Delivering Safer Health Care in Western Australia

The Second WA Sentinel Event Report 2005-2006

Delivering a Healthy WA

Acknowledgements

The Office of Safety and Quality in Health Care acknowledges and appreciates the input of all individuals and groups who have contributed to the development of this report and the Sentinel Event Program. In particular, we would like to recognise that this report could not be possible without the generous cooperation and commitment of the patients who suffer inadvertent and unintended harm whilst receiving care in our health system, and their families. From time to time, things do go wrong. By reporting, investigating and sharing the lessons learned, we aim to reduce human error in Western Australian health care.

Foreword

The Department of Health continues its commitment to ensuring that high quality and safe health care is available to all Western Australians both inside and outside our hospitals.

Patient safety is a major priority and is of great concern to all WA health system staff, patients, their families and carers, and health consumers in general. Western Australians want to feel safe in our hospitals, and to know their loved ones are receiving safe care. The department is also committed to being open and transparent about how it works and improves health care standards for all Western Australian patients – both public and private.

Through reporting, investigating and analysis of adverse patient events in both the public and private systems, the department is able to develop preventative strategies to ensure improved patient safety throughout the state. The systematic collection and review of information about serious health care errors allows us to learn about the situations and circumstances surrounding these incidents, investigate them and implement changes to prevent similar mistakes occurring again.

The focus of the Department of Health's Sentinel Event Program is to identify system and process issues that impact on the safe delivery of care. The program enables us to critically analyse and identify how these issues can be addressed, and to share the lessons across the WA health system and beyond.

The strength of our Sentinel Event Program is a direct result of collaboration between the department, health services, clinicians and consumers, and illustrates one of the ways that we are improving the safety and quality of the Western Australian health system.

The Department of Health WA Sentinel Event Report 2005-2006, our 2nd public report, is a summary of this year's program. It provides full information about the numbers and types of sentinel events that have occurred in our health services, and describes improved safety management plans and the changes we've put in place to address these issues. By sharing these lessons widely, we can achieve improved knowledge and understanding about how to prevent and reduce errors, and deliver better care to our community.

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Director General & Executive Chairman
Health Reform Implementation Taskforce

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1. Executive Summary

The aim of the Sentinel Event Program is to improve patient safety by reducing the number of serious adverse events. Sentinel events are reported to the Chief Medical Officer as they occur in WA health services. An immediate and thorough clinical investigation is conducted to examine the circumstances surrounding the incident, and to identify any factors that contributed to the incident. Recommendations that arise from the incident are endorsed by the Chief Executive Officer of the hospital or area health service, and then implemented to ensure that similar incidents do not happen again. Ongoing audits at a system level monitor the progress of implementation of recommendations, and their effectiveness.

Since October 2003, when sentinel event reporting was implemented, a total of 138 possible sentinel events have been reported. Fourteen of these events were considered to be unpreventable, leaving 124 events eligible for inclusion in the Sentinel Event Program. A total of 42 sentinel events occurred during the 2005/2006 financial year. Compared to 2004/2005, this represents a small decrease in the total number of sentinel events (43 events were reported in 2004/2005).

In 2005/2006, the Sentinel Event Program demonstrated a clear reduction in the number of sentinel events in two categories: 'procedures involving the wrong patient or body part'; and 'retained instruments or other material after surgery requiring re-operation or further surgical procedure'. This decrease can be attributed to specific actions taken to improve policies, procedures and practice in these categories in the last two years.

The largest proportion of sentinel events reported to the Chief Medical Officer during 2005/2006 was classified as 'other adverse events resulting in serious patient harm or death'. There were 31 events reported in this category and they typically included complications of emergency/resuscitation management, complications of surgery, hospital process issues, and mental health incidents.
The increase in the events classified as 'other', compared to the previous financial year, reflects increased awareness of reporting and a strong culture of trust in reporting matters of patient safety in Western Australia.

2. Safety management systems in Western Australian health services and hospitals

The health care system in Western Australia is world class. Ongoing and rapid advances in medical technology have resulted in the introduction of sophisticated and complex equipment and instrumentation to assist diagnostic, medical and surgical procedures as well as the introduction of a wide array of drug treatments. Most of the time, the very best health care is delivered safely and appropriately. However, sometimes things do go wrong. It has been reported in medical literature that approximately one in every ten hospital admissions is associated with an adverse clinical incident. Whilst many of these incidents result in no harm to the patient, a small number result in permanent disability or death. These are known as sentinel events.

WA Health continually strives for a health care system that is free, as much as possible, from clinical incidents that cause unintended harm or injury to patients. The introduction of comprehensive clinical governance and safety management systems in all WA public hospitals and health services is helping to improve patient safety and clinical quality.

A crucial cornerstone of the clinical governance and safety management system in WA is the reporting, analysis and monitoring of clinical incidents and sentinel events that occur as a result of the provision of health care. Through the reporting of clinical incidents and sentinel events, hospital and health service staff can commence an investigation to identify factors that may have contributed to the event. Analysis of incidents frequently show that the contributing factors involve multiple system issues, rather than an individual's performance or behaviour. Preventative measures therefore are often focused on strengthening healthcare systems and processes to mitigate human error.

Although no one working in health care wants to deliberately cause harm to others, from time to time some behaviours and practices are identified which need to be managed by administrative or managerial action. When these issues are identified, defined performance management, administrative protocols or referral to professional and regulatory bodies are followed. This report does not deal with sentinel events that have required police referral, health service management or administrative action.

