HALF YEAR REPORT ON SENTINEL EVENTS

1 October 2008- 31 March 2009

Jul 2009

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1 EXECUTIVE SUMMARY

The Hospital Authority (HA) has implemented the Sentinel Event Policy since 1 October 2007 to strengthen the reporting, monitoring, and management of major incidents. The policy mandates that root cause analysis (RCA) has to be done to identify the underlying system, human, work processes, and technology factors that may contribute to the occurrence of sentinel events. Likewise, the lessons learned from the incidents are to be shared to raise the situational awareness of colleagues through education forums and publications.

2. The first progress report and the first annual report were published in July 2008 and January 2009 respectively. These reports include a brief description of the clinical scenarios, the root causes identified, and the appropriate risk reduction actions for improving patient safety. This report remains an important channel for promulgating the lessons to learn to our colleagues.

3. From 1 October 2008 to 31 March 2009, a total of 25 sentinel events were reported through the Advanced Incident Reporting System (AIRS). "Death of an inpatient (including suicide committed during home leave)" was the commonest reported events (11 cases; 44%). The second most common one was "Retained instruments or other material after surgery / interventional procedure requiring re-operation or further surgical procedures" (7 cases; 28%). This was followed by "Surgery / interventional procedure involving the wrong patient or body part" (5 cases; 20%).

4. 13 patients died in these events. This included 11 patients who had committed suicide and 2 maternal deaths associated with delivery. 4 incidents were classified as having 'major' or 'moderate' impact on patients and 8 as 'minor' or 'insignificant'.

5. The HA had shared the lessons learned from the sentinel events to all staff in the bi-monthly "HA Risk Alert". Recommendations to redesign the systems and workflows with a view to prevent the occurrence of similar events were also included for the Hospitals to act proactively.

6. Hospital Authority is working with the hospital management and frontline staff on the followings:

(a) **Risk reduction program to prevent in-patient (and home leave) suicide**

(i) To standardize a suicidal risk assessment tool to screen out "at-risk" patient for appropriate care and support

(ii) To adopt environmental risk scanning to identify and to mitigate elements (or feature) that can be used for suicidal acts

(iii) To enhance the communication with relatives and care-givers so that there is a better understanding of the illness, needs and care required by the patient, especially when there is a change of the patient's mental condition during home leave period

(b) **Risk Reduction Programs to reduce surgical errors:**

(i) To implement the "Surgical Safety Policy" to ensure that correct patient receives the right operation at the correct site with the use of a checklist comprising (1) a pre-anaesthetic safety check to ensure normal functioning of instruments, equipment, and monitoring devices, (2) a "Time-out" process which is a pause just before the commencement of the operation to confirm the correct patient and operation, and (3) a post-anaesthetic safety check to assure correct count and integrity of equipment and gauze, as well as correct specimen has been sent out

(ii) To enhance effective and efficient communication amongst staff through a pilot program. It adopts the "Crew Resource Management" framework from aviation which has proven to be efficacious. It focuses on cognitive and interpersonal skills development which is essential for effective interpersonal communication, leadership, and decision making

(c) **Risk Reduction for maternal death:**

(i) To further facilitate early identification of high risk mothers especially from the previous obstetric histories

(ii) To reinforce effective and timely team communication in obstetric emergencies

7. This report represents the joint efforts of cluster executives, risk managers and frontline colleagues in implementing changes for patient safety during care delivery, and maintaining public confidence in HA for continuous improvement.

2 INTRODUCTION

8. The advances in the understanding and treatment of diseases and improvement in technology undoubtedly result in better patient care. However, these changes also create risks to the clinicians and systems. All clinicians have to be vigilant to ensure the provision of the best possible care to the patients with the available resources.

9. The implementation of the "Sentinel Event Policy" and incident monitoring facilitates the 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.

10. This half year interim report is a review of the sentinel events reported by HA hospitals from 1 October 2008 to 31 March 2009, including the learning points that are identified through root cause analysis, and the risk reduction measures taken to prevent or minimize the reoccurrence of these events.

3 SENTINEL EVENTS REPORTED FROM 1 OCTOBER 2008 TO 31 MARCH 2009

Frequency of Reportable Sentinel Events

11. A total of 25 sentinel events were reported from 1 October 2008 to 31 March 2009. The frequency of the monthly reportable sentinel events is depicted in Figure 1. Of these 25 patients, 19 were general patients and 6 were psychiatric patients.

