Delivering Safer Healthcare in Western Australia

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In particular, we acknowledge the patients and their families who have suffered inadvertent and unintended harm whilst receiving care in our health system. From time to time, things go wrong. By reporting, investigating and sharing the lessons learned, we aim to reduce human error and its impact.
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Foreword

“The traditional medical oath “First do no harm” is rarely violated intentionally by physicians, nurses or other practitioners, but the fact remains that patients are harmed every day in every country across the world in the course of receiving healthcare. The first thing we must do is acknowledge this disturbing truth. Then we must reject the notion that the status quo is acceptable, but most importantly, we must act to correct the problems that are contributing to unsafe care.”


WA Health is committed to improving patient safety. The WA Sentinel Event Program is integral to effective clinical incident management across the WA health system. It enables:

- timely identification and notification of clinical incidents/adverse events
- thorough and robust investigation and analysis of clinical incidents to identify contributing factors
- development and implementation of recommendations and patient safety action to reduce the risk of similar events occurring in the future
- dissemination of information and lessons learned across WA Health to ensure system and process redesign to prevent patient harm.¹

This fifth public WA Sentinel Event Report provides complete information on the numbers and types of sentinel events that have occurred during the 2008/2009 financial year in public and private hospitals/health services in WA.

Notifications of sentinel events have continued to increase, as has the learning from such events to improve patient safety. This confirms that the WA Sentinel Event Program is a well established and robust clinical incident management program that is firmly embedded in the clinical governance framework of WA Health.

The 2008/2009 financial year has also seen the release of the WA Open Disclosure Policy: Communication and Disclosure Requirements for Health Professionals Working in Western Australia. Implementation of this policy will ensure the process of honest and open discussion to support patients and their nominated relatives/carers following a sentinel event. Effective open disclosure of clinical incidents is a key element of WA Health’s patient-centred culture that prioritises learning from errors and continuous improvement in the delivery of safe and high quality healthcare.²

Dr Peter Flett
Director General, Department of Health
December 2009
Executive summary

Sentinel events are rare adverse events leading to serious patient harm or death that are specifically caused by healthcare rather than the patient’s underlying condition or illness.

Since the inception of the WA Sentinel Event Program in October 2003, there has been a total of 375 potential sentinel events notified. Of these events, 50 have been declassified leaving 325 confirmed events for inclusion in the WA Sentinel Event Program to 30 June 2009.

During the 2008/2009 financial year a total of 100 sentinel events were notified and 90 events were confirmed. This represents a 9% increase from the 2007/2008 total of 81 events.

Again for this financial year the number of notifications has increased, however the total of 90 confirmed sentinel events represents only 0.01% of all public and private health service separations (one sentinel event per 10,000 separations). The rate of sentinel events per separation has remained constant for the 2007/2008 and 2008/2009 financial years.

During the 2008/2009 financial year, 53% of confirmed sentinel events contributed to the death of the patient. This represents a slight decrease from 56% of confirmed sentinel events resulting in the death of the patient in 2007/2008.

Notifications of sentinel events have steadily increased since the inception of the WA Sentinel Event Program however the percentage of events that have resulted in death has significantly decreased from 78% in 2003/2004 to 53% in 2008/2009.

In 2008/2009 the largest category of notified sentinel events were classified as “other adverse event resulting in serious patient harm or death”. In WA, this category is in addition to the eight core national categories. The 63 events in this category covered a variety of events, the majority of which fell into the sub-categories of “hospital process issues”, “fetal complications of delivery” and “complications of surgery”.

All final sentinel event investigation reports for 2008/2009 were completed and forwarded to the Office of Safety and Quality in Healthcare by the 31 August 2009, compared with 93% of investigation reports for 2007/2008.

Sentinel events are considered “closed” once all of the recommendations developed following the investigation of the event have been effectively implemented. The WA Sentinel Event Program requires events to be closed, with all recommendations implemented, within 12 months of the event’s notification date.
1. Introduction

“It is important to remember that many measures of safety and quality of healthcare are relatively inexact, and so should not be interpreted as a conclusive picture of an individual’s, an agency’s, or a system’s performance.”


Sentinel events are rare adverse events leading to serious patient harm or death, that are specifically caused by healthcare rather than the patient’s underlying condition or illness.³

These rare events require comprehensive investigation to determine why the event occurred, in order to develop strategies to prevent the risk of future, similar events occurring. Often these events reflect significant breakdowns in healthcare systems that warrant redesign to improve patient safety and the quality of healthcare provided.³

The WA Sentinel Event Program has been operational since October 2003 and includes mandatory notifications from public hospitals and health facilities, including community groups, primary care units and licensed private healthcare facilities.⁴ Sentinel events are to be notified to the Director, Office of Safety and Quality in Healthcare (OSQH) within seven working days of the event occurring. Clinical investigations identifying the contributing factors that led to the event and recommendations to be implemented to prevent recurrence are to be completed and submitted to the OSQH within 45 working days of the event’s notification.

Governance of the WA Sentinel Event Program, via the Sentinel Event Executive Review Committee (Chair: Chief Medical Officer) and the Sentinel Event Review Group (Chair: Executive Director, Innovation and Health System Reform) together with the Director OSQH, ensures:

- external clinical review of sentinel event investigation outcomes
- evaluation and monitoring of the effective implementation of recommendations arising from sentinel event investigation and mortality review to prevent similar events occurring in the future
- “closing the loop” via the facilitation of system-wide learning and sharing of patient safety information/alerts (at a state and national level).

The eight core national sentinel event categories that Australian Health Ministers endorsed in 2004 “represent only a sample of adverse events”.⁵ The WA Sentinel Event Program continues to capture a large number of adverse events in the additional category of “other adverse event resulting in serious patient harm or death”.

The national sentinel event categories came under review in 2009, following the identification that the total number of sentinel events for 2006/2007 in the Productivity Commission’s Report on Government Services differed from the number of events reported in the Australian Commission on Safety and Quality in Health Care’s Windows into Safety and Quality in Health Care 2008 report. Given the apparent different definitions being used at a state and national level, WA Health has supported the proposed amendment to the category one definition to read: “procedures involving the wrong patient or body part resulting in death or major permanent loss of function.” Notifications to this amended category will commence in the 2009/2010 financial year.

⁴ “Closing the loop” is the completion of the process where recommendations arising from the investigation into clinical incidents are disseminated at multiple levels of the health system resulting in change to procedure/policy/clinical practice to prevent the recurrence of healthcare related errors and ultimately increase patient safety.
The WA Sentinel Event Program saw the revision and improvement of the notification and final investigation report forms, to ensure a consistent approach across WA Health and the private sector when providing important incident and patient safety information about sentinel events.

Reporting of clinical incidents is the first step in ensuring “system-wide learning which prevents harm to future patients from similar sources of risk”.6

Increasing notification of sentinel events for the 2008/2009 financial year demonstrates the pivotal role this key risk management strategy plays in WA Health’s clinical governance framework.

Western Australia continues to include the notification of sentinel events from both the public and private healthcare sectors.

**Root cause analysis and human factors**

There are a number of methodologies that can be used for investigating sentinel events and Root Cause Analysis (RCA) is one that WA Health recommends to comprehensively and systematically analyse and identify the factors that contributed to the event’s occurrence.4

Following the occurrence of a sentinel event, hospitals/health services are “expected to conduct a timely, thorough and credible root cause analysis and develop an action plan to implement improvements to reduce risk, implement the improvements and monitor the effectiveness of the improvements.”7

Learning from high-risk industries has influenced a greater understanding of error causation in healthcare and the need to focus investigations on systems that contributed to “the conditions in which errors occur” rather than blaming individual performance. “While a particular action or omission may be the immediate cause of an incident, close analysis usually reveals a series of events and departures from safety practice, each influenced by the working environment and the wider organisational context.” 8

The OSQH has continued to train health service staff in RCA investigation and human factors in the 2008/2009 financial year. As of 30 June 2009, almost 1000 health service staff have attended RCA education. In addition, education and training continues to occur in hospitals/health services, such as the Human Error and Patient Safety Program (HEAPS) being delivered in Area Health Services.

