Clinical Incident Management in the NSW Public Health System
Looking, Learning, Acting

July – December 2010
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Foreword

“In health care we are learning slowly and painfully that safety is a tough intractable problem that will take much more than reporting to resolve” - Charles Vincent 2008 (1). Professor Vincent was highlighting the importance of learning from and taking action in response to clinical risks, no matter how they come to light. Counting and comparing alone will do nothing to reduce risks to safe and effective care.

Six years on from the introduction of the NSW incident reporting system (the Incident Information Management System or IIMS), this continues to be true. While IIMS contains a wealth of information about system vulnerabilities, it is the work done at State, local health district, health service/hospital and clinical unit level, in response to incident reporting that makes our system stronger.

Close monitoring of incident reporting and subsequent investigation findings is a core tool used by the Clinical Excellence Commission (CEC) to assist NSW Health staff to improve the safety and quality of clinical care. It informs many of the other CEC, NSW Health and the Agency for Clinical Innovation ACI projects and programs and is enhanced by the information gathered during these.

This report provides an update on clinical incident reporting and actions taken in response to it – incident management - during the second half of 2010. We invite you to take time to read it.

Prof Clifford Hughes AO
Chief Executive Officer
Clinical Excellence Commission
March 2013
About this report

This report has been prepared by the Clinical Excellence Commission (CEC) to provide the community with information on clinical incidents reported in the NSW public health system between 1 July and 31 December 2010.

A clinical incident is any unplanned event which causes, or has the potential to cause, harm to a patient.

Clinical incident management reports are compiled twice a year as part of NSW Health and the CEC’s commitment to keeping the community informed about incidents relating to patient care and what is being done about them.

The reports include:
- An examination of notifications to the Incident Information Management System (IIMS)
- Lessons learned from analysing individual incidents
- Actions taken within the reporting period to make improvements.

The body of this report contains information about action and learning undertaken in response to clinical incidents. The Data Dashboard section contains tables and graphs from analysis of aggregated incident data.

This is an important part of the NSW Patient Safety and Clinical Quality Program (PSCQP), established in 2004.

How it works

Staff in NSW health services are required to report all incidents, so that risks to patient safety are recognised and action is taken to prevent them. This is largely done using the Incident Information Management System (IIMS), or Riskman, for staff at St Vincent’s Hospital.

IIMS can be accessed electronically by all employees of the NSW public health system to notify incidents that have caused patient harm or might do so.

Incidents reported to IIMS are classified according to one of 20 Principal Incident Types (PITs). They are also rated against a Severity Assessment Code (SAC). There are four SAC ratings, ranging from SAC1 (extreme risk) to SAC4 (low risk). More than 97 per cent of incidents notified were rated as SAC3 or SAC4 – indicating little or no harm.

All SAC1 incidents are subject to a thorough investigation known as a root cause analysis (RCA), to find out what happened and identify opportunities to make our services safer (Figure 1).

The system also enables longer-term review of all the information collected since IIMS began, to identify or confirm key issues and trends relating to clinical care and help shape effective strategies to reduce the risks and improve care for all patients.
Figure 1: What happens when a serious (SAC1) clinical incident occurs?

Care & safety response

SAC1 incident reported

Open disclosure process starts

Report(s) of investigation findings given to patient, family

Root cause analysis (RCA) conducted and report prepared

Management, Director of Clinical Governance and Chief Executive sign off

RCA review committees review & classify

Clinical Excellence Commission

NSW Ministry of Health (MoH)

Relevant local health district (LHD) staff for implementation of recommendations

Patient Safety Team conduct further analysis, IIMS reviews

Other MoH directorates/State bodies for action as appropriate

Implementation overseen by Clinical Governance Unit & managers

Clinical Focus Reports, Incident Management reports to public, Minister, LHD & relevant agencies, projects/programs

LHD feedback processes
Executive summary

Staff in NSW health services continue to provide a high standard of clinical care and demonstrate their commitment to making it even better by reporting actual or potential incidents.

There were 65,898 clinical incidents and 7,176 complaints notified in the Incident Information Management System (IIMS) between 1 July and 31 December 2010. A further 1,343 clinical incidents were reported by St Vincent’s Hospital and, where possible, have been included in the appropriate sections of this report. Previously only SAC1 incidents from St Vincent’s Hospital had been reported in detail. The breakdown of all incidents reported in IIMS is shown in Table 1: IIMS Notifications by Principal Incident Type.

The most frequently notified incidents related to falls (13,267), clinical management (10,556) and issues associated with medications and intravenous fluids (10,475).

As in previous reports, notifications were, on average, associated with just over eight per cent of admissions, or 20.95 per 1,000 bed days.

Most notifications concerned incidents which did not result in patient harm, but offered opportunities to improve health care. Ninety-three per cent were recorded as having minimal or no impact on the patient’s care. Just over two per cent of incident notifications indicated the patient suffered harm as a result and 213 of the patients about whom incidents were reported, subsequently died.

The number of SAC1 incidents rose for the first time in two years. The largest increase was in patient identification incidents, such as wrong site/patient x-rays. Thirteen per cent of these were in some way related to the transition towards electronic ordering and medical record systems. In addition to local health service responses, this issue has been escalated to the Clinical Risk Review Committee which monitors serious clinical incident reports from across the NSW health system. A high-level working party has also been established to work through the risks to patient safety identified in relation to the introduction of electronic systems.

The most frequently identified issue in root cause analysis (RCA) reports continues to be the management of patients whose condition deteriorates while under our care. This report provides information about how the Between the Flags program assists in addressing this risk. There is also information about the Sepsis Kills project, which aims to improve the recognition and management of patients who present with severe infection or sepsis.

