Foreword

Here in Western Australia we are fortunate to enjoy world-class health care. Our dedicated health workforce is committed to providing high quality and safe care to patients.

In recent times the delivery of health care has become more complex. Hospital admissions are for shorter periods and patient care often involves the input of many people as well as the use of high technology equipment. It is not surprising that because we are human, sometimes things go wrong. In most cases when mistakes happen the patient is unharmed. In some cases, however, the outcome can be serious.

When patients are harmed by the care that is designed to help them, it is not only devastating for the patient and their family but also for the health care professionals involved.

The Department of Health (WA) is actively working to make health care safer. Our philosophy is that all of us who work in health care must take responsibility for our own behaviour as well as the actions of individuals and teams who work with us. Clinical governance is a recently developed concept which brings together all the activities that demonstrate to our patients, the community, government and our peers that we hold ourselves responsible for providing safe, high quality health care.

A key component of clinical governance in Western Australia is the clinical risk management system. This statewide system includes health care incident reporting, monitoring and investigation so that we can learn from our mistakes and develop preventive plans to protect patients from similar events.
When things go wrong, our health care professionals are encouraged to maintain open and honest communication with the patient. We provide information about what happened, why it happened and what we plan to do about it. The Department of Health (WA) has also circulated a guide, *Ten Tips for Safer Health Care*, to encourage patients and their families, carers and friends to be involved in making health care safer.

This inaugural report on how we are improving patient care in Western Australia provides a summary of serious health care incidents, known as sentinel events, which were reported and investigated from October 2003 to June 2005. The data provides us with a picture of what types of sentinel events are happening, how often, why, and most importantly how to stop them from happening again. The report also outlines a number of preventive steps that have already been introduced in our hospitals to make sure we deliver safe, high quality health care.

It is important that we report on our progress and be open with the community about how we are making the Western Australian health system even better. I am delighted to present the first Annual report on sentinel events.

Dr Neale Fong  
Director General & Executive Chairman  
Health Reform Implementation Taskforce  
November 2005
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Executive Summary

Sentinel events happen in all health systems around the world. They are rare, preventable events that lead to or can lead to serious patient outcomes. Across Western Australia, all public and private licensed hospitals are required to report the following sentinel events to the Chief Medical Officer:

1. Procedures involving the wrong patient or body part;
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; and
9. Other adverse event resulting in serious patient harm or death.

In accordance with Department of Health policy, facilities that report a sentinel event must undertake an immediate and thorough investigation to examine the circumstances and identify factors that contributed to the event. Following the investigation, recommendations are made for strategies that the reporting site can put in place to reduce the risk of similar events from occurring in the future. It is important that these strategies are monitored on a regular basis to ensure their effectiveness in improving patient safety.

This report focuses on the sentinel events reported and investigated from the implementation of the program on 1 October 2003 to 30 June 2005. A total of 70 sentinel events have been reported to the Chief Medical Officer. However, two of these events were considered unpreventable leaving 68 events eligible for inclusion in the sentinel event program. De-identified information submitted to the Chief Medical Officer was analysed to identify trends and issues that may require intervention at other health services across the state that may be vulnerable to similar incidents occurring.

The analysis showed that 44 of the 68 events were reported in the ‘other adverse events’ category. Eleven events of the 68 events involved a procedure involving the wrong patient or body part and seven events involved a retained instrument or other material (such as swabs or sponges) after surgery requiring re-operation or a further surgical procedure. Events reported in the ‘other adverse events’ category typically included complications of emergency/resuscitation management, complications of surgery and hospital process issues.

An overall review of the investigation findings demonstrated that issues with policies, procedures and guidelines (for example, absence of policies, procedures and guidelines regarding clinical management) was the most common type of contributing factor to sentinel events. Other common contributing factors included human resource issues, health information issues and communication problems.

Analysis of the aggregated sentinel event data suggests that steps to prevent surgery on the wrong patient or wrong body part as well as retained instruments or material following surgery may help to reduce the number of reported sentinel events in the future. The Department of Health (WA) has alerted public and private licensed facilities to the potential risks that contribute to these events and have encouraged them to put in place preventive steps to stop these events from occurring in the future.
2. Background to Patient Safety in Western Australian hospitals

In recent times the delivery of health care has become more complex. Patients are often cared for by a multidisciplinary team using high technology equipment and multiple medications. While most health care is delivered safely and appropriately, sometimes things go wrong. It has been reported in the medical literature that approximately one in every ten hospital admissions all over the world is associated with a health care incident, some of which result in permanent disability or death. About half of all incidents are preventable.

