RISK ALERT

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A Risk Management Newsletter for Hospital Authority Healthcare Professionals

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Service Director's Perspective on Risk Management

As a Service Director in Quality and Safety, managing patient safety incidents is the backbone of my duty. Having witnessed the introduction of the Advance Incident Reporting System (AIRS), root cause analysis, Sentinel Event (SE) Policy which was later expanded to include Serious Untoward Event (SUE), and regular meeting to review SE and SUE, I would say that we have gone a long way in incident management together.

Nonetheless, one recommendation that many hospitals received in their hospital accreditation report is the need to improve our reporting culture especially with reference to reporting of near-misses. And this recommendation is supported by evidence. It is often quoted that as reporting culture matures, the total number of reports should increase while the proportion of serious cases should fall. However, when I reviewed the data in my cluster , I found the opposite: a clear evidence for some improvement. Although I have not performed a root cause analysis myself, I can quote from others that the usual reasons for failure to report incidents and near-misses are: fear of punishment, reporting being time-consuming, and failure to see that reporting has resulted in improvement.

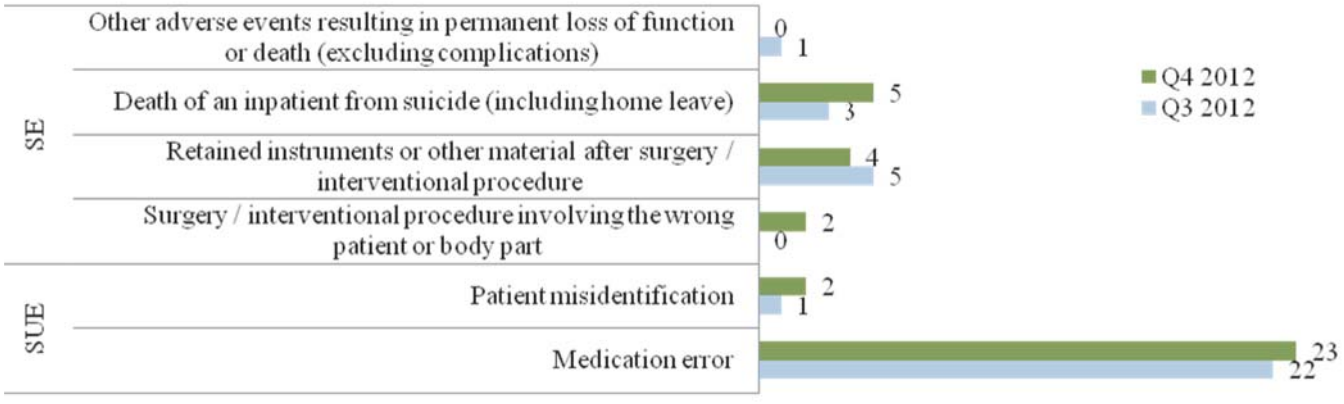
On the first issue, fear of punishment, we have adopted the Incident Decision Tree of Prof. Reason since 2009. Recently, we have conducted workshops both for training and for evaluation of whether the use of Incident Decision Tree can align consistency of disciplinary action. Our preliminary results are encouraging. We hope that further development in this area can support the concept of just culture. On the second issue, we hope AIRS III shall provide some answers. However, training is also important. During our incident management workshops, we are surprised to see how many staff do not understand how to report, what to include and what should be avoided in writing up the report. After the workshops, most staff found that reporting is not as difficult as they thought.

Finally, before we ask staff to report more, we must ensure we can make good use of those reports. At least in our cluster, we find a lot of room for improvement in our root cause analysis, report writing and implementation of improvement actions. There is now a plan to tackle these issues. And then we need to come up with a plan of handling other reported cases and near misses.

Personally, I believe it is important to encourage reporting of incidents, including near-misses, but this cannot be achieved through quick fixes.