An important part of improving patient safety is the open and clear reporting to the WA public about the things that do go wrong in hospitals, and how they are being fixed. Reporting and management of clinical incidents provides an opportunity for clinicians, managers and the community to learn how to prevent similar incidents from occurring in the future. In this context, WA Health promotes a safety aware culture that actively encourages clinical incident reporting and learning from mistakes.

It should be noted that sentinel events often occur to very sick patients in very complex environments such as intensive care units, operating theatres, or during patient transport. This increased complexity of the level of care, the type of care, and the multiple teams involved in care increases opportunities for vulnerabilities to emerge and sentinel events to happen.

3. Sentinel event notification, investigation and monitoring

Sentinel events are defined as rare, preventable clinical incidents that lead to, or can lead to serious patient outcomes including death. In October 2003, the Department of Health introduced the Sentinel Event Program. The program is a fundamental component of WA Health's patient safety management system because it incorporates a broad risk management approach to sentinel events including notification, investigation and ongoing monitoring. The Sentinel Event Program is now in its third year of operation.

In April 2004, Australian Health Ministers agreed on a set of eight sentinel events (see Table 1). Public hospitals report any events that fall under this classification to the state department or an agreed third party. An additional category, 'other adverse event resulting in serious patient harm or death' is included in WA, so that all rare preventable events leading to unintended serious patient harm or death can be captured, to enable us to learn from these as well. Public hospitals and health services, including community groups and primary care units, and licensed private health facilities, are required to report sentinel events to the Chief Medical Officer. It should be noted that WA is the only jurisdiction that has a comprehensive Sentinel Event Program focussed on all patients, regardless of whether their care was provided in a public hospital or a licensed private health facility.

Table 1: Categories of sentinel events in Western Australia

1. Procedures involving the wrong patient, body part, or wrong procedure.
2. Suicide of a patient in an inpatient unit.
3. Retained instruments or other material after surgery requiring re-operation or further surgical procedure.
4. Intravascular gas embolism resulting in death or neurological damage.
5. Haemolytic blood transfusion reaction resulting from ABO incompatibility.
6. Medication error leading to the death of a patient reasonably believed to be due to incorrect administration of drugs.
7. Maternal death or serious morbidity associated with labour or delivery.
8. Infant discharged to wrong family or infant abduction.
9. Other adverse event resulting in serious patient harm or death.

3.1 Sentinel event notification

All public hospitals, health services and licensed private health facilities are required to report any sentinel event which meets the criteria outlined in the *Sentinel Event Policy* to the Chief Medical Officer. The strong reporting culture across WA Health results in notification of *possible* sentinel events. Investigation occasionally reveals that some reported events are not sentinel events. These matters are followed up through local management or other action (see Figure 1). The Department of Health welcomes all possible notifications because this demonstrates an ongoing commitment by hospitals and health services to actively report concerns and to constantly learn about and improve patient safety.

3.2 Sentinel event investigation

Sentinel events can signal serious, and often multiple, breakdowns in health care systems and therefore require thorough investigation and response. The investigation of a sentinel event involves a comprehensive and systematic analysis of the facts to identify all contributing factors. Recommendations and strategies can then be put in place to minimise the occurrence of similar events in the future. The investigation is conducted, within the hospital or health service, by a multidisciplinary team of clinicians in association with the hospital or health service.

In WA, the preferred approach to sentinel event investigation is root cause analysis (RCA). General characteristics of RCA include:

- a focus on health care systems and processes, not on individual performance;
- an extensive examination of underlying contributing factors and root causes;
- the identification of changes that can be made to improve systems and processes to prevent re-occurrence of similar events; and
- the identification of safer, more efficient ways to deliver patient care.

The RCA technique is now used across most of the public and private sector to investigate sentinel events. The Department of Health's Office of Safety and Quality in Health Care offers ongoing RCA training and support. At the time of publication, the Department of Health has trained more than 720 key safety management staff in the RCA methodology and human factors.

3.3 Sentinel event monitoring

On completion of a sentinel event investigation, there will be a number of recommendations that outline strategies to reduce the risk of similar events occurring in the future. These strategies are put in place by area health service management, and evaluated and monitored at the local level on a regular basis, to ensure their effectiveness in improving patient safety. Recommendations can be monitored by clinical incident management systems, such as the Advanced Incident Management System (AIMS). This enables managers to assess whether similar incidents have been prevented. Additionally, hospitals and health services conduct six-monthly audits to assess the progress of the implementation of recommendations, and to evaluate their effectiveness. Where strategies have been found to be very effective, health services are encouraged to share them with other hospitals and health services. They are also distributed through Department of Health seminars and publications (e.g. Sharing News in Patient Safety 'SNIPtS' Newsletter).