Communication was once again the most common system factor identified as contributing to incidents. Some strategies being used to address this are discussed on pages 15-16. Issues with supervision of junior staff, of which communication is a key component, were also evident during this reporting period.

Future reports

Future reports in this series will be presented electronically, based around a “Data Dashboard” format. This will assist the reader to access current information about the many programs and actions taken in response to clinical incident reporting in NSW health services. It will also allow the CEC to update the clinical incident data more easily and reduce the time lag in provision of this information.
What incident reports are telling us

Overall notifications

There were 65,898 clinical incidents and 7,176 complaints notified in the Incident Information Management System (IIMS) between 1 July and 31 December 2010.

Staff completing notifications in IIMS are asked to nominate the principal incident type (PIT) for each incident reported. The breakdown of these is shown in Table 1. The most frequently notified PITs related to falls (13,267), clinical management (10,556) and issues associated with medications and intravenous fluids (10,475).

A further 1,343 clinical incidents were reported by St Vincent’s Hospital. These are not included in Table 1, because the Riskman system used does not contain a PIT field, and over 20 per cent of incidents had more than one incident type assigned. The most frequently reported incident types were clinical management (417), medication/IV fluids (331), falls (249), behaviour/human performance (200), accident/OHS (143) and aggression-aggressor (126).

Table 1: Incident notifications by principal incident type, July-December 2010*

<table>
<thead>
<tr>
<th>Principal Incident Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>13,267</td>
</tr>
<tr>
<td>Clinical management</td>
<td>10,556</td>
</tr>
<tr>
<td>Medication/IV fluid</td>
<td>10,475</td>
</tr>
<tr>
<td>Aggression-aggressor</td>
<td>6,416</td>
</tr>
<tr>
<td>Pressure ulcer</td>
<td>5,327</td>
</tr>
<tr>
<td>Behaviour/human performance</td>
<td>5,182</td>
</tr>
<tr>
<td>Documentation</td>
<td>4,421</td>
</tr>
<tr>
<td>Accident/occupational health and safety</td>
<td>2,782</td>
</tr>
<tr>
<td>Organisation management/service</td>
<td>1,742</td>
</tr>
<tr>
<td>Medical device/equipment/property</td>
<td>1,595</td>
</tr>
<tr>
<td>Blood/blood product</td>
<td>998</td>
</tr>
<tr>
<td>Aggression-victim</td>
<td>750</td>
</tr>
<tr>
<td>Health care associated infection/infestation</td>
<td>728</td>
</tr>
<tr>
<td>Nutrition</td>
<td>439</td>
</tr>
<tr>
<td>Complaint</td>
<td>435</td>
</tr>
<tr>
<td>Pathology/laboratory</td>
<td>362</td>
</tr>
<tr>
<td>Security</td>
<td>246</td>
</tr>
<tr>
<td>Building/fittings/fixtures/surrounds</td>
<td>126</td>
</tr>
<tr>
<td>Oxygen/gas/vapour</td>
<td>51</td>
</tr>
<tr>
<td><strong>TOTAL IIMS notifications</strong></td>
<td><strong>65,898</strong></td>
</tr>
</tbody>
</table>

(*Accurate at time of extraction 9th February 2011)

It is noted that the order of the top six most commonly reported principal incident types in IIMS has changed. The slight differences in reporting classifications and cultures may account for the variation. No conclusion should be drawn from this.
While international literature has for some time suggested that incidents are likely to be associated with 10 per cent of admissions, the rate varies considerably, depending on which methodology or measurement tool is applied. For example, a recent US study found that if the Institute for Healthcare Improvement Global Trigger Tool for Measuring Adverse Events' was applied, the rate in 12 hospitals they reviewed in Texas was as high as 39.8 per cent. Most of the patients affected (87 per cent) suffered temporary harm, but required either additional treatment or a longer stay in hospital. Just under three per cent died(2).

The total number of NSW clinical incidents reported, compared with hospital admissions and by bed days is shown in Table 2.

Table 2: Clinical incident notifications compared with episodes of inpatient care

<table>
<thead>
<tr>
<th>SAC rating</th>
<th>Number</th>
<th>Percentage (%) of notifications</th>
<th>As a percentage (%) of all hospital admissions</th>
<th>Per 1,000 acute care bed days</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAC1</td>
<td>335</td>
<td>0.50</td>
<td>0.04</td>
<td>0.10</td>
</tr>
<tr>
<td>SAC2</td>
<td>1,127</td>
<td>1.68</td>
<td>0.14</td>
<td>0.35</td>
</tr>
<tr>
<td>SAC3</td>
<td>29,049</td>
<td>43.19</td>
<td>3.51</td>
<td>9.05</td>
</tr>
<tr>
<td>SAC4</td>
<td>33,230</td>
<td>49.40</td>
<td>4.01</td>
<td>10.36</td>
</tr>
<tr>
<td>No SAC allocated</td>
<td>3,521</td>
<td>5.23</td>
<td>0.42</td>
<td>1.10</td>
</tr>
<tr>
<td>Total</td>
<td>67,262</td>
<td>100.00</td>
<td>8.12</td>
<td>20.96</td>
</tr>
</tbody>
</table>

This table includes SAC 2-4 clinical incidents from St Vincent’s Hospital for the first time in this report. SAC1 incidents have previously been included.

The figures above are consistent with previous incident reporting periods. There has, however, been an increase in the number of SAC1 incidents (see also Figure 4 in the Data Dashboard section of this report). The difference may be explained by the rise in the number of wrong patient/site/procedure incidents reported from medical imaging services, in which minimal harm occurred. More information about this can be found on page 12 of the report.