Such training provides healthcare professionals with effective frameworks to investigate sentinel events and examine why such events occur. Consequently, robust and effective recommendations are able to be developed and effective strategies implemented to improve patient safety and the quality of patient care.

**Managing Adverse Events (MAE) Project**

The MAE Project, WA Health’s response to the recommendations made by the Office of the Auditor General’s examination of the management of adverse events in public hospitals,9 has continued to focus on improving the monitoring of clinical incidents including sentinel events.

WA Health, via the MAE Project, will continue to implement improvements in clinical incident management systems to ensure the timely identification, reporting and investigation of clinical incidents. Through the investigation of such incidents, robust recommendations are developed and implemented to prevent recurrence of events and make significant improvements to patient safety and the provision of quality healthcare.

This WA Sentinel Event Report demonstrates WA Health’s commitment to monitoring and responding to serious clinical incidents.

Since October 2003, when notifying sentinel events was mandated for the WA health system, a total of 375 potential sentinel events have been reported. Of these 375 notified events, 50 were considered not to fall into the category of sentinel event or were not preventable and were subsequently declassified. Therefore, 325 confirmed events have been included in the WA Sentinel Event Program to 30 June 2009.

In 2008/2009, 100 potential sentinel events were notified to the WA Sentinel Event Program from both public and private healthcare facilities. A total of 10 events were declassified following thorough investigations that determined no preventable factors contributed to the event’s occurrence. Although these events were later determined not to be sentinel events, their notification and investigation reflects the effective clinical incident reporting and management culture that has been embedded within WA Health. The declassified events have not been included in the data analysis of this report.

For the 2008/2009 financial year, there were a total of 90 confirmed sentinel events, a 9% increase compared with the 81 confirmed sentinel events notified in 2007/2008.

The total of 90 confirmed sentinel events represents only 0.01% of all public and private health service separations (one sentinel event per 10,000 separations). The rate of sentinel events per separation has remained constant for the 2007/2008 and 2008/2009 financial years.

For the 2008/2009 financial year, 53% of confirmed sentinel events led to the death of the patient; a slight decrease compared to the previous financial year (56% of confirmed sentinel events resulting in the death of a patient in 2007/2008).

In 2008/2009, of the 90 confirmed sentinel events, 27 fell into the core set of eight national sentinel event categories; a decrease compared to the previous financial year (36 events notified in 2007/2008). The remaining 63 events did not fit into the eight national categories, and were notified as “other”. The events included in the category “other adverse event resulting in serious patient harm or death” are examined in more detail in Section 3.

Table 1 illustrates the percentage of confirmed sentinel events that led to the death of the patient. Notifications of sentinel events have steadily increased since the inception of the WA Sentinel Event Program however the percentage of events that have resulted in death has significantly decreased from 78% in 2003/2004 to 53% in 2008/2009.

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b The total number of separations is as reported to the Hospital Morbidity Data System by 22 September 2009 and is estimated to be 96% of the total for 2008/2009. Excludes unqualified (healthy) newborns, boarders, posthumous organ procurements, aged care residents and funding hospital (duplicate) cases. The same patient may have been counted multiple times if admitted to hospital multiple times.
Table 1: Notified and confirmed sentinel events for WA public and private hospitals (including percentage of events that resulted in patient death) 1 October 2003 to 30 June 2009

<table>
<thead>
<tr>
<th>Year</th>
<th>Notified</th>
<th>Total confirmed</th>
<th>Percent of sentinel events that resulted in patient deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003/2004</td>
<td>23</td>
<td>23</td>
<td>78%</td>
</tr>
<tr>
<td>2004/2005</td>
<td>46</td>
<td>42</td>
<td>52%</td>
</tr>
<tr>
<td>2005/2006</td>
<td>57</td>
<td>44</td>
<td>64%</td>
</tr>
<tr>
<td>2006/2007</td>
<td>59</td>
<td>45</td>
<td>64%</td>
</tr>
<tr>
<td>2007/2008</td>
<td>90</td>
<td>81</td>
<td>56%</td>
</tr>
<tr>
<td>2008/2009</td>
<td>100</td>
<td>90</td>
<td>53%</td>
</tr>
</tbody>
</table>

Notes:
The sentinel event database is a cumulative database, with data changing over time as events are investigated retrospectively.
Table 2 illustrates notifications for the nine sentinel event categories for each financial year since the inception of the Sentinel Event Program by WA Health in October 2003.

Table 2:  Confirmed sentinel events for WA public and private hospitals by category 
1 October 2003 to 30 June 2009

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Procedures involving the wrong patient or wrong body part</td>
<td>1</td>
<td>10</td>
<td>5</td>
<td>6</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>2. Suicide of a patient in an inpatient unit</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>3. Retained instruments or other material after surgery requiring re-operation or further surgical procedure</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>4. Intravascular gas embolism resulting in death or neurological damage</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. Haemolytic blood transfusion reaction resulting from ABO incompatibility</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>6. Medication error resulting in death of a patient</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>7. Maternal death or serious morbidity associated with labour or delivery</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>8. Infant discharged to wrong family or infant abduction</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>9. Other adverse event resulting in serious patient harm or death</td>
<td>19</td>
<td>23</td>
<td>31</td>
<td>30</td>
<td>45</td>
<td>63</td>
</tr>
<tr>
<td>TOTAL</td>
<td>23</td>
<td>42</td>
<td>44</td>
<td>45</td>
<td>81</td>
<td>90</td>
</tr>
</tbody>
</table>

Notes:
The sentinel event database is a cumulative database, with data changing over time as events are investigated retrospectively.

Table 3 illustrates confirmed sentinel events notified in the “other” category used by the WA Sentinel Event Program, in addition to the core set of eight national sentinel event categories.

### Table 3: Confirmed sentinel events notified as “other adverse event resulting in serious patient harm or patient death” for WA public and private hospitals by category

<table>
<thead>
<tr>
<th>Event sub-category</th>
<th>2003/04</th>
<th>2004/05</th>
<th>2005/06</th>
<th>2006/07</th>
<th>2007/08</th>
<th>2008/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complication of anaesthetic management</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Complication of emergency/resuscitation management</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Complications of surgery (including post operative death)</td>
<td>8</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Fetal complication of delivery (including neonatal death)</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Hospital process issue (e.g. failure to access timely and appropriate care, poor planning of discharge)</td>
<td>3</td>
<td>9</td>
<td>7</td>
<td>7</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>Medication error with serious consequence (not death)</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Patient absconding with adverse outcome</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Complication of an inpatient fall*</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Mental health incident*</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Infection control breach**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Not appropriate ***</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>**TOTAL</td>
<td>19</td>
<td>23</td>
<td>31</td>
<td>30</td>
<td>45</td>
<td>63</td>
</tr>
</tbody>
</table>

Notes:
The sentinel event database is a cumulative database, with data changing over time as events are investigated retrospectively.
The addition of new sub-categories to the sentinel event database, as well as additional information provided following the investigation of events, has resulted in reclassification of events to different sub-categories.

- * New sub-categories added for 2005/2006. These events would previously have been classified as ‘other’.
- ** New sub-category added for 2006/2007. These events would previously have been classified as ‘other’.
- *** For the 2009/2010 financial year, this category has been renamed to “misdiagnosis and subsequent management”.
Table 4 illustrates confirmed sentinel events by category where the outcome resulted in the patient’s death.