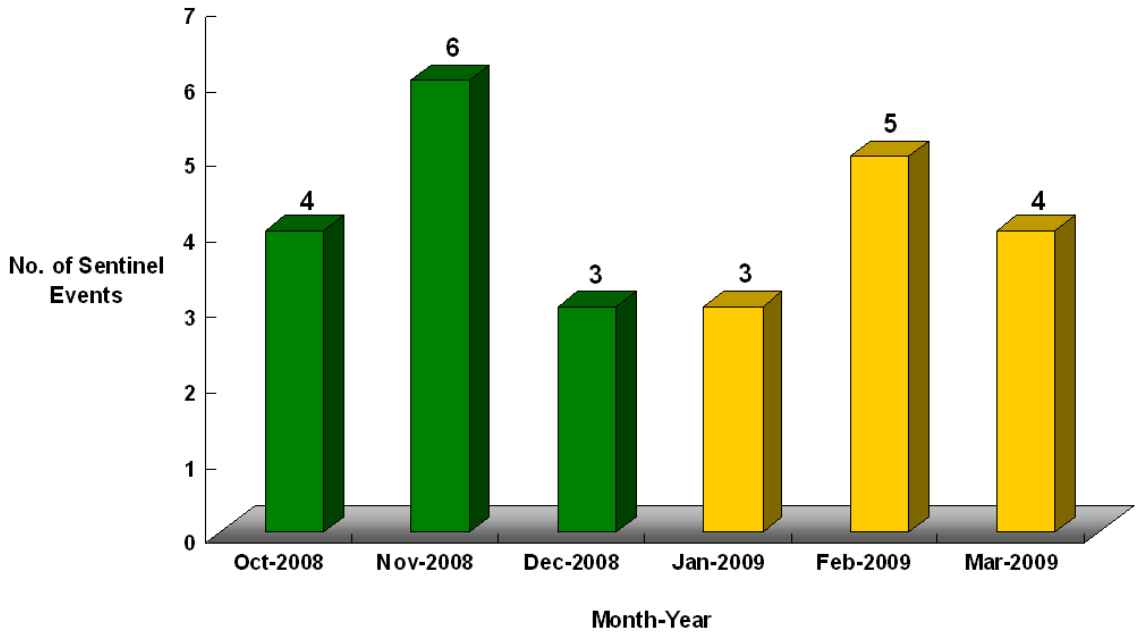

Figure 1: Monthly Frequency of Reportable Sentinel Events

The incidence rate for these 6 months was 3.1 per 1,000,000 episodes of patient discharges and deaths / attendances.[1]

