For Information
on 16 February 2015

Legislative Council Panel on Health Services

Sentinel and Serious Untoward Events Management in the Hospital Authority

Purpose

This paper updates Members on the management of the sentinel events (SEs) and serious untoward events (SUEs) by the Hospital Authority (HA).

Background

2. HA has all along attached great importance to the quality of its services and patient safety. It has put in place an established system and guidelines for reporting and handling of medical incidents. HA has introduced an electronic system, namely the Advanced Incidents Reporting System (AIRS), since 2004 to enable frontline staff to report incidents directly from their workplace computer stations, thereby facilitating prompt action to support the staff and patients involved.

3. In October 2007, with reference to international practice, HA implemented the SE Policy to make mandatory the reporting of nine categories of incidents, with standardized definition of SEs and process for their reporting, investigation and management in the public hospitals. HA further improved the reporting mechanism in January 2010 by mandating the reporting of two more categories of SUEs, namely, medication error and misidentification that could have led to death or permanent harm. The full list of medical events for reporting under the SE and SUE Policy is at **Annex A**.

4. Under the policy, public hospitals are required to report all SEs and SUEs to HA Head Office via AIRS within 24 hours and handle them in accordance with established procedures. Through the arrangement, HA aims to minimize harm and provide necessary support to

involved patients, family and staff, and encourage open disclosure of the incidents so that lessons could be learnt from the events to prevent similar medical incidents from happening in the future.

5. HA has also set up Quality and Safety (Q&S) teams in HA Head Office and cluster hospitals to promote patient safety culture and implement programmes to reduce risk and enhance service quality. When a clinical incident is reported, the Q&S team of the relevant cluster will take necessary action to access risk, support investigation of the incident and coordinate communication with internal and external stakeholders.

6. HA Head Office compiles annual reports on SEs and SUEs for submission to the HA Board. Internally, through staff training and the quarterly "Risk Alert" newsletter, HA shares among the healthcare professionals the experience of handling medical incidents, lessons learnt and improvement measures identified. The annual report will also be published in public to enhance transparency and accountability.

Statistics of SEs and SUEs

7. Till 2012-13, the yearly number of sentinel events ranged from 26 to 44 and that of serious untoward events from 97 to 104.

8. During the period from 1 October 2013 to 30 September 2014, a total of 49 SEs were reported. The top three categories of SEs were "retained instruments or other material after surgery / interventional procedure" (20 cases), "death of an inpatient from suicide" (19 cases), and "medication error resulting in major permanent loss of function or death" (5 cases). Detailed statistics are at **Annexes B to C** and remedial measures in respect of these three categories are set out in paragraphs 10 to 13 below.

9. As for SUEs, a total of 94 SUEs were reported between 1 October 2013 to 30 September 2014, representing a decrease from the past three years. Of the 94 SUEs, 85 cases were due to medication error and 9 cases involved patient misidentification.

Retained instruments or other material after surgery / interventional procedure

10. With reference to international best practice in improving the safety of surgical care, HA has implemented the "Time-out" process whereby the entire clinical team in the operation theatre stops to verify the identity of the patient, run through the procedure to be taken and consider any anticipated critical events before undertaking an operation. This multidisciplinary approach facilitates communication of the clinical team thereby reduces the possibility of errors arising from miscommunication. HA has also practised surgical count by counting objects before, during, and after surgery to prevent incidents of "retained instruments / material".

11. It is worth noting that rapid technological advances in medical care and procedures make many effective treatments possible. This in turn has increased the complexity of the surgical procedures as well as the types and variety of equipment used during the procedures. Noting the increased number of incidents involving retained instruments or other material after surgery / interventional procedure, HA will step up the "Time-out" process and counting practice mentioned above. In particular, HA will place particular emphasis on after-surgery counting and extend the practice to procedures performed outside operating theatre to check vigilantly the completeness of instruments upon removal from patients.

Death of inpatients from suicides (including home leave)

12. Assessment of the 19 SEs related to "death of an inpatient from suicide" showed that many of the patients had concealed suicidal ideas and plans. To prevent the happening of this tragic act, HA will further improve communication among patients, families and staff. HA will work to reduce the risk of suicide for inpatients living in hospitals by enhancing environmental risk control. Measures include minimizing structures or fitting which could be used in suicide by hanging or strangulations, and removing obstacles that prevents healthcare workers from observing high-risk patients. In addition, HA will also minimize suicidal risk of patients on home leave by conducting individual clinical risk assessment, undertaking care planning and enhancing communication

with patients and their families to raise awareness.