1 http://www.ihi.org/knowledge/Pages/Tools/IHIGlobalTriggerToolforMeasuringAEs.aspx
The percentage of notifications related to serious incidents (rated SAC1 or SAC2) is slightly lower than in the previous three reporting periods.

Serious (SAC1) clinical incidents

As described earlier in this report (page 4), all serious (SAC1) incidents undergo root cause analysis (RCA) to identify contributing factors. This is an in-depth analysis used in many industries to investigate adverse events. Expert teams analyse information gathered from the people and equipment involved in the patient’s care, to determine where things did not go as expected. In nearly all cases, underlying system failures are found to have contributed to, or failed to stop, human errors during complex care processes. With the benefit of hindsight and analysis, RCAs help us to understand how and why these happen, so that actions can be taken to reduce the risk of a similar incident occurring with another patient.

Table 3: SAC1 incidents by service or principal incident type

<table>
<thead>
<tr>
<th>Service or Principal Incident Type</th>
<th>Jul-Dec 2008</th>
<th>Jan-Jun 2009</th>
<th>Jul-Dec 2009</th>
<th>Jan-Jun 2010</th>
<th>Jul-Dec 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental health - suspected suicides and aggression</td>
<td>73</td>
<td>74</td>
<td>79</td>
<td>77</td>
<td>81</td>
</tr>
<tr>
<td>Maternal and perinatal stream</td>
<td>30</td>
<td>27</td>
<td>27</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>Blood/blood products</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Clinical management - all clinical streams - includes patient identification and retained accountable items*</td>
<td>169</td>
<td>179</td>
<td>169</td>
<td>163</td>
<td>194</td>
</tr>
<tr>
<td>Health care associated infection</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Falls</td>
<td>16</td>
<td>26</td>
<td>18</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>Medication/IV fluids</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Mandatory reporting - including deaths in custody</td>
<td>9</td>
<td>5</td>
<td>7</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Incidents from all groups determined to be non-preventable or unclassifiable following RCA*</td>
<td>5</td>
<td>8</td>
<td>8</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Medical device/equipment/property</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>311</strong></td>
<td><strong>327</strong></td>
<td><strong>316</strong></td>
<td><strong>297</strong></td>
<td><strong>335</strong></td>
</tr>
</tbody>
</table>

*Includes seven incidents related to retained material which required surgical removal and 71 patient identification incidents (wrong patient, site or procedure), four of which were related to breast milk. Further detail about incidents related to identification included later in the report, including the Data Dashboard.
Clinical care issues identified in RCAs

Local RCA reviews have identified a range of issues which occur across the general hospital setting, maternal and perinatal and mental health drug and alcohol services.

Care issues highlighted in the four most recent reporting periods are shown below.

Table 4: Highlighted clinical care issues in RCAs related to physical health care

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition and response to deteriorating patient</td>
<td>30</td>
<td>23</td>
<td>45</td>
<td>61</td>
</tr>
<tr>
<td>Recognition and management of acute abdominal pain</td>
<td>13</td>
<td>11</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>Recognition and management of sepsis</td>
<td>15</td>
<td>7</td>
<td>22</td>
<td>13</td>
</tr>
<tr>
<td>Medication-related issues</td>
<td>15</td>
<td>12</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Post-fall management</td>
<td>11</td>
<td>7</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Recognition and management of acute coronary syndrome</td>
<td>11</td>
<td>14</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Recognition and management of pulmonary embolus</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Airway management</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Health care associated infection</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Trauma management</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Transfer of unstable patient</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Thromboprophylaxis</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Recognition and management of aspiration</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Transfer from ED/ICU after hours</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Issues associated with use of electronic medical records</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
</tbody>
</table>

The most common factor identified in RCA reports reviewed by the Clinical Management RCA Review Committee was the recognition and response to patients whose condition deteriorates under our care. The *Between the Flags* program, which was implemented in response to this issue, is discussed further on page 19.

Serious incidents involving patients who died

During this reporting period, 213 of the SAC1 incidents were associated with the death of a patient. This does not mean the incident was the cause of death. The clinical condition of patients is often highly complex. It may not be possible to determine precisely how much a particular incident contributed to the death.

It is also NSW Health policy to review all deaths associated with care from NSW health services\(^2\). There are a number of death review processes. Wherever there are concerns about management of a critically ill or dying patient, the case is reported and reviewed as a SAC1 incident, to make sure the death was not related to complications of the care provided.

Other processes include medical record reviews at LHD and/or hospital level, morbidity and mortality meetings and State-level processes, including the Special Committee Investigating Deaths under Anaesthesia (SCIDUA) and the Collaborating Hospitals’ Audit of Surgical Mortality (CHASM). More information about these committees is available on the CEC website.

Incidents involving the wrong patient, procedure, body part or surgical implant

In NSW, all incidents involving the wrong patient, procedure, body part or surgical implant are classified as serious (SAC1). This is in recognition of the serious risk to patient safety, although thankfully in most cases the consequence is inconvenience rather than harm. All these incidents undergo RCA so we can strengthen our systems of patient identification during diagnostic testing and care delivery.

There was an increase in the number of these incidents during this reporting period, particularly in relation to diagnostic (imaging) tests. It must be remembered that variations in relatively small numbers of incidents such as these may not be significant, however, this group was examined further to look for trends.

