RISK ALERT

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A Risk Management Newsletter for Hospital Authority Healthcare Professionals

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Opening Message

How Can Root Cause Analysis Help?

Despite exercising due care and due diligence, we will still need to face many uncertainties and challenges that are beyond our control with potentially devastating consequences not only for patients and their family, but also for the healthcare team on a daily basis. Upon being presented with an adverse event, it is of paramount importance that all related circumstances are accounted for before we can appraise the situation properly and comprehensively. The primary goal is to learn from any mistakes made and to ensure that similar incidents will not occur in the future. A complete evaluation of every conceivable causative factor of every case can help us develop and implement risk reduction strategies, which will help us device and formulate the most practical Root Cause Analysis (RCA).

RCA is an important tool in our quest for improving the safety and quality of care following human errors, system oversights, or other unforeseeable circumstances. It is crucial to bear in mind that RCA is not about assigning blames and that in the hands of trained and experienced professionals, it can help enhance the safety and quality of care for patients, as well as providing a safe and secure environment for staff.

As such, HAHO Patient Safety and Risk Management Department will take the initiative and team up with a number of clusters in organising training workshops with the aim of equipping all of us with the necessary skills and knowledge that will help facilitate the handling and execution of every aspect of RCA investigation. We believe that RCA is an invaluable learning process not only for all our staff, but also for the betterment of the institution as a whole, with the ultimate aim of achieving the best and safest healthcare that our patients deserve.

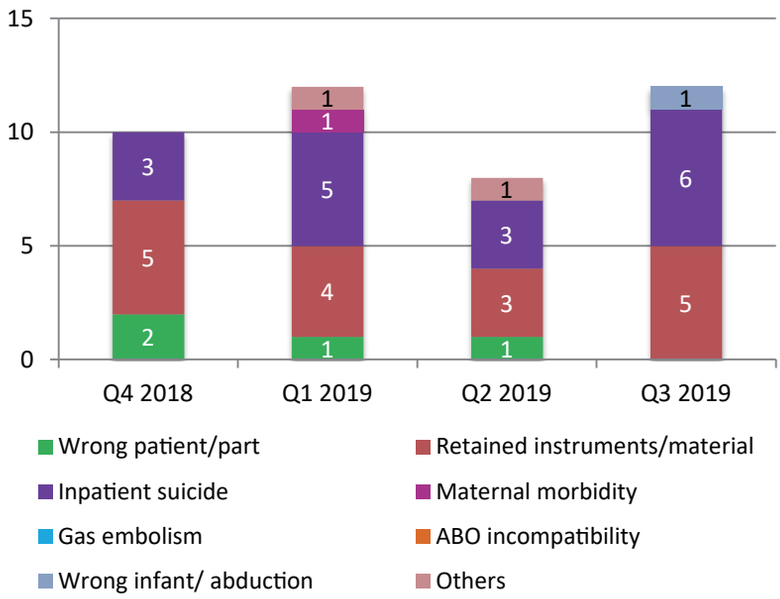
Dr Gladys KWAN Wai-Man

Service Director(Quality & Safety)

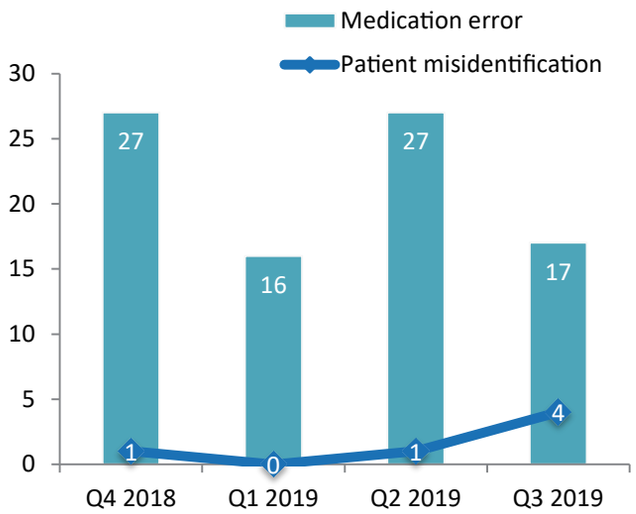
New Territories West Cluster

SE & SUE Statistics

Distribution of SE in the last four quarters



Distribution of SUE in the last four quarters



Sentinel Events

Retained Instruments / Material

Broken Fragment of Urinary Catheter

- A patient underwent emergency surgical evacuation of uterus following the diagnosis of missed miscarriage. The patient was not identified as high risk of bleeding pre-operatively.