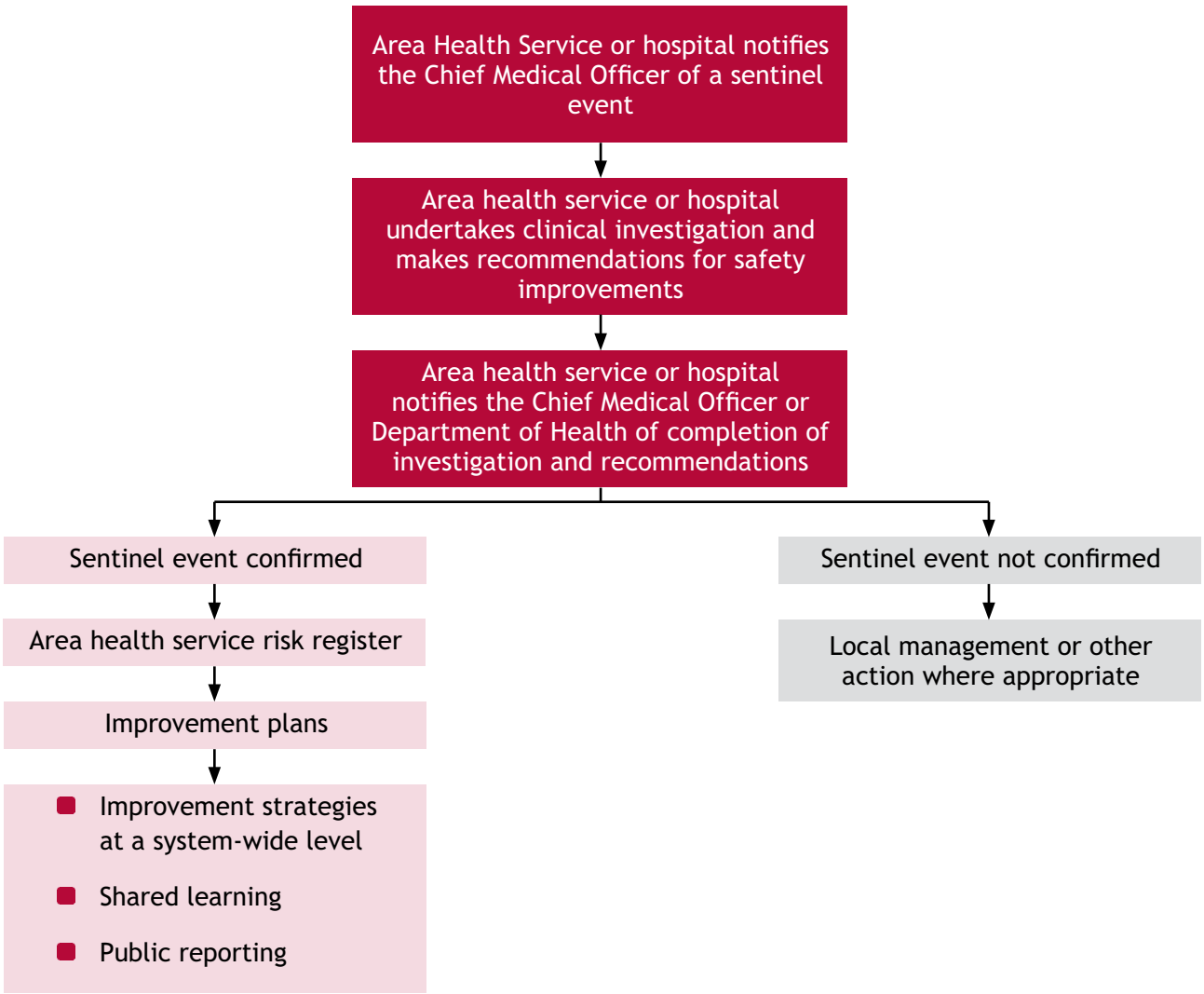
Given the clinical complexity of many sentinel events, a high-level confidential Sentinel Event Review Group assists the Chief Medical Officer to assess and comment on the de-identified investigation findings of reported events. The review group meets on a quarterly basis and consists of senior clinicians including the Chief Medical Officer, the Chief Psychiatrist, the Chief Nursing Officer and clinicians from teaching hospitals.

Where an investigation of a particular event identifies system improvements that apply to similar institutions, a Statewide Patient Safety Alert or Safer Practice Notice will be released. Policy and procedures have been introduced following the identification of issues that require intervention. As a result of identification of issues pointing to incorrect site surgery, a statewide policy was developed in March 2005. There has been a demonstrable reduction in incidents of this type since.

3.4 Sentinel event classification

When commencing a sentinel event investigation, each event is treated as a possible sentinel event until the investigation process has been completed (see Figure 1). In cases where the investigation uncovers one or more preventable contributing factors, the event is classified as a sentinel event. However, if the investigation establishes that the event could not have been prevented due to the presence of serious underlying patient co-morbidities, or there are suspected performance management or disciplinary issues, system-wide improvement recommendations are not likely to be valid. Therefore, the event is not classified as a sentinel event and it is not included in further data analysis. Hospitals and health services have separate clinical governance and performance management processes in place to manage suspected performance management or disciplinary issues.

Figure 1: Algorithm for sentinel event reporting



3.5 Other clinical reporting and management systems to improve care

The WA Sentinel Event Program is complemented by other reporting and quality improvement programs. The Western Australian Audit of Surgical Mortality (WAASM) is an independent peer review audit that investigates deaths that occurred under the care of a surgeon (see below). Coronial inquests into unexpected deaths that occur in the community also impart valuable lessons that can be used to improve the safety and quality of health care. There are also many mortality committees that routinely monitor patient deaths to identify any deficiencies in care. The three statutory mortality committees include the Maternal Mortality Committee, the Perinatal and Infant Mortality Committee, and the Anaesthesia Mortality Committee. There are also many hospital and clinical unit-based mortality and morbidity review processes.

The Western Australian Audit of Surgical Mortality

WAASM is an independent peer review audit of surgical deaths in Western Australia, managed by the Royal Australasian College of Surgeons. The audit covers patient deaths that occurred under the care of a surgeon, whether a procedure took place or not. The purpose of the audit is to provide feedback to both surgeons and hospitals, and to identify deficiencies in care, leading to improvements to clinical practice. For more information about WAASM, or to download the WAASM annual reports, visit: www.surgeons.org

4. 2005/2006 Sentinel Event Program

Fifty-four possible sentinel events were reported to the Chief Medical Officer during 2005/2006. Following the investigation process, it was established that 12 of the notifications were *not* sentinel events. These events are described in section 3.4 and have not been included in the data analysis. This report focuses on the remaining 42 confirmed sentinel events. Of the 42 confirmed sentinel events reported in 2005/2006, 27 events resulted in death. This represents 0.004% of all inpatient episodes of care[1] for the 2005/2006 financial year.

