ANNUAL REPORT ON SENTINEL EVENTS

1 October 2008 - 30 September 2009

HOSPITAL AUTHORITY
HONG KONG
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醫院管理局
HOSPITAL AUTHORITY

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HOSPITAL AUTHORITY HONG KONG

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ACKNOWLEDGEMENTS

Patient Safety and Risk Management Department thanks all the frontline colleagues, Hospital risk managers, hospital and cluster Quality and Risk Management Department, hospital executives for their ongoing contribution to the risk reduction strategies and programmes.

EXECUTIVE SUMMARY

Hospital Authority implemented a Sentinel Event (SE) Policy on 1 October 2007 to enhance the management, reporting, monitoring and learning from serious adverse incidents. This second annual report covers the 12-month period from 1 October 2008 to 30 September 2009. A total of 40 sentinel events were reported during the period (as compared with 44 sentinel events reported from the first annual report). There was a downward trend of reported sentinel event, with 15 cases reported for the 6-month ending 30 September 2009 (as compared with 25 cases for the 6-month ending 31 March 2009). The downward trend was due to the reduction of reported sentinel event from suicide.

2. "Death of an inpatient from suicide (including suicide committed during home leave)" was the top category of all reported events (15 cases; 37%). The second most common category was "Retained instruments or other material after surgery / interventional procedure requiring re-operation or further surgical procedure" (13 cases; 33%). This was followed by "Surgery / interventional procedure involving the wrong patient or body part" (10 cases; 25%).

3. 17 events, classified as having "extreme consequence", in which the patient died. This included 15 cases of inpatient suicide and 2 maternal deaths associated with delivery. 8 cases were classified, as having 'major' or 'moderate' consequences and 15 cases were 'minor' or 'insignificant'.

4. The Root Cause Analysis conducted for the reported SEs have identified contributing factors for inpatient suicide, retained instruments or material, surgery/interventional procedure involving the wrong patient or body part and maternal death - including ineffective or inadequate defined procedures / guidelines, patient assessment, miscommunication and human factors.

5. Various risk reduction programs were implemented across HA to enhance patient safety, including

- Safe Surgery Policy was implemented on 1 June 2009
- Extend the use of 2D barcode for patient identification
- Prevention of in-patient suicide with enhanced patient risk assessment for suicide and reduce the environmental risk.

6. To further enhance patient safety; HA will be working with the hospital management and frontline colleagues on the following measures:

(a) **Risk Reduction Programs to Reduce Surgical Errors**

(b) **Risk Mitigation by Improving Communication**, including applying "Crew Resource Management" through a structured program and training for improvement of communication among healthcare professionals

(c) **Risk Reduction for Maternal Death**.

7. The reported sentinel events, contributing factors, and learning points are shared in the 'HA Risk Alert' (HARA) published every two months and Patient Safety forum.

8. HA has implemented a revised "Sentinel and Serious Untoward Event Policy" from 1 January 2010 to further strengthen the reporting and prevention of serious adverse events which could have led to serious permanent harm or death (not covered by previous Sentinel Event Policy).

9. The report represents coordinated work and efforts of frontline colleagues, hospital management, hospital Quality and Risk Management Department and cluster executives. Their contributions to the system changes resulting in further improvement of patient safety during the care delivery processes are acknowledged.

1 INTRODUCTION

10. Advances in the understanding and treatment of diseases and improvement in technology undoubtedly has led to better patient care and outcome. However, these changes increase the complexity and risks in the healthcare system. All health care professionals should be aware of the potential and hidden risks to ensure the best possible patient care is delivered within the available resources.

11. There are various means to identify the risks in the healthcare process. Incident reporting is one of the ways to effectively ascertain the hidden risks in our system. The implementation of the “Sentinel Event Policy” and incident monitoring facilitates healthcare organizations, clinicians and managers to undertake thorough evaluation of, in the perspective of patient safety, the patient care processes and service performances in a transparent way.

12. This annual report is a summary of the sentinel events reported by HA hospitals from 1 October 2008 to 30 September 2009, including a review of the reported cases and learning points that are identified through root cause analysis, and the risk reduction measures taken to prevent or minimize the reoccurrence of these events.

2 HA SENTINEL EVENT POLICY

13. The Policy statement stipulates that "hospitals must report, investigate and respond to sentinel events promptly, and make necessary efforts to prevent similar events from happening in the future".

14. The Policy seeks to ensure immediate and appropriate handling of sentinel events by the senior management of the respective hospitals, and if necessary, the HA Head Office in order to: (a) minimize harm to patient; (b) minimize the impact of such events; (c) support the staff involved in the events; (d) investigate and understand the causes that underlie a sentinel event; (e) improve the systems and procedures where necessary and appropriate to reduce the probability of recurrence of the event in future; to share the lessons learned among staff of different clusters of the HA; and (f) maintain patients' and the public's confidence on the public healthcare system.

