

## Lessons from the sentinel event casebook

### Urgent Alert – Emergency management of chest pain

In a recent Victorian coronial investigation, the Coroner requested his recommendations from the review be broadly circulated across the health sector in order to avert similar adverse events and outcomes. The Department of Human Services (the department) have circulated a copy of the Coroner's investigation report to all public hospitals and health services for their active consideration.

The department note the health service concerned responded appropriately and implemented a number of interventions prior to the completion of the coroner's investigation, these include:

- Guidelines for Chest Pain Management in the Emergency Department (ED).
- Discharge at own risk guidelines
- Guidelines on patient re presenting to emergency with ongoing symptoms.

#### Case overview

A middle aged male presented to a hospital ED on four separate occasions over an 8 day period complaining primarily of back, shoulder or chest pains.

Blood tests and electrocardiogram (ECG) results from the first presentation did not highlight any abnormalities. On the patient's second presentation, blood tests and a chest x-ray were completed. The patient left the ED prior to the results being available. As there were no abnormalities detected in the test results, the hospital did not contact the patient to return for further follow up.

At the third presentation, the patient was complaining of intermittent chest pain at times radiating down his left arm and vomiting. The patient's previous investigation results were noted to be normal. He was discharged home following a medical review. Later that day he returned to the ED with ongoing symptoms. The attending doctor saw him; the test results from previous presentations were again reviewed. Following assessment the patient was discharged home with a referral to their GP.

The following day he was found deceased at home. The cause of death following an autopsy was Myocardial Infarction and Coronary Artery Thrombosis.

Whilst at each presentation the patient presented with different symptoms, it appears the underlying theme remained consistent – ongoing symptoms of chest and back pain.

Whether or not the patient's death would have been prevented remains a matter of speculation. In his findings the Coroner

outlined a number of recommendations for health services to consider, these being:

- The need for clinical supervision on patients who return to hospital reporting the same condition (or possible variants of the same problem). Caution dictates discussion of these cases with another experienced or senior clinician prior to discharge.
- Health services managing patients with atypical chest pain or ischemic heart disease (IHD) consider applying a risk emphasis to diagnosis by excluding IHD from other potential diagnostic alternatives.
- Hospitals consider adopting Discharge at Own Risk guidelines or implementing processes to contact patients who leave the ED or hospital before being seen by medical staff.

#### How does your health service address the issues identified by the coroner in this case?

#### Potential for Error – Day Leave

A patient with a history of chronic depression, previously managed in the community by a private psychiatrist was admitted to a public hospital with acute depression.

The patient was treated with a combination of medication and interventional therapy prior to being discharged home. Over a period of several months the patient's condition failed to improve. Following significant consultation with family and the treating psychiatrist, the patient was readmitted to an acute mental health unit for assessment. Throughout their hospital stay the patient was granted a number of day leave episodes under family supervision. These failed to lighten the patient's outlook, as they remained distressed, anxious and expressing suicidal thoughts.

The altered medication regime failed to have a positive impact on the patient's outlook. The treating team recommended interventional therapy as well as the medication regime. A family meeting was held and consent was established for the revised treatment plan to commence the following week.

The patient was granted day leave with their family for the weekend. Unfortunately during this leave period the patient committed a significant self-harm act. They died in hospital the following day.

#### What were the major contributing factors in this case?

- The patients previous medical record was not obtained on admission to the public facility.
- No contact was made with the treating psychiatrist from the previous admission.
- Behavioural risk assessments were variable and inconsistent with medical record documentation.
- Agreed thresholds for behaviour and risk assessment

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strategies were not documented.

- No formal, documented process for day leave approval in place.

### How did the health service address these issues?

- A Day Leave Protocol was developed which included:
  1. Requirements for day leave.
  2. Approval process.
  3. Level of supervision required by relatives.
- Risk levels defined for mental health patients and linked with management strategies including day leave privileges.
- Review of the failure to retrieve previous medical record was undertaken.
- Multidisciplinary clinical handover protocol was developed to facilitate communication between services.