Electronic medical records (EMR) components related to ordering of diagnostic tests were introduced across NSW health services during 2010. While this has improved the quality and accessibility of test results, 23 per cent of the RCAs indicated that EMR-based systems were a contributing factor to imaging procedures being undertaken on the wrong patient or the wrong body part.

A recent article by Sittig and Singh (3) reflects other international literature (4):

Despite the promise of health information technology (HIT), recent literature has revealed possible safety hazards associated with its use. . . . rapid advances in HIT development, implementation, and regulation have complicated the landscape of HIT-related safety issues. Erroneous or missing data and the decisions based on them increase the risk of an adverse event . . .

This is particularly so when staff are dealing with new and/or hybrid systems (where some functions are still paper-based or located on older electronic platforms).

A high-level working party has been established to address risks to patient safety associated with the move to an EMR system in NSW. This will assist in identifying and, where appropriate, modifying the system to reduce the chance of human errors, such as incorrect selection, when entering information or requesting tests electronically.

See the section on communication (pages 15-16) for further discussion about documentation errors in EMRs.
Mental health drug and alcohol services RCAs

Clinical care issues identified in reviews of RCA reports by the Mental Health RCA Review Sub-committee have been recorded by the CEC since January 2010. Those identified in the July – December 2010 reporting period are shown below.

Table 5: Clinical care issues for mental health drug and alcohol service patients

<table>
<thead>
<tr>
<th>Clinical care issue</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared care</td>
<td>18</td>
</tr>
<tr>
<td>Dual diagnosis – mental health/drug and alcohol</td>
<td>16</td>
</tr>
<tr>
<td>Patient absconded or did not wait to be seen (emergency department)</td>
<td>11</td>
</tr>
<tr>
<td>First contact with mental health service</td>
<td>7</td>
</tr>
<tr>
<td>Patient whose deteriorating condition was not recognised/managed</td>
<td>6</td>
</tr>
<tr>
<td>Death in custody</td>
<td>6</td>
</tr>
<tr>
<td>Patient seen in emergency department within 48 hours of incident</td>
<td>5</td>
</tr>
<tr>
<td>Medication-related (including inadequately managed side-effects)</td>
<td>2</td>
</tr>
<tr>
<td>Aggression management</td>
<td>2</td>
</tr>
<tr>
<td>Treatment resistant</td>
<td>1</td>
</tr>
<tr>
<td>Therapeutic relationship not achieved/sustained</td>
<td>1</td>
</tr>
<tr>
<td>Patient responsible for arranging ongoing care/follow-up</td>
<td>1</td>
</tr>
<tr>
<td>Pulmonary embolus or inadequate thromboprophylaxis</td>
<td>1</td>
</tr>
<tr>
<td>Patient on approved leave from mental health unit at time of incident</td>
<td>1</td>
</tr>
<tr>
<td>Patient absconded from inpatient mental health unit</td>
<td>1</td>
</tr>
<tr>
<td>Issues associated with management of chronic pain</td>
<td>1</td>
</tr>
</tbody>
</table>

The Mental Health Act 2007 states that consideration must be given to the least restrictive environment in which care and treatment can be given effectively. Consequently, patients with mental illness are cared for in the community as much as possible, often under shared care arrangements between public health services, GPs and other private providers. This is reflected in the table above.

Analysis of RCA reports also found that many patients had one or more significant comorbidities, either physical health or substance use – or both. As was also noted in the CEC Quality Systems Assessment (QSA) 2011 Supplementary Report – Mental Health (5), these patients are managed in a range of services, from emergency departments, general wards through to mental health units, depending on their current clinical needs. The challenges associated with assessing and managing patients who may be at risk of self-harm or of leaving the health service before they have received the necessary care, were reported by many respondents to the survey. More information about the QSA report can be found at: http://www.cec.health.nsw.gov.au/__documents/programs/qsa/qsa-reports/2011-qsa-thematic-report-mental-health_qsa_final.pdf

The Ministry of Health is using the findings of incident reports, the QSA survey, feedback from consumers and other projects, to improve the management of patients with challenging behaviours associated with mental illness.

More information about underlying issues identified through RCA processes can be found in the Data Dashboard section of this report.
Key issues

In this section, we provide information about two key issues identified in IIMS and RCA reports: communication and supervision.

Communication as a system factor

One of the most common factors identified in all RCAs is failure in the structures and processes for communication of information about patients’ planned care or clinical condition. This includes:

- Verbal communication between care providers
- Communication between health care staff and patients (and their family members)
- Documentation about care which has been planned and provided.

In health care, communication occurs in a number of ways, so that the immediate and future care needs are clear to the many staff who may be involved in providing care to any patient. Much of this occurs verbally at the time that issues arise or when care is handed over from one clinical team, shift, or clinician to another. This is referred to “synchronous” communication, meaning that both the deliverer and the recipient of the information are involved at the same time. It is also essential to provide accurate “asynchronous” communication such as written diagnostic test results, allergy alerts and care plans, which are read some time later. Both of these forms of communication have strengths and weaknesses. For example, during verbal (synchronous) communication there is opportunity to clarify anything which is unclear, however, interruptions and competing priorities may affect how information is received and retained by the listener.

Communication between care providers was the second most common system factor identified in RCAs reviewed by all three committees - 179 times in the 313 RCAs reviewed (in 57 per cent of the clinical management RCA group; 42 per cent of maternity and perinatal; 63 per cent of mental health, drug and alcohol RCAs). While communication with patients and families was cited less often, it was noted in 26 (8 per cent) of RCAs reviewed. A review of clinical incidents of all SAC ratings in IIMS showed that staff indicated communication (an optional field in IIMS) was a contributing factor in nearly 1,000 incidents during the reporting period.