Patient developed persistent heavy uterine bleeding despite medications. Intrauterine balloon tamponade was decided. A 12 French two-way urinary catheter was inserted. It ruptured during water inflation by syringe.

Another 12 French urinary catheter was then inserted, and the balloon was inflated by 40ml of water.

Bleeding was controlled and the urinary catheter was removed the next day. Patient was discharged 3 days later.

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

Key Contributing Factors

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

Recommendations

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

Metal Retractor Left in Abdomen

- A patient with small body build underwent an elective abdominal hysterectomy and bilateral salpingo-oopherectomy for uterine cancer under general anaesthesia.
- A metal malleable retractor was placed in the abdomen to retract the abdominal organs to facilitate abdominal cavity closure. Two other doctors took over the wound suturing when the surgeon left the operating table for documentation.

Metal Malleable retractor

- After completion of the first count, scrub nurse reported 'first count correct'. The retractor was still in use.

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- After the second count started, the number of sharps, needles and gauzes were confirmed correct. The main hysterectomy trays which included the retractors were not yet counted. The surgeons and anaesthetist received that 'second count correct' while it was not yet completed.

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- Patient was transferred to Recovery Room after reversal and extubation.

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

Key Contributing Factors

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

Recommendations

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

Retained CVC Guidewire

- A patient had heart failure and respiratory failure and required intubation and central line insertion for inotropes.
- A tri-lumen catheter was inserted via femoral vein. There was resistance at the distal lumen of the central line. The doctor was not aware that the guidewire was not removed and assumed it was blocked.
- The assisting nurse misinterpreted the Vicryl suture as guidewire and documented on the Bedside Procedure Safety Checklist.
- The retained guide wire was noted when the chest X-ray was reviewed. The retained guide wire was retrieved by endovascular means.

Key Contributing Factors

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

Recommendation

Reinforce the importance of following the Bedside Procedure Safety Policy .

Gauze Left in Vagina

- A full-term pregnant lady was admitted for onset of labour. A delivery set and perineal suture set were opened with all gauzes counted and recorded. The baby was delivered vaginally.
- 14 days later, the patient phone contacted the ward for wound pain and swelling for three days.
- Patient was assessed the next morning. She presented a letter from the private doctor she attended the day before, stating that a gauze was found in the vagina. The gauze was already discarded.
- Vaginal examination and ultrasound were normal. A course of antibiotics was prescribed and follow-up was arranged.
- Upon clarification with the private doctor, the retained material was suspected to be a long gauze.

Conclusion

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

Recommendation

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

Retained Metallic Fragment Following Implant Removal

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

Findings

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

Recommendation

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

Inpatient Suicide

In Q3 2019, six patients (2 male and 4 female patients, aged between 51 and 67) had committed suicide: two by jumping from height during home leave and two after found missing; one by suffocation with face towel; and one by electrocution.

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

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

2. A patient required splenectomy for bleeding control after a laparoscopic distal pancreatectomy. Patient had low mood with difficulty to sleep and was assessed by clinical psychologist. Patient had improved mood and accepted the condition and home leaves were granted. Patient jumped from height during the fourth home leave.

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

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

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

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

Finding

The current physical setting of Isolation Room is limited in serving the purpose of observation for preventing suicide concurrently.

Recommendation

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

Infant Abduction

Baby Brought Away by Mother

- A baby was admitted for gastroenteritis. Security measures including alarm and electronic baby tag were explained to mother and relative upon admission. It was emphasised that the patient was not allowed to leave the ward without prior permission.
- Patient was found missing soon after doctors' assessment. Electronic baby tag, broken bracelet and pajamas were found on patient's bed. CCTV was reviewed and showed that the mother had left the ward with the patient.
- Mother was contacted by phone and confirmed to have brought the baby home. The mother brought the patient back to the ward 2 hours later.