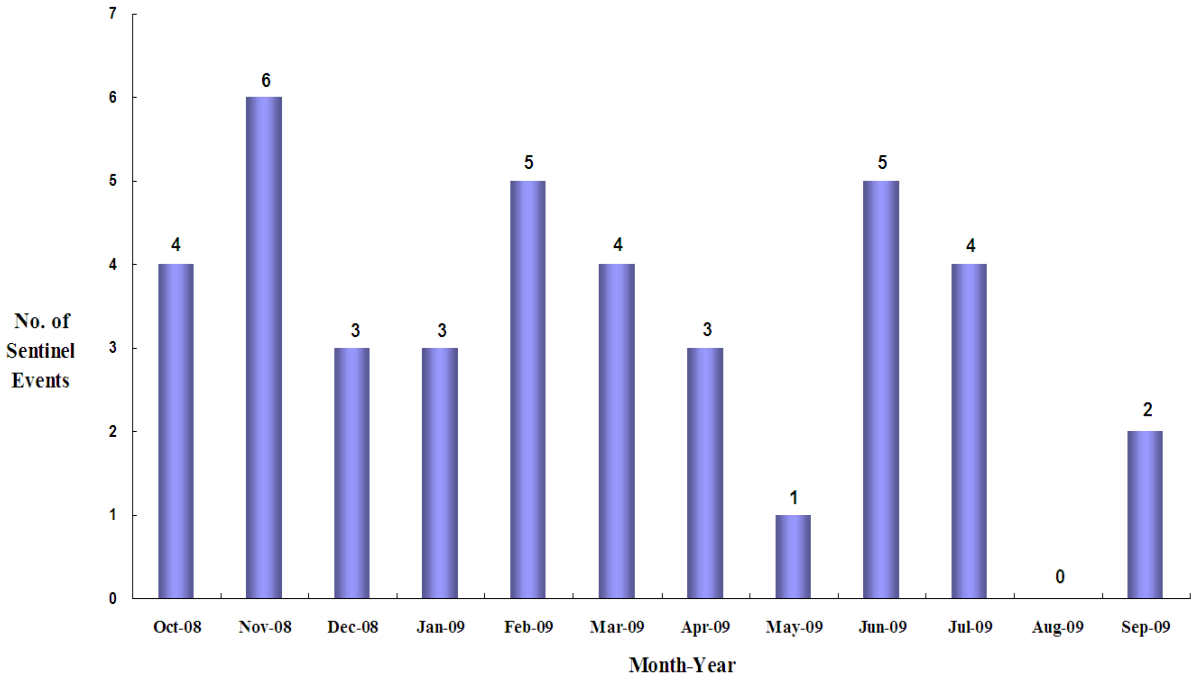
15. The HA implemented the Policy on 1 October 2007 to mandatory report sentinel events. With an aim to improve service quality, reduce the risk, enhance patient safety and prevent the reoccurrence of serious adverse events, HA is extending the mandatory reporting criteria and management process. A revised "Sentinel and Serious Untoward Event Policy" (Annex I) was implemented on 1 January 2010.

3 SENTINEL EVENTS REPORTED FROM 1 OCTOBER 2008 TO 30 SEPTEMBER 2009

Frequency of Reportable Sentinel Events

16. A total of 40 sentinel events were reported from 1 October 2008 to 30 September 2009, as compared to 44 from 1 October 2007 to 30 September 2008. The monthly frequency of reported sentinel events is shown in figure 1.

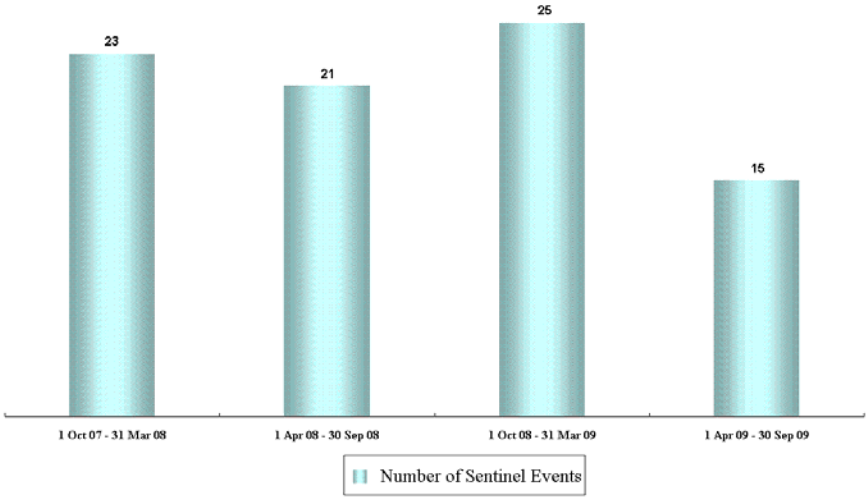
Figure 1: Monthly Frequency of Reportable Sentinel Events



The incidence rate for these 12 months was 2.4 per 1,000,000 episodes of patient discharges and deaths / attendances[1], while it was 2.7 from 1 October 2007 to 30 September 2008. There is a downward trend in the number of SE reported for the latest 6-month period ending 30 September 2009 (figure 2).

[1] Including total inpatient and outpatient discharges and deaths and ambulatory service attendances defined in HA Controlling Officer's report: Vol. 1B, 2009-2010

Figure 2: Frequency of Reportable Sentinel Events (6 monthly data)