Of the 42 events in 2005/2006, 11 fell into the core set of sentinel events (i.e. the eight nationally reported sentinel event categories). This is a large decrease compared to the previous financial year (2004/2005 – 20 events reported). The remaining 31 events did not fit the definition of a core sentinel event, and are discussed later in this section. Table 2 shows the number of core sentinel events reported for each financial year, since implementation of the program in October 2003.

Table 2: Reported sentinel events for WA public and private hospitals, 1 October 2003 to 30 June 2006

Event category	2003/04*	2004/05	2005/2006
1. Procedure involving wrong patient, wrong body part or wrong procedure	1	10	4
2. Suicide of a patient in an inpatient unit	1	1	4
3. Retained instruments or other material after surgery requiring re-operation or further surgical procedure	1	6	1
4. Medication error resulting in death of a patient	0	2	1
5. Intravascular gas embolism resulting in death or neurological damage	0	0	0
6. Haemolytic blood transfusion reaction resulting from ABO incompatibility	0	0	0
7. Maternal death or serious morbidity associated with labour or delivery	1	1	1
8. Infant discharged to wrong family or infant abduction	0	0	0
Total	**4**	**20**	**11**

*2003/04 data comprises nine months only – 1 October 2003 to 30 July 2004.

[1] The Hospital Morbidity Data System captures information from both public and licensed private health facilities.

During 2005/2006, there was a large reduction in the number of 'procedures involving the wrong patient, wrong body part or wrong procedure', and a reduction in the number of 'retained instruments or other material after surgery requiring re-operation or further surgical procedure'. This decrease is due to a number of effective strategies that were put in place, such as the implementation of *Ensuring Correct Patient, Correct Site, Correct Procedure* protocol, and the ongoing vigilance of health care professionals to prevent the occurrence of these types of events. These policies can be accessed at http://www.health.wa.gov.au/safetyandquality/publications.

In addition to nationally defined core sentinel events, Western Australia collects information about events that do not fall into any of the core categories above (see Table 2). Events that cannot be defined as a core sentinel event are classified as 'Other adverse event resulting in serious harm or patient death'. WA purposefully included this category as a reportable sentinel event to better understand system failures and to identify any emerging trends.

Table 3 shows the number of reported 'other adverse events resulting in serious patient harm or death' since the program began in October 2003. There were 31 events of this type reported during the 2005/2006 financial year, which reflects an overall increase compared to 2004/2005 (see Table 3). This increase is likely to reflect heightened awareness and reporting by health service professionals of possible sentinel events, rather than actual increases in the occurrence of these events.

Table 3: Detailed analysis of 'Other adverse events resulting in serious patient harm or patient death' for WA public and private hospitals, 1 October 2003 to 30 June 2006

Event sub category	2003/04	2004/05	2005/06
Complication of anaesthetic management	0	1	0
Complication of emergency/resuscitation management	4	3	1
Complication of surgery (including post operative death)	8	7*	7
Fetal complication of delivery (including neonatal death)	2	2*	3
Hospital process issue (i.e. failure to access timely and appropriate care, poor planning of discharge)	3	8	5
Medication error with serious consequence (not death)	0	2	1
Patient absconding with adverse outcome	1	0	0
Mental health incident**	-	-	4
Fall resulting in death**	-	-	2
Other	1	0	8
Total	**19**	**23**	**31**

* One event in each of these categories has been determined not to be a sentinel event since publication of the WA Sentinel Event Report October 2003 – June 2005.

** New sub categories added for 2005/2006. These events would previously have been classified as 'other'.

Detailed analysis reveals that there was a decrease in all sub-categories except ‘fetal complication of delivery’ and ‘other’ (sentinel events that cannot be classified into any of the sub-categories). It should be noted that two new sub-categories were introduced: ‘falls resulting in death’ and ‘mental health incidents’ (mental health incidents do not include suicide of a patient in an inpatient unit). Prior to 2005/2006, events of this nature had not been reported.

5. Contributing system factors

At the time of publication, investigation findings from 38 of the 42 sentinel events had been received. The investigations for four of the remaining sentinel events have been granted extensions due to special circumstances. Analysis of the findings has identified a broad range of system factors that contributed to the events. These contributing factors have been categorised according to the classification system originally developed by the Department of Human Services, Victoria, and are broadly consistent with the conceptual framework for event classification currently under development by the World Health Organisation. Classification of contributing factors is structured around the characteristics of the event, and distinguishing features surrounding the patient. The eleven types of contributing factors categories are detailed in Table 4.

Table 4: Categories of contributing factors used in analysing sentinel events

1.	Communication (communication between staff; communication between staff, patients and family members).
2.	Equipment (faulty equipment, lack of equipment provision).
3.	External factors (issues external to the reporting organisation).
4.	Health information (documentation – or lack of – in the medical record, communication of information between the health service and external service providers);
5.	Human resources (staff allocation, staff training, staff supervision, staff appraisals, recruitment).
6.	Inter-hospital issues (issues with transfer of a patient from one health service provider to another).
7.	Physical environment (issues with the physical environment of the health service or general suitability of the environment to support the function it is being used for).
8.	Policy, procedures and guidelines (behavioural assessment, physical assessment, patient observation process, clinical management guidelines, identification process, coordination of care).
9.	Translation issues (issues with translation of health information for a patient).
10.	Transportation issues (issues with interagency or health service transportation of a patient).
11.	Other factors (patient co-morbidities, patient factors).

