal at the end of the procedure.

Recommendation:

To include a mandatory checking point to ensure complete removal of the guide wire before proceeding to the next step such as suturing or connecting the infusion set.

Case 7: Ribbon gauze

A patient requiring dressing for chronic sacral pressure injury was admitted for acute cholecystitis and septicaemia. There was no packing material inside the wound during initial wound assessment. One piece of ribbon gauze was packed in the wound.

During daily wound dressing, one ribbon gauze was removed and a new gauze was packed in the wound. On the day of discharge, one piece of ribbon gauze was removed from wound cavity and discarded during assisted shower by healthcare assistant without nursing verification.

A ribbon gauze was packed in the wound. The patient was then discharged back to residential home. During wound dressing by community nursing service on the next day, two pieces of

ribbon gauzes were removed from the sacral wound.

Key contributing factors:

1. Wound assessment, in particular undermining wounds, was suboptimal; appropriate referral to specialty wound nurse was not initiated.
2. Precise description of packing material was not documented.
3. No nurse verified that the ribbon gauze had been removed by the healthcare assistant after assisted bathing.

Recommendations:

1. To review the roles and responsibilities of the wound assessor in the department.
2. To include and document the length and size of wound packing materials in the Wound Assessment Record.

Case 8: Gauze-like material

A patient was admitted for rectal bleeding and was diagnosed to have rectal cancer. The patient consulted a private surgeon and underwent laparoscopic anterior resection in the private sector, which was complicated with wound infection. The patient stayed in the private hospital for wound management and was discharged 23 days later.

After discharge from the private hospital, the patient attended various outpatient clinics in HA for follow up and wound dressing. After a month of wound care at outpatient clinics, the patient was referred to a HA hospital and was admitted for ongoing wound infection.

The infected area was laid open at bedside. A piece of 'old half-cut plain gauze' was retrieved. However the gauze was discarded and was not available for further investigation.

Findings:

1. The RCA team could not ascertain the specific cause and occasion in which the material was retained.
2. There was a lack of clinical handover between the public and private healthcare sector. There was also communication gaps amongst HA services in regards to wound care documentation.

Recommendations:

1. Explore means to improve the communication between the public and private healthcare sectors to facilitate patient referral and flow.

2. Standardisation of the wound management documentation to facilitate communication within HA services.

Case 9: Gauze left in vagina

A patient suffered from primary postpartum haemorrhage and uterine atony after Caesarean Section. A Bakri balloon was inserted to control the bleeding by tamponade effect. A Raytec gauze was packed in the vagina and was documented.

The patient was transferred to Intensive Care Unit (ICU) for close monitoring. On the next day, the attending doctor went through the patient's medical notes before removing the Bakri balloon, but the information about vaginal packing was not noted.

There was no further documentation about the vaginal packing during transfer to general ward and upon discharge on Day 5. The patient was readmitted on day 9 because of increased vaginal discharge. Retained vaginal gauze packing was noted and it was removed immediately.

Key contributing factors:

1. No comprehensive checking of medical notes before performing balloon removal.
2. Inadequate communication about important information amongst different teams.

Recommendations:

1. Leave a small segment of packing gauze outside the packed area for easy identification.
2. Standardise the documentation of vaginal packing in the medical record.
3. Reinforce the importance of comprehensive checking of medical notes before performing any procedure.

Case 10: Quarter gauze left in wound

An end stage renal failure patient on continuous ambulatory peritoneal dialysis had Tenckhoff catheter exit site infection. Deroofing of the Tenckhoff catheter to free and shave the superficial cuff at exit site was performed. There was oozing from the small wound after the procedure.

Two pieces of cotton gauze were packed – one under the catheter, and the other one was cut into a quarter (1/4) piece and packed over the catheter tunnel. The patient was discharged on the same day.

During wound review on the next day, only the cotton gauze under the catheter was removed but not the quarter gauze. The patient was discharged with the advice of wound dressing at home

twice daily.

During clinic follow-up 8 weeks later, the retained quarter gauze at catheter tunnel was noted and removed. Daily wound dressing was arranged at the day ward and the exit site condition improved.

Key contributing factors:

1. The use of the small square quarter gauze was an uncommon practice.
2. The tiny gauze was completely packed into the Tenckhoff catheter tunnel.