Breakdown of Reportable Sentinel Events by Category

17. The frequency of each category of the sentinel events is as shown in figure 3 and 4.

Figure 3: Breakdown of Sentinel Events by Category

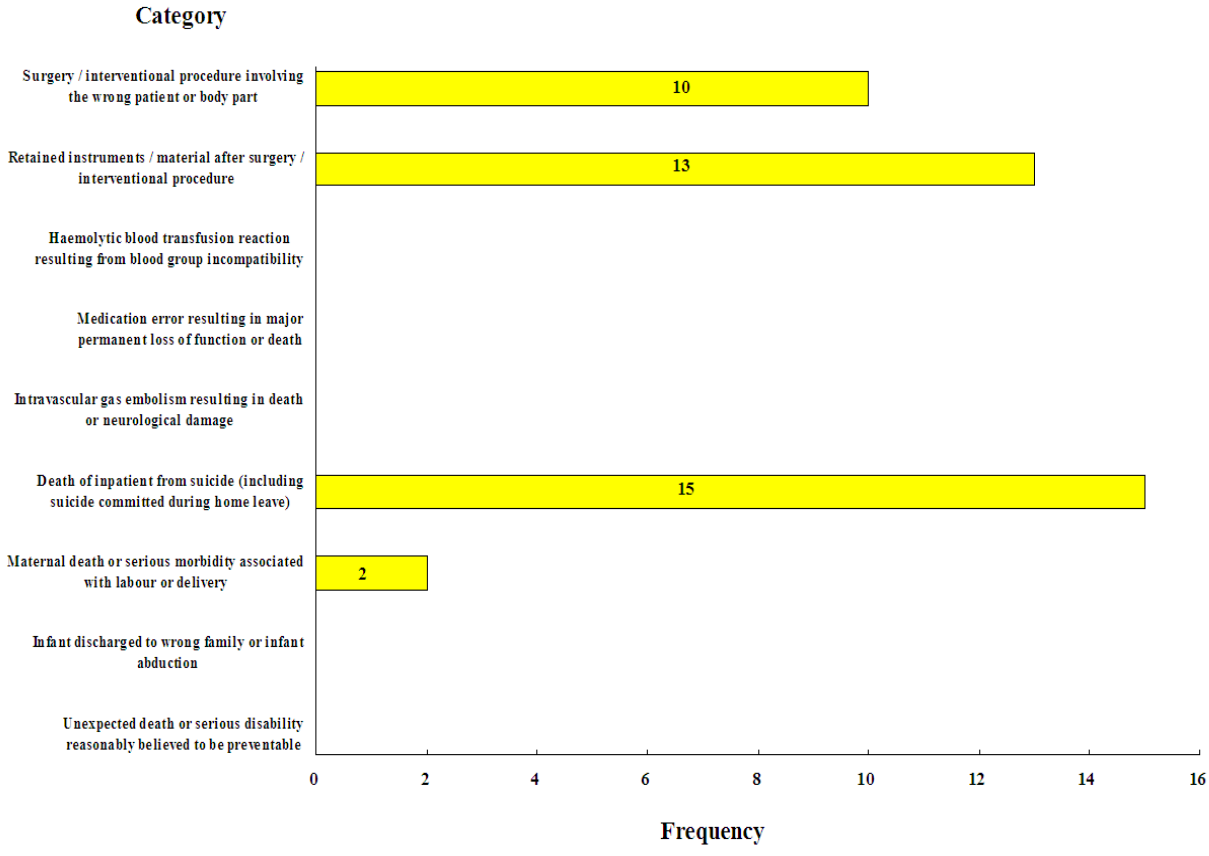
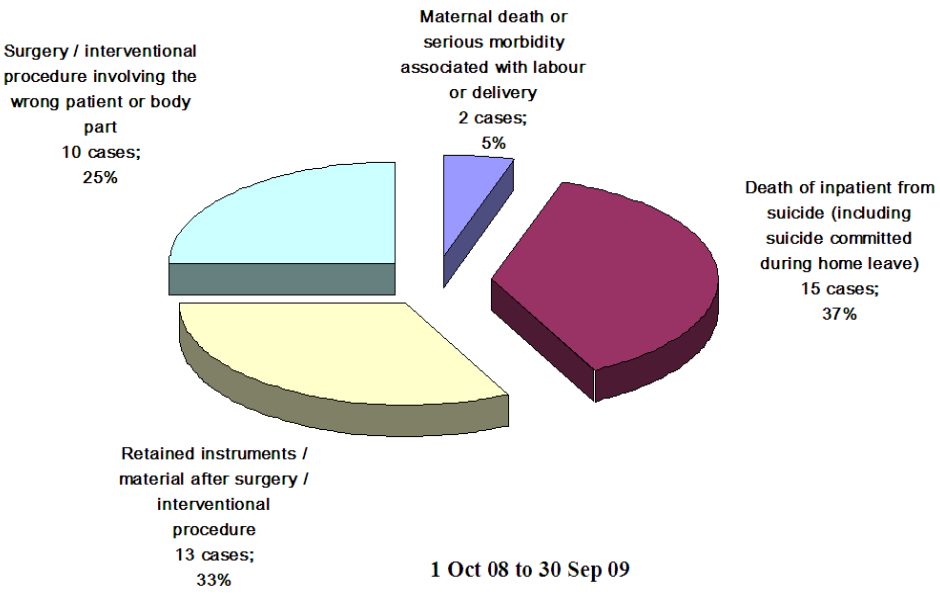


Figure 4: Comparison of Occurrences of Sentinel Events in the past 24 months

Category	Reportable Sentinel Events	1-Oct-07 to 31-Mar-08	1-Apr-08 to 30-Sep-08	1-Oct-08 to 31-Mar-09	1-Apr-09 to 30-Sep-09	Total
1	Surgery / interventional procedure involving the wrong patient or body part	3	2	5	5	15
2	Retained instruments or other material after surgery / interventional procedure requiring re-operation or further surgical procedure	5	5	7	6	23
3	Haemolytic blood transfusion reaction resulting from ABO incompatibility	0	1	0	0	1
4	Medication error resulting in major permanent loss of function or death of a patient	0	0	0	0	0
5	Intravascular gas embolism resulting in death or neurological damage	0	0	0	0	0
6	Death of an inpatient from suicide (including suicide committed during home leave)	12	13	11	4	40
7	Maternal death or serious morbidity associated with labour or delivery	1	0	2	0	3
8	Infant discharged to wrong family or infant abduction	1	0	0	0	1
9	Unexpected deaths or serious disability reasonably believed to be preventable (not related to the natural course of the individual's illness or underlying condition). Assessment should be based on clinical judgment, circumstances and the context of the incident	1	0	0	0	1
	Total Number	**23**	**21**	**25**	**15**	**84**

18. The percentages of the different categories of the sentinel events reported from 1 October 2008 to 30 September 2009 are as shown in Figure 5.

Figure 5: Distribution of the Sentinel Events from 1 October 08 to 30 September 09



- **Death of an inpatient from suicide, including suicide committed during home leave: 15 cases (37%)**
  - 6 patients (40%) committed suicide during home leave, 7 (46.7%) committed suicide in hospital, and 2 (13.3%) was found missing and committed suicide outside hospital
  - 9 of these patients suffered from psychiatric illness while 6 had malignancies, chronic illness, or permanent disabilities
  - An encourage downward trend of the number of reported suicide case for the latest 6-month period ending 30 September 2009 was noted (4 cases as compared with 11 cases for the previous 6 months).