Key Contributing Factors

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

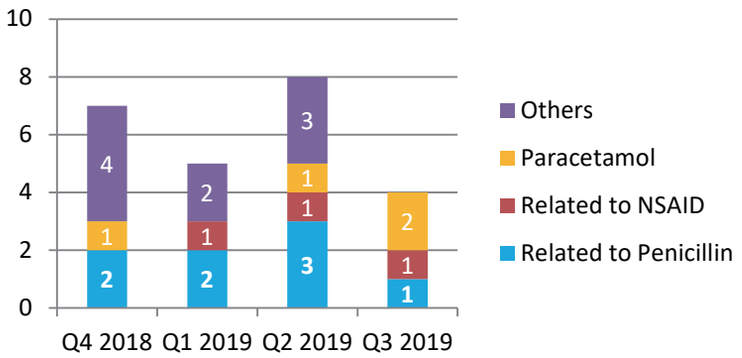
Recommendation

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

Serious Untoward Events

Of the 21 SUE cases reported in Q3 2019, 17 were due to medication errors and 4 were due to patient misidentification. The medication error cases involved known drug allergy (KDA) (4), dangerous drugs (4), antiplatelet (1), insulin (1), OHA metabolites (1), vasopressors & inotropes (1), and others (5). One of the known drug allergy cases showed sign of allergic reactions.

Known Allergy	Allergen prescribed
Mefenamic Acid & Diclofenac Sodium	Aspirin
Paracetamol	Paracetamol
Paracetamol	Paracetamol
Penicillin	Tazocin



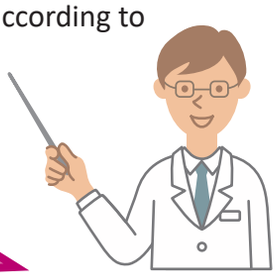
Number of KDA cases in the last four quarters

Medication Error

Recently, a paracetamol-induced hepatotoxicity incident was reported in a cancer patient with body weight < 50kg. 7 doses of 1g Intravenous Paracetamol at Q6H were given to the patient and caused hepatotoxicity.

Paracetamol (Panadol®) is a commonly prescribed first-line analgesic for mild to moderate pain. The usual adult (>50kg) dose of oral Paracetamol is 0.5g to 1g every 4–6 hours up to a maximum of 4g in 24 hours.

The need for dose reduction in patients with risk factors for hepatotoxicity and low body weight could however be easily overlooked. For body weight ≤ 50kg, the maximum IV dose is 15mg/kg/dose (max single dose ≤ 750mg/dose) up to 75mg/kg/24hours; whereas for body weight >50 kg with additional risk factors for hepatotoxicity, the maximum dose is 3g/24hours in divided doses. Therefore, dose adjustment should be made according to individual body weight and the degree of risk exposure to hepatotoxicity.



Dose Reduction in Patient with Low Body Weight & Risk Factors for Hepatotoxicity

A patient allergic to Voltaren (Diclofenac sodium) and Ponstan (Mefenamic acid) was admitted for chest discomfort. Aspirin was prescribed and pre-packed medication was given from ward stock. Incident was spotted by pharmacist and patient was closely observed. Patient developed periorbital swelling which subsided after medical treatment.

Always check for Cross-allergy

A rectal cancer patient was admitted for intestinal obstruction with small bowel perforation. The patient had operation done and was put on mechanical ventilation with inotropic support. Propofol and Morphine bolus injections were prescribed according to sedation protocol.

The patient was agitated and a Propofol bolus was ordered. 2 labelled syringes of Propofol and Morphine previously prepared were taken out from the patient's drug trolley. Without checking the label on the Morphine syringe, it was mistaken as normal saline flush and was injected after the Propofol. The error was spotted when the drug label was noticed during disposal of the syringe and patient was closely monitored.

3 Checks 5 Rights!

Safety-I vs Safety-II

For the last three decades or so, healthcare has often viewed safety as the absence of the accidents and incidents. Accident investigations focus on identifying the causes of adverse outcomes and risk assess them based on their likelihood. The safety management principle is to eliminate causes of the risk or improve the barriers when the risk is at an unacceptable level. Hollnagel, Wears and Braithwaite (2015) has termed this 'Safety-I', in which safety is defined as a state where as few things as possible go wrong. The presumption is that things go wrong because of failures and malfunctions of specific components, including the human worker.