Recommendations:

1. Select the right size and type of gauze for packing. Tube gauze or ribbon gauze could be considered to avoid gauze cutting.
2. Review the method of wound packing, such as leaving the gauze tail outside wound to facilitate detection and retrieval.

Case 11: 3 Pieces of 5x5cm gauze left in wound

An elderly patient was admitted for sacral abscess with incision and drainage performed. A piece of gauze was packed into the wound and was documented. Wound nurse was referred for assessment.

The patient was subsequently transferred to another hospital. Wound dressing was supported by ward nurses and wound nurses. In the following few months after patient discharge, the wound care was continued by Old Age Home (OAH) nurse. There were intermittent Community Geriatric Assessment Team (CGAT) and wound nurse assessment.

About 10 months after the initial operation, patient was admitted from specialist outpatient clinic in view of increased foul smelling wound discharge despite the undermining wound size was 2x2cm. Incision and drainage over right back trunk was performed. 3 pieces of gauzes were found retained at the wound base.

Conclusions:

1. The wound care had been provided by several teams in HA as well as by the OAH.
2. After comprehensive review and staff interview, the Panel could not ascertain the specific cause and occasion in which the gauzes were retained.

Recommendations:

1. Reinforce the importance of documentation on the number of packings removed and applied.
2. Reinforce the good practice of leaving the 'tail' of packing outside the wound for easy identification of wound packing insertion.
3. Early referral for further assessment if the wound has persistent excessive discharge.

Case 12: Retained CVC guide wire

A patient had heart failure and respiratory failure and required intubation and central line insertion for inotropes. A tri-lumen catheter was inserted via femoral vein. There was resistance at the distal lumen of the central line. The doctor was not aware that the guide wire was not removed and assumed it was blocked.

The assisting nurse misinterpreted the Vicryl suture as guide wire and documented on the Bedside Procedure Safety Checklist. The retained guide wire was noted when the chest X-ray was reviewed. The retained guide wire was retrieved by endovascular means.

Key contributing factors:

1. The possibility of retained guide wire had not been considered when resistance was encountered during flushing of the central line.
2. The suture material was misinterpreted as guide wire and was not ascertained on post-procedural equipment checking.
3. Ineffective communication between doctor and nurse with regard to verbal confirmation of guide wire removal.

Recommendation:

Reinforce the importance of following the Bedside Procedure Safety Policy.

Case 13: Metal retractor left in abdomen

A patient with small body build underwent an elective abdominal hysterectomy and bilateral salpingo-oopherectomy for uterine cancer under general anaesthesia.

A metal malleable retractor was placed in the abdomen to retract the abdominal organs to facilitate abdominal cavity closure. Two other doctors took over the wound suturing when the surgeon left the operating table for documentation.

After completion of the first count, scrub nurse reported 'first count correct'. The retractor was still in use. After the second count started, the number of sharps, needles and gauzes were

confirmed correct. The main hysterectomy trays which included the retractors were not yet counted. The surgeons and anaesthetist received that 'second count correct' while it was not yet completed.

Patient was transferred to Recovery Room after reversal and extubation. During final count, a malleable retractor could not be found and subsequent X-ray showed retained retractor. After explaining to the patient, the patient was sent back to operating theatre to retrieve the retained retractor.

Key contributing factors:

1. The counting process was fallible. The first count was reported as 'correct' while the retractor was still in use. The second count was incomplete as not all instruments in used instrument tray could be checked by two nurses due to time constraint and distractions.
2. The malleable retractor accidentally sank in the abdominal cavity and slid away from the large abdominal wound and out of sight of the surgeons.
3. Communication breakdown among the operation team.

Recommendations:

1. Improve communication on 'correct count'. The phrase 'Instrument in use' could be used to alert the team.
2. Adopt the 'stop and check' safe practice and 'speak up' during counting.
3. Explore a safer design of malleable retractor, with part of it outside the wound during wound suturing.
4. Cultivate a mandated 'SIGN OUT' and team debriefing at second count.

Case 14: Gauze left in vagina

A full-term pregnancy lady was admitted for onset of labour. A delivery set and perineal suture set were opened with all gauzes counted and recorded. The baby was delivered vaginally.

14 days later, the patient phone contacted the ward for wound pain and swelling for three days. Patient was assessed the next morning. She presented a letter from the private doctor she attended the day before, stating that a gauze was found in the vagina. The gauze was already discarded.