- **Retained instruments or other material after surgery / interventional procedure requiring re-operation or further surgical procedure:**

  13 cases (33%)
  - 3 cases involved retention of a segment of an intra-catheter dilator, part of a Broviac catheter and the cuff of a Hickman catheter
  - 5 cases involved retention of surgical gauze, the thread of a raytec gauze or a sponge fragment; and
  - 5 cases involved retention of instrument or other material (a screw tip of varicose vein stripper, a retractor, a segment of naso-gastric tube, part of a laparoscopic instrument and a guide wire).

- **Surgical or interventional procedure involving the wrong patient or body part: 10 cases (25%)**
  - Tapping of pleural effusion on a wrong side
  - Unnecessary laparoscopic cholecystectomy

- Incision of ingrown big toe nail on a wrong side
- Femoral nerve block on a wrong side
- Brachial plexus block on a wrong side
- Insertion of chest drain to a wrong baby
- Extraction of wrong tooth
- Laser therapy to a wrong patient
- A patient receiving an incorrect surgery
- Spine surgery at a wrong level.

- **Maternal death associated with delivery: 2 cases (5%)**
  - Post partum intracranial haemorrhage
  - Antepartum haemorrhage and massive blood loss

  Both mothers failed to respond to active resuscitation.

Outcomes of reported sentinel events

19. The outcomes of the reported events are as follows:

- **Minor or insignificant consequence: 15 cases (37.5%)**
- **Major / moderate consequence: 8 cases (20%)**
- **Extreme consequence (i.e. death): 17 cases (42.5%)**
  - 15 cases due to suicide
  - 2 cases of maternal death associated with delivery.

Hospital settings where the sentinel events occurred

20. 95% of the events took place in general hospitals (Table 1):

Table 1: Settings where the sentinel events occurred

Setting	Frequency (%)
Acute general hospitals	32 (80%)
Psychiatric units within general hospital	6 (15%)
Psychiatric hospitals	2 (5%)

Individual sentinel events

21. A summary of individual sentinel events is set out in the Annex II.

4 ACTIONS TAKEN AND DISCUSSION

Analysis of reported sentinel events

The reporting of incident

22. The total number of sentinel events in the past 12 months (1 October 2008 to 30 September 2009) was 40. With the concerted effort to ensure patient safety with the various risk reduction programs being implemented across HA, it is encouraging to see a downward trend in the number of SE reported for the latest period of 6 months ending 30 September 2009, in particular, death from suicide.

23. The Victorian Department of Health Services in Australia received 68 reports of sentinel events in 2008-2009.[2] The Western Australia Department of Health received 90 reports of sentinel events in the same period of time.[3] The Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) in the United States of America received 636 reports of sentinel events in 2008.[4] There is however no international benchmarking for the 'appropriate' or 'acceptable' level of sentinel event reporting.

Type of sentinel event reported

24. In HA, in-patient suicide remained the top reported sentinel event (15/40 cases, 37%). Retained instruments or other material after surgery / interventional

[2] A Victorian Department of Health Service, sentinel event program, annual report 2008-09
[3] The Western Australia Department of Health, sentinel event report 2008-2009
[4] The US Joint Commission, sentinel event statistic: as of September 30, 2009

procedure was the second most commonly reported sentinel event (13/40 cases, 33%), while surgery / interventional procedure involving the wrong patient or body part was the third (10/40 cases, 25%).

25. The JCAHO, the Victoria Department of Health Service of Australia, and the Western Australia Department of Health have also listed in their reports suicide, retained instrument or material and wrong patient or site to be the top categories. In Victoria, 7 out of 68 sentinel events (10.3%) were inpatient suicide and 3 were retained instrument or material (4.4%). In Western Australia, 4 out of 90 sentinel events (4.4%) were inpatient suicide, 10 were wrong patient or body part (11.1%), and 6 were retained instrument or material (6.7%). There are differences in criteria for reportable suicide amongst Hong Kong, Victoria, and Western Australia. In Hong Kong, reportable sentinel event for suicide includes all in-patient suicide and suicide committed during home leave. Whilst in Australia, the criterion only refers to the suicide committed in in-patient units.

26. According to the World Health Organization (WHO), approximately one million people died from suicide with a global mortality rate of 16 per 100,000 populations in the year 2000.[5] In Hong Kong, the suicide rate has increased from 11.8 per 100,000 population in the year 1995, 13.2 in 1999, 17.4 in 2005, and 15.2 in 2006.[6]

Contributing factors for the sentinel events

27. The hospitals concerned had set up a Root Cause Analysis panel for every sentinel event to conduct the investigations, analysis and identify the root causes

[5] World Health Organization: suicide prevention (SUPRE)
[6] World Health Organization: suicidal rates, by gender, China, Hong Kong SAR, 1995-2006

as well as all related contributing factors for the incidents and recommend the appropriate improvement measures so as to reduce the likelihood of their recurrences.

In the two states of Australia, the top contributing factors were policies / procedures / guidelines, communication, and human factors. Despite the small number of sentinel events reported in the Hospital Authority, ineffective or inadequate communication is still identified as an important factor in the causation of these incidents. The key contributing factors for each category of incidents are summarized as below:

- **Key contributing factors for inpatient suicide (including home leave)**

  Apart from the underlying illness of the patient (psychiatric condition, depression from the chronic or terminal illness), some other factors may have contributed to or facilitated in-patient / home leave suicide factors in a variable degree in each of the case, including

  - A failure of the risk assessment tool for identification of at-risk patient
  - Unawareness of environmental risks that may facilitate suicidal acts
  - Inadequate communication between healthcare staff and with family/ care givers

- **Key contributing factors for retained instruments or material**

  - Ineffective gauze or instrument counting and integrity checking of instrument
  - Inadequate documentation of counting and checking of gauzes, used devices as well as consumables
  - Ineffective communication among the operating team members

- Difficulty in detecting a tiny dislodged fragment of equipment or consumables
- Quality of the raytec gauze

- **Key contributing factors for surgery / interventional procedure involving the wrong patient or body part**
  - Inadequate checking of patient identity, type of operation or the exact operation site
  - Unclear role delineation and ineffective communication among the operating team members

- **Key contributing factors for the maternal death**
  - Insufficient obstetric history from the previous pregnancies for clinical decisions in maternal emergencies
  - Ineffective obstetric team communication and response in critical situations.