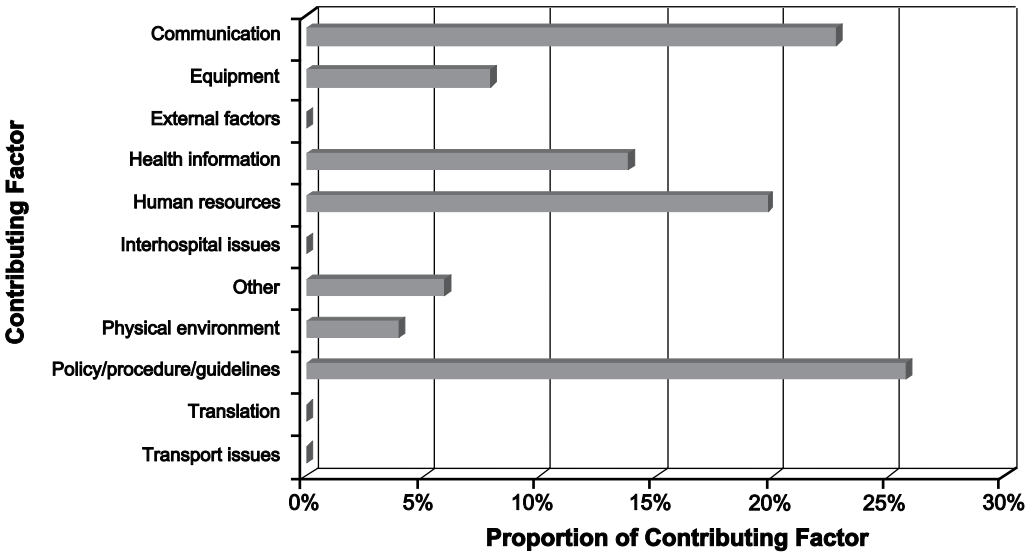
A full description of these contributing factors can be found in the first WA Sentinel Event Report (October 2003 – June 2005).

Figure 2 shows the contributing factors to all sentinel events reported during the 2005/2006 financial year. As can be seen below, the most common contributing factor to sentinel events were issues associated with policies, procedures and guidelines (e.g. absence of policies, procedures and guidelines regarding clinical management or use of inappropriate/unsuitable policies, procedures and guidelines).

Other factors that frequently contributed to sentinel events included issues associated with human resources, communication issues and health information issues. Human resource issues typically include staffing shortages or limited staff availability, inadequacy in staff training, or lack of staff supervision of junior clinical staff. Communication issues generally refer to a lack of communication between clinical staff members, poor handovers, or miscommunication between medical staff. Health information issues generally indicate that there were failures or inadequacies in the documentation of patient information in the medical record.

The Western Australian health system continues to strongly emphasise the importance of all of these issues and will continue to work with clinicians and hospitals to develop strategies to address these areas.

Figure 2: Contributing factors to sentinel events (n=101 factors)



NB: One sentinel event can have more than one contributing factor, and therefore the number of contributing factors exceeds the number of sentinel events.

5.1 Wrong patient or body part, or wrong procedure

This category captures events in which a diagnostic procedure, treatment or medical procedure was performed on the wrong patient or wrong body part, or an incorrect procedure was undertaken. Wrong body part also includes those events in which a procedure or surgery was performed on the wrong side of the body.

A total of four events involving the wrong patient or body part were reported during 2005/2006. Two of these events were surgical procedures performed on the wrong level vertebrae. Surgical procedures on the spine involve different procedures for identifying the correct site (i.e. x-rays) compared to other surgical procedures (i.e. marking the site for surgery). Moreover, factors such as spinal degeneration and patient bulk due to obesity often make external and internal identification of the correct site technically difficult. There is some literature that supports exclusion of these events from analysis of this sentinel event category. Although we have included these events in this report, they will be analysed separately as a subcategory for the 2006/07 report. In any case, clinicians are recommended to check vertebral level with intra-operative x-ray using a standardised positioning and marking procedure to ensure a correct level procedure is performed.

*Case Example: Wrong Procedure, Wrong Patient or Body Part**

Emma had been suffering from otitis media (a middle ear infection) with effusion for three years. She needed grommets inserted to drain her ear and improve her hearing. On the afternoon she was scheduled for her procedure, Emma was fourth on the operating list. There were seven other children on the list. The procedures for all eight patients included tonsillectomies, adenoidectomies, insertion of grommets, or a combination of all of these. This is common for children needing Ear, Nose and Throat operations.

On the day of the operating list, the attending surgeon was called away to attend an emergency. Rather than cancel the surgery for his patients, he phoned his senior Registrar and asked her to take over. She agreed, but as her own clinic was very busy, she was late in getting to the operating theatre. The Registrar quickly saw and obtained consent for the eight children and then prepared for surgery.

After the second operation, a ward nurse phoned the theatre, to advise that the third child on the list who was to have her tonsils removed had inadvertently eaten a biscuit. This meant she had not fasted for surgery and had to be cancelled. The operating theatre nurse took the phone call, and told the anaesthetist that the third patient had been cancelled.