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

Breakdown of Reportable Sentinel Events by Category

12. The frequency of each category of the sentinel events is shown below.

Figure 2: Breakdown of Sentinel Events by Category

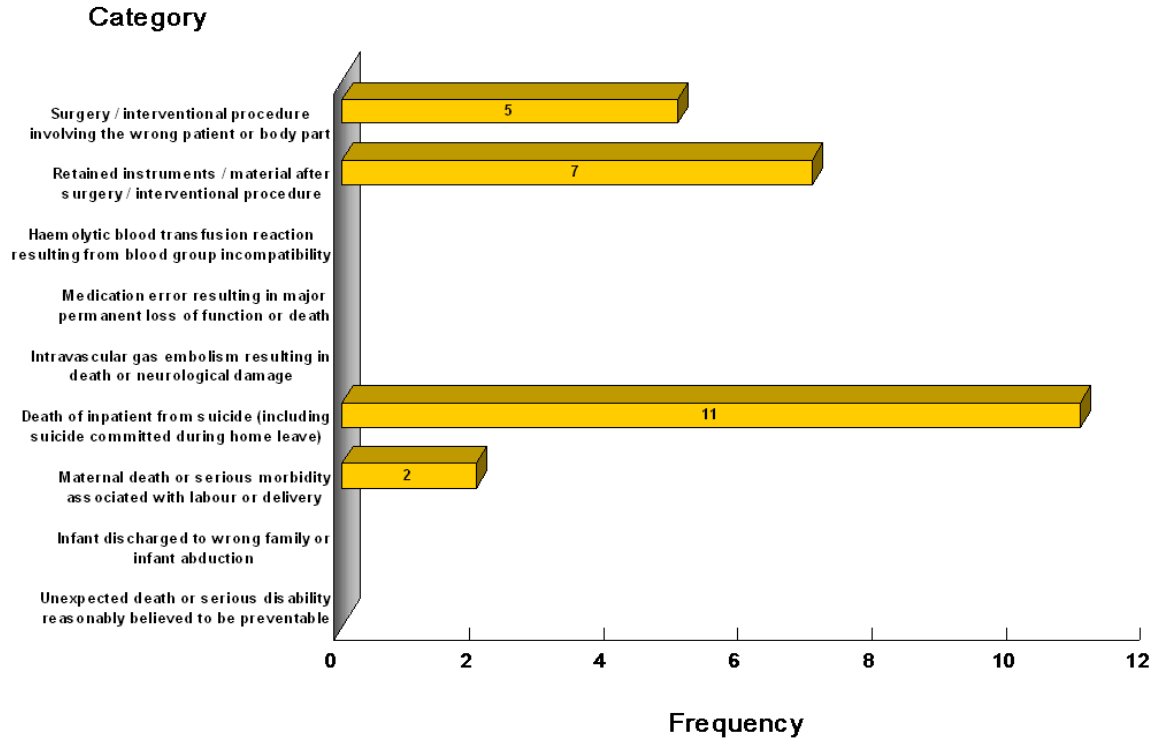

Figure 3: Comparison of Occurrences of Sentinel Events in the past 18 months

Category	Reportable Sentenial Events	1-Oct-07 to 30-Mar-08	1-Apr-08 to 30-Sep-08	1-Oct-08 to 31-Mar-09	Total
1	Surgery / interventional procedure involving the wrong patient or body part	3	2	5	10
2	Retained instruments or other material after surgery / interventional procedure requiring re-operation or further surgical procedure	5	5	7	17
3	Haemolytic blood transfusion reaction resulting from ABO incompatibility	0	1	0	1
4	Medication error resulting in major permanent loss of function or death of a patient	0	0	0	0
5	Intravascular gas embolism resulting in death or neurological damage	0	0	0	0
6	Death of an inpatient from suicide (including suicide committed during home leave)	12	13	11	36
7	Maternal death or serious morbidity associated with labour or delivery	1	0	2	3
8	Infant discharged to wrong family or infant abduction	1	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	1
	Total Number	23	21	25	69

These events are further analyzed as follows:

13. The percentages of these 4 categories of the sentinel events reported from October 2008 to March 2009 are shown in Figure 4.

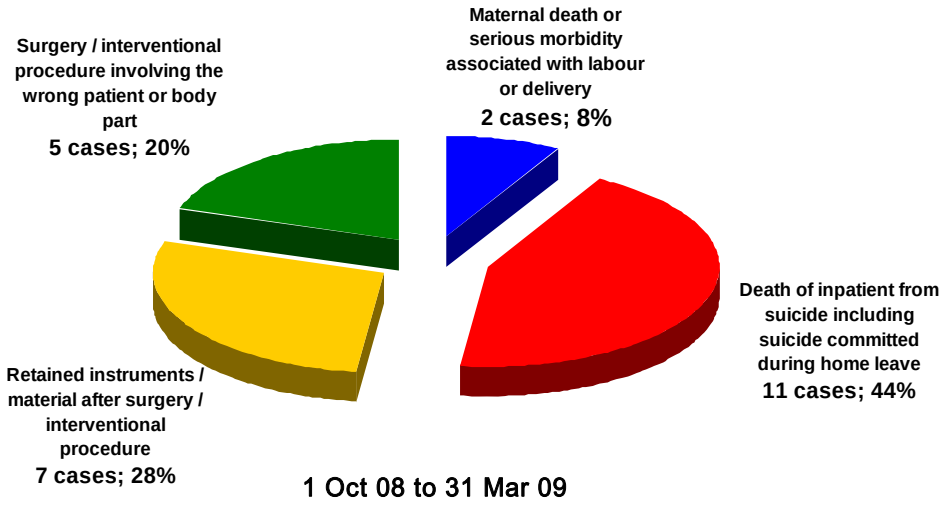

Figure 4: Distribution of the Sentinel Events from 1 October 08 to 31 March 09

- **Death of an inpatient from suicide, including suicide committed during home leave: 11 cases (44%)**
  - 4 patients (36%) committed suicide during home leave, 6 (55%) committed suicide in hospital, and 1 (9%) was found missing and committed suicide outside hospital
  - 6 of these patients suffered from psychiatric illness while 5 had malignancies, chronic illness, or permanent disabilities

- **Retained instruments or other material after surgery / interventional procedure requiring re-operation or further surgical procedure: 7 cases (28%)**
  - 1 case involved retention of a segment of intra-catheter dilator
  - 2 cases involved retention of surgical gauze or thread and
  - 4 cases involved retention of instrument or other material (a screw tip of varicose vein stripper; retractor; cuff of Hickman catheter and a segment of naso-gastric tube)

- **Surgical or interventional procedures involving the wrong patient or body part: 5 cases (20%)**
  - Tapping of pleural effusion on the wrong side
  - Unnecessary laparoscopic cholecystectomy
  - Incision of ingrown big toe nail on the wrong side
  - Femoral nerve block on the wrong side
  - Brachial plexus block on the wrong side

- **Maternal death associated with delivery: 2 cases (8%)**
  - Pre-eclampsia and post partum intracranial haemorrhage
  - Placenta praevia and massive blood loss

  Both mothers failed to respond to active resuscitation.

