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

July – December 2009
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Foreword

Patient safety is the foundation of good patient care (1). A key component of patient safety is incident management – the process where health care staff at all levels identify and report actual and potential incidents and the organisation responds to reduce the risk of harm to patients.

NSW Health has one of the world’s largest clinical incident reporting systems and is recognised internationally as a leader in analysing