Vaginal examination and ultrasound were normal. A course of antibiotics was prescribed and follow-up was arranged. Upon clarification with the private doctor, the retained material was

suspected to be a long gauze.

Conclusions:

1. How and when the long gauze was retained in the patient's vagina after delivery could not be ascertained.
2. The department has a system in place during normal spontaneous delivery procedure, which included 'Swab Count' table to record the initial and final count of accountable items, and standard practices and clear workflow for delivery and suturing.

Recommendation:

Conduct regular audit and random check on the practice of counting all items against the 'Swab Count' table.

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

The overall assessment and management of these 17 cases was determined to be appropriate by investigation panel. The 17 *inpatient suicide* cases are summarised below:

Home leave patient

Case 1

A patient with chronic intracerebral vascular lesion was transferred in for neuro-rehabilitation of increased limb numbness and stiffness. Radiological investigations were arranged before decision of surgical intervention. Patient was not at risk of suicide upon suicidal risk assessment on admission. Home leave was requested to celebrate Mother's Day with family members. The ward was informed that the patient had jumped from height at home 2 hours after home leave.

Case 2

A patient was admitted for unstable emotion after quarrelling with mother. Patient was attended and assessed by psychiatric team. Home leave was granted in view of improved emotion at time of assessment prior to home leave. The ward was informed later that the patient had jumped from height at home.

Case 3

A patient with Asperger's syndrome was diagnosed to have schizophrenia with gradual improvement, and was granted a one-month home leave for a trial stay at halfway house. The patient left the halfway house alone for an ultrasound investigation, and was found to have jumped off from a bridge.

Recommendation:

When placement is needed, consider discharge and arrange ward follow up when required.

Case 4

A patient required splenectomy for bleeding control after a laparoscopic distal pancreatectomy. Patient had low mood with difficulty to sleep and was assessed by clinical psychologist. Patient

had improved mood and accepted the condition and home leaves were granted. Patient jumped from height during the fourth home leave.

Inpatient

Case 5

A patient with a history of atypical mycobacterial infection was admitted for severe pneumonia, respiratory failure and septic shock. Suicidal risk screening on admission was negative. The patient had intermittent abdominal pain during hospitalization. Abdominal and pelvic Computed Tomography scan was normal. The patient was noted to have visual and auditory hallucination. Psychiatrist or psychologist consultation was suggested by on-call clinicians. Psychiatric consultation was yet to be referred. In view of the patient's risk of further deterioration, Do-Not-Attempt Cardiopulmonary Resuscitation (DNACPR) was discussed with the patient. The patient was emotionally calm, and expressed a wish for comfort care if his condition deteriorated. In the evening, the patient was found lying in the toilet with a shower hose around his neck. The patient was certified dead.

Case 6

A patient was admitted for lower back pain, neck pain and dizziness. The patient had a past history of nasopharyngeal cancer, adjustment disorder and suicidal attempt with regular psychiatric follow-up. Suicidal risk screening on admission was negative. The patient had no pain or dizziness the next day and requested to be discharged. Due to electrolytes imbalance, he required intravenous infusion and medical consultation, and was not discharged. The patient went to the hospital lobby without notifying staff later that afternoon and was brought back by the security staff. Later in the evening, the patient requested to leave the ward to buy a coffee but did not return. The patient and the family could not be reached by phone. Hospital search was conducted but in vain. The patient was reported to have committed suicide by jumping from height at a nearby building.

Case 7

A stage IV lung cancer patient with vocal cord palsy had recent tracheal stent insertion and was on palliative chemotherapy. After transferal to a convalescent hospital for pain control, the patient was given antibiotics for a chest infection. The patient had 2 episodes of sputum retention with feelings of near-suffocation, and required transferal to acute hospital for bronchoscopy. During his third episode of sputum retention and transferal to the acute hospital, patient was assessed to be not at risk of suicide on admission. Two hours after the bronchoscopy which was uneventful, he was found to be unconscious in bed, holding a pair of

scissors with four stab wounds on the chest wall. A death note was found on the bedside table. Patient suffered from a cardiac arrest and succumbed despite resuscitation.

Observation:

Access to a potentially lethal means like scissors brought by family without notifying ward staff, despite family education on admission.