However, as health gets more and more complex, there will increasingly be times when particular settings cannot be decomposed, that components of a system cannot only be thought to work either correctly or incorrectly. Everyday clinical work is variable and flexible, and the system relies on individuals to continually make adjustments to match the conditions of work. As systems develop and complexity increases, these adjustments become increasingly important to maintain acceptable performance. Thus, the next challenge facing safety experts going forwards is not just understanding errors and their causes, but also to understand how performance often goes right in spite of the uncertainties and ambiguities of a complex system.

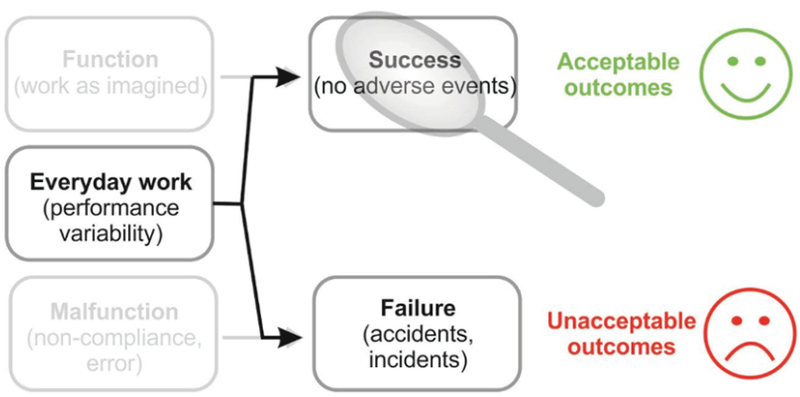


Figure 1: The basis for safety is understanding the variability of everyday performance

The 'Safety-II' perspective to safety management is to ensure as many things as possible go right, and relates to the system's ability to succeed under varying conditions, including the human being. Humans are seen as the necessary resource that is able to respond to these varying conditions by introducing system flexibility and resilience, and hence is the reason why things go right. The safety management principle is to facilitate everyday work, to anticipate developments and events, and to maintain adaptive capacity to respond effectively to inevitable surprises.

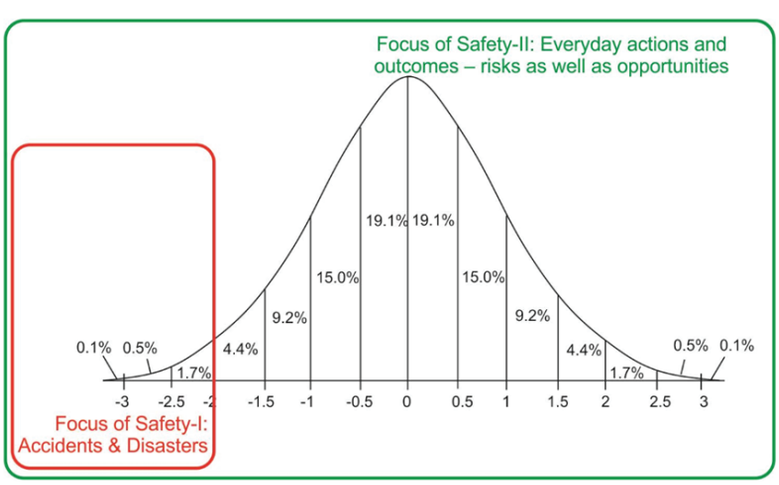


Figure 2: Focus of Safety I and Safety II

As we start to consider a Safety-II perspective, there are 5 key concepts to bear in mind:

- Look at what goes right
- Focus on frequency rather than severity
- Remain sensitive to the possibility of failure
- Do not unduly privilege efficiency over thoroughness
- Making things go right is an investment in safety and productivity