Inadequate documentation was identified as a contributing factor in 175 (56 per cent) of the RCAs.

Strategies to improve communication about patient care

Previous incident management reports (6-8) have discussed the importance of comprehensive and effective clinical handover, a form of synchronous communication. The use of acronyms such as ISBAR3 (9), designated handover times, places and checklists have been implemented to ensure that verbal information about each patient’s current condition is communicated and understood clearly. These systems recognise that human beings in busy environments, even with the best intentions, could otherwise miss important information.

NSW health services are moving from paper-based medical records towards electronic medical records (EMR) to document care which has been planned or provided. This has the potential to eliminate some issues, such as misinterpretation of poor handwriting (10). It will also help to inform all health care providers about relevant details of each patient’s current care. For example, if a patient arrives in the emergency department in the middle of the night with a temperature, staff will be able to find out quickly and easily whether this may be related to a recent dose of chemotherapy received as an outpatient. Alerts can be programmed into EMR and seen immediately, rather than waiting for paper records to be retrieved.

The Ministry of Health has invested significant resources and support during its staged implementation of EMR and has been advised of issues with use of EMR, particularly in relation

3 ISBAR provides a prompt so that communication includes the following components: Introduction, Situation, Background, Assessment and Recommendation.
to ordering and follow-up of diagnostic tests. They are working with local health district staff and technical staff within HealthShare NSW to reduce the risk of errors.

Another critical component of communication is clinical handover(11). In a busy ward there is always a risk that interruptions and competing priorities will distract clinical staff from providing all the information intended, when they hand over care of a patient to another staff member or service.

The NSW Health Policy Directive PD2009_060: Clinical Handover – Standard Key Principles provides guidance about overcoming some of the underlying problems. This includes:

- Clear leadership for each handover
- An organisational culture of valuing handover
- Active involvement of all staff and, wherever possible, patients and families in handover processes
- Dedicated times for handover (ensuring rosters overlap)
- Dedicated location for handover, preferably at the patient’s bedside
- Standardised processes to ensure that all relevant information is discussed at every handover.

Using a prompt such as ISBAR can help to structure the information, as do handover checklists.

**ISBAR**

This tool has been discussed in previous Clinical Incident Management reports (January–June and July–December 2009). It is a prompt to assist staff in communicating all relevant information whenever they are handing over care, or discussing a patient’s progress with a colleague or family member.

NSW Health collaborated with South Australian Health to develop an iPhone and iPad App, so that the ISBAR tool is easily accessible during patient care discussions. It can be downloaded from the Australian Resource Centre for Healthcare Innovations (ARCHI) website:

http://www.archi.net.au/resources/safety/clinical/nsw-handover
Checklists as a Communication Tool

The use of checklists in healthcare settings is increasing. These have long been used in aviation and other high-risk industries. While it may appear that the sole purpose of a checklist is to “tick off” tasks as they are done, human factors experts tell us they are most effective when used as a communication tool. Each item on a checklist is intended to be a prompt for clinical staff to discuss whether all components of care have been considered for each patient. It helps to identify where “standard” care needs to be varied and creates a common understanding of each patient’s specific needs. Checklists are used in specific circumstances, for example, the “time out” checklist for surgical procedures (12) or the WHO Surgical Safety Checklist (13).

During 2010, the NSW Health Redesign Unit trialled a new program aimed at Improving Patient and Staff Experiences (IPSE). This received positive feedback. One of the core elements was to enhance communication within clinical units, particularly between managers/team leaders and team members. Like ISBAR, the program provides structure and prompts to help staff prioritise communication in busy clinical settings. Program attendees were provided with examples of how important timely communication of relevant clinical information is for patient safety.

Gaps in communication between junior and senior staff were noted in some RCA reports. This may reflect occasions where supervision and support were not working as well as expected.

Clinical supervision at the point of care

Forty-nine of the RCAs identified issues with supervision and support, particularly of junior staff providing clinical care.

The CEC explored this issue and released a report, *Clinical supervision at the point of care*, (14) to NSW Health staff in July 2011.


Similar issues were highlighted in the *Final Report of the Special Commission of Inquiry: Acute Care Services in NSW Public Hospitals*, released in November 2008 (15).

A high-level working party, with representatives from the Ministry of Health, the Agency for Clinical Innovation (ACI), the Health Education and Training Institute (HETI), the CEC and lead clinicians, is currently working together to strengthen the frameworks in NSW Health services, to ensure effective supervision of junior staff providing frontline care to patients. This will build on the work already done by HETI, clinical groups and local health districts to ensure that staff have access to the support they need, at the time they need it.

HETI has developed The Superguide – a handbook for supervising doctors in training (16) and more recently, a similar guide for allied health professionals.
Updating previous reports

This section provides information about key Statewide programs and projects which were developed in response to issues identified through incident reporting.

Recognition and response to patients whose condition deteriorates

![Between the Flags](image)

**Between the Flags**

Keeping patients safe

A Statewide initiative of the Clinical Excellence Commission

Recognition and response to patients whose condition deteriorates was, once again, the highest clinical risk area identified during review of RCA reports. Sixty-seven of the reports reviewed identified concerns about this issue. This may in part reflect increased awareness of this issue, following the launch of the *Between the Flags* (BTF) program in January 2010. With their permission, the program emulates Surf Lifesaving Australia’s message and visual imagery - the safe place to swim is between red and yellow flags.

The BTF program is based around colour-coded “track and trigger” charts – the first of which was the Standard Adult General Observation chart (SAGO). Since the launch of the program, clinical experts have assisted in developing further charts and training, to monitor and respond to children and maternity patients whose condition deteriorates.