Case 8

Patient had history of alcohol dependence syndrome, substance abuse and drug-induced psychosis, and was admitted for auditory hallucination, attempted suicide and self harm. Patient was assigned a bed near the nursing station and was put on hourly suicidal observation. Patient was assessed by a psychiatrist and was found to be remorseful and did not want to die. Psychiatrist planned to review patient later and transfer the patient to psychiatric ward after physical condition was stabilised. Patient was escorted for computed tomography scan of the brain and cervical spine to rule out injuries. Soon after patient returned to ward, nurses heard some banging sounds from the patient's cubicle which was just opposite to the nursing station. Patient was witnessed to have jumped through a broken window in the ward.

Observation:

The windows in the ward were constructed up to the HA standards. The glass complied with the Architectural Services Department standard.

Case 9

A patient with known history of mental health illness was voluntarily admitted from psychiatric clinic for depression and suicidal ideation. Patient was calm in psychiatric ward. In one early morning, the patient was found to have a face towel inside the mouth. Patient succumbed despite resuscitation.

Case 10

A patient was assigned to an isolation room for open tuberculosis. Psychiatrist was consulted in view of anxiety and suicidal ideation. Suicidal precaution was initiated. Patient was later found to lie prone on the floor at bedside. Patient's wrists were circled around by electric wires of the electric bed, which was connected to the socket which was on. Resuscitation was in futile. It was noted later that the patient was an electrician. Coroner was referred.

Finding:

The current physical setting of Isolation Room is limited in serving the purpose of

observation for preventing suicide concurrently.

Recommendation:

Explore improvement of ward environment to serve the purpose of easy observation of high-risk patients with suicide tendency and require isolation for infection precaution.

Missing patient

Case 11

A patient with newly diagnosed sigmoid cancer was admitted for laparoscopic sigmoidectomy. Suicidal risk screening on admission was negative. The patient was stable post-operatively and symptoms were well controlled. The patient was observed to be friendly to staff and co-patients, and started mobilization in the ward. The patient did not express worry about surgery and prognosis, and did not reveal any social or financial concerns. At midnight on day 6 post operation, the patient was found missing. Shortly afterwards, ward staff was informed by Police that patient had jumped from height at a nearby industrial building.

Case 12

Patient was admitted for workup of shoulder, hand and back pain. The patient was assessed to be not at risk of suicide on admission. Patient was informed of high possibility that he had a Pancoast tumour with metastasis. Further investigation was arranged. Patient was later found missing and the ward was informed by police that patient had jumped from height away from hospital premises.

Case 13

A patient who had metastatic lung cancer was referred for palliative care. Clinical psychologist and palliative home care service were referred. During an admission for sub-acute intestinal obstruction, patient was assessed to be not at risk of suicide. Patient was calm and did not complain of physical discomfort. Patient last responded to staff when he was in the toilet. He was found missing later with wristband, pajamas, nasogastric tube and intravenous line left in the toilet. Patient's family member was contacted who noted a message from the patient expressing hopelessness earlier in the morning. Patient was later found to have jumped from height away from hospital premises.

Case 14

Patient with benign prostatic hyperplasia was admitted for an elective laser surgery. On admission, patient was assessed to be not at risk of suicide. Patient was reported to have low

mood. Clinical psychologist was referred and came for assessment while the patient was transferred to the operating theatre. Patient underwent the operation which was uneventful. His emotion was noted to be stable. In the morning of post-operation day 2, patient requested for home leave but was declined. Patient was later found missing and the ward was informed by police that patient had jumped from height at home.

Case 15

A terminal lung cancer patient with recent disease progression was admitted for shortness of breath, hemoptysis and fever. Patient was not at risk of suicide upon suicidal risk assessment on admission, and was calm and stable in ward. Patient was found not at bedside the next day. The patient's relative reported that patient had committed suicide by hanging at a mountain near the residence.

Case 16

A patient with known history of mental health illness was admitted for attempted suicide at home by cutting the neck with a pair of scissors. After emergency operation for the 13cm laceration, psychiatrist had assessed the patient twice and intended to take patient over to the psychiatric ward when patient's physical condition was stabilized. Patient was found missing and had jumped from a housing estate.

Case 17

A patient was admitted for dysphagia. Suicidal precaution was initiated as the family members mentioned that the patient had self-stopped private psychiatric medications for some time, and had expressed suicidal ideation recently. Patient was assessed by a psychiatrist and a clinical psychologist. Patient was subsequently diagnosed to have motor neuron disease. After returning from home leave with relatives, the patient was found missing and was later found to have jumped from height at a shopping mall.