Emma was next on the list so the ward sent her down to theatre. She was anaesthetised quickly and transferred to the operating table. The scrub nurse opened the next instrument set and handed the surgeon a tonsil gag instrument from the tray. The surgeon then removed Emma's tonsils. After the operation, in the recovery area, a nurse checked Emma's identification wristband and medical notes. The nurse immediately realised that the surgeon had mistakenly removed Emma's tonsils instead of inserting ear grommets. Neither the surgeon, nor the scrub nurse had been informed about the change in patients on the list after the third child was cancelled.

* Please note this is NOT a case from Western Australia. It is adapted from a true story as told on the National Patient Safety (UK) website (http://www.saferhealthcare.org.uk). However, analysis of WA cases show similar contributing factors.

The factors that appeared to contribute to these events are listed (in descending order of frequency):

- policy, procedure and guidelines issues;
- communication problems;
- human resources; and
- equipment.

Hospitals and health services have recommended a number of strategies to prevent this type of incident from occurring in the future. They include:

- development of staffing standards for the operating room;
- development of standardised markers for surgery;
- development of clear processes and guidelines for amending surgery lists;
- introduction of an audit trail to match the pathology results with the pathology request;
- where possible, electronic transmission of pathology results;
- development of policies and guidelines to clarify the role of all parties involved in the treatment of patients;
- collation and retention of peri-operative diagnostic imaging to identify surgical site; and
- introduction of measures to reduce environmental stress levels.

5.2 Suicide of a patient in an inpatient unit

This category captures suicide that has occurred while the patient is being cared for in a hospital or health service. There were four inpatient suicides reported during the 2005/2006 financial year. This represents an increase from the previous year (one event reported during the 2004/2005 financial year). Following thorough investigation of these events, the following contributing factors were identified:

- policy, procedure or guidelines issues;
- issues concerning the physical environment;
- human resources; and
- issues regarding health information.

*Case example: Inpatient Suicide**

Brenton, a 20 year-old male, was brought to the emergency department by his parents as he was talking about committing suicide and had developed a plan. He was examined by a psychiatrist and deemed to be at high risk of self-harm. He was admitted into the psychiatric ward as an involuntary patient and assigned a room close to the nurse's station. He was placed on 15-minute observations.

Thirty-six hours later, Brenton was examined again by the psychiatrist, and deemed to be of lesser risk than when admitted. He was placed on one-hourly observations. With the reduction of risk, he was moved further away from the nurses station and it was considered appropriate to allow him to use items of clothing which had previously been restricted, such as his shoe laces and belt.

A nurse checked on Brenton one hour later, and found that he had fashioned a noose from his shoelaces, and was hanging by the neck from the curtain rail. Resuscitation attempts were unsuccessful.

*Please note this is NOT a case from Western Australia. This is a composite incident.

Hospitals and health services that have investigated inpatient suicides have produced a number of strategies that have been used to improve the safety of mental health patients. Some of these changes include:

- review of existing policies and procedures to ensure that they reflect the current best practice;
- staff education on mental health issues;
- environmental audit of selected rooms and the provision of 'safe rooms' for depressed elderly patients;
- development of a protocol relating to admission and ongoing monitoring of mental health patients;
- development of an audit tool to assess the completeness of documentation for all mental health patients;
- review of current mental health inpatient support services;
- notifying a consultant psychiatrist when mental health patients are admitted; and
- review of the weight-bearing capacity of potential hanging points.

Other strategies that have been implemented to reduce the risk of inpatient suicide include:

- improvement of communication between staff, both verbal and written;
- clear designation of the roles of staff;
- clear documentation of suicide risk in the medical record;

- inclusion of mental health staff into the emergency room, and training of emergency staff in mental health issues; and
- enhanced risk-assessment for mental health patients for self harm when admitted into a hospital.

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

This category captures those events in which surgical instruments or other material, such as gauze swabs or packs, are inadvertently left inside the patient when the surgical incision is closed.

There was only one event involving retained foreign matter that was reported during the 2005/2006 financial year. This is a significant reduction in events of this type compared to the previous 2004/2005 financial year (six events were reported in 2004/2005). The reduction in the number of events of this type can be attributed to the education and training of operative theatre staff in safety strategies, and an increased education and awareness about best practice in operating theatres.

Incidents involving retained swabs and packs usually occur during major surgery, or where the surgery is prolonged, complex, technically difficult or associated with a lot of bleeding. In these circumstances, it is particularly important that protocols and procedures relating to staff change over, swab count and checking procedures occur. Team time-outs, especially when teams are working together for the first time, are particularly useful.

*Case example: Retained Swab**

Henry underwent an aortic aneurysm repair. After surgery, he developed a fever. Doctors thought that this was most likely ventilator-associated pneumonia. However, the fever persisted and no definite source was identified. He received multiple courses of broad-spectrum antibiotics over the 2 months that he remained in hospital.

Several months after discharge, he presented at a different hospital with recurrent fever, neurologic deficits and renal failure. Following echocardiography and blood tests, he was diagnosed as having endocarditis with Candida albicans. Henry was prescribed antifungal medication. He died a few weeks later.

An autopsy revealed that there was a surgical sponge in his abdomen wrapped around the surgical aortic repair. An abdominal computed tomographic (CT) scan during the previous hospitalisation had shown a metallic clip in the area of the graft, but no other abnormalities. The patient had not had any other operations. Henry died from internal infection cause by foreign material retained inside the operating wound.

* Please note this is NOT a case from Western Australia. It has been adapted from a true story as reported on the Agency for Health Care Research and Quality. Available online at: http://www.webmm.ahrq.gov

The investigation for this event revealed the following contributing factors:

- communication problems;
- policy, procedure or guidelines issues; and
- equipment.