**Table 4:** Confirmed sentinel events where the outcome was patient death for WA public and private hospitals by category 1 October 2003 to 30 June 2009

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Procedures involving the wrong patient or wrong body part</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. Suicide of a patient in an inpatient unit</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>3. Retained instruments or other material after surgery requiring re-operation or further surgical procedure</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. Intravascular gas embolism resulting in death or neurological damage</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. Haemolytic blood transfusion reaction resulting from ABO incompatibility</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. Medication error resulting in death of a patient</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>7. Maternal death or serious morbidity associated with labour or delivery</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8. Infant discharged to wrong family or infant abduction</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9. Other adverse event resulting in serious patient harm or death</td>
<td>16</td>
<td>18</td>
<td>21</td>
<td>23</td>
<td>31</td>
<td>42</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
<td><strong>22</strong></td>
<td><strong>28</strong></td>
<td><strong>29</strong></td>
<td><strong>45</strong></td>
<td><strong>48</strong></td>
</tr>
</tbody>
</table>

Notes:
The sentinel event database is a cumulative database, with data changing over time as events are investigated retrospectively.
Table 5 illustrates confirmed sentinel events where the outcome resulted in the patient’s death by “other” sub-category.

**Table 5: Confirmed sentinel events where the outcome was patient death for WA public and private hospitals by “other” sub-category 1 July 2006 to 30 June 2009**

<table>
<thead>
<tr>
<th>Event sub-category</th>
<th>2006/07</th>
<th>2007/08</th>
<th>2008/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complication of anaesthetic management</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Complication of emergency/resuscitation management</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Complications of surgery (including post operative death)</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Fetal complication of delivery (including neonatal death)</td>
<td>0</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Hospital process issue (i.e. failure to access timely and appropriate care, poor planning of discharge)</td>
<td>6</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Medication error with serious consequence (not death)</td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient absconding with adverse outcome</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Complication of an inpatient fall</td>
<td>5</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
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<tr>
<td>Infection control breach</td>
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<tr>
<td>Not appropriate</td>
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<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
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<td>3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>23</td>
<td>31</td>
<td>42</td>
</tr>
</tbody>
</table>

Notes:
The sentinel event database is a cumulative database, with data changing over time as events are investigated retrospectively.
Increased reporting

WA Health welcomes increased reporting in regards to sentinel events and acknowledges the effective and robust systems in place to ensure appropriate remedies are actioned to prevent the recurrence of future events.

The WA Sentinel Event Program continues to receive appropriate notifications of sentinel events and possible events that are later declassified having been investigated and determined not to be preventable. The continued increase in reporting from year to year demonstrates the established patient safety culture of WA Health, where dedicated health professionals are committed to identifying and addressing patient safety hazards.

“There is no point in reporting if processes are not improved and a safer healthcare system for patients does not result.” 10

Declassified sentinel events

WA Health supports the notification of all potential sentinel events for investigation to identify any breakdowns in healthcare systems that can be improved to prevent future occurrence of similar events. The continued increase in sentinel event notifications demonstrates WA Health’s commitment to patient safety and the embedded culture of clinical incident “identification, reporting, investigation and management”.4

For the 2008/2009 financial year a total of 10 events were notified to the WA Sentinel Event Program that were subsequently declassified. This compares with nine events declassified in the 2007/2008 financial year.

All notified events require a thorough clinical investigation. Declassification is considered if, following the investigation of the event:

- no system vulnerabilities or contributing factors are identified
- the event does not fit into the nine sentinel event categories
- the event was determined not to have been preventable.

Justification for the declassification request is presented to members of the Sentinel Event Executive Review Committee (SEERC) who determine if the event is to be declassified. If an event is declassified from the WA Sentinel Event Program, any recommendations arising from the clinical incident are still required to be implemented and monitored by the hospital/health service where the event occurred.

Sentinel events declassified in the 2008/2009 included the following types of events, the majority of which were classified as “other” and fell outside the national sentinel event categories:

- Complication of surgery, where a known complication eventuated resulting in patient mortality or morbidity and no healthcare error had been identified.
- Complex obstetric events and births, managed effectively and appropriately, that were not considered preventable (e.g. placental abruption).
- Medical device related incidents that, following investigation, did not cause or contribute to the patient’s morbidity.
- Complication of surgery, with no adverse patient outcome, to be clinically reviewed by the health service Morbidity and Mortality Committee.
- Complex critical patient crisis (e.g. poisoning), that despite emergency protocols being effectively followed and implemented, resulted in patient mortality which was not considered preventable.
3. Contributing system factors

Key results

- In 2008/2009 there was an average of two contributing factors identified for each sentinel event during the investigation that needed to be taken into consideration in developing recommendations to prevent recurrence of similar future events. This compared with three per event in 2007/2008.
- Communication, policy, procedures and guidelines and human resources were the three most commonly identified contributing factors in 2008/2009.

The priority of the WA Sentinel Event Program is to investigate incidents that result in serious patient harm or preventable death and “understand contributing factors so that causes of errors can be uncovered and systems made safer.”

Contributing factors are the underlying causal elements that contributed to the sentinel event occurring. These factors are significant as they form part of the causal chain that permitted the event to occur. Through the investigation of sentinel events and the identification of contributing factors, robust recommendations can be developed. Once implemented, these recommendations contribute to preventing future patient safety incidents from occurring.

Appendix 1 outlines the eleven contributing factor categories currently being used by the WA Sentinel Event Program.

Figure 1 illustrates the identified contributing factors related to all sentinel events notified in the 2007/2008 and 2008/2009 financial years.

Overall, for the 2008/2009 financial year, fewer contributing factors were identified per sentinel event. It is important to note, that each contributing factor may identify a number of issues that require the development of recommendations, however each contributing factor is only counted once.

Figure 1: Comparison of contributing factors identified for sentinel events reported during the 2007/2008 and 2008/2009 financial years.
Policy, procedures and guidelines

Policy, procedures and guidelines have been identified as key contributing factors in 58% of sentinel events across all categories.

Policy, procedure and guideline factors associated with sentinel events generally include:

- poor implementation and communication of policies and procedures
- policies out of date requiring review and revision
- policies not easily understood and readily available
- policies not being used.

All of the above issues were identified as contributing factors in sentinel events for the 2008/2009 financial year.

Communication

“In the analysis of causes submitted to the Joint Commission on Accreditation of Healthcare Organisations in the United States, communication was identified as the commonest cause of sentinel events” being cited in almost 70% of sentinel events.

The WA Sentinel Event Program has identified communication as a contributing factor in 38% of events. To prevent the recurrence of sentinel events effective communication is a patient safety priority.

Communication problems associated with sentinel events generally include:

- incorrect patient identification
- poor handover and exchange of clinical patient assessments, including potential risk factors being communicated to those who need to know this information
- documentation not providing clear information of the patient’s investigations, treatment plan and response to treatment
- poor communication between team members and across organisational boundaries.

All of the above issues were identified as contributing factors in sentinel events for the 2008/2009 financial year.

Improving patient safety

It is well recognised that “effective communication and team work is essential for the delivery of high quality, safe patient care.”

Good communication is critically important during clinical handover, which is “the transfer of professional responsibility and accountability for some or all aspects of care for a patient or group of patients, to another person or professional group on a temporary or permanent basis.” This process is a vital part of patient care and clinical handover has been identified as “a major preventable cause of patient harm.”

WA Health is committed to improving communication during the clinical handover process to improve patient safety. This has been demonstrated by the leading work undertaken by the WA Country Health Service (WACHS) and Royal Perth Hospital (RPH), as part of the National Clinical Handover Initiative (NCHI) funded and coordinated by the Australian Commission on Safety and Quality in Health Care (ACSQHC).
WA Health played a lead role in developing iSoBAR, one of a number of structured communication tools used to facilitate information exchange during clinical handover. iSoBAR stands for:

- **i** = Identify
- **S** = Situation
- **o** = Observation
- **B** = Background
- **A** = Agree a plan
- **R** = Read back

WA Health is currently developing a state-wide implementation plan for 2010/2011, to extend the work undertaken by WACHS and RPH to improve clinical handover practices.

**Human resources**

Human resources have been identified as a key contributing factor in 40% of sentinel events across all categories and include issues regarding staff allocation, staff skills and knowledge, staff training and education, and staff supervision.