While human error is inevitable, very few health care incidents can be attributed to individual recklessness, professional misconduct, or a criminal act. It is widely acknowledged that health care incidents generally result from a breakdown in the complex systems and processes involved in the delivery of health care. In order to prevent health care incidents and reduce the harm associated with incidents, it is necessary to examine and redesign current systems to focus on the safety of patients. Our health care professionals need to work in systems that are designed to catch and mitigate human error.

Underpinning the movement to improve patient care is the philosophy that all of us who work in health care must take responsibility for our own behaviour, and the actions of individuals and teams who work with us. Clinical governance is a recently developed concept that brings together all the activities that demonstrate to our patients, the community, government and our peers that we hold ourselves responsible for providing safe, high quality health care.

The Department of Health (WA) is actively working to improve the safety of patients and is taking the necessary and appropriate measures to reduce risks. Across Western Australia, many components of clinical governance are already in place and clinicians and managers in our hospitals and health services are leading the world in their use of clinical information to help them improve the care they provide.

Significant progress has been made, but continuing developments in medical technology and the delivery of health care bring new challenges to patient safety. Our hospitals and health services are, therefore, committed to continually reviewing and updating practice in the light of tested and evaluated evidence so patients can be confident they are getting modern, effective and safe treatment.

3. Health care incident reporting, investigation and monitoring

A health care incident is defined as an event or circumstance resulting from health care that could have, or did, lead to unintended and/or unnecessary harm to a person, and/or a complaint, loss or damage. In order to improve the safety and quality of health care provided in Western Australia, the Department of Health (WA) implemented a comprehensive, statewide clinical risk management program that incorporates:

- incident reporting;
- incident investigation; and
- incident monitoring.

Our goal is a health care environment that is as free as possible from health care incidents. The first step to improving patient safety is to learn about the problem by collecting incident data, in particular, information about the types and frequency of incidents that are occurring. Analysis of the data, through incident investigation and monitoring, can help hospitals and health services to find ways of making patient care safer.
3.1 Incident Reporting
Incident reporting focuses on the collection of health care incident data, in particular information about the types and frequency of incidents that are occurring. In order to facilitate incident reporting the Department of Health (WA) has put in place a comprehensive, statewide incident reporting program. Incidents that are reported to the program are investigated and managed so that strategies can be put in place to prevent similar incidents from occurring in the future. The program does not capture those health care incidents in which there was professional misconduct or criminal activity as these incidents are dealt with via separate management processes.

3.2 Sentinel Events
Sentinel events are rare preventable events that lead to or can lead to serious patient outcomes. In October 2003 the Department of Health (WA) introduced the Sentinel Event program, which requires all public and private licensed hospitals to report sentinel events to the Chief Medical Officer within seven working days of the incident occurring.

In 2004, Australian Health Ministers endorsed a set of eight core sentinel event categories that are reportable nationally. Western Australia has endorsed these eight categories plus an additional category of ‘other’ adverse event so that any other rare preventable event leading to unintended serious patient harm or death can be captured and learned from. To date, Victoria and NSW are the only Australian jurisdictions to have published data on the core set of national reportable sentinel events.

Hospitals and health services in Western Australia are required to report the following sentinel events:
1. Procedures involving the wrong patient or body part;
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; and
9. Other adverse event resulting in serious patient harm or death.

As part of sentinel event management, reporting sites must assemble a multidisciplinary team to investigate sentinel events to examine the circumstances of the event and to identify factors that contributed to it. The investigation team must then develop strategies that the reporting site can put in place to reduce the risk of similar events from occurring in the future. It is important that these strategies are monitored on a regular basis to ensure their effectiveness in improving patient safety.

In Western Australia, the preferred approach to health care incident investigation is Root Cause Analysis, which is based on the method developed by the Veteran’s Health Administration in the United States. This standard investigation approach is now used in most Western Australian hospitals (public and private) to investigate sentinel events.
To support the investigation process, the Department of Health’s (WA) Office of Safety and Quality in Health Care offers training and support in the Root Cause Analysis investigation method. Since August 2003, over 500 health care staff across the state have been trained in the Root Cause Analysis methodology. Further training is planned for 2005/06. A dedicated team of clinical and non-clinical staff is also available to assist sites with investigations.

Given the clinical complexity of many sentinel events, a high level confidential Sentinel Event Review Group has been established to assess and comment on the de-identified investigation findings of events reported to the Chief Medical Officer. Where the group believes that the investigation of a particular event has identified system improvements that are required in similar institutions, a Statewide Patient Safety Alert may be released. The review group meets on a quarterly basis and consists of senior clinicians including the Chief Medical Officer, the Chief Psychiatrist, the Chief Nurse of the Department of Health and clinicians from teaching hospitals.