Many new strategies have been implemented in reporting organisations to further reduce the risk of instruments or other material being inadvertently left inside the patient when the surgical incision is closed. Examples of these recommended interventions include:

- compliance with final swab count protocols reinforced in the operating theatre;
- review of the count policies that are in place to prevent this type of event from occurring;
- improvements to the communication patterns in the operating theatre; and
- improved access to intra-operative x-ray facilities.

5.4 Medication error resulting in death

This category includes events in which the death of a patient is reasonably believed to be due to the incorrect administration of drugs. This can include the wrong drug being given, the wrong dosage, wrong route and/or insufficient surveillance (e.g. blood tests, clinical observation). There was only one medication error resulting in death reported during the 2005/2006 financial year. A reduction in the number of events of this type has been observed compared to the 2004/2005 financial year (two events were reported in 2004/2005). However, due to the very small number of events, these results need to be interpreted with caution.

The following factors were identified as contributing to this event:

- policy, procedure or guidelines issues;
- issues with health information;
- human resource issues; and
- other factors.

*Case example: Drug Allergy**

Mary, a 30 year-old council worker, was admitted to hospital with a severe cellulitis following an insect bite. She informed staff that she was allergic to penicillin. The junior doctor noted the allergy on the patient's record but then prescribed intravenous 'Timentin' in the false knowledge that it did not contain penicillin. The ward was very busy and short staffed; the antibiotic infusion was set up by a single nurse, who was also new to the ward, and unfamiliar with usual policies and procedures.

The patient also told the nurse who set up the intravenous infusion that she had informed the doctor that she was allergic to penicillin, and was reassured by the nurse that the doctor had noted this on her record and therefore would not have prescribed penicillin.

The intravenous infusion was commenced, and Mary experienced an immediate and severe allergic reaction and had to be admitted to the intensive care unit. After several days intensive treatment she was discharged from the intensive care unit, but had sustained severe brain damage.

* Please note this is not a WA case. It has been adapted from many case studies, however many of the contributing factors in this case example are seen in medication-related sentinel events.

A number of strategies have been developed and implemented to reduce the risk of events of this type occurring again. They include:

- staff education regarding the timing of entries in the medical record and intravenous infusion doses;
- changes to procedures when transferring high risk patients from the intensive care unit to the ward;
- improvements to respiratory monitoring, the assessment of sedation and respiratory rates, and pain scores; and
- the development of policies and guidelines to ensure drug orders are double-checked.

The National Inpatient Medication Chart

In order to reduce the risk of events associated with medication error occurring in future years, a *National Inpatient Medication Chart* was introduced to all Western Australian public hospitals in July 2006. This chart is being implemented across Australia, and will be completed by the end of 2006. This means that the same chart will be used wherever a doctor or nurse works, and wherever a patient is admitted to a public hospital. It is anticipated that improvements will be achieved through standardising processes of communication, optimising workflow patterns and introducing standard functions to improve the safe, effective and efficient use of medicines.

5.5 Maternal death or serious morbidity associated with labour or delivery

This category captures those events in which there was death or serious disability associated with labour or delivery, in a low-risk pregnancy, while the woman was being cared for in a health service. It includes events that occur within 42 days post-delivery, and excludes deaths from pulmonary or amniotic fluid embolism, acute fatty liver of pregnancy or cardiomyopathy.

There was one incident involving a maternal death reported during the 2005/2006 financial year. An investigation into this event has revealed the following contributing factors:

- communication problems;
- equipment malfunctions; and
- other factors.

A number of strategies have been recommended to prevent reoccurrence of this type of event. They include:

- review of staff competencies regarding emergency response processes;
- education regarding emergency responses provided during orientation;
- audit of perishable items used in the treatment of patient; and
- education for new staff about the importance of confirming a diagnosis with an expert with outside expertise as well as the area of specialty.

5.6 Other adverse event resulting in serious patient harm or death

Due to the wide range of events captured in the 'other adverse event resulting in serious patient harm or death' category, it has been necessary to further classify these events into subcategories. These subcategories are listed below:

1. Complication of anaesthetic management.
2. Complication of emergency/resuscitation management.
3. Complication of surgery (including post operative death).
4. Fetal complication of delivery (including neonatal death).
5. Fall resulting in patient death.
6. Mental health incidents.
7. Hospital process issues.
8. Medication error resulting in serious consequence (not death).
9. Patient absconding with adverse outcome.
10. Other.

Reported events for each of these subcategories in 2005/2006 are described in Table 3.

Factors contributing to these incidents typically include issues with policy, procedure or guidelines, communication and health information. Table 5 shows the types of factors contributing to each of the subcategories.