Dr. Hing Yu SO, NTEC Service Director(Q&S)

DISTRIBUTION OF SENTINEL (SEs) & SERIOUS UNTOWARD EVENTS (SUEs) (Q4 2012)



SENTINEL EVENTS Q4 2012

WRONG SIDE PROCEDURE

Case 1: Ilioinguinal Nerve Block

- A 3-year-old girl was scheduled for LEFT herniotomy under General Anaesthesia (GA) with LEFT ilioinguinal nerve block for post operative pain relief.
- The "SIGN-IN" Checklist was performed by the operating theatre nurse and the anaesthetist trainee respectively.
- After induction of GA, an ilioinguinal nerve block was performed on the patient's RIGHT inguinal area by an anaesthetic trainee under close supervision.
- Shortly after the procedure, it was noted that there was an arrow marked on the LEFT distal thigh. The wrong side nerve block was revealed.
- NO further nerve block was performed.
- The LEFT herniotomy was performed uneventfully and the patient was discharged home on the same day.

Contributing Factors:

1. The Surgical Safety Checklist was not followed to identify correct side prior to administration of local anaesthetics.
2. The surgical site marking was not marked accurately to alert clinical team.
3. Lack of alertness in anaesthetic procedure safety during supervision.

Recommendations:

1. Review the Policy to enhance anaesthetic procedure safety checking.
2. Standardize the marking as proximal to the surgical site.
3. Review clinical supervision of trainees .



Case 2: Removal of Right instead of Left Double J (JJ) Stent

- The patient had bilateral JJ stents inserted because of recurrent upper urinary tract stone .
- The plan for removal of both JJ stents was documented only in the medical notes but not found in the discharge summary of the Clinical Management System (CMS).
- A consent form was obtained from the patient to "remove the JJ catheter" by a doctor in advance.
- On the scheduled date for stents removal, Dr. A obtained a new consent from the patient for removal of LEFT JJ stent, based on the last operation record (insertion of LEFT JJ stent) in CMS.
- Dr. A removed the LEFT JJ stent uneventfully and documented the procedure in patient notes.
- Post procedure X-ray showed LEFT JJ stent was in situ, revealing the inadvertent removal of RIGHT instead of the LEFT JJ stent.
- The patient was informed of the incident and the remaining LEFT JJ stent was removed uneventfully.

Contributing Factors:

1. No documentation on the plan of removal of the JJ stents in discharge summary of CMS.
2. Unaware of the presence of two JJ stents.

Recommendations:

1. Ensure clear documentation of JJ stent removal, including documentation in the operation record, discharge summary, booking procedure and consent form (additional remark as required).
2. Review the guidelines for JJ stent removal to include reviewing of X-ray image before the procedure "TIME-OUT".

SENTINEL EVENTS Q4 2012

RETAINED CONSUMABLE AND INSTRUMENT

Case 1: A Segment of Wound Drain

- A patient underwent an open right hemicolectomy with silicone tube (drain) inserted for wound drainage.
- A week later, the case doctor (Dr. A) ordered to shift out the drain for 2cm, in view of reducing drain output.
- An intern (Dr. B) shifted the drain accordingly and documented "no side hole was seen" .
- Two days later, Dr. A ordered to shift out the drain by another 2cm.
- Dr. B removed the cover gauze and found that the drain was almost dislodged with its "end" outside the wound.
- After consulting Dr. A, the drain was removed. An abdomen X-ray (AXR) was done which revealed dilated small bowels only.
- About 2 months later, the patient complained of right lower abdominal pain. The AXR showed a segment of drain inside the patient's abdomen.
- The segment of drain (20cm in length) was then removed uneventfully under local anaesthesia (LA).
- No wound infection was noted.



Contributing Factors:

1. Unawareness of the possibility of broken drain when "no side hole" on the dislodged drain was observed.
2. No standard procedure for drain removal.
3. Absence of radiopaque marker on the involved drain.