Risk Reduction Programmes

28. The HAHO has collaborated with clusters to improve and redesign the systems and work processes to minimize the recurrence of these sentinel events.

Reduction of inpatient suicide (including home leave)

- Standardize a screening tool for early detection of suicide “at-risk” patients
- Promote lessons learned to increase staff awareness of environmental risk and perform scanning to identify dangerous sites

- Redesign facilities and/or environment to improve patient safety
- Communicate with relatives and care givers on the psychological needs of each patient and educate them to appropriately manage the patient in situations of changing mental / emotional status
- Strengthen the psychiatric service for the "On-trial discharge patient" to help them to adopt the living style at home and to provide the support to his/her family.

Surgical safety

- Implement the Surgical Safety Policy, by using a checklist, to ensure that every patient receives a right operation at the correct site
- Adopt a team approach in checking the integrity of the gauze / instrument / material after use or removal and appropriately to strength the clinical document for communication
- Encourage a 'speak up' culture and active communicate whenever an error is spotted by a team member
- Delineate the roles and responsibilities of team members clearly
- Explore alternative appropriate material for the operation or procedure to prevent dislodgement and subsequent retention. Apply the concept of the surgical safety checklist in interventional suite and ward setting to enhance patient safety.

Effective Communication

- Communication breakdown remains as the most important and commonest cause for a SE. It is essential to enforce the concept of team work and facilitate effective communication amongst the team. Training on Crew

Resource Management (CRM) was introduced as a pilot program to our colleagues in the Pamela Youde Nethersole Eastern Hospital. It adopts the training framework for the pilots and crew in the aviation industry. There is also positive evidence of improving patient safety in various clinical settings like in intensive care unit, operation theatre and during trauma care. It aims at developing cognitive and interpersonal skills which are essential for effective interpersonal communication, leadership, and decision making.

Prevention of Maternal death

- Facilitate the team to early identify the high risk mothers from previous obstetric history by using the electronic Antenatal Record System
- Review current communication and response mechanism to obstetric emergencies.

Learning and sharing

29. The reported sentinel events, contributing factors, and learning points are shared in the 'HA Risk Alert' (HARA). Abstracts of local and global healthcare risk alerts are also included to raise staff awareness on patient safety. The HARA, first published in November 2007, is issued every two months thereafter.

5 CONCLUSION

30. The implementation of the Sentinel Event Policy has facilitated the frontline colleagues, hospital management, hospital Quality and Risk Management Department and cluster and hospital executives to study and learn from the incidents. With the concerted effort by all parties, there is an encouraging downward trend in the number of SE reported. The contributions by all HA staff to improve patient safety during care delivery processes are acknowledged.

6 THE WAY FORWARD

31. The following measures and activities will be introduced to further enhance patient safety:

(a) To implement a revised “Sentinel and Serious Untoward Event Policy” so as to further strengthen the reporting, management and prevention of serious adverse events.

(b) To evaluate the implementation of “Surgical Safety Policy” to ensure sustainable reinforcement of surgical safety and communication among multiple disciplines involved in operations.

(c) To extend the implementation of “Surgical Safety Policy” in interventional suite and ward for enhancing the patient safety in different procedure.

(d) To promulgate the “Crew Resource Management” through a structured program and training to improve communication among healthcare professionals.

END

ANNEX I

HA SENTINEL AND SERIOUS UNTOWARD EVENT POLICY

1. Purpose

The Sentinel and Serious Untoward Event Policy defines the process for identification, reporting, investigation and management of Sentinel Events (SE) and Serious Untoward Events (SUE) 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 of SE and SUE.
- To learn from SE and SUE through Root Cause Analysis (RCA), with a view to understanding 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 labour or delivery
8. Infant discharged to wrong family or infant abduction
9. Other adverse events resulting in permanent loss of function or death (excluding complications)

4.2 Serious Untoward Events

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

5. Management of SE and SUE

5.1 Immediate response on identification of an 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 handling, (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
- 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 Hospitals 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 RCA panel in the 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 Half-year Report (to public) and follow-up visits.

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

ANNEX II

SUMMARY OF INDIVIDUAL SENTINEL EVENTS AND RECOMMENDATIONS FOR IMPROVEMENT

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

SURGERY / INTERVENTIONAL PROCEDURE ON WRONG BODY PART

Case 1: Tapping of Pleural Effusion on A Wrong Side
A patient has a pleural effusion on the left side. Consent for tapping of the effusion on the left side was obtained by Dr. A. Dr. A helped the patient to move to another bed for the procedure while a nurse prepared the equipments. Dr. A performed tapping for the patient – on the right side of the chest instead of left side. No fluid can be aspirated. Dr. A then became aware the wrong side was tapped. CXR reviewed a right apical pneumothorax.

Case 2: Incision of Ingrown Big Toe Nail on A Wrong Side
A patient was to undergo an elective wedge incision on the medial side for ingrown big toe nail. The side of operation was not specified on the consent form. The nurse and the chief surgeon checked the patient's identity, operating site and the marking. The chief surgeon made a skin incision on the lateral side of the toe after local anaesthetic injection. Patient complained of pain and asked for confirmation of the side being operated. At this juncture the junior surgeon informed the chief surgeon that the operation should be on the medial side.

Case 3: Femoral Nerve Block on A Wrong Side
A patient was scheduled for anterior cruciate ligament reconstruction of his left knee. Surgeon marked the operation site in the ward at the left ankle with an arrow pointing towards the knee. The operation theatre staff prepared a nerve block trolley and placed it to the patient's right side. After patient was put under general anaesthesia, an anaesthetist performed the femoral nerve block on the right side instead of left for post-operation pain control. The error was detected by the surgeon.