These help staff to identify quickly when a patient’s vital signs are outside normal parameters. Observations in the yellow zone are an early warning and trigger a prompt review of the patient. An even more rapid response is required if the recordings fall into the red zone of the charts. The actions which staff should take are clearly defined in the BTF policy and supported by Statewide training, known as Detecting Deterioration Evaluation Treatment Escalation and Communication in Teams (DETECT).

The BTF program has received national and international recognition, as a comprehensive model for early recognition of clinical deterioration and “keeping patient safe”.


Improving the recognition and management of severe infection and sepsis

Sepsis is a life-threatening illness which may be difficult to diagnose, particularly in older patients. Early recognition and treatment are crucial. As shown in table 4, 13 of the RCAs discussed in this report identified delays in the recognition and management of sepsis.

Since the release of the CEC clinical focus report *Recognition and Management of Sepsis (17)*, the trial project discussed in the previous incident management report has been expanded to an effective Statewide program. This is a two-phase program, launched by the Minister for Health, Hon Jillian Skinner, in May 2011.

Phase 1 focussed on hospital emergency departments, where patients frequently present with sepsis. The second phase will increase awareness about symptoms and early treatment within hospital wards. The program recognises that many smaller facilities, especially in rural areas, do not always have on-site medical staff. Specific tools have been developed to assist staff at these services to detect and manage sepsis in their patients.
A Statewide database allows clinicians to track the effectiveness of the care they provide. This data shows that NSW has significantly reduced the time taken to administer the first dose of antibiotics to patients suspected of having sepsis.

The program has also developed an App for Android phones/tablets, which provides frontline clinical staff with advice about the correct antibiotic to use for different types of sepsis. Search for “sepsis” in your phone’s app store.

The effectiveness of this program has been recognised internationally. The CEC team is now a lead agency in international efforts to improve the outcome for patients with severe infection and sepsis. As well as providing tools and support for clinical staff, they have set up a Twitter account to facilitate discussions about how best to manage sepsis.


The clinical focus report Recognition and Management of Sepsis can be downloaded from the CEC website.

Future clinical incident management reports

Future reports in this series will be presented electronically, based around a Data Dashboard format. This will contain information similar to that in the following section of this report.

This will assist the reader to access current information about the many programs and actions taken in response to clinical incident reporting in NSW health services. It will also allow the CEC to update the clinical incident data more easily and reduce the time lag in provision of this information.

We greatly appreciate your time and interest in this report and look forward to hearing your comments.

Previous reports in this series can be obtained from the CEC website. The QR code below will link you directly to the Patient Safety Program on the website.
Data dashboard

Figure 3: All clinical incidents January 2007 – December 2010

Figure 4: SAC1 clinical incidents January 2007 – December 2010
Figure 5: Clinical Incidents per 1,000 bed days July 2008 – December 2010

Table 6: Clinical management SAC1 incidents by specific issue

<table>
<thead>
<tr>
<th>Category of care</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan-Jun</td>
<td>Jul-Dec</td>
<td>Jan-Jun</td>
<td>Jul-Dec</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>34</td>
<td>37</td>
<td>17</td>
<td>35</td>
</tr>
<tr>
<td>Investigations/clinical tests</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Treatment</td>
<td>16</td>
<td>33</td>
<td>23</td>
<td>37</td>
</tr>
<tr>
<td>Clinical observations</td>
<td>12</td>
<td>20</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Patient identification</td>
<td>40</td>
<td>42</td>
<td>61*</td>
<td>44</td>
</tr>
<tr>
<td>Transfer of care/handover</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Inter-hospital transfer</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Retained material/instrument</td>
<td>6</td>
<td>9</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>Complication</td>
<td>21</td>
<td>15</td>
<td>9</td>
<td>14</td>
</tr>
</tbody>
</table>

*includes near-miss incidents

Table 7: Location of wrong patient, site, procedure incidents

<table>
<thead>
<tr>
<th>Clinical Area</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan-Jun</td>
<td>Jul-Dec</td>
<td>Jan-Jun</td>
<td>Jul-Dec</td>
</tr>
<tr>
<td>Operating suite</td>
<td>3</td>
<td>7</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Dental</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Imaging/nuclear medicine/radiotherapy</td>
<td>34</td>
<td>29</td>
<td>31</td>
<td>24</td>
</tr>
<tr>
<td>Wards &amp; other areas</td>
<td>7</td>
<td>5</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL</td>
<td><strong>45</strong></td>
<td><strong>41</strong></td>
<td><strong>61</strong></td>
<td><strong>44</strong></td>
</tr>
</tbody>
</table>

* includes wrong breast milk incidents (previously reported under maternity & perinatal)
Figure 6: Location of wrong patient, site, procedure incidents

Figure 7: System issues identified – all RCAs reviewed
Figure 8: System factors identified in clinical management RCA reports

- Transfer: 1
- Risk not managed: 7
- Equipment: 8
- Environment: 15
- Access: 19
- Teamwork/lead clinician: 20
- Supervision: 34
- Workforce: 61
- Care planning: 104
- Policy & guidelines: 139
- Communication & documentation: 158

Figure 9: System factors identified in mental health RCAs

- Equipment: 2
- Access: 5
- Teamwork/lead clinician: 6
- Supervision: 10
- Risk not managed: 23
- Workforce - training & skill mix: 29
- Policy & guidelines: 38
- Care planning: 88
- Communication & documentation: 100
Figure 10: System issues identified in maternity & perinatal RCAs