### 3.1 Wrong patient or body part, or wrong procedure

**Key results**

- A total of 10 sentinel events were notified in the 2008/2009 financial year involving the wrong patient or body part, or wrong procedure.
- This is a decrease from the 11 events reported in the 2007/2008 financial year.
- Four sentinel events were associated with the wrong patient and six events with the wrong body part.
- Of the 10 notified events in 2008/2009, none of these events resulted in death or permanent loss of function for the patient.

“Everyone practicing in complex delivery system settings should recognise that performing an invasive procedure on the wrong patient is an all-to-real possibility.” This sentinel event category depicts events where a procedure (including surgery) was performed on the wrong patient or wrong body part. ‘Wrong body part’ includes events where a procedure or surgery was performed on the wrong side of the body.

It is important to note that not all of these sentinel events occurred in the operating theatre or surgical environment. Events notified in this category also occurred in the emergency department, outpatient setting, hospital ward and in the radiology department.

WA Health has recently amended this category following national review of the core sentinel event categories and for the 2009/2010 financial year only events that resulted in death or major permanent loss of function will be included in this category.

This sentinel event category has recognised policy, procedures and guidelines (80%) and communication (70%) as the most commonly identified contributing factors, followed by other factors (20%).
The contributing factors identified from the sentinel events in this category included the need for:

- formal handover
- “team time out” procedures
- policy and procedures to be followed
- formal patient identification protocols
- resources to ensure two staff verify patient identification.

The World Health Organisation (WHO) has identified communication failure as a leading cause of operations at the wrong site and that team work is central to “a culture of effective communication in the operating room and is a surrogate marker for patient safety.”

**Improving patient safety**

Outlined below are three initiatives undertaken by WA Health to improve patient safety and prevent the recurrence of incidents related to the wrong patient, wrong body part or wrong procedure.

**Anaesthetic Team Time Out**

Included in this category were sentinel events related to wrong site and wrong side anaesthetic procedures occurring prior to the surgical team time out. As a consequence, this matter was brought to the attention of both WA Health hospitals/health services and the private health sector. WA Health recommended that all healthcare facilities undertake a review of current policies and procedural guidelines, in particular ‘team time out’, in accordance with the [Correct Patient, Correct Procedure and Correct Site Policy and Guidelines for Western Australian Health Services](#).

All hospitals/health services were reminded that, as per the above mentioned policy, “all members of the clinical team (e.g. proceduralist, anaesthetist, nurse) should participate in a final ‘team time out’”. It was recommended that current policies and procedural guidelines place emphasis on the need for anaesthetist involvement in team time-out processes. In the event that an anaesthetic procedure was to be performed prior to the surgical team time out, it was recommended that a separate and additional ‘anaesthetic team time out’ occur to prevent errors occurring related to the wrong site or wrong side.

**Observational Audit**

Between October 2008 and February 2009, WA Health undertook an observational audit of hospitals/health services’ compliance with the steps outlined in the [Correct Patient, Correct Procedure and Correct Site Policy and Guidelines for Western Australian Health Services](#). The observational audit took place at six metropolitan hospitals and a total of 95 audits were conducted across 13 clinical specialties. The findings of the audit identified variance in compliance between the sites.

In response to the findings and recommendations that arose out of the observational audit WA Health will review the current policy and integrate the WHO Surgical Safety Checklist into the next iteration.
Patient Identification

“The failure to correctly identify patients and correlate that information to an intended clinical intervention continues to result in wrong person, wrong site procedures, medication errors, transfusion errors and diagnostic testing errors.” Patient identification bands are important tools to prevent errors associated with mismatching patients and their intended healthcare.

WA Health is developing a standardised patient identification policy, including mandatory patient identifiers, in line with the national standard for patient identification bands in Australia, developed by the Australian Commission on Safety and Quality in Health Care.

3.2 Suicide of a patient in an inpatient unit

Key results

- There were four ‘inpatient suicides’ notified in the 2008/2009 financial year compared with nine in 2007/2008.
- This represents a significant decrease in events for this category.

“Hospitals are supposed to protect patients from factors that can kill them, including themselves.”

Patients at risk of suicide must be kept safe. Hospitals/health services must focus on “specific approaches to safe environmental design, patient screening, patient treatment, staff training and hospital policies.”

This group of events includes the suicide of patients on hospital grounds, inpatients who committed suicide while on approved/planned leave and patients who had absconded.

“According to the Joint Commission on Accreditation of Healthcare Organisations”, following the investigation of sentinel events of this category, “the three most common factors related to inpatient suicide were environmental safety failures, problems with patient assessment, and staff/training factors.”

From the investigation of these four events, a total of six contributing factors were identified and six recommendations were made to improve patient safety and prevent similar events occurring in the future.

The inpatient suicide events notified in 2008/2009 identified communication, health information, human resources, policies, procedures and guidelines and other factors (i.e. patient factors, co-morbidities) as contributing factors.

The contributing factors identified from the sentinel events in this category included the need for:

- clarity and appropriate documentation
- adequate consultation hours
- adequate risk identification and management.

Improving patient safety

The Clinical Risk Assessment and Management (CRAM) Policy and Guidelines was released for implementation in 2008 and outlines the minimum requirements for safe mental healthcare and promotes effective clinical risk management. The CRAM Policy and Guidelines are based on effective treatment plans focusing on the patient's individual history and current circumstances to minimise the possibility of self harm.
The continued implementation of the CRAM Policy and Guidelines will provide a consistent approach to clinical risk management in mental health settings and address the often identified contributing factor (risk identification and management) related to sentinel events in this category.

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

Key results

- In the 2008/2009 financial year, six events of this type were notified, a 100% increase on the three events notified in the previous financial year.

“The leaving behind of foreign bodies in a patient after surgery is an uncommon but dangerous error” and the risk factors associated with why such incidents occur “remains poorly understood”.23

This category includes incidents where surgical instruments or other material, such as gauze swabs or packs, are inadvertently left inside a patient when an incision is closed. This category also captures events where pieces of equipment have ‘broken off’ during a procedure.

The events notified in this category were related to:
- retained surgical pack/sponges and wound drains
- medical device breakage during insertion
- retained IV cannulae parts.

Human resources were identified as a contributing factor in half of these sentinel event reports, with communication and equipment identified in one-third of events. Examples of contributing factors included:
- faulty equipment
- the need for compliance with policies and procedures
- the need for improved written and verbal information during handover
- staff fatigue
- experience of clinical staff involved.

WA Health will continue to monitor sentinel events in this category and recommend that all hospitals/health services examine compliance with existing standards and procedures for counting sponges and instruments following all surgical procedures involving an open cavity.13

Improving patient safety

The OSQH examined clinical incident data from both the WA Sentinel Event Program and the Advanced Incident Management System (AIMS) database to identify clinical incidents involving the fracture of infusaports and whether there were any problems/issues with infusaports in relation to fractured, dislodged or avulsed devices.

In response to the identified clinical incidents, hospitals/health services were encouraged, by the Chief Medical Officer, to advise the Therapeutic Goods Administration (TGA) of adverse events involving medical
devices. Hospitals/health services were requested to review their reporting processes for alerting product manufacturers and the TGA of medical device incidents to ensure notification occurs as a priority once problems have been identified.

The WA Sentinel Event Program also undertook to advise the WA Health Product Evaluation Steering Committee (PESC) of medical devices associated with sentinel events.

### 3.4 Intravascular gas embolism resulting in death or neurological damage

**Key results**

- Since the inception of the WA Sentinel Event Program in 2003 there have been no events notified in this category.

This category includes events where death or serious disability is associated with intravascular gas embolism that occurs while the patient is being cared for in a hospital/health service. It excludes deaths associated with neurosurgical procedures known to present a high risk of intravascular gas embolism.

### 3.5 Haemolytic blood transfusion reaction resulting from ABO incompatibility

**Key results**

- In the 2008/2009 financial year two events of this type were notified, the same number as reported in the previous year.
- In both of these events, the patients involved recovered with no permanent effects.