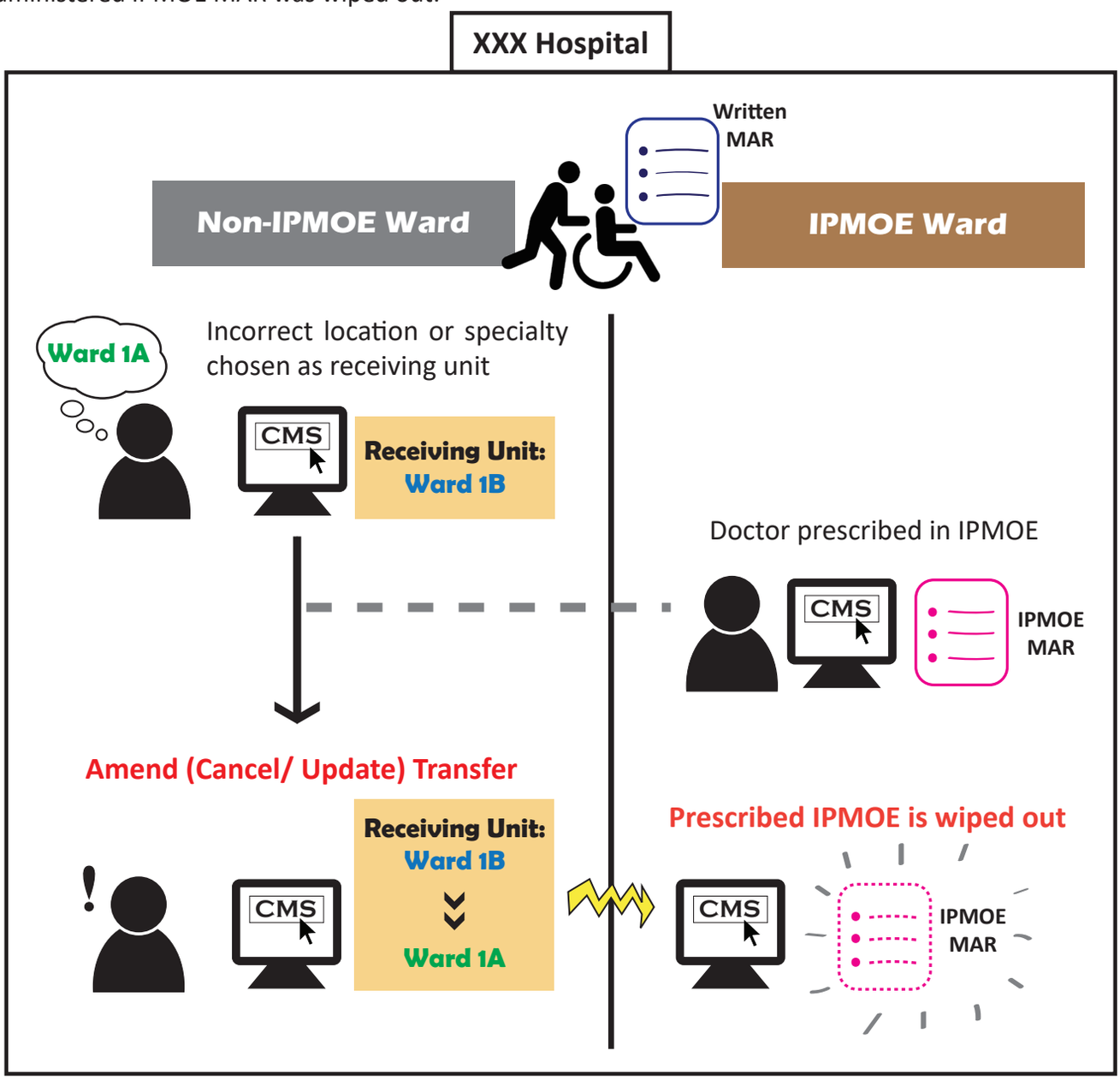
Safety-II does not replace Safety-I, as the majority of events are relatively simple and can be dealt with in ways that we are familiar with. However the future will require a combination of these two approaches that complement each other. Adopting a Safety-II perspective starts to enter the world of resilient health care.

Dr Alastair Mah
Patient Safety and Risk Management

Images courtesy of Hollnagel, Wears and Braithwaite, 2015, From Safety-I to Safety-II: A White Paper

Patient Transfers with IPMOE

- During the implementation of IPMOE within hospitals, there are transition periods where some wards have commenced the use of IPMOE, while some are still using paper MAR.
- There were reported cases that colleagues had chosen the incorrect location or specialty as the receiving unit.
- After transferal from non-IPMOE to IPMOE ward, doctor prescribed medications in IPMOE MAR.
- When the original ward staff amended (cancelled/ updated) the transfer in CMS, the prescribed and not yet administered IPMOE MAR was wiped out.



Learning Point

Select **Correct Location and Specialty** of the Receiving unit when transferring from non-IPMOE to IPMOE ward. Subsequent amendment or update of Patient Transfer Record will wipe out prescribed and not yet administered IPMOE MAR.

Acknowledgement: HO Health Informatics IPMOE Team