Recommendation:

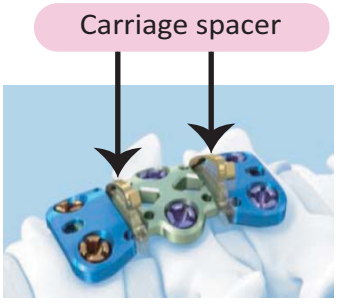
1. Review training of interns on wound drain removal.
2. Formulate the standard procedures for wound drain removal.
3. Review mentorship and clinical supervision of interns.
4. Consider using drains with radiopaque marker.

Case 2: A Carriage Spacer

- A patient underwent an operation of anterior spinal fusion with anterior cervical plating using Vectra-T anterior cervical plate.
- "SIGN-IN" and "TIME-OUT" of Checklist were completed by the operating team.
- The operation was completed uneventfully. In the recovery room, after being asked by the assistant, the surgeon revealed that the carriage spacers that should be removed was retained.
- An emergency operation for removal of the spacer was performed on the next day after discussion with the patient and the relatives.
- The patient made good rehabilitation progress.

Contributing Factors:

1. Inadequate briefing to operating team before operation on the new implant.
2. Inconspicuous "Alert Cue" of the implant and instrument box to remind user to remove the carriage spacer.



Recommendations:

1. Conduct briefing on the design of the implant and the related critical checks to the team members before operation to ensure safety.
2. Liaise with supplier on the design of conspicuous "Alert Cue" on the implant and instrument box.

SENTINEL EVENTS Q4 2012

RETAINED GAUZE

Case 1:

- A patient underwent Tenckhoff catheter insertion for peritoneal dialysis in the treatment room of a renal ward.
- After LA, an incision wound (2-3cm) was made on the abdomen.
- During the procedure, haemostasis was attained by direct pressure with gauze.
- The wound was closed after insertion of the catheter.
- One week later, the patient presented with wound swelling and oozing.
- Incision and drainage was done with ribbon gauze packing by a doctor.
- On the next day, a piece of gauze was found inside the wound after removal of the ribbon gauze during wound management.
- The retained gauze was removed immediately.

Contributing Factor:

System of gauze counting was not in place.

Recommendation:

1. Introduce a system of gauze counting.
2. Use of raytec gauze.
3. Review the haemostasis technique and equipment requirement for insertion of Tenckhoff catheter.

Case 2:

- A pregnant woman underwent an emergency lower segment caesarean under spinal anaesthesia.
- The operation was smooth and uneventful.
- During the first gauze counting , the scrub nurse found one long raytac gauze was missing and informed the surgeon.
- The surgeon believed that there was no gauze retained inside the patient's body.
- The gauze was not found after checking by circulating nurse.
- The wound was closed before final counting.
- The missing gauze was not found after thorough search of linen and theatre.
- X-ray abdomen showed a piece of gauze retained.
- Retained gauze was removed under GA after obtaining consent.

Contributing Factors:

1. The surgeon had not ascertained no gauze was retained.
2. Non-compliance to "SIGN-OUT" of surgical safety.

Recommendations:

1. Reinforce the "speak-up" culture and empower team members to stop the operation for appropriate actions.
2. Revise existing guideline on management of missing instrument and consumables.

PATIENT SUICIDE

Five inpatients / home leave patients committed suicide in the 4th quarter of 2012. Two patients with psychiatric illness committed suicide by hanging in hospital and jumping from height during home leave respectively. One inpatient with chronic illnesses committed suicide by taking medications that were brought by relatives. Two home leave patients with terminal cancers committed suicide by jumping from height.

Conclusions from the RCA reports:

1. Underlying medical illnesses of patients and their mental health conditions, e.g. psychiatric condition and depression from the chronic illness.
2. Patients had concealed own suicidal idea and plan.
3. Failure of visual checking above bed level to locate left behind patients.