4. Sentinel Event Program

Between 1 October 2003, when the sentinel event program was implemented, and 30 June 2005, 70 sentinel events have been reported to the Chief Medical Officer. Of these events, two were considered unpreventable leaving 68 events to be eligible for inclusion in the program. This report focuses on the sentinel events reported for the 2003/04 and 2004/05 financial years (NB: the 2003/04 financial year comprises nine months of data only, ie. from implementation of the program in October 2003 to 30 June 2004).

During 2003/04, 23 events were reported but only four of these fell into the core set of national reportable sentinel events (Table 1). During 2004/05, 45 events were reported of which 20 fell into the core set of events.

Table 1: Reported sentinel events for WA public and private hospitals, 1 October 2003 to 30 June 2005

<table>
<thead>
<tr>
<th>Event category</th>
<th>2003/04*</th>
<th>2004/05</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Procedure involving wrong patient or wrong body part</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2. Suicide of a patient in an inpatient unit</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3. Retained instruments or other material after surgery requiring re-operation or further surgical procedure</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>4. Medication error resulting in death of a patient</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>5. Intravascular gas embolism resulting in death or neurological damage</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. Haemolytic blood transfusion reaction resulting from ABO incompatibility</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7. Maternal death or serious morbidity associated with labour or delivery</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8. Infant discharged to wrong family</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9. Other</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23</strong></td>
<td><strong>45</strong></td>
</tr>
</tbody>
</table>

*NB: 2003/04 data comprises nine months only - 1 October 2003 to 30 June 2004.
The majority of sentinel events reported in Western Australia during both financial years were classified as ‘other adverse event resulting in serious patient harm or patient death’. Table 2 provides a detailed analysis of the events reported to the ‘other’ category.

Table 2: Detailed analysis of the ‘other’ category of sentinel events for WA public and private hospitals, 1 October 2003 to 30 June 2005

<table>
<thead>
<tr>
<th>Event category</th>
<th>2003/04*</th>
<th>2004/05</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complication of anaesthetic management</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Complication of emergency/resuscitation management</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Complication of surgery (including post operative death)</td>
<td>8</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Foetal complication of delivery(including neonatal death)</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Hospital process issue (ie. failure to access timely and appropriate care, poor planning of discharge)</td>
<td>3</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Medication error with serious consequence (not death)</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Patient absconding with adverse outcome</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>25</td>
<td>44</td>
</tr>
</tbody>
</table>

5. Contributing system factors

At the time of publication, investigation findings from 64 reported sentinel events had been received. The investigation teams for the remaining four sentinel events have been granted extensions due to special circumstances. An overall review of these findings identified a broad range of system factors that contributed to the events. These contributing factors have been categorised according to the classification system developed by the Department of Human Services, Victoria. The ten categories are:

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 medical record, communication of information between 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); and,

11. Other factors (patient comorbidities).

A full description of these contributing factors can be found at Appendix One.

Issues 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) was the most common type of contributing factor of sentinel events (Figure 1). Other common contributing factors to sentinel events reported during both 2003/04 and 2004/05 included:

- Human resource issues which typically included limited staff, inadequacies in staff training, lack of staff supervision;
- Health information issues including failure to document patient information in the medical record; and
- Communication problems which generally involved lack of communication between junior and senior medical staff and miscommunication/lack of communication between medical and nursing staff.

Figure 1: Contributing factors of sentinel events, for WA public and private hospitals, 1 October 2003 to 30 June 2005 (n=64)

NB: Total may exceed 100% as one sentinel event can have more than one contributing factor.
A breakdown of contributing system factors by event type follows.

5.1 Procedure involving the wrong patient or body part
This category captures events in which a procedure (including surgery) was performed on the wrong patient or wrong body part. Wrong body part also includes those events in which a procedure or surgery was performed on the wrong side of the body.

One event was recorded in this category for 2003/04 and 10 events were recorded for 2004/05. The most common type of event was a procedure of surgery being performed on the wrong body part (n=8).

Investigation findings were available for 10 sentinel events. Analysis of the findings revealed a range of contributing factors:

- communication deficiencies between staff and patient and between staff members;
- lack of health information;
- human resources (inexperienced staff in positions at a level greater than their experience);
- policy, procedure or guidelines (lack of compliance, absence of relevant policy, procedure or guidelines, inadequate patient/site identification process); and
- other (noisy environment, patient factors).