Case 4: Brachial Plexus Block on A Wrong Side
A patient was scheduled for arthroscopic repair of right rotator cuff. When the patient was on the operating table, a surgeon requested a brachial plexus block for post-operation pain control. An anaesthetist obtained verbal consent from the patient for the brachial plexus block. A left brachial plexus block was performed and soon afterward, the anaesthetist realised the block was performed on the wrong side.

Key contributing factor:
The staff failed to check the exact operation site (side) prior to the procedure.

Key recommendations:
a) To implement a "Surgical Safety Policy" to ensure correct patient's identity, operating side (site) and the operation.
b) To ascertain the correct site (side) before a procedure.
c) To consider a "Time-Out" practice to verify correct patient and correct site prior to a ward procedure.
d) To encourage a "Speak-Up" culture whenever an error is suspected by a team member.

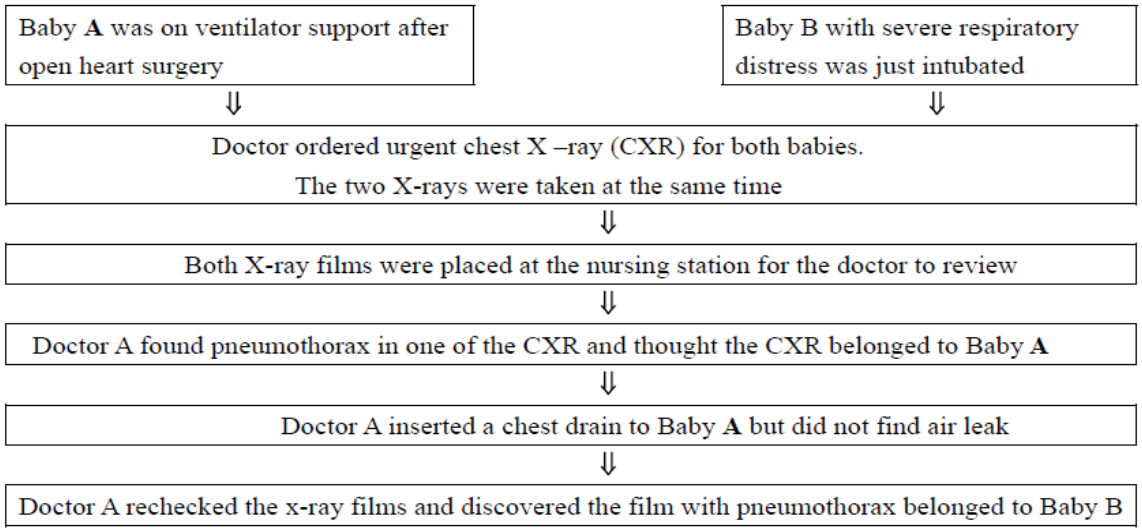
UNNECESSARY LAPAROSCOPIC CHOLECYSTECTOMY

The patient attended an out-patient clinic for haematuria and bilateral ureteric stones. She brought with her the x-ray and reports performed at a private clinic which included an IVU and USG abdomen. Doctor A referred her to the Surgical Outpatient Clinic (SOPC) based on her clinical symptoms of right upper quadrant pain and the USG report of gall stone. Surgeon B at SOPC arranged a laparoscopic cholecystectomy for the patient. Cholecystectomy was performed but no gall stone could be found in the removed gall bladder. Surgeon B reviewed the USG report and found the report supplied by the patient did not belong to the patient.

Key contributing factor:
Not confirming a provided report belongs to the patient.

Key recommendations:
a) To check patient's identity before interpreting the investigation report.
b) To confirm patient's identity before filing the report.
c) To check patient's identity on important investigation and consent before operation.

INSETION OF CHEST DRAIN TO A WRONG BABY



Key contributing factor:
Staff did not check the patient's identity on the chest x-ray.

Key recommendation:
To check patient's identity on the x-ray film before interpretation and prior to a procedure.

EXTRACTION OF WRONG TOOTH

Patient was admitted for extraction of right lower 5th (45); right upper (18) and lower (48) wisdom teeth. Dental Surgeon A obtained the consent from patient in the ward. Dental Surgeon B and C were assigned as the operating surgeons on the day of surgery. Anesthetist, circulating nurse and Dental Surgeon A conducted the "Time-out" checking procedure prior to the operation. After induction, Dental Surgeon B injected the local anaesthesia into right & left, upper & lower mucosal sites. Dental Surgeon C extracted an unplanned left lower wisdom (38) tooth. The error was recognized by a nurse.

Key contributing factor:
"Time-Out" was not performed by the operating surgeon.

Risk reduction strategies:
a) To use the white board to show the tooth extraction plan.
b) To comply with the Safe Surgery Guideline.
c) To confirm the operating surgeons prior to the "Time-out" procedure.

A PATIENT RECEIVING AN INCORRECT SURGERY

A patient has a nodule at the base of the left ring finger. Consent to excise the nodule was obtained by Doctor A in the Specialist Out-Patient Clinic (SOPC).

The patient attended an Ambulatory Centre for the operation and was assessed by Doctor B. Doctor B noted a nodule on the palm along the flexor tendon of the left ring finger, which the patient indicated pain on applied pressure. Doctor B marked the operation site with an arrow on the left ring finger (without referring to the medical notes on the position of the nodule identified at the SOPC). Operating theatre (OT) Nurse A checked the operation site and noted the nodule as pointed out by the patient. Doctor B and OT Nurse A conducted the Time-out process prior to the skin incision. Doctor B assisted by OT Nurse B performed a release operation for the left ring trigger finger.

At the recovery room, patient realized the nodule was not removed. Patient underwent another operation to remove the nodule.

Key contributing factor:
The surgeon did not verify the problem and the correct operating site with the patient nor refer to the medical notes on site marking.

Risk reduction strategies:
a) To review all relevant clinical notes before an operation.
b) To encourage a "Speak-up" culture whenever an error is identified by a team member.