Recommendations:

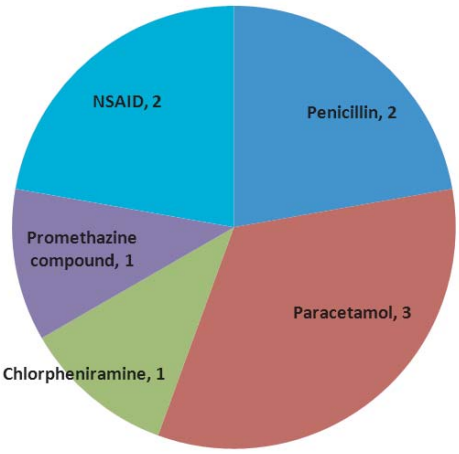
1. Enhance the patient counting mechanism to ensure that patients would not be left behind when being vacated from an area.
2. Reinforce communication with and education of patients and relatives on the management of brought-in medications.
3. Conduct environmental scanning regularly to mitigate suicidal risks.
4. Ensure better communication among the multi-disciplinary healthcare providers who take care of patients receiving palliative care.

SERIOUS UNTOWARD EVENTS Q4 2012

There were 25 SUE cases reported in the 4th quarter of 2012, of which 22 were related to medication errors and 3 to patient misidentification.

Of the 22 medication error cases, there were:

- 9 “Known Drug Allergy”, including Penicillin, Paracetamol, Chlorpheniramine and Promethazine Compound Linctus;
- 5 “use of Dangerous Drugs”, involving incorrect infusion rate of Morphine and giving wrong dose of Lorazepam;
- 2 “use of Anticoagulants”, involving incorrect route of injection of Heparin and giving wrong concentration of Heparin;
- 2 “use of inotropic agent”, related to giving incorrect dose of Dopamine and Dobutamine; and
- 4 “use of other medications”, related to giving incorrect dose of drug.



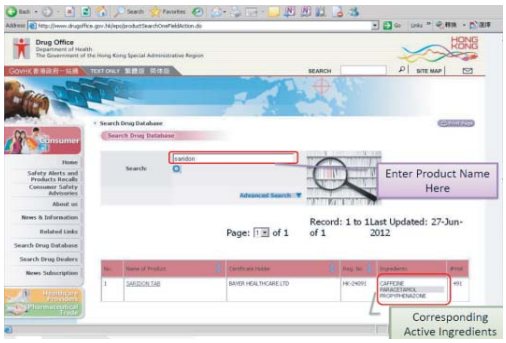
Of the 3 patient misidentification cases, there were:

- 2 “misidentification of patient during drug administration”; and
- 1 “misidentification of patient on the electronic patient record summary”.

Learning points on Known Drug Allergy cases:

1. Explore the feasibility of creating a link in CMS to the Department of Health for easy referencing of drug ingredient.
2. Develop work instruction / guideline on dispensing alerts for dispensing staff.
3. Reinforce the need for clarifying unclear allergy information in MAR with reference to the information documented in CMS.
4. Enhance staff vigilance in prescribing and administering drugs for patients with drug allergy history.
5. Reinforce staff compliance with the allergy alert mechanism.
6. Use “stand-out” allergy notice in medical record folder of patients with known drug allergy.

Drug Office, Department of Health



Special Label



Bedside Card



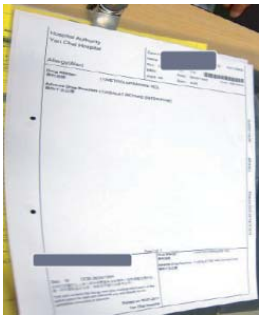
Red Button



Drug Allergy Cue Card



Drug Allergy Print-out



Special Folder



MEDICATION ERROR RELATED TO INFUSION ERROR

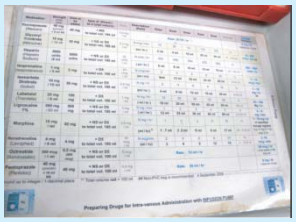
Ten cases of medication error were related to preparing drug for infusion and setting the infusion rate. The drugs involved and brief description of the medication errors are shown below:

- Morphine infusion was prescribed as 100mcg/kg/hr instead of 10mcg/kg/hr
- Dopamine was prepared as 72mg/50ml instead of 36mg/50ml and given to patient
- Wrong concentration of Heparin, 25000 units instead of 5000 units, was infused
- Morphine 1mg/ml instead of 0.05mg/ml was prepared for infusion
- Nitrocine 40mg instead of 4mg was given to patient in 1 hour
- Amiodarone 150mg in 100ml D5 was given at 90ml/hr instead of 17.2ml/hr
- Morphine infusion was given at 35mg/hr instead of 1mg/hr
- Morphine infusion was given at 4mg/hr instead of 0.4mg/hr
- Integrillin was given at 81ml/hr instead of 4.5ml/hr
- Dobutamine was infused at 305ml/hr instead of 3.5ml/hr

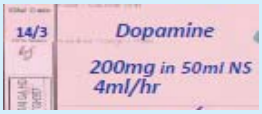
Tips and Safety Measures for Drug Infusion Safety

Prescription

1. Make reference to the drug reconstitution table prior to the prescription.
2. Standardize the drug dilution table and tailor-made a concise dosing chart for reference.


3. Prescribe clearly the exact dosage, method of dilution and infusion rate.
4. Use the electronic emergency drug calculator.



Drug preparation and administration

1. Prepare and administer drug according to the standardized dilution tables / reference cards.
2. Clarify before administration when in doubt (e.g. illegible or unclear order).
3. Learn and be familiar with the use of infusion devices.
4. Explore feasibility to standardize the screen display.
5. Attach “quick user guide” for easy reference.
6. Ensure independent checking on “5 Rights” of drug and infusion pump setting.
7. Verify the infusion pump setting before starting the infusion.
8. Recheck the infusion pump setting at 15 minutes after starting an infusion.
9. Label the infusion line / syringe clearly.











COLD STORAGE DEVICES RISKS

In recent years, several incidents related to the malfunction of cold storage devices (e.g. blood refrigerator, drug fridge and deceased body store, etc.) had been reported. Cold storage devices are critical to the preservation of blood components, stem cells, cord blood, drugs, vaccine, reagents and even dead bodies in the hospitals.

Flaws in the management and maintenance of the cold storage devices may lead to irreversible damage or wastage of the stored contents. Vigilant adherence to established maintenance and handling procedures is essential to assuring quality storage of precious materials. In managing incidents related to malfunctioning of cold storage devices, the usual practical difficulty is the inability to ensure prompt and attentive response to such infrequent equipment failure events.







The common potential risks or actual incidents, based on local and overseas experiences, are listed below:

Alarm Management

- Failure to respond to the alarm activation promptly.
- Failure to rectify the cause of alarm activation.
- The alarm was inadvertently disconnected .
- The alarm was permanently muted.
- Unfamiliar with the actions to take when the alarm went off.

Equipment management

- Power supply accidentally unplugged or switched off.
- Some equipment may fail to re-start or local alarm may auto-reset as a result of abrupt power switch during emergency generator testing.
- Lack of contingency measures for evacuation of storage contents from malfunctioning equipment.
- Subjective assessment of storage temperature without proper temperature monitoring by the use of temperature sensors.

Cleaning and Sanitation

- Lack of regular cleaning of storage compartment.
- Lack of effective disinfection procedures with the use of non-corrosive materials.

Access control

- Loss due to unauthorized access to storage contents.

IMPROVEMENT TIPS(I)

Governance, Duty and Responsibility

- Since various parties may be involved, it is recommended to lay out the governance for the management of cold storage devices with clear delineation of duties and responsibilities among each party.

Alarm Management and Testing

- Establish Standard Operating Procedures (SOP), implement training and assessment and arrange refresher training and drill on alarm handling and alarm testing to assure prompt and appropriate response to storage device incidents.
- Establish controlled authority and traceable log for alarm disconnection or inactivation.
- Post short note on the equipment to allow quick access to essential information, e.g., storage temperature range, critical temperature limit, quick inspection items and telephone no. for help.
- Reassess alarm that does not allow automatic reactivation, when after being muted, after a defined period of time. The alarm should be switched on upon resumption of normal temperature.

SHARING (CONT'D)

IMPROVEMENT TIPS(II)

Equipment Management

- Establish SOP on temperature monitoring. There should be defined storage temperature range, review of temperature log and calibration of temperature sensors.
- Establish SOP on contingency evacuation and back-up storage. There should be defined condition of cold storage breach for immediate evacuation, with reference to specified out-range temperature and out-range time.
- Arrange staff to attend to the storage equipment upon power switch during test of emergency generator.
- Apply signage over the electrical socket, e.g., "Blood Refrigerator - Do Not Unplug / Switch Off", so as to avoid accidental unplugging.

Cleaning and Sanitation

- Establish SOP for cleaning and sanitation of cold storage device.

Access control

- Apply controlled access to cold storage device.

Incident Reporting

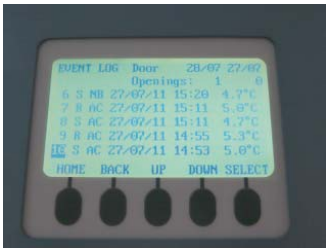
- Report all incidents related to cold storage device by AIRS.

Acknowledgments: We would like to thank Dr Rock LEUNG, QMH AC(Hae) and Mr Tony YAN, QMH SO(Hae) for their contribution to this article.

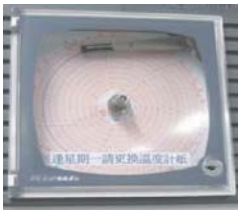
Remote alarm system



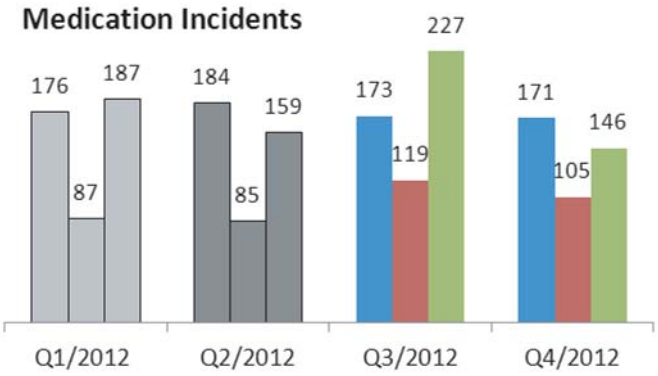
Automated event & temperature logging system



24-hour running temperature record

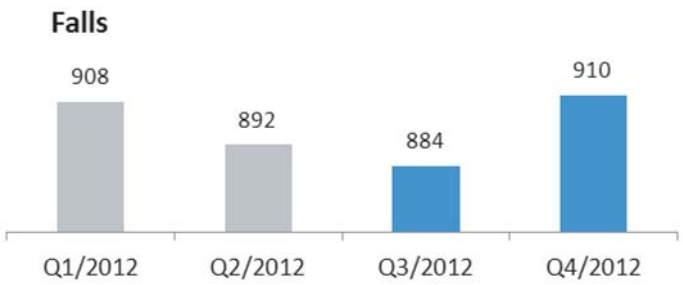


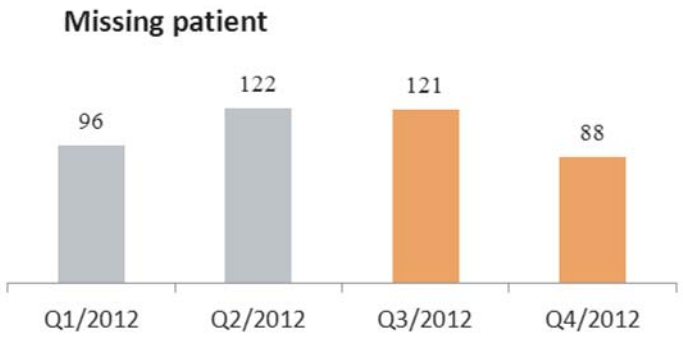
Top Categories of AIRS Incident (Jul – Dec 2012)



Incident reporting in AIRS is voluntary

* Medication cases include near miss incidents without affecting patients.





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