### Does your facility have a detailed Day Leave protocol in place?

### What systems and processes does your health service have in place to address the level of variability in risk and behavioural assessments?

### Potential for Error – Communication of Product Warnings

An infant was admitted with poor feeding, weight loss and vomiting. A Peripherally Inserted Central Venous Catheter (PICC) was inserted in one of the major veins to facilitate fluid and calorie replacement. In the next few days swelling of the child's right leg prompted an ultrasound, no clot was identified however the PICC line was removed. A Central Venous Catheter (CVC) line was inserted to continue calorie replacement.

Unfortunately the child's clinical state failed to improve. They developed fever and signs of sepsis; subsequently the CVC line was removed. Despite replacement of platelets, albumin and blood the child failed to show signs of improvement. A repeat ultrasound identified an extensive blood clot in a major blood vessel and anticoagulation therapy was commenced.

A cardiac echocardiogram (ECHO) was also performed which highlighted

a cardiac irregularity consistent with a foreign body.

A chest x-ray confirmed that a portion of the PICC guide wire had broken off during insertion.

The retained wire was removed and the child's clinical state improved dramatically.

### What were the major contributing factors in this case?

- The PICC line is packaged preloaded with the guide wire.
- PICC line required trimming before insertion, the guide wire was not retracted beyond the trimming cut resulting in the wire also being trimmed.
- The trimming of the guide wire caused it to unravel and a section of this wire was retained in the PICC line when the guide wire was removed. This was then flushed in the venous system and migrated into the heart.
- A previous TGA alert regarding the PICC line product and potential for embolisation and/or unravelling of guide wires following insertion was not known by the practitioner performing the procedure.

### How did the health service address these issues?

- Labelling of the PICC line with instructions on trimming and warnings on possible consequences.
- The hospital implemented a centralised systematic viewing of the TGA reports and dissemination of this information to the relevant departments.
- An alternative PICC line product was sourced.

### How are TGA warnings on medical equipment communicated throughout your health service?

### Update on Correct Patient, Correct Side and Correct Site Surgery

In April 2007 the Victorian Surgical Consultative Council (VSCC) released revised guidelines on Ensuring Correct Patient, Correct Side and Correct Site Surgery. These new guidelines were developed by a dedicated working party of the Royal Australasian College

of Surgeons (RACS), which included a representative from the VSCC. The guidelines supersede all previous guidelines regarding correct side and correct site surgery released by the RACS and the VSCC.

An overview of the guidelines is available at [www.health.vic.gov.au/vscc](http://www.health.vic.gov.au/vscc).

### Update on Single Use Medical Devices

The transition timeframes to meet the Therapeutic Goods Administration (TGA) regulation for single use medical devices has expired.

In July 2001, the Australian Health Ministers Advisory Council agreed that any reprocessing of "single use" or "single patient use" devices (SUDs) is a manufacturing activity, which requires regulation by the TGA. The regulation requires the remanufacturing of SUDs to the same standards that apply to the original manufacturer.

The transition time periods were:

- 1 March 2006 for health care facilities to cease re-manufacturing critical devices (devices that come in contact with sterile sites) labelled as single use.
- 1 July 2007 to cease re-manufacturing semi critical (devices that come in contact with mucous membrane and broken skin) and non critical (either do not come in contact with the human body or only contacts intact skin).

A fact sheet to assist with clarification of definitions and terminology associated with the regulation of the re-manufacture of SUDs for reuse is available on the TGA website at [www.tga.gov.au/devices/sud-definitions.htm](http://www.tga.gov.au/devices/sud-definitions.htm).

A fact sheet "Guidance regarding the re-manufacture of single use medical devices for reuse" clarifying the scope of devices covered by the regulatory framework is available on the TGA website at [www.tga.gov.au/devices/fs-sudguid.htm](http://www.tga.gov.au/devices/fs-sudguid.htm).

For further information on use of SUDs go to [www.health.vic.gov.au/ideas/infon](http://www.health.vic.gov.au/ideas/infon).

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