Outcomes of reported sentinel events

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

- **Minor or insignificant consequence: 8 cases (32%)**
- **Major / moderate consequence: 4 cases (16%)**
- **Extreme consequence (i.e. death): 13 cases (52%)**
  - 11 cases due to suicide
  - 2 cases of maternal death associated with delivery

Hospital settings where the sentinel events occurred

15. 96% of the events took place in general hospitals (Table 1):

Setting	Frequency (%)
Acute general hospitals	20 (80%)
Psychiatric units within general hospital	4 (16%)
Psychiatric hospitals	1 (4%)

Table 1: Settings where the sentinel events occurred

4 ACTIONS TAKEN AND DISCUSSION

Analysis of reported sentinel events

Incident Reporting

16. The total number of sentinel events in the past 6 months (October 2008 to March 2009) was 25. In Australia, the Victorian Department of Human Services received 102 reports of sentinel events in 2007-2008.[2] The Western Australia Department of Health received 81 reports of sentinel events during the same period.[3] In the United States, the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) received 636 reports of sentinel events in 2008.[4] There is no international benchmarking for the 'appropriate' or 'acceptable' level of sentinel event reporting.

Type of sentinel event reported

17. In HA, in-patient suicide remained the top reported sentinel event (11/25 cases, 44%). Retained instruments or other material after surgery / interventional procedure was the second most commonly reported sentinel event (7/25 cases, 28%), while surgery / interventional procedure involving the wrong patient or body part was the third (5/25 cases, 20%).

[2] A Victorian Department of Human Service, sentinel event program, annual report 2007-08
[3] The Western Australia Department of Health, sentinel event report 2007-2008
[4] The US Joint Commission, sentinel event statistic: as of March 31, 2009

18. The JCAHO, the Victoria Department of Human Service of Australia, and the Western Australia Department of Health have also listed in their reports suicide and wrong patient or site as the top categories. In Victoria, 7 out of 102 sentinel events (7%) were in-patient suicides and 37 were wrong patients or body parts (36%). In Western Australia, 9 out of 81 sentinel events (11%) were in-patient suicides and 11 were wrong patients or body parts (14%). There are differences in criteria for reporting suicides amongst Hong Kong, Victoria, and Western Australia. In Hong Kong, 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.

19. According to the World Health Organization (WHO), approximately one million people died from suicide with a global mortality rate of 16 per 100,000 population in the year 2000.[5] In Hong Kong, the suicide rate is 11.8 per 100,000 population in the year 1995, 17.4 in 2005,[6] and 13.6 in 2006.[7]

Contributing factors for the sentinel events

20. The hospitals had coordinated to set up investigation panels to identify the root causes, recognize the contributing factors for the incidents and recommend appropriate improvement measures so as to reduce the likelihood of their recurrences. In Australia, the top contributing factors were policies / procedures, human factors, and communication. Despite the small number of sentinel events reported in the Hospital Authority, ineffective or inadequate communication is still identified as an important

[5] World Health Organization: suicide prevention (SUPRE)
[6] World Health Organization: suicidal rates, by gender, China, Hong Kong SAR, 1995-2005
[7] The HKJC Centre for suicide research and prevention, HKU, Newsletter, February 2009

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 identifying at-risk patient
  - Unawareness of the environmental risks that may facilitate suicidal acts
  - Inadequate communication between healthcare staff and family/ care givers

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

  - Ineffective gauze or instrument counting and integrity checking of instrument
  - Inadequate documentation of gauze counting
  - Passive communication among the operating team members

- **Key contributing factors for surgery / interventional procedure involving the wrong patient or body part**

  - Inadequate checking of patient identity
  - Unclear role delineation and ineffective communication among the 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

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

In-patient suicide (including home leave)

- Standardize a screening tool for early detection of suicide "at-risk" patients
- Encourage environmental scanning to identify risk and dangerous sites in the institutions
- Redesign facilities and/or environment to improve patient safety
- Communicate with and educate the relatives/ care givers on the patients' needs and the appropriate way to manage them in situations of changing mental / emotional status

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

- Reinforce the team approach for gauze or instrument checking
- Document and check the integrity of the gauze / instrument / material after use or removal

Surgery / interventional procedure involving the wrong patient or body part

- Implement the Surgical Safety Policy, in which a checklist is used to ensure correct patient receiving the right operation at the correct site
- Encourage 'speak up' culture and active communication whenever an error is spotted by a team member
- Clearly delineate the roles and responsibilities of team members clearly

Maternal death

- Facilitate the team approach to identify of high risk mothers from previous obstetric history
- Review current communication and response mechanism to obstetric emergencies

Learning ad sharing

22. 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

23. Healthcare in Hong Kong continues to experience remarkable changes. Hence, the organization becomes ever more complex with the systems and processes, which are interdependent and coupled, and has to deliver the most cost effective patient-centered care services. The implementation of the “Sentinel Event Policy” has facilitated clinicians and managers to prudently and systematically study the various causes for the incidents, as well as identify the most appropriate changes that are required for sustaining safety and improving performance.

END

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