This category includes events where patients have been administered ABO incompatible blood.

The WHO has identified that “serious errors in the administration of blood are due mainly to inadequate procedures, leading to misidentification of patients or samples” and states that error rates of “incorrectly labelled and collected samples are high” and bedside checks to ensure that the correct blood unit is being provided to the intended patient “are often performed either incompetently or incorrectly.”

In the two sentinel events notified, the contributing factors identified included human resources and policy, procedures and guidelines.

To prevent future recurrence of haemolytic blood transfusion errors, the following recommendations were developed for implementation:

- improvements to verification processes regarding patient identity (incorporating a two person check)
- staff education regarding correct blood transfusion processes
- implementation of care pathways that provide prompts to ensure correct patient identification and cross referencing with ‘blood order’ and ‘blood bag’.
Case example

Mr Thomas, being treated for anaemia, developed tachycardia, shortness of breath and hypotension within a minute of commencing a blood transfusion. The nurse ceased the blood transfusion immediately. Mr Thomas responded to treatment of intravenous fluids and oxygen, and was cared for overnight in the special care unit.

Investigations revealed acute haemolysis. ABO incompatibility was identified as the cause of the problem and this was reported as a sentinel event.

Lessons learned

Investigation into this sentinel event involved a detailed review of the process of blood transfusion and patient identification from collection to administration of the blood transfusion. This included transport, laboratory management, the blood group and cross match process, blood labelling, transport to the bedside, and the administration checking process.

The cause of this ABO incompatibility reaction was identified as a labelling error. Mr Thomas’ doctor had mixed up the labels and specimens of two patients at the shared work-station. Timely investigation identified the other patient involved and prevented a second reaction.

To prevent future events of this kind, a system of bedside labelling, dating, timing and signing of all cross match blood samples was instituted by the hospital. In addition, all samples are now correlated with historical blood group records.

Note this is not a case from Western Australia. This is a composite incident. No real names have been used in this case example.

Improving patient safety

“Avoidable transfusion errors, mostly in patient identification, remain a serious cause of injury and death.” As a consequence of these events being reported to the WA Sentinel Event Program, hospitals/health services were advised by the Chief Medical Officer to review current policies and procedural guidelines regarding the management of blood transfusions to prevent future errors occurring. Particular attention is required at the patient’s bedside to ensure appropriate patient identification and verification occurs so the correct blood product is provided to the correct patient for every transfusion.
3.6 Medication error leading to the death of a patient reasonably believed to be due to incorrect administration of drugs

Key results

- For the 2008/2009 financial year, two notified deaths were attributed to medication errors compared with four deaths notified in 2007/2008.

“Most medications are used safely and effectively, but errors can occur at all stages of the medication process. The literature suggests that up to one in 10 medicines prescribed, dispensed and administered may result in error, and in some cases (such as injectable medicines) this rate is much higher.” Errors can occur in all stages of the medication process, including prescribing, dispensing, preparation, administration and monitoring the administration and effect of a medicine.

This category includes events in which the incorrect administration of drugs is reasonably believed to have resulted in the death of a patient. Medication error can include the incorrect drug or wrong dosage being given to a patient or the administration of a drug by the wrong route and errors associated with inadequate surveillance (i.e. blood tests, clinical observation).

“Medication errors are among the most common incidents reported in public hospitals” and investigations into incidents of this type identify “deficiencies in policy, communication and knowledge/competency” as major contributing factors.

The most common contributing factors identified in the WA health system in relation to medication errors were equipment and human resources. Examples included:

- medical device lacking suitable functionality
- the need for suitably qualified and experienced medical staff in attendance
- the need for increased orientation for new staff.

In reducing medication errors within WA Health, it is important to learn from errors that have occurred and to pay attention to the “context of medication errors”. The busy and often distracting hospital wards, in which the prescribing, dispensing and administration of medications occur, are environments where “latent conditions” exist that contribute to medication errors. A key factor in reducing medication related errors is to create safe environments to undertake medication related tasks where “staff who are transcribing charts or prescribing, dispensing or administering drugs should expect to do the task without interruption.”

Improving patient safety

WA Health is committed to medication safety.

- The OSQH in collaboration with the WA Medication Safety Group (WAMSG) issued two patient safety alerts in response to medication errors identified by the WA Sentinel Event Program.

1. Allergies to sulphonamide antibiotics and cross-reactivities

   This alert was issued following an event that highlighted the need for “clarification about sulfur related adverse drug reactions and the approach to managing patients with a known history or allergy to a sulfur compound.”
2. Recording and communication of adverse drug reactions

This alert highlighted the “importance of appropriate documentation and communication about a patient’s past history of adverse drug reactions at each hospital admission” as “incomplete or conflicting documentation about a previous adverse drug reaction on current or previous admission notes has the potential to cause fatal outcomes.”

Through the Safety and Quality Investment for Reform (SQuIRe) Program, medication reconciliation is a mandatory Clinical Practice Improvement (CPI) initiative across WA Health. “Medication reconciliation is the process of comparing a patient’s medication order to all of the medication that the patient has been taking. This reconciliation is done to avoid medication errors such as omission, duplications, dosing errors, or drug interactions and should occur at every transition of care in which new medications are ordered or existing orders are rewritten”. Public hospitals/health services have steadily increased their rates of medication reconciliation on admission and discharge/transfer.

The WA Sentinel Event Program will continue to share the lessons learned from medication errors and monitor the ongoing implementation of medication safety initiatives.

3.7 Maternal death or serious morbidity associated with labour or delivery

Key results

- Three events were notified in 2008/2009, one event resulted in fetal mortality and two events were associated with serious maternal morbidity.
- In 2007/2008 one maternal death and four events associated with serious morbidity were notified (fetal mortality was the outcome for three events of maternal morbidity).

“Safe care in maternity services should mean the reliable reduction of risk of harm to both mother and baby during pregnancy, childbirth and the postpartum period. Harm may arise either from failure to intervene appropriately or from unnecessary intervention.”

This category includes events where a death or serious disability has resulted due to an association with labour or delivery in a low-risk pregnancy while the woman was cared for in a hospital/health service. Events in this category are consistent with the national definition for this event (i.e. events that occur within 42 days post delivery but exclude deaths from pulmonary or amniotic fluid embolism, acute fatty liver of pregnancy or cardiomyopathy).

The events notified in this category were associated with induction of labour, a ruptured uterus and an emergency caesarean section.

The most common contributing factors in regards to this event category were policy, procedures and guidelines (67%). Examples of these included:

- the need for surgical guidelines post pelvic surgery
- the need to obtain blood cultures prior to administration of antibiotics
- implementation of a blood transfusion policy
- availability of midwifery staff and after-hours operating theatres.
Improving patient safety

During the 2008/2009 financial year, the WA Sentinel Event Program focused on monitoring sentinel events related to maternity care, including those captured in the “other” sub-category of “fetal complications of delivery”.

A review was undertaken of sentinel events (maternity incidents and fetal/neonatal incidents) occurring between January 2007 and April 2009 to examine contributing factors and the recommendations developed to improve patient care.

A number of themes emerged from the review, related to:
- documentation
- clinical skills improvement
- communication
- clinical guidelines
- equipment.

WA Health is committed to providing safe and high quality maternity care for all women and the WA Sentinel Event Program will continue to focus on trends arising from this category and develop recommendations for improvement in collaboration with the Chief Nurse and Midwifery Officer.

3.8 Infant discharged to wrong family or infant abduction

Key results

- There were no events of this type notified in the 2008/2009 financial year compared with two events notified in the 2007/2008 financial year.