Medication error resulting in major permanent loss of function or death

13. While the number of cases for medication error resulting in major permanent loss of function or death is not as large as the other two leading causes of SEs, HA will intensify efforts in improving medication safety by identifying and implementing system enhancement proposals for safer drug prescription, dispensing and administration. Measures include implementing an electronic system (namely the Inpatient Medication Order Entry) to automate and check the prescription and dispensing of drugs.

Manpower issues

14. Having regard to the investigation results of the medical incidents, it is found that the causes of medical incidents are multifaceted, with system and procedural factors, rather than manpower issues, as the main causes. Nonetheless, HA has been implementing a series of measures to address the existing manpower shortage issues. These include active recruitment of full-time and part-time doctors, creation of additional promotion posts, enhancement of recognition through honorarium scheme, strengthening of professional training for medical and healthcare practitioners, as well as relieving the workload of frontline healthcare workers by re-engineering work processes, streamlining work procedures and recruiting additional supporting staff.

Clinical Governance Structure in HA

15. Other than implementing remedial measures to address the leading causes of SEs, HA has put in place a clinical governance structure to safeguard the standard of care and sustain improvement of service quality and professional accountability.

16. For medical services, HA adopted the Clinical Management Team and Chief of Service (COS) framework to emphasize specialist-led services and peer review of clinical competency. The specialists in clinical departments are responsible for providing training, guidance and

direct supervision to junior doctors for maintaining professional standards. The COS of each clinical department is accountable for upholding clinical service quality in the department and reports to the top management of the hospital. Similar professional supervision and training frameworks are in place for nursing and allied health professionals.

17. HA has also implemented other measures and programmes over the years to ensure service standards and continue to improve service quality. These measures and programmes include clinical audits, monitoring and improvement programme of surgical outcome, hospital accreditation pilot scheme, review mechanism for introduction of new medical technology and drugs, and the internal mechanism governing research ethics. Senior management of HA Head Office, hospitals and clusters will also lead patient safety rounds and listen to the frontline staff on their suggestions and concerns regarding protocols and procedures in their daily work settings which concern patient safety.

18. Meanwhile, HA will continue to build learning platforms for rapid dissemination of lessons learnt from individual incidents to other hospitals. An educational program that includes seminars of diversified topics, use of animated messages, team training by simulation will be launched.

19. All in all, with the clinical governance framework and various preventive and remedial measures mentioned above, HA will continue to work to minimise the occurrence of medical incidents and to ensure patient safety.

Food and Health Bureau
Hospital Authority
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Annex A

Medical Events to be Reported under HA's Sentinel and Serious Untoward Events Policy

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 in-patient 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)

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

Annex B

Number of Sentinel Events by Categories

Reported Sentinel Events	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Surgery / interventional procedure involving the wrong patient or body part	5	10	5	3	5	4	3
Retained instruments or other material after surgery / interventional procedure	10	13	12	18	14	10	20
ABO incompatibility blood transfusion	1	0	0	1	0	0	0
Medication error resulting in major permanent loss of function or death	0	0	1	1	0	0	5
Intravascular gas embolism resulting in death or neurological damage	0	0	1	0	0	0	0
Death of an inpatient from suicide (including home leave)	25	15	11	20	10	9	19
Maternal death or serious morbidity associated with labour or delivery	1	2	2	1	2	1	1
Infant discharged to wrong family or infant abduction	1	0	0	0	0	1	0
Other adverse events resulting in permanent loss of function or death (excluding complications)	1	0	1	0	3	1	1
Total Number	**44**	**40**	**33**	**44**	**34**	**26**	**49**
Number of SE / episodes of patient attendances / discharges and death in million	2.7	2.4	2	2.5	1.9	1.4	2.5

Note: The years represented October to September next year.

Annex C

Number of Serious Untoward Events by Categories

Reported Serious Untoward Events	Jan 2010 – Sep 10 (9 months)	2010/11	2011/12	2012/13	2013/14
Patient misidentification	9	9	10	8	9
Medication error	72	88	92	96	85
Total number	81	97	102	104	94

Note: The years represented October to September next year.