LASER THEAPY TO A WRONG PATIENT

Patient A attended Out-Patient Clinic (OPC) for a laser procedure to his right eye and Patient B was to receive a laser procedure for his left eye. The identity of both patients was checked. Patient A received eye drop to dilate his right pupil and Patient B received eye drop to dilate his left eye.

Doctor X in the laser room called **Patient B** to come into the room for the procedure on the left eye but **Patient A** entered the room. Doctor X asked the patient if he is Patient B and he said "YES". Doctor X obtained consent from Patient A. Doctor X examined Patient A's left eye and found it not dilated. Doctor X asked the assistant to dilate Patient A's left eye. Doctor X found retinal degeneration and performed laser therapy for Patient A's left eye.

Doctor Y in another laser room called Patient A to come into the room. Patient A told Doctor Y that he had already received a procedure. The mistake was then discovered after verifying patient A's identity. Patient A subsequently received laser therapy on his right eye and Patient B on his left eye.

Key contributing factors:

a) Patient not wearing a wristband for identification in the OPC.
b) Patient's identity card was not used for on-spot verification of identity at the time of the procedure.
c) A closed-ended question was used to verify patient's identity.

Risk reduction strategies:

a) To check patient's identity against patient's identity card and medical record prior to a procedure in Out-Patient Clinic.
b) To check patient's name by using open-ended question.
c) To apply time-out practice in out-patient procedure.

SPINAL SURGERY AT A WRONG LEVEL

A patient with spinal stenosis at L4/5 level underwent decompression and posterior spinal fusion. The operating level of the spine was verified by X-ray imaging before skin incision and during exposure of spine. The Surgeon reviewed the post-operative X-ray and noticed the operation was performed at L3/4. L4/5 posterior spinal fusion was then performed.

Key contributing factor:

Failure to map the pre-operative X-ray to the intra-operative X-ray imaging.

Key recommendation:

To map MRI and X-ray before operation to improve the accuracy in level identification in spinal surgery.

Category 2: Retained instruments or other material after surgery / interventional procedure requiring re-operation or further surgical procedure

RETAINED PART OF CENTRAL VENOUS CATHETER

Case 1: Segment of an Intra-catheter Dilator
A patient with chronic renal failure had an intravenous haemodialysis catheter inserted via the right internal jugular vein. The catheter was not functioning. Another catheter was inserted via the left internal jugular vein. Subsequently, on removing the non-functioning catheter, a segment of an intra-catheter dilator was found at the tip of the removed catheter. CT scan of the thorax revealed a tubular foreign body inside the lumen of the superior vena cava. An operation was performed to remove a long segment of a catheter dilator. It was likely a segment of the dilator was inadvertently cut off and retained during the insertion procedure.

Case 2: Cuff of Hickman Catheter
A patient had a Hickman catheter inserted for intravenous treatment. Subsequently, the catheter was removed. Slight difficulty was encountered during the process. Few months later, patient complained of wound discomfort and found a small object protruding out from the wound. The object was removed and found to be the cuff of a catheter.

Case 3: Segment of Broviac Catheter
A Broviac catheter was inserted for a course of intravenous antibiotic therapy and was removed after the course. Resistance was encountered during the removal process. Six months later, the patient was admitted with fever. A segment of catheter was noted on the CXR in the position of the patient's heart. A long segment of catheter was retrieved by endovascular approach.

Key contributing factors:
<u>System factor</u>
Lack of a system to check the integrity of the used device on removal and documentation.

<u>Human factor</u>
Staff failed to check the integrity of the consumable after the procedure

Key recommendations:
a) To apply the concept of the "Surgical Safety Checklist" for interventional procedure in ward to check the integrity of the consumables after removal.
b) To develop team approach for check the integrity of the used device or consumables.

RETAINED GAUZE IN PATIENT AFTER OPERATION

Case 1:
A patient had a normal delivery of a health baby. A midwife counted the number of gauze before and during closure of the episiotomy wound. The gauze count was not confirmed after the procedure. Fourteen days after delivery, she attended a GOPC for vaginal pain and discharge. She was referred to AED and a gauze was found to have retained in the patient's vagina.

Case 2:
A patient had an incision and drainage operation for an abscess. The wound was packed with plain gauze. Wound dressing and repacking was subsequently performed 10 times by different staff before final wound closure was performed. Fluid collection was subsequently detected at the wound site. On incision and drainage, a piece of gauze was found in the wound and was removed.

Key contributing factors:
a) Proper gauze counting and documentation was not performed.
b) Staff failed to detect the retained gauze in the vaginal examination immediately after the closure of the episiotomy wound.

Key recommendations:
a) To perform the gauze counting by team approach.
b) To perform the gauze counting before and after the completion of the procedure.
c) To ensure proper documentation on gauze counting.

RETAINED RAYTEC THREAD IN PATIENT AFTER OPERATION

Case 1:
A patient underwent a hip hemiarthroplasty. A surgeon used a long raytec gauze as a sling to assist hip joint reduction. The gauze was removed with some difficulty. Subsequently, a radio-opaque line around the femoral neck was observed in the post operative X-ray. An operation was performed to remove a raytec thread which was dislodged from a gauge.

Case 2:
A patient had a hip arthroplasty for fractured neck of femur. A surgeon used long raytec gauzes to absorb blood in the femoral canal. All the gauzes were removed and counted before closure of the femoral cavity. Gauze and equipment counting were correct upon closure of the wound. Post-operatively, two radio-opaque lines were noted on X-ray film (likely to be part of the raytec thread). The patient was informed of the incident and agreed it was not necessary to remove the retained thread.

Key contributing factors:
a) Difficult in checking the integrity of a blood-soaked gauze.
b) Quality of the raytec gauze.

Key recommendations:
a) To alert staff of the possibility of thread dislodgement.
c) To improve the quality of raytec gauze.