The reporting organisations have put in place a number of strategies to prevent this type of incident from occurring in the future. They include:

- development and implementation of standardised policies and protocols regarding the identification of patients (eg. confirming patient identity prior to procedure or surgery, confirming identification of correct site prior to procedure or surgery); and
- limiting the number of visitors to the Operating Theatre to a reasonable level.

In recognition that these events are preventable, the Australian Council for Safety and Quality in Health Care has recently developed a five step Ensuring Correct Patient, Correct Site, Correct Procedure protocol.

- Step 1: Checking the consent form or procedure request form is correct;
- Step 2: Marking the site for the surgery or other invasive procedure;
- Step 3: Confirming identification with the patient;
- Step 4: Taking a ‘team time out’ in the operating theatre, treatment or examination area; and
- Step 5: Ensuring appropriate and available diagnostic images.

The WA Office of Safety and Quality in Health Care has collaborated with the Royal Australian College of Surgeons to develop a statewide protocol based on the Australian Council’s Five Step Protocol. This has been disseminated to all hospitals and health services via Department of Health policy.

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. Two events were recorded in this category with one occurring in each financial year.
System factors that appeared to contribute to these events included:

- communication (lack of communication between medical and nursing staff);
- other (patient factors);
- physical environment (patient access to hanging points); and
- policies, procedures and guidelines.

A number of strategies, including changes to the physical environment to reduce access to hanging points, have been put in place to address the system vulnerabilities. All WA health services have been made aware of these strategies.

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 packs are inadvertently left inside the patient when the surgical incision is closed.

A total of seven events were recorded in this category. One event was reported in 2003-04 and six were reported in 2004-05. Investigation findings were available for all seven events. The majority of events involved retained materials, in particular sponges, swabs and packs.

Investigation findings for these events reveal a range of contributing factors, including:

- communication (sub-optimal communication between theatre staff);
- equipment (non standardised and insufficient equipment);
- health information (insufficient information in medical record regarding count);
- human resources (absence of staff competencies regarding surgical counts, relevant personnel not present at all times);
- policy, procedure and guidelines (lack of compliance and absence of guidelines regarding count discrepancies); and
- other factors (ie. time pressures, operation more complex than expected).

As a result of the investigation findings, reporting organisations have introduced strategies to reduce the risk of instruments or other material being inadvertently left inside the patient when the surgical incision is closed. Examples include:

- development of a surgical count skill competency;
- development of guidelines regarding action following the event of a count discrepancy;
- introduction of mandatory running counts for procedures in excess of two hours;
- a review of theatre scheduling to relieve time pressures; and
- consideration of options for increasing equipment availability.

The WA Office of Safety and Quality has alerted WA health services to the risk factors associated with retained instruments and materials following surgery and advised them of strategies which can be used to prevent this type of event from occurring in the future.
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, wrong dosage, wrong route and insufficient surveillance (eg. blood tests, clinical observation). Two events were reported in this category and the investigations revealed the following contributing factors:

- communication (insufficient communication between staff caring for patient);
- health information (lack of documentation in medical record);
- human resources (staff training inadequacies);
- policies, procedures and guidelines (deficient guidelines regarding prescription writing and lack of availability of guidelines regarding particular groups of drugs); and
- physical environment (lack of lighting, cluttered workspace, ambiguous signage).

A number of strategies have been developed and implemented as a result of these events. They include:

- revision and amendment of guidelines regarding prescription writing (eg. time of administration must be recorded);
- ensuring adequate night lighting available;
- provision of an uncluttered work environment; and
- staff education regarding medication administration.

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.

Two events were reported in this category, with one event occurring in each financial year. Analysis of the findings reveals the following contributing factors:

- health information (lack of documentation in medical record);
- human resources (medical and nursing training inadequacies, lack of system to monitor training adequacy over time, absence of program to identify what training is needed); and
- policies, procedures and guidelines (absence of guidelines regarding behavioural assessment and clinical management).
Strategies that have been introduced include:

- staff education programs that include mock obstetric emergencies and identification of postnatal distress; and
- a review of maternal documentation to ensure timely visualisation of trends in maternal vital signs.

5.6 Other adverse event resulting in serious patient harm or death

5.6.1 Complication of anaesthetic management
The administration of anaesthetic agents carries some degree of risk. This sub-category includes all those events in which the patient suffered problems or complications following administration of an anaesthetic. Only one event of this type was reported. Analysis of the investigation findings showed that lack of health information was a contributing factor. The reporting organisation has implemented guidelines regarding the patient observation process and how this information should be documented in the patient’s medical record.

5.6.2 Complication of emergency / resuscitation management
This sub-category captures those events in which staff experienced problems in managing an emergency situation (for example, a heart attack or hemorrhaging) or resuscitating the patient. Seven events were reported in this category, with four occurring in 2003/04 and three occurring in 2004/05.