3.9 Other

Key results

- The majority of confirmed sentinel events were notified into the category of “other adverse event resulting in serious patient harm or death”, rather than the eight national sentinel event categories.
- In the 2008/2009 financial year 63 events were notified in this category compared with 45 in 2007/2008. Analysis of this category is provided in Section 2 (see Table 3).
- The top three sub-categories of “other” were hospital process issues (16 events), fetal complication of delivery (15 events) and complications of surgery (8 events).
- The majority of sentinel events resulting in death of the patient were captured in this “other” category (42 deaths) compared with the eight national sentinel event categories (6 deaths).
This category, “other adverse event resulting in serious patient harm or death” includes events that do not fit in to the eight national sentinel event categories. The sub-categories of “other” are outlined in Appendix 2.

The most common contributing factors in regards to the “other” category were policy, procedures and guidelines (60%) and human resources (43%). Examples of these included:

- the need to follow best practice guidelines
- staff needing to feel confident to voice their concerns
- the need for regular patient monitoring.

Hospital process issues, fetal complications of delivery and complications of surgery were the top three categories of “other” and are outlined further below.

**Hospital process issues**

In the 2008/2009 financial year 17 “other” events were related to hospital process issues compared with 22 in 2007/2008. Investigation of events in this broad category has identified system vulnerabilities and areas for improvement including:

- patient transfer between facilities
- inappropriate patient discharge
- clinical handover and communication
- escalation processes for the deteriorating patient
- referral and coordination of care between specialties
- mental health and suicide risk assessments
- documentation
- clinical assessment.

The most common contributing factors in regards to the hospital process issues sub-category were policy, procedures and guidelines (88%) and human resources (59%). Examples of these included:

- the need for a medication reconciliation process for patients admitted through the emergency department
- miscommunication and lack of understanding of patient transfer protocols
- escalation policies/procedures to initiate Medical Emergency Team (MET) response
- the need for staff orientation
- the need for an adequate referral system between clinical specialties
- the development of a protocol for notifying abnormal radiological results.
Improving patient safety

The Pharmaceutical Review Policy was released for implementation in March 2007. The effectiveness of the policy’s implementation was evaluated by the completion of the Baseline Pharmaceutical Review Audit, by the OSQH, which examined WA public hospitals compliance with the policy. With respect to medication reconciliation WA Health is working to:

- increase the frequency of chart reviews
- improve documentation and completion of the ‘allergy and adverse drug reactions’ section on medication charts and reporting of any adverse drug reactions
- improve the documentation of medication history at admission and completion of all medication reconciliation processes
- improve discharge processes to facilitate more effective communication with general practitioners and other health professionals.

Fetal complications of delivery

In the 2008/2009 financial year 15 “other” events were related to fetal complications of delivery compared with 6 events in 2007/2008.

These events were associated with:

- poorly coordinated antenatal care
- co-sleeping
- birth trauma
- emergency caesarean section
- post-term birth
- pre-term labour
- placental abruption
- meconium aspiration
- cord prolapse
- cardiotocograph (CTG) abnormalities.

The outcomes of these events included:

- hypoxic ischemic encephalopathy
- fetal or neonatal death
- transfer to a neonatal intensive care unit.

The most common contributing factors in regards to fetal complications of delivery were policy, procedures and guidelines (53%), human resources (53%) and communication (47%). Examples of these included:

- the need for formal communication processes for coordinated antenatal care
- the need for staff orientation
- non-standardised equipment
- management of medical records within and between hospitals
- communication and clinical handover
- management of the deteriorating patient
- incorrect interpretation of CTG
- the need for regular observations
- ultrasound examinations to occur at the time of admission.

The increase in notifications in this category may not necessarily reflect an increase in fetal complications of delivery and perinatal morbidity, but may reflect a changing reporting culture, where adverse outcomes of childbirth are being notified as sentinel events. Three events notified to this category in 2008/2009 were declassified following investigations identifying that the events were not preventable. The WA Sentinel Event Program will continue to monitor this category of events during the 2009/2010 financial year.

**Improving patient safety**

The WA Sentinel Event Program is focused on preventing the recurrence of maternity related events and continues to utilise the expertise of obstetric specialists in addition to the advice of the Chief Nurse and Midwifery Officer, who is a representative on the Sentinel Event Executive Review Committee (SEERC).

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*Perinatal mortality among babies born in 2007 indicated that there were 189 fetal deaths and 61 neonatal deaths, providing a perinatal mortality rate of 8.3 perinatal deaths per 1000 total births. The perinatal mortality rate has generally declined over the past 15 years from a high of 11.5 per 1000 total births in 1996.* *The perinatal mortality rate for both babies of Aboriginal and non-Aboriginal mothers in 2007 were the lowest recorded during the 15 year period from 1993.*
Case example

Mrs Hillman, expecting her second baby, was admitted to hospital at 38 weeks gestation in early labour. Her admitting blood pressure was elevated at 150/90 and a cardiotocograph (CTG) was performed. The junior midwife assessing the CTG concluded that the CTG was within normal limits and informed the obstetric medical staff of this finding. The midwife then ceased the CTG.

Three hours after admission, Mrs Hillman reported some fresh blood loss vaginally. The midwife contacted the obstetric medical staff to review Mrs Hillman and recommenced the CTG.

Following assessment by the obstetric medical staff, fetal distress was evident on the CTG and an emergency caesarean was arranged. The time from the decision to perform the caesarean section to birth of the baby was one hour and 40 minutes. At birth the baby was pale, floppy and not breathing. Resuscitation procedures were commenced with the baby requiring ventilation. Unfortunately the baby died two days later, as a result of intra-uterine hypoxia.

Lessons learned

The failure to recognise subtle changes to the CTG resulted in fetal distress not being identified on admission. Communication issues were also identified as factors contributing to the patient’s delay in transfer to theatre for the emergency caesarean.

In response to this event, the hospital/health service implemented a policy/guideline requiring all CTGs to be checked by a senior midwife/obstetric medical staff who has completed an Advanced Fetal Monitoring Course.

Processes were established where by CTGs could be faxed to an on-call obstetric medical staff member for review, in the event that person was not available on site. In addition, a staff development program was initiated whereby all labour and birth suite staff were to complete the Basic Fetal Monitoring Course before commencing work in the birth unit.

To improve obstetric management and communication, a central coordinator role was established to liaise with all staff involved in a woman’s care. This would ensure effective communication and management, especially during obstetric emergencies when the urgency of the situation is required to be conveyed to a number of people.

The lack of exposure to rare potentially catastrophic obstetric events was also identified as contributing to staff involved in the birth not reacting quickly enough to the urgency of the situation. To assist staff to be prepared for obstetric emergencies, the hospital/health service implemented a program of drills on the management of obstetric emergencies.

Note this is not a case from Western Australia. This is a composite incident. No real names have been used in this case example.
Complications of surgery
In the 2008/2009 financial year eight “other” events were related to complications of surgery, the same number of events that occurred in 2007/2008.

These events were associated with:
- vascular compromise as a result of surgery
- bowel perforation resulting from colonoscopy
- readmission due to post operative abnormality
- equipment failure
- sudden collapse in the post operative period
- intra-abdominal bleeding.

The most common contributing factors in regards to complications of surgery were communication (38%) and policy, procedures and guidelines (25%). Examples of these included:
- the need for a coordinated pre-admission system
- communication and clinical handover
- staff not aware of potential operative risks to that patient
- discrepancies regarding interpretation of medical imaging
- the need for Medical Emergency Response guidelines regarding management of deteriorating patients.

Improving patient safety
The WA Sentinel Event Program continues to monitor the category “complications of surgery” and during the 2008/2009 financial year focused on colonoscopy perforation incidents notified since the inception of the program.

Incidents associated with colonoscopy perforation reported to the Advanced Incident Management System (AIMS) were also reviewed and contributing factors and recommendations examined to inform system-wide patient safety improvements in this area.
4. Closing the loop

“No adverse event should ever occur anywhere in the world if the knowledge exists to prevent it from happening. However, such knowledge is of little use if it is not put into practice.”


Sentinel events are “called sentinel because they signal the need for immediate investigation and response.”34 “Closing the loop” is the completed process of ensuring that the recommendations arising from sentinel event investigations are implemented to improve patient safety at a local level and that the lessons learned from the event are disseminated across the WA health system.