Category 7: Maternal death or serious morbidity associated with labour or delivery

Maternal Death on Day 4 Post-delivery

A patient with gestational diabetes was admitted at 36 weeks of pregnancy for vaginal bleeding. The patient had high blood pressure and proteinuria and was diagnosed to have pre-eclampsia toxaemia. Induction of labour was commenced.

The patient required a crash lower segment Caesarean section due to severe fetal bradycardia. There was severe post-partum haemorrhage which required Bakri balloon insertion and relaparotomy. Intravenous antibiotics were given.

The patient had fever and tachycardia. Investigations including septic workup were performed and intravenous antibiotics regimen was stepped up. Antihypertensive was prescribed for hypertension, and was last given when the blood pressure was 106/65.

The patient had septic shock on day 4 post-operation, followed by bradycardia and asystole. The patient did not respond to resuscitation and succumbed. Post-mortem examination showed that the cause of death was sepsis.

Conclusion:

The cause of death was sepsis, which did not appear to be related to or aggravated by labour, delivery or its management.

Category 8: Infant discharged to wrong family or infant abduction

Baby Brought Away by Mother

A baby was admitted for gastroenteritis. Security measures including alarm and electronic baby tag were explained to mother and relative upon admission. It was emphasized that the patient was not allowed to leave the ward without prior permission.

Patient was found missing soon after doctors' assessment. Electronic baby tag, broken bracelet and pajamas were found on patient's bed. CCTV was reviewed and showed that the mother had left the ward with the patient.

Mother was contacted by phone and confirmed to have brought the baby home. The mother brought the patient back to ward 2 hours later.

Key contributing factors:

1. Patient and the parent were released from the ward without checking clearly their identities via the intercommunication system and the CCTV monitor.
2. There was curtain near the main ward entrance, which blocked the view of staff when observing the entrance.
3. Bracelet of security sensor tag was easily removed from patient.

Recommendation:

Review and modify the current workflow of security system, to facilitate staff in recognizing the identity of visitors' in and out of the ward.

Category 9: Other adverse events resulting in permanent loss of function or death (excluding complications)

Case 1: Liver biopsy on a patient receiving anticoagulation treatment

A patient was admitted for severe respiratory failure and necrotising pneumonia. Computed Tomography (CT) scan revealed multiple liver abscesses and deep vein thrombosis. A low molecular weight heparin (LMWH) anticoagulant was started. In view of persistent elevation of a liver enzyme (alkaline phosphatase), a subspecialty team was consulted and suggested a liver biopsy to rule out bacterial, fungal and mycobacterium infection.

There was inadequate communication between the consultation team and parent team on performing a liver biopsy. The consultation team noted that the clotting profile was normal, but was not aware that the patient was on LMWH.

Bedside liver biopsy was performed 2 hours after the last dose of LMWH. The patient developed haemorrhagic shock with bleeding from liver. The patient was resuscitated and underwent radiological and surgical haemostatic interventions. The patient further deteriorated and succumbed 3 days later.

Key contributing factors:

1. Inadequate communication between and parent and consultation team regarding the risk of bleeding for the procedure.
2. There was no prompt for reviewing anticoagulants before the procedure, and the consultation team was preoccupied by the pre-procedural normal clotting profile.

Recommendations:

1. To enhance communication between parent team and consultation team, e.g. the recommendation of an invasive procedure by the consultation team and the decision made by the parent team should be well documented in clinical notes.
2. To develop a preparation guide for bedside liver biopsy.
3. To revise the local “Bedside Procedure Safety Checklist” and include checking clotting profile as well as anticoagulant medication before the bedside procedure.

Case 2: Incorrect Gastrectomy Anastomosis

An elderly gastric cancer patient underwent robotic assisted laparoscopic gastrectomy with Roux-en-Y anastomosis. The patient was stable till post-operative day 6, when the patient had desaturation and shock which required respiratory and inotropic support in Intensive Care Unit.

Urgent computed tomography scan showed duodenal obstruction. Emergency operation revealed incorrect anastomosis in the previous operation causing the obstruction. Revision surgery was performed. The patient further deteriorated and succumbed on the next day.

Key contributing factor:

Checking and tracing of the bowel loops was not well performed.

Recommendation:

Reinforce proper checking during surgery to ensure correct anastomosis.

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