- Transfer of care: 1
- Teamwork/lead clinician: 2
- Equipment: 2
- Communication with patient/carer: 2
- Risk management: 3
- Supervision: 5
- Care planning - inadequate: 8
- Workforce: 9
- Documentation: 10
- Communication b/w care providers: 11
- Policy & guidelines: 18

Figure 11: Recommendations made in clinical management RCAs

- Environmental modification: 1
- Education-targetted: 2
- Workflow or process redesign: 3
- Alerts/warning/labelling: 5
- Checklists: 10
- Counselling/directive/memo: 12
- Equipment: 14
- Audit/review: 27
- Staffing/skill mix: 28
- Organisation/rostering: 32
- Education - general: 85
- Communication & documentation: 104
- Policy & guidelines: 158
Figure 12: Recommendations made in mental health RCAs

- Equipment: 3
- Environmental modification: 4
- Counselling/directive/memo: 5
- Staffing/skill mix: 7
- Organisation/management/rostering: 11
- Audit/review: 15
- Education - general: 26
- Communication & documentation: 42
- Policies/procedures/guidelines: 51

Figure 13: Recommendations made in maternity & perinatal RCAs

- Workflow or process redesign: 1
- Equipment: 1
- Counselling/directive/memo: 1
- Staffing/skill mix: 2
- Organisation/rostering: 2
- Audit/review: 2
- Communication & documentation: 4
- Education - general: 10
- Policies/procedures/guidelines: 15
Figure 14: Recommendations made – all RCAs

- **Education - targeted**: 2
- **Workflow/process redesign**: 4
- **Environmental modification**: 5
- **Alerts/warning/labelling**: 5
- **Checklists**: 11
- **Equipment**: 18
- **Counselling/directive/memo**: 18
- **Staffing/skill mix**: 37
- **Organisation/rostering**: 45
- **Audit/review**: 46
- **Education - general**: 121
- **Communication & documentation**: 151
- **Policy & guidelines**: 224
# APPENDIX 1:
Managing Clinical Incidents in the NSW Health System

<table>
<thead>
<tr>
<th>SAC1 - Extreme risk</th>
<th>SAC2 - High risk</th>
<th>SAC3 &amp; 4 – Medium or low risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate actions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Immediate threats to safety removed. IIMS notification made. Local health district (LHD) chief executive informed. Ministry of Health (MoH) notified via Reportable Incident Brief (RIB) for Statewide risk assessment.</td>
<td>Immediate threats to safety removed. IIMS notification made. Senior management notified. MoH notified via RIB of incidents with Statewide implications.</td>
</tr>
<tr>
<td>Investigation</td>
<td>Root Cause Analysis (RCA) investigation is completed by the LHD and sent to the MoH within 70 days.</td>
<td>Detailed investigation overseen by clinical governance unit at LHD level.</td>
</tr>
<tr>
<td>Analysis and aggregation of findings</td>
<td>State level – thematic analysis of RCAs undertaken and reported monthly to the Clinical Risk Review Committee (CRRC). LHD level – peak quality committees and lead clinicians informed.</td>
<td>LHD aggregated data used to determine local actions.</td>
</tr>
<tr>
<td>Actions in response to identified risks</td>
<td>State level - Actions to address identified risks are determined by CRRC and undertaken by relevant organisation (MoH, CEC). LHD level – RCA recommendations implemented.</td>
<td>LHD level – Recommendations from detailed investigations implemented.</td>
</tr>
<tr>
<td>Feedback</td>
<td>Information about State level projects/actions is given via monthly meetings with directors of clinical governance, SABS and lessons learned website, six-monthly incident report. LHD processes to feedback to patients/ families via Open Disclosure and to staff and clinical teams via local processes.</td>
<td>Information about State level projects/actions is given via monthly meetings with directors of clinical governance, SABS and lessons learned website, six-monthly incident report. LHD processes to feedback to patients/ families via Open Disclosure and to staff and clinical teams via local processes.</td>
</tr>
</tbody>
</table>

LHD - Local Health District  
MoH - Ministry of Health  
RIB - Reportable Incident Brief  
CRRC - Clinical Risk Review Committee  
SABS – Safety Alert Broadcast System
APPENDIX 2:

Principal Incident Type Descriptors

**Accidents/Occupational Health and Safety**

This is used to classify incidents related to accidents, occupational health and safety, or the physical environment and staff incidents. Examples are a needle stick injury, exposure to a hazardous substance, a staff member sustains a burn after spilling a hot drink over his arm, a wet or slippery floor surface.

**Aggression**

There are two incident types for reporting aggression experienced during health care. These most commonly relate to instances where a patient’s verbal communication and/or behaviour to staff or other patients is perceived to be agitated or aggressive in nature. This may be due to the patient’s underlying condition, such as confusion, mental illness or physical discomfort. Staff are asked to report about the “aggressor”, as this is often an indication of how well the underlying condition is, or can be managed. They are also asked to report all instances where patients, staff or visitors are “victims” of such behaviours. Incidents about patient or staff assaults are also reported under these incident types.

**Aggression – Aggressor**

This is used to classify the details of the aggressive incident, in the context of the aggressor. Examples are a patient punching another person, a person making physical or verbal threats.

**Aggression – Victim**

This is used to classify any harm to the victim of an aggressive episode. Examples are a patient being punched by another individual, a victim of a physical or verbal threat.

**Anaesthesia**

This is used to classify the details of incidents related to anaesthesia delivery. This classification does not capture information related to surgical complications or incidents. These need to be reported separately.