RETAINED SPONGE FRAGMENT IN PATIENT AFTER OPERATION

During an intraocular lens implantation with trabeculectomy operation, a surgeon cut a sponge as usual into small pieces and soaked them with medication to apply to the operation site. The surgeon removed all the pieces of sponge and the number was verified with the scrub nurse. The surgeon examined patient's eye after the operation and noted a foreign body. An operation was performed and a small (1mm x 1mm) sponge fragment was removed.

Key contributing factor:
The tiny dislodged fragment of consumable was difficult to detect.

Key recommendation:
Explore alternative appropriate material (small sponge) for the operation.

RETAINED PART OF INSTRUMENT / MATERIAL IN PATIENT AFTER OPERATION OR PROCEDURE

Case 1: A Screw Tip of Varicose Vein Stripper
A patient underwent stripping of varicose vein on both legs. After the operation, a scrub nurse was unable to locate one of the stripper screw tips. X-ray confirmed the retention of the tip at the patient's right distal thigh. Patient underwent another operation for the tip removal.

Case 2: Malleable Retractor
A patient underwent an elective laparotomy for a pelvic mass. Instrument counting was conducted during the closure of the abdomen. On completion of the operation, the patient was transferred to the recovery room. On recounting the instruments after the completion of the operation, a retractor was found missing. An X-ray reviewed the image of a retractor within the abdomen. Immediate a second operation was performed to remove the retractor.

Case 3: Part of Laparoscopic Instrument
During a laparoscopic appendectomy operation, there was difficulty in retrieving grasping forceps and another forceps was used to finish the operation. During the cleansing process, a staff found the metal plate inside the lumen of the forceps was missing. A round metallic object was noted in the abdominal X-ray and CT scan of the patient. The patient was informed of the incident. It was agreed that it was not necessary to perform another operation to remove the retained part.

Case 4: Segment of Naso-gastric Tube
A convalescent patient with history of stroke was on long term naso-gastric (NG) tube feeding. The NG tube was changed as scheduled. On removal of the NG tube, a segment of an "old" NG tube was found being stuck onto the NG tube just removed. It was likely the NG tube segment may have been chewed off as a loose segment by the patient and was retained in the stomach for few months.

Key contributing factors:
a) Staff did not recognize the loose fitting of the instrument.
b) Team did not confirm the correct count of instruments before closing the wound.
c) Staff failed to check the integrity of the equipment or consumable after operation or procedure.
d) The tiny dislodged fragment of equipment was difficult to detect.

Key recommendations:
a) To apply a team approach for instrument checking.
b) To check the integrity and completeness of the instrument or consumable before and after the operation or procedure.

RETAINED GUIDEWIRE AFTER CENTRAL VENOUS CATHETERIZATION

A central venous catheterization was inserted for an Intensive Care Unit patient by a trainee intensivist. The catheter was successfully inserted in the second attempt with the assistance of another medical staff. The catheter was removed 4 days later. The guide wire was found to retain inside the catheter lumen.

Key contributing factors:

System factor

No system to ensure the guide wire was removed after the procedure.

Human factor

Unfamiliar with the procedure.

Risk reduction strategies:

a) To improve the skills in central venous catheterization by training.
b) To document the checking system of the removal of guide wire.
c) Install system to ensure removal of guide wire after the procedure, e.g. holding or clamping the tail end of the guide wire during the procedure.

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

Of the 15 suicide cases, 7 patients committed suicide while in hospital, 6 during home leave and 2 were found missing and had committed suicide outside the hospital. While 9 patients had mental illness, the other patients had malignancies, chronic illness, or permanent disabilities.

Key contributing factors:

Apart from the underlying illness of the patient (psychiatric condition, depression from the chronic or terminal illness), some other factors may have contributed to or facilitated in-patient / home leave suicide factors in a variable degree in each of the case, including:

a) A failure of the risk assessment tool for identification of at-risk patient.
b) Unawareness of environmental risks that may facilitate suicidal acts.
c) Inadequate communication between healthcare staff and with family / caregiver.

Risk reduction strategies:

a) To standardize a screening tool for early detection of suicide "at-risk" patients.
b) To promote lessons learn to increase awareness of environment risk and perform scanning to identify dangerous sites.
c) To redesign facilities and/or environment to improve patient safety.
d) To communicate with relatives and caregivers on the psychological needs of each patient and educate them to appropriately manage the patient in situations of changing mental / emotional status.
e) To strengthen the psychiatric service for the on trial discharge patient for adopting the living style and providing the support to their family.

Safety measures:

a) A multi-disciplinary working group to strategy measures to reduce in-patient suicide.
b) Environmental scanning.
c) Assessment and improved awareness.

There was an encouraging observation of a decrease in the number of in-patient / home leave suicide. It was 11 cases for the 6 months ending 31 March 2009 and only 4 cases for the 6 months ending 30 September 2009.

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

Case 1:
A woman of 27-week gestation who had defaulted antenatal follow-up presented with sign of antepartum haemorrhage. After admission, she had increased PV bleeding and there was sign of fetal distress. Emergency caesarean section was performed. Placenta praevia was noted intra-operatively. Massive blood loss was encountered. Persistent vaginal bleeding required laparatomy and bilateral uterine artery embolisation. Despite all measures taken, patient passed away later because of multi organ failure.

Case 2:
A woman of 37-week gestation presented with pre-eclampsia during onset of labour. Magnesium and labetalol infusion were given. After spontaneous vaginal delivery of a healthy baby, the patient had a cardiac arrest and was resuscitated. The postpartum haemorrhage was controlled by medical therapy. The patient failed to regain consciousness and a CT brain showed intra-ventricular haemorrhage. The patient died a week after the delivery.

Key recommendations:
Although death may not be completely prevented, risk could be reduced:
a) To identify high risk patient from previous obstetric history.
b) To assess patient's condition timely and accurately.
c) To respond rapidly by a full and experienced obstetric team.

Maternal death is a very tragic event – not only for the baby without a mother and the affected family, but also for the medical and nursing staff who are also saddened for failing to save the mother despite all efforts. Obstetric staffs need to forever be on the alert for obstetric emergency and ready to respond rapidly.

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