Feedback and sharing the lessons learned from the WA Sentinel Event Program across all levels of the health system facilitates learning about “safety issues and helps to foster a culture of openness, disclosure and reporting.”10

Completed sentinel event investigations

All final sentinel event investigation reports for 2008/2009 were completed and forwarded to the OSQH by 31 August 2009, compared with 93% of investigation reports for 2007/2008.

Open and closed events

For the purposes of this report, events are only required to be closed if the investigation report was received by the OSQH before 30 June 2008. Hospitals/health services have twelve months from the date the investigation report is received by the OSQH to implement recommendations. Once all recommendations are adequately implemented, the event is closed.

Health services provide an update to the OSQH on the status of the implementation of recommendations developed from sentinel event investigations on a six monthly basis. The most recent review on the status of the implementation of recommendations occurred in July 2009.

At the time of review, 96 events were identified as open in the Sentinel Event Database.

Following feedback from hospitals/health services on the progress of the implementation of recommendations, it was identified that 44 (46%) events had been closed since the last review in January 2009.

Of the 52 that remained open, 41 (43%) were not due to be closed at the time of the status review.

The status review identified that 11 (11%) events had been open for more than 12 months from the receipt of the investigation report and were overdue to be closed (see Figure 2).

Hospitals/health services were advised by the OSQH to implement the outstanding recommendations as a priority to effectively close these events.
Figure 2: The number of closed and open sentinel events (July 2009 Report on the Status of the Implementation of Recommendations)

![Pie chart showing percentages of closed, due to be closed, and not due to be closed events]

**Improving patient safety**

**Focus reports**

During the 2008/2009 financial year the OSQH produced over twenty focus reports examining clinical incident data from both the WA Sentinel Event Program and the Advanced Incident Management System (AIMS) database to inform patient safety reform and improvement.

Following the identification of clinical risks, focus reports were produced to examine clinical incident management data, disseminate lessons learned and inform the development of recommendations for patient safety improvement.

A number of focus reports were produced during 2008/2009 examining other areas of clinical incidents such as falls incidents, medication incidents, mental health incidents and therapeutic device incidents. As a result of the examination of clinical incident management data a number of patient safety alerts were developed.
Patient safety alerts

WA Health has continued to disseminate valuable safety information across the State’s hospitals/health services to facilitate improvements in patient safety and to reduce the recurrence of clinical incidents and adverse events. Outlined below are examples of patient safety alerts developed through the notification and investigation of events occurring in the 2008/2009 financial year:

- flushing of intravenous (IV) cannulae containing residual medication (outlined below)
- chemotherapy: systems review
- paracetamol: unclear labelling regarding product expiration date
- PICC line management
- anaesthetic team time out
- WA Medication Safety Group Medication Safety Alerts (allergies to sulphonamide antibiotics and recording and communication of adverse drug reactions)
- notification of medical device incidents to the Therapeutic Goods Administration (TGA).

Patient safety alert: Flushing of IV cannulae containing residual medication

WA Health has developed, via the WA Sentinel Event Program, effective processes for escalating patient safety issues arising from clinical incidents that have system-wide significance.

In response to a concern raised by a hospital/health service following a clinical incident with potential system-wide implications, the OSQH conducted a state-wide search of the Sentinel Event and Advanced Incident Management System (AIMS) databases for incidents involving the flushing of IV cannulae containing residual medication in particular, anaesthetic medication.

Although the majority of reported incidents were classed as "near misses" a number of the incidents had significant outcomes for the patients involved where at least some level of resuscitation was required.

The greatest concerns identified with respect to future clinical incidents occurring included:

- non-visible medications of high potency in small volume that would then be administered as a bolus dose
- administration of anaesthetic medication via infusaports
- administration of anaesthetic medication without a running line.

In response to the concerns regarding flushing of IV cannulae containing residual medication, a patient safety alert was issued to hospitals/health services from the Chief Medical Officer, to ensure that effective procedures and processes are in place for flushing IV lines and checking they are clear prior to leaving theatre. This was of especially high importance for facilities with paediatric services.
Sentinel event recommendations

Outlined below are examples of recommendations arising from the WA Sentinel Event Program that have been developed following the investigation of events occurring in the 2008/2009 financial year:

- Staff education regarding utilisation of cardiotocograph (CTG) and review of policy regarding obstetric and neonatal medical emergency response protocols.
- Review of clinical communication and establishment of a case management model of care applying best practice standards.
- Implement team time out process to ensure communication of risk factors.
- Implementation of a clinical handover framework for patients requiring consistent, dedicated one on one care (i.e. a nurse special).
- Implementation of staff training regarding the management of medical emergency responses.
- Implementation of a medication reconciliation process for patients admitted through the Emergency Department.
5. Sentinel Event Program 2009/2010

“Excellent healthcare organisations can and do experience adverse events. The difference between an excellent healthcare organisation and one of lesser quality is that the excellent organisation is dedicated to continuously examining its systems and processes for factors that increase the risk of adverse events.”


Open disclosure of sentinel events

In May 2009, the WA Open Disclosure Policy: Communication and Disclosure Requirements for Health Professionals Working in Western Australia was released for implementation by WA public health services. The WA Open Disclosure Policy establishes a standardised approach for health practitioners working in WA hospitals/health services, to communicate with the patient and/or their nominated relatives/carers after a clinical incident. The WA Open Disclosure Policy ensures that communication with, and support for all affected patients and staff, occurs in a supportive and timely manner.2

The WA Open Disclosure Policy requires that patients are informed of the probable or definite occurrence of a clinical incident that has resulted in, or is expected to result in, harm to the patient. Open Disclosure of a clinical incident to a patient is the “first stage in promoting and fostering an environment and culture that, through honest discussion, encourages the learning needed to improve systems and thus reduce medical error”.35 All sentinel events are to be disclosed in accordance with the WA Open Disclosure Policy.

During the 2009/2010 financial year, the WA Sentinel Event Program will monitor the implementation of open disclosure via sentinel event notifications, which include information to indicate if open disclosure has occurred with patients and their nominated relatives/carers following the occurrence of a sentinel event.

Management of the deteriorating patient

“Some patients who are, or become, acutely unwell in hospital may receive sub-optimal care because their deterioration is not recognised, not appreciated or not acted upon sufficiently quickly. Communication and documentation are sometimes poor, experience might be lacking and provision of critical care expertise, including admission to critical care areas, can be delayed”.36

Events notified during the 2008/2009 financial year re-enforced the need to ensure timely identification and management of the clinically deteriorating patient to prevent further patient decline and reduce mortality. Recommendations developed for implementation focused on improved recognition and escalation of care for deteriorating patients, including improved guidelines to initiate a medical emergency response action.

WA Health is committed to ensuring that patients who deteriorate receive appropriate and timely care, and supports the important work being undertaken by the Australian Commission on Safety and Quality in Health Care to improve the identification and management of deteriorating patients.
Future directions

The Sentinel Event Program remains a well-established clinical governance and patient safety management system across the WA health system. Over the next 12 months the Program will continue to focus on monitoring the timely notification and investigation of sentinel events and ensure that robust recommendations are developed and implemented.

Issues arising following the examination of sentinel events for 2008/2009, for attention over the next 12 months will include:

- maternity and fetal complications of delivery
- management of the deteriorating patient
- patient transfer issues
- clinical handover
- monitoring the impact of amendment to the definition of category one sentinel events
- monitoring the implementation of open disclosure.

Sharing the lessons learned from sentinel events and clinical incidents (i.e. “closing the loop”) will continue to remain a focus for WA Health. De-identified aggregated recommendations arising from event investigations with state-wide significance will continue to be shared with established groups, such as the Clinical Governance Network.

A key deliverable of the Managing Adverse Events Project is the development of the integrated clinical incident management policy. The Sentinel Event Policy will undergo review as part of the process to integrate clinical incident management systems, including inpatient mortality review.