Table 5: Contributing factors identified for 'Other adverse event resulting in serious patient harm or death'

	Physical environment	Policy/ procedure/ guidelines	Health information	Communication problems	Transport issues	Other	Human resources	Equipment problems
Hospital process issues		✔		✔	✔			
Medication error resulting in serious consequence (not death)			✔				✔	
Other sentinel events		✔		✔		✔	✔	✔
Fall resulting in patient death			✔					✔
Mental health	✔	✔	✔	✔			✔	
Fetal complication of delivery (including neonatal death)		✔		✔				✔
Complication of surgery (including post operative death)		✔	✔	✔			✔	
Complication of emergency/ resuscitation management		✔	✔					

Strategies developed to address these factors for each subcategory (where one or more sentinel event was reported for 2005/2006) are described in detail below. These include:

- revision of existing policies and procedures;
- development and introduction of new policies and procedures (e.g. obtaining consent for transfer, obstetric medical emergency response; Group B streptococcus screening for pregnant women; use of infusion pumps);
- development and introduction of clinical pathways (e.g. follow up of discharged patients);
- development and introduction of checklists (e.g. patient transfer; emergency checklists);
- development and introduction of new systems (e.g. ongoing monitoring of staff competency; ensuring relevant staff have access to relevant patient information; ensuring patients are reviewed by relevant in-house registrars in a timely manner);
- review of hospital processes (e.g. blood transportation);
- Improving communication between staff (e.g. introduction of formal staff handovers);

- development of staff training and education programs (e.g. recognising critical patient conditions, managing aggressive patients);
- development of patient education (e.g. use of call bells);
- modification of the physical environment; and
- removal of faulty equipment and modification of existing equipment to ensure it is ‘tamper proof’.

6. Sustaining the momentum…

The Sentinel Event Program enables us to detect actual and potential risks within the Western Australian health care system. Interventions and improvements are put into place and acted upon to reduce the risk of events of a similar nature from occurring again in the future. The strategies that have already been implemented to address sentinel events are numerous and wide-ranging, and have resulted in a reduction in the number of events in most core categories in 2005-2006.

Significant progress in the safety and quality of health care has already been made, but there is still a long road ahead. Continuing developments in medical technology and evolving methods in the delivery of health care constantly bring new challenges to patient safety. Additional strategies to reduce the risk of sentinel events are currently being implemented in all hospitals and health services. It is in this way that best practice is continually being reviewed and updated so that patients can be confident that they are receiving the very best medical treatment.

Sharing lessons learned is an important strategy to reduce the likelihood of sentinel events. This learning is facilitated at a departmental level, either through alerts and notifications in departmental publications, or by providing forums for health service staff to share their lessons with others. Information about new initiatives, actions, risk factors and trends is regularly shared among the Western Australian health services. Lessons that have been learned and interventions that have been implemented at various health service areas are communicated via the quarterly newsletter *Sharing News in Patient Safety* (SNIPtS).

Information about sentinel events is also disseminated through the quarterly newsletter for sentinel events. A system is in place to enable Statewide *Action Alerts* to be issued, as required, to all hospitals following significant events that require immediate action. *Safer Practice Notices* keep health care professionals informed about new developments in health care safety and quality. Reports on statewide clinical incident data are also distributed to the health services in the form of quarterly and annual reports and special focus reports.

Health service personnel are actively encouraged to analyse and monitor the clinical incidents that occur in their hospitals, and to implement strategies and solutions, and share this information with other hospitals. The Department of Health continues to support hospitals in this process, and helps them to improve the safety and quality of health care through the following activities:

- further training in the Root Cause Analysis methodology;
- notification of system wide issues that require urgent attention;
- provision of information about trends in clinical incident reporting;
- dissemination of knowledge essential to improving patient safety and quality; and
- participation in the national Open Disclosure scheme.

By taking an active role in their health care, and being part of the ‘team’, patients and consumers can also help make sure they get the best possible care for their needs. To encourage people to become more actively involved in their health care, the Australian Council for Safety and Quality in Health Care published the *Ten Tips for Safer Health Care* booklet. Copies of the booklet have been distributed to every Western Australian hospital and health service. It explains how and why things can go wrong, and how a person can work in partnership with their health care professionals to get the best possible care.

Ten Tips for safer health care	
1.	Be actively involved in your own health care.
2.	Speak up if you have any questions or concerns.
3.	Learn more about your condition or treatments by asking your doctor or nurse and by using other reliable sources of information.
4.	Keep a list of all the medicines you are taking.
5.	Make sure you understand the medicines you are taking.
6.	Make sure you get the results of any tests or procedure.
7.	Talk to your doctor or other health care professional about your options if you need to go into hospital.
8.	Make sure you understand what will happen if you need surgery or a procedure.
9.	Make sure you, your doctor and your surgeon all agree on exactly what will be done during the operation.
10.	Before you leave hospital, ask your doctor or other health care professional, to explain the treatment plan you will use at home.

In 2006/2007, the Patient First program will be implemented across the WA health system. Developed in conjunction with the WA Council for Safety and Quality and the Health Consumer's Council, this program helps patients to take an active role in preventing health care errors by ensuring that they are informed and involved in the delivery of their own health care and treatments. Key issues covered by Patient First include educating patients about informed consent, the risks involved in the procedure/treatment, and the rights and responsibilities of patients. Patients are encouraged to involve themselves in the decision-making process regarding their own health care. Patients are also informed about things that can go wrong in hospitals (such as falling over, hospital acquired infection, and pressure ulcers). It is anticipated that patients who are well informed and involved in their own health care will be better equipped to question health care staff or speak up about potential errors in the delivery of their health care before mistakes are made.

7. Contact information

For more information, consumers can contact their local hospital patient liaison officers or complaint co-ordinators.

Consumers may also wish to contact the following agencies:

Health Consumers Council of Western Australia
http://www.hcc-wa.global.net.au
Telephone: (08) 9221 3422
Freecall: 1800 620 780
Email: info@hconc.org.au

Office of Health Review
http://www.healthreview.wa.gov.au
Telephone: (08) 9323 0600
Freecall: 1800 813 583

Department of Health (WA) - Office of Safety and Quality in Health Care
http://www.health.wa.gov.au/safetyandquality/
Telephone: (08) 9222 4080
Email: safetyandquality@health.wa.gov.au

Department of Health

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