Common underlying system factors included:

- communication (absence of clear team communication processes);
- equipment (failure and lack of maintenance);
- health information (fragmented documentation);
- human resources (absence of system to monitor staff competency in resuscitation);
- physical environment (reduced visibility of emergency button); and
- policies, procedures and guidelines (absence of emergency response policies, procedures and guidelines).

Strategies developed and put in place by reporting organisations included:

- development of a program to enhance communication and teamwork in emergency situations;
- development of standards for emergency response including team leadership, team processes and skill maintenance;
- staff education and training to ensure competence in neonatal, paediatric and adult resuscitation;
- development of standards for emergency equipment checking including defibrillator and resuscitation equipment and room set up;
- development of standards for procurement and implementation for emergency equipment;
- using green tubing for oxygen and red tubing for air;
removing air flow meters from wall when not in use; and
placing clear perspex around emergency buttons.

5.6.3 Complication of surgery (including post operative death)
All surgery (including procedures) carries some degree of risk. Events in this sub-category include any complications during or immediately after surgery that are poorly managed resulting in serious morbidity (disease) or death. Examples include perforation of internal organ(s) resulting in septicaemia (blood poisoning) and failure to diagnose and treat pulmonary embolus (blockage of an artery in the lungs by fat, air or a blood clot).

Sixteen events of this type have been reported to the sentinel event program, with eight occurring in each financial year. At the time of publication investigation findings were available for thirteen of these events. Underlying system factors included:

- communication (lack of communication between staff and between staff and patient and family members);
- equipment (preferred instruments not available);
- health information (lack of documentation in medical record);
- human resources (staff allocation, staff training, staff supervision);
- policies, procedures, guidelines (deficient policies regarding patient observation process, absence of clinical management guidelines); and
- other (patient factors).

Strategies introduced to remedy these system vulnerabilities included:

- development of policies to address medical training inadequacies in clinical procedures and supervision requirements for junior staff;
- development of a process to ensure relevant health information is communicated to all relevant staff (within and external to the hospital) caring for the patient in a timely manner;
- development of policies, procedures and guidelines regarding pre-operative assessment of patients (including risk assessment for surgical thromboemboli and prophylactic interventions), clinical management (e.g. chest drain insertion) and co-ordination of care; and
- improvement of documentation in the patient’s medical record.

5.6.4 Foetal complication of delivery (including neonatal death)
It is widely acknowledged that complications during labour and delivery can occur. Sentinel events that fall into this sub-category however include those events in which complications were not anticipated, and were not managed in a timely or appropriate manner placing the baby at risk of injury or death. Five events in this sub-category were reported, with two occurring in 2003/04 and three reported in 2004/05.

System factors contributing to these incidents included:

- lack of communication (between staff, between staff and patient and family members);
- health information (sub-optimal communication of health information between the health service and external service providers, lack of documentation in the medical record);
human resources (staff training inadequacies, absence of system to monitor staff competency, lack of staff supervision);

- policies, procedures and guidelines (inadequate policy regarding patient observation and clinical management); and

- other (patient factors, complicated delivery).

Strategies introduced as a result of incident investigations included:

- staff education and training to ensure maintenance of competency in cardiotocograph (CTG) interpretation, care of the sick neonate including intensive care management, neonate resuscitation and neonate preparation before long distance transfer;

- development of policies, procedures and guidelines regarding physical assessment of patients, patient observation process, co-ordination of care and clinical management (eg. clinical management of foetal distress, management of patients with a previous history of complicated delivery with neonatal compromise);

- development of a system to ensure complete documentation of physical assessment and patient observation in the patient’s medical record;

- development of a process to improve communication of patient health information between the hospital and external health service providers; and,

- introduction of a patient hand held maternity record system.

5.6.5 Hospital process issues

This sub-category captured those events in which hospital processes such as triaging, initial assessment and commencement of treatment contributed to serious patient morbidity or death. Three events of this type were reported in 2003/04 and eight events were reported in 2004/05. Analysis of investigation findings identified a range of system factors that contributed to these incidents:

- communication (between staff, between staff and external service providers, between staff and patient and family members);

- equipment (faulty equipment, equipment design not enabling staff to detect life threatening problems);

- health information (lack of and/or incorrect documentation in medical record, staff difficulty in accessing patient results after hours);

- human resources (staff shortage, inexperienced staff in positions at a level greater than their experience, inadequate staff supervision);

- interhospital issues (lack of communication of health information between service providers);

- policies, procedures and guidelines (lack of or inadequate policies regarding patient observation process and co-ordination of care, lack of or inadequate clinical management guidelines);
- physical environment (lack of appropriate holding area for psychiatric patients); and,
- transportation (inadequate referral processes, co-ordination of retrieval services between health services)

Strategies have been implemented to address these system vulnerabilities. They include:

- development of policies, procedures and guidelines regarding physical and behavioural assessment of patients, patient consent, patient observation process, co-ordination of care and clinical management (eg. clinical pathway for patients presenting to the Emergency Department, clinical pathway for management of upper gastrointestinal malignancy);
- development of a process to ensure appropriate referral of transfer patients;
- staff education regarding clinical documentation requirements;
- review of equipment; and
- communication with manufacturers of equipment advising that current equipment design does not enable staff to detect life threatening problems.

5.6.6 Medication error resulting in serious consequence (not death)
This sub-category includes those events in which administration of medication has resulted in serious consequences but not death. Examples include irreversible toxicity (eg. ototoxicity), cardiac arrest as a result of overdose or serious adverse reactions resulting from administration of penicillin to patients with a known penicillin allergy.

Two events of this type were reported with both occurring in 2004-05. Analysis of the investigation findings revealed the following factors contributed to the events:

- communication (lack of communication between staff and between staff and patient);
- health information (lack of information in medical record);
- human resources (inexperienced staff); and
- policy, procedure and guidelines (absence of policy for assessing patient risks).

Examples of strategies developed and implemented to reduce these types of events include:

- revision of patient assessment policies to incorporate processes for assessing and documenting patient risks; and
- staff education regarding identification and management of allergic reactions.

5.6.7 Patient absconding with adverse outcome
This sub-category captures any patient death or serious disability associated with patient disappearance for more than four hours. One event of this type was reported during 2003/04. The investigation identified following contributing system factors:

- communication (between staff, between staff and patient); and
- policies, procedures and guidelines (inadequate policy regarding behavioural and physical assessment, failure to comply with policy).
Strategies introduced to remedy these system vulnerabilities include revision and amendment to behavioural and physical assessment policy.

5.6.8 Other sentinel events
Events in this sub-category include any events that come under the sentinel event definition but cannot be classified into any of the listed categories. Such events could include patient death or serious disability due to spinal manipulation, patient death or serious disability associated with a burn incurred from any source or patient death associated with a fall while being cared for in a hospital or health service.

One event in this sub-category was reported. The investigation identified the physical environment as a contributing system factor and as a result, the reporting organisation has put in place a number of strategies to modify the physical environment in order to prevent this type of incident from occurring in the future.

6. The year ahead
This is the first public report published by the Department of Health (WA) on the statewide sentinel event program. As sentinel events are distressing for all involved, the Department of Health (WA) and health services are working hard to improve our systems and processes so that these events are much less likely to happen again in the future.

The WA Office of Safety and Quality in Health Care continually analyses the sentinel event data to identify emerging trends and patterns, including actual and potential risks. They provide this information to hospitals and health services across the State through a number of channels including:

- a quarterly newsletter for sentinel events;
- statewide alerts for significant events;
- a quarterly newsletter for health care incidents, Sharing News in Patient Safety (SNIPS);
- quarterly reports and special focus reports on statewide health care incident data; and
- the Annual Patient Safety Seminar.

Most importantly, these publications and the annual seminar highlight some of the innovative measures implemented in hospitals and health services that are resulting in tangible improvements to patient care. By providing this information, hospital and health service staff are encouraged to review their own health care incident data to identify potential risks and take preventive action to strengthen their systems and significantly reduce the risk of such incidents occurring.

It is vital that hospitals and health services continue their work towards making patient safety an integral part in the delivery of health care. The Department of Health (WA) will continue to support hospitals and health services to improve patient care in 2005/06 through the following activities:

- further training in the Root Cause Analysis methodology;
- participation in the national Open Disclosure pilot;
- notification of system wide issues that require urgent attention;
development of a Clinician's Toolkit for improving patient care; and
transferring knowledge essential to improving patient safety and quality.

7. What can consumers do?
By taking an active role in their health care, and being part of the 'team', consumers can 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 recently produced the *Ten Tips for Safer Health Care* booklet. This booklet 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. The booklet also:

- gives ten tips for improving health care, which include questions a person might like to ask their health care professional;
- outlines what a person can expect from their health care professional;
- lists some sources of information for finding out more about a particular condition and how to manage medicines; and
- explains what a person can do if they have concerns about their health care.

These booklets have been distributed to every Western Australian hospital and health service.

8. 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.asn.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
Telephone: (08) 9222 4080
Email:safetyandquality@health.wa.gov.au
APPENDIX ONE

Contributing factor descriptions

The Department of Human Services (Victoria) developed the contributing factors framework that has been used by the Department of Health (WA) when analysing sentinel events. The Department of Human Services (Victoria) has kindly given permission for the contributing factor descriptions to be reproduced in full in this document.

Each root cause analysis identifies the contributing systems factors that impacted on the events’ occurrence. The factors identified in the events reported in Victoria for 2002-03 were reviewed and a classification system was developed. The system is adapted from the Joint Commission on Accreditation of Health Care Organisations’ reporting root cause analysis template and from the New South Wales Health Institute for Clinical Excellence’s Checklist flip chart for root cause analysis.¹

The contributing factors that are included in each of the categories are outlined below.

Procedures and guidelines

This category includes all contributing factors that are a result of a procedure, policy or guideline. These are issues relating to the existence and ready accessibility of policy or guidelines, misunderstanding or misuse of current procedures and guidelines, or failure to comply with current procedure. A common subcategory that impacts on this category involves the orientation and training of staff and availability of information and training for policy and guideline compliance for part time, temporary, or voluntary workers and students. Sub-categories include:

Behavioural assessment

This sub-category involves any policy or procedure or guidelines surrounding the processes involved in the assessment of a patient’s behaviour. This category is of most relevance when establishing a patient’s suicidal or self-harm intent. This category is also relevant for the processes involved in establishing a patient’s cognitive state, particularly whether the patient is at risk of wandering, absconding or causing harm to staff. This contributing factor impacts predominantly on the sentinel events of ‘suicide as an inpatient’.

Physical assessment

This sub-category involves policy or procedure or guidelines surrounding technical information for assessing patient risks, mechanisms for feedback on key processes and effective interventions development after events.

Patient observation process

The sub-category involves any policy or procedure or guidelines surrounding the processes involved in the clinical observation of a patient. This category might include either medical, nursing or allied health procedures for guidelines. Examples of factors that might be included in this sub-category are:

- policies involving operative or post-operative clinical observation

¹ New South Wales Department of Health 2203, Checklist flip chart for root cause analysis teams, Sydney.
policies or procedures involving neurological observations post-head injury
policies or procedures involving observation of patients at risk of self-harm or absconding.

Clinical management guidelines
This sub-category involves any policy or procedure or guidelines surrounding the processes involved in the clinical management of patients. It might include either medical, nursing or allied health clinical management plans. Examples of clinical management guidelines are:

- clinical pathways on the management of stroke patients
- clinical pathways on the pre-operative management of patients for bowel surgery
- clinical management guidelines on the management of patients post-myocardial infarction
- lack of existence of policy and guidelines or non compliance with existing policy and guidelines.

Identification process
This sub-category involves any policy or procedure or guidelines surrounding the processes involved in the identification of patients. This also includes any processes involved in identifying the correct site/side for surgery/radiology and so on. Examples of identification process are:

- policies involving confirming a patient’s identity prior to an operation
- policies involving identification of the correct side prior to surgery (for example, confirming that the knee replacement will occur on the right, not on the left)
- policies involving identification of the correct patient and site for radiotherapy.

Coordination of care
This sub-category involves any policy or procedure or guidelines surrounding the processes required for coordinating a patient’s care, which are not specifically outlined in the above categories. The processes involved in coordinating patient care can overlap between departments, inpatient and outpatient departments, clinical and non-clinical units, administrative units and external organisations (for example, rehabilitation organisations, general practitioners, Royal District Nursing Service and so on). Examples of processes involved in the coordination of patient care are:

- procedure to ensure outpatient follow-up on discharge
- procedures to ensure communication of test results
- health services’ policies on infection control
- operating theatre procedures to ensure pathology specimens obtained in theatre are transported to the pathology department.
Transportation issues
This category includes all contributing factors that are a result of an issue with interagency or health service transportation of a patient. Such issues might relate to:
- coordination of retrieval services between health services
- referral processes
- provision of clinical escort services.

Translation Issues
This category includes all contributing factors that are a result of an issue with translation of health information for a patient. Such issues might include:
- not using translation services for non-English speaking patients
- using family or carers for translation rather than professional translation services.

Interhospital issues
This category includes all contributing factors that are a result of an issue with the transfer of a patient from one health service provider to another health service provider. Such issues might relate to:
- communication of health information between the health service and external organisations or other health service
- provision of all relevant documentation at the time of transfer
- completion of relevant information at the time of transfer.

Human resources
This category includes all contributing factors that are a result of a human resource or staffing issue, including knowledge, skills and competence. Sub-categories include:

Staff allocation
Staff allocation might influence the stress and fatigue of staff that can result from change, scheduling and staffing issues and sleep deprivation. This sub-category includes all issues surrounding the allocation of staff, whether medical, nursing or allied health. Predominantly the issues involve:
- medical understaffing and workload allocation
- nursing understaffing and workload allocation
- replacement (or lack of) for medical and nursing staff on sick leave
- replacement of staff on leave with staff of a level too junior for the position
- sufficiency of staff on-hand for the workload at the time.
Staff training

Staff training includes issues relating to routine job training, special training and continuing education, including the timing of training. Training issues might concern the application of approved procedure, correct use of equipment or appropriate safety mechanisms. This sub-category includes all issues surrounding staff training and experience, whether medical, nursing or allied health. Predominantly the issues involve:

- medical and nursing training inadequacies in clinical procedures
- inexperienced staff in positions at a level greater than their experience
- training undertaken after the commencement of new work processes
- monitoring of training adequacy over time
- existence of programs to identify what training was actually needed.

Staff supervision

This sub-category includes all issues surrounding staff supervision, whether medical, nursing or allied health staff. It also covers a range of levels of experiences and predominantly the issues involve a lack of supervision or under-supervision. Examples of the contributing factors are:

- the supervision requirements of junior medical interns
- the supervision requirements of new nursing graduates
- the supervision required for newly graduated surgical fellows in operating theatres
- the supervision required for clinical nurse specialists in intensive care.

Staff appraisals

This sub-category includes all issues surrounding staff appraisals of performance, whether medical, nursing or allied health staff. The issues predominantly involve a lack of appraisal or less appraisal than that expected by the profession involved.

Recruitment

This sub-category includes any issue about medical, nursing or allied health recruitment.
Communication

Communication involves the flow of information and availability of information as needed. Communication is important for ensuring the correct use of equipment and the application of policy and procedures. This category includes all contributing factors that are a result of a communication issue. Sub-categories include:

Communication between staff

This sub-category involves all issues that arise from miscommunication or lack of communication, which occurs between staff members. Examples of such issues are:

- lack of communication between junior and senior medical staff
- miscommunication or lack of communication between medical and nursing staff
- miscommunication or lack of communication between departments within the health service
- miscommunication or lack of communication between health services and external organisations.

Communication between staff and patients and family members

This sub-category involves all issues that arise from miscommunication or lack of communication, which occurs between staff members and patients and families. Such issues might involve cultural or language barriers or 'medical or technical language' barriers. Examples of such issues are:

- a staff member explaining a procedure in a manner the patient could not comprehend
- failure to communicate the results of a test to a patient and family member
- explanations to family members about the medical state of a patient.

Health Information

This category includes all contributing factors that are a result of an issue with the health information of a patient. Such issues might relate to:

- documentation (or lack of) in the medical records
- communication of electronic health information
- communication of health information between the health service and external organisations.

Equipment

This category includes all contributing factors that are a result of an issue with equipment. Predominantly, the issues involve faulty equipment or lack of equipment provision and incorrect use for a given purpose, but might also relate to the use and location of equipment, fire protection and disaster drills and codes. Often what appears to be equipment failure might relate to human factors, policy and procedure questions, and training needs. Examples are:

- the equipment design not enabling the operator to detect problems or allowing the operator to make usage mistakes
- equipment displays and controls not working properly
- equipment in use not meeting standards, specifications or regulations
- lack of maintenance programs to maintain equipment and documentation of previous inspections
- insufficient equipment to perform work processes
- no emergency provisions and back-up systems in case of equipment failure.

**Physical environment**

This category includes all contributing factors that are a result of an issue with the physical environment of the health service or the general suitability of the environment to support the function it is being used for, including environmental distractions, such as noise. Examples of such issues include:

- existence of environmental risk assessment programs
- design of security systems in the health service to prevent at-risk patients from absconding
- design of seclusion rooms for psychiatric patients to avoid self-harm
- design of rooms to allow observation of at-risk patients
- design of outdoor areas for ambulant patients to prevent at-risk patients from falls.

**External factors**

This category includes all contributing factors that are a result of an issue external to the organisations. Examples of such issues are:

- service provision from the Australian Red Cross Blood Service
- service provision from diagnostic services sourced externally
- lack of availability of beds at an external organisation for an at-risk psychiatric patient, requiring the patient to be cared for in a health service not designed for such patients.

**Other factors**

This category includes contributing factors that arise from issues other than those discussed in this section. An example of such factors is the impact from a busy or stressful environment or patient factors (eg. co-morbidities).
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