“Health system safety matters because lapses in safety harm patients, their families and ultimately, society.”37 WA Health remains committed to learning from sentinel events and continuing to make improvements in patient safety for the delivery of high quality healthcare.
6. Contact information

For information on making a compliment or complaint about the provision of healthcare, consumers can contact their local hospital patient liaison officers or complaint coordinators.

Consumers may also wish to contact the following agencies:

**Office of the Chief Psychiatrist**
www.chiefpsychiatrist.health.wa.gov.au
Telephone: (08) 9222 4462

**Health Consumers’ Council of Western Australia**
www.hconc.org.au
Telephone: (08) 9221 3422
Freecall: 1800 620 780
Email: info@hconc.org.au

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

For information regarding safety and quality initiatives or the WA Sentinel Event Program contact:

**WA Department of Health – Office of Safety and Quality in Healthcare**
www.safetyandquality.health.wa.gov.au
Telephone: (08) 9222 4080
Email: safetyandquality@health.wa.gov.au
7. References


### Table 6: Categories of contributing factors

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Communication</td>
<td>Communication between staff, patients and family members</td>
</tr>
<tr>
<td>2. Equipment</td>
<td>Faulty equipment, lack of equipment provision</td>
</tr>
<tr>
<td>3. External factors</td>
<td>Issues external to the reporting organisation</td>
</tr>
<tr>
<td>4. Health information</td>
<td>Documentation – or lack of – in medical record, communication of information between hospital/health service and external service providers</td>
</tr>
<tr>
<td>5. Human resources</td>
<td>Staff allocation, staff training, staff supervision, staff appraisals, recruitment</td>
</tr>
<tr>
<td>6. Inter-hospital issues</td>
<td>Issues with transfer of a patient from one hospital/health service provider to another</td>
</tr>
<tr>
<td>7. Physical environment</td>
<td>Issues with the physical environment of the hospital/health service or general suitability of the environment to support the function it is being used for</td>
</tr>
<tr>
<td>8. Policy, procedures and guidelines</td>
<td>Behavioural assessment, physical assessment, patient observation process, clinical management guidelines, identification process, coordination of care</td>
</tr>
<tr>
<td>9. Translation issues</td>
<td>Issues with translation of health information for a patient</td>
</tr>
<tr>
<td>10. Transportation issues</td>
<td>Issues with interagency or hospital/health service transportation of a patient</td>
</tr>
<tr>
<td>11. Other factors</td>
<td>Patient co-morbidities, patient factors</td>
</tr>
</tbody>
</table>
### APPENDIX 2:
Sentinel event categories

Table 7: Categories of sentinel events in Western Australia

<table>
<thead>
<tr>
<th>Category</th>
<th>Healthcare incidents that must be reported as sentinel events</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Procedures involving the wrong patient or body part.</strong>&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>- Surgery performed on a wrong body part or the wrong surgical procedure performed that is not consistent with the documented informed consent of that patient.</td>
</tr>
<tr>
<td>2</td>
<td><strong>Suicide of a patient in an inpatient unit.</strong></td>
</tr>
<tr>
<td></td>
<td>- Mental Health Services are required to report to the Chief Psychiatrist episodes of unexpected death.</td>
</tr>
<tr>
<td>3</td>
<td><strong>Retained instruments or other material after surgery requiring re-operation or further surgical procedure.</strong></td>
</tr>
<tr>
<td></td>
<td>- Retention of a foreign object in a patient after surgery or other procedure including surgical instruments or other material such as gauze packs inadvertently left inside the patient when the surgical incision is closed, excluding objects intentionally implanted as part of a planned intervention and objects present prior to surgery that are intentionally retained.</td>
</tr>
<tr>
<td>4</td>
<td><strong>Intravascular gas embolism resulting in death or neurological damage.</strong></td>
</tr>
<tr>
<td></td>
<td>- Death or serious disability associated with intravascular gas embolism that occurs while the patient is being cared for in a facility, excluding deaths associated with neurosurgical procedures known to present a high risk of intravascular gas embolism.</td>
</tr>
<tr>
<td>5</td>
<td><strong>Haemolytic blood transfusion reaction resulting from ABO incompatibility.</strong></td>
</tr>
<tr>
<td>6</td>
<td><strong>Medication error resulting in major permanent loss of function or death reasonably believed to be due to incorrect administration of drugs. Includes:</strong></td>
</tr>
<tr>
<td></td>
<td>- Death or serious injury associated with a medication error, including, but not limited to errors involving the wrong drug, a contaminated drug, the wrong dose, the wrong patient, the wrong time, the wrong rate, the wrong preparation, the wrong route of administration and insufficient surveillance (e.g. blood tests, clinical observation). This category excludes reasonable differences in clinical judgment on drug selection and dose.</td>
</tr>
<tr>
<td>7</td>
<td><strong>Maternal death or serious morbidity associated with labour or delivery.</strong></td>
</tr>
<tr>
<td></td>
<td>- Maternal death or serious disability associated with labour or delivery in a low-risk pregnancy while the patient is being cared for in a facility, including events that occur within 42 days post delivery and excludes deaths from pulmonary or amniotic fluid embolism, acute fatty liver of pregnancy, or cardiomyopathy.</td>
</tr>
<tr>
<td>8</td>
<td><strong>Infant discharged to wrong family or infant abduction.</strong></td>
</tr>
<tr>
<td>9</td>
<td><strong>Other adverse event resulting in serious patient harm or death.</strong></td>
</tr>
<tr>
<td></td>
<td>- Complication of resuscitation; complication of anaesthesia management; complication of surgery; fetal complication; complication of an inpatient fall; not appropriate; infection control breach; patient absconding with adverse outcome; hospital process issues; medication error (not death); other.</td>
</tr>
</tbody>
</table>

<sup>d</sup> Note for the 2009/2010 financial year this category has been amended to read: Procedures involving the wrong patient or body part resulting in death or major permanent loss of function.
APPENDIX 3:
Safety management systems in WA hospitals/health services

Additional clinical incident management systems that contribute to the safety and improvement of patient care include:

- **Western Australian Review of Mortality (WARM)** requires all deaths that occur in public hospitals and licensed private healthcare facilities in Western Australia to be classified and reviewed. WARM is part of a system-wide approach to ensure that all preventable inpatient deaths are reviewed and is complementary to the Sentinel Event process.

- **Western Australia Review of Surgical Mortality (WAASM)** is an external, independent and confidential peer review surgical audit based on evidence-based methodology adapted from the Scottish Audit of Surgical Mortality. WAASM commenced in 2001, and is funded by the Department of Health, Western Australia, while being managed by the Royal Australasian College of General Surgeons. WAASM is designed to provide feedback by surgeons to surgeons; the purpose of this feedback is to inform, educate, facilitate change and improve the practice of all clinicians. The WAASM process has contributed to system-wide learning on contributing factors associated with surgical deaths (e.g. fluid balance).

- **Coronial Investigations** into deaths occurring within the health system and reported under the *Coroners Act 1996*.

- **Clinical Incident Management System (using the Advanced Incident Management System)** is in place across all WA government hospitals/health services and facilitates the reporting, investigation, analysis and monitoring of clinical incidents that occur as a result of the provision of healthcare. The main objective of AIMS is to improve healthcare provision through the voluntary reporting of clinical incidents that enables hospital/health service staff to investigate, identify contributing factors and system errors that may have caused or contributed to the incident. Preventative measures can then be put in place to minimise the risk from similar events occurring in the future.

- **Open Disclosure** is the process of communicating with patients and their nominated relatives/carers following a clinical incident or adverse event. The *Open Disclosure Policy: Communication and Disclosure Requirements for Health Professionals Working in Western Australia* was released in May 2009. The Policy outlines the processes that health practitioners and hospitals/health services in WA are to follow when informing a patient/and or their nominated relatives/carers about a clinical incident that has occurred in a WA public hospital/health service.