**Behaviour/Human Performance**

This is used to classify the details of behaviour or human performance incidents. Examples are a patient exhibiting self-harming behaviour, a staff member behaving in a rude or hostile manner.

**Blood/Blood Products**

This is used to classify the details of incidents related to blood/blood product transfusion processes, dispensing or quality problems. Examples are a patient suffers an anaphylactic reaction to a blood transfusion, a blood unit is mislabelled, blood is stored at the incorrect temperature, incorrect blood pack is dispensed from transfusion service.

**Buildings/Fittings/Fixtures/Surrounds**

This is used to classify the details directly related to a building, including fittings within a building, the fixtures attached and the external surrounds. Examples are poorly designed building/room for its intended purpose, leaky plumbing, loose or insecurely fixed wall mounted appliance, cracked or uneven pathways, power failure.

**Clinical Management**

This is used to classify the details related to the clinical management of a patient. This includes diagnosis, treatment planning and delivery and ensuring the correct identification of each patient and procedure. Examples are unintended injury during a medical/surgical procedure, procedure performed on the wrong body part or side, delay in diagnosis of patient’s condition.
Complaints
This is used if a consumer expressed dissatisfaction about health care services. Examples include a complaint about the care provided or the manner in which it is delivered.

Documentation
This is used to classify the details of an incident involving a problem with any written, typed, drawn, stamped or printed text/information and/or any document into which it has been entered. Examples are a patient’s medication chart filed into another patient’s medical record, a treatment order is ambiguous or difficult to read, incorrectly labelled specimens.

Falls
This is used to classify details related to a fall. Examples are a patient found on the floor is suspected of having fallen, a disoriented patient fell after forgetting to use his walking frame.

Hospital Acquired Infection/Infestation
This is used to classify the details of infections or infestation acquired during hospitalisation. Examples are a post-operative wound infection, an infected IV (intra-venous) cannula site.

Medical Devices/Equipment/Property
This is used to classify the details directly related to medical devices, equipment or property. Examples are routine maintenance not performed on an autoclave, no diathermy earthing plates available for a theatre procedure, a damaged or faulty patient lifter.

Medication/IV fluids
This is used to classify the details related to medication or intravenous fluid incidents. Examples are medication prescribing errors, incorrect intravenous fluid infusion rates.

Nutrition
This is used to classify the details of nutrition incidents. Examples are a diabetic patient received a non-diabetic meal, the wrong TPN (Total Parenteral Nutrition) formula infused, a patient’s nasogastric feed given at 80 mls/hr instead of 40 mls/hr.

Organisation Management/Services
This is used to classify the details of any incident involving the provision of patient, staff and visitor services, or the organisational management of the health care institution. Examples are no hospital beds available, inadequate staff supervision, insufficient staff for workload, inadequate staff facilities, no after-hours kitchen service available.

Oxygen/Gases/Vapours
This is used to classify the details of incidents involving both therapeutic and non-therapeutic use of oxygen and/or other gas. Examples are oxygen administered at four litres per minute when it should have been eight, medical air administered instead of oxygen.

Pathology/Laboratory
This is used to describe issues associated with the collection, transport and processing of specimens.

Pressure Ulcer
This is used to classify details of either new pressure ulcers or the worsening of pre-existing pressure ulcers which occur during clinical care. An example is when a bed-bound patient develops a pressure area.

Security
This is used to classify the details of incidents directly related to the security of the organisation. Examples are theft of personal property, bomb scare.
APPENDIX 3:

Definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIMS</td>
<td>Incident Information Management System. An on-line incident reporting and management system developed in Australia for NSW Health.</td>
</tr>
<tr>
<td>Incident</td>
<td>Any unplanned event resulting in, or having the potential to result in, harm to a patient.</td>
</tr>
<tr>
<td>Incident management</td>
<td>The cycle of activities required to recognise, report, understand and reduce the risk of unplanned events occurring. In the health system, feedback to the notifier and sharing of learnings are essential components of this cycle.</td>
</tr>
<tr>
<td>Near-miss</td>
<td>An unplanned event that did not result in injury, illness, or damage, but had the potential to do so. A break in the chain of events prevented harm, either due to staff recognition and action, or a fortuitous event.</td>
</tr>
<tr>
<td>Notification</td>
<td>The initial report within IIMS that an incident or near-miss may have occurred. All staff are required to report incidents in IIMS and must complete the mandatory fields within the system. Notifications can be anonymous and reflect the information known by the reporter at the time.</td>
</tr>
<tr>
<td>Perinatal</td>
<td>The period shortly before, during and after the birth of a baby.</td>
</tr>
<tr>
<td>Principal incident type (PIT)</td>
<td>The classification system within IIMS which assists the incident reporter to describe the incident. The term is often abbreviated to PIT.</td>
</tr>
<tr>
<td>RIB</td>
<td>Reportable Incident Brief. A document used to notify NSW Health of a reportable incident. RIBs are subject to statutory privilege under section 23 of the Health Administration Act. For more information, see PD2006_058 Authorised Research and Investigation under the Health Administration Act 1982 and the Incident Management Policy Directive.</td>
</tr>
</tbody>
</table>
References


14. CEC. Clinical Supervision at the Point of Care Sydney: Clinical Excellence Commission, 2012.


Clinical Excellence Commission

Office:
Level 13
227 Elizabeth Street
Sydney NSW 2000

Postal:
Clinical Excellence Commission
Locked Bag A4062
Sydney South NSW 1235

Telephone: 02 9269 5500
Fax: 02 9269 5599
Email: patientsafety@cec.health.nsw.gov.au
Web: www.cec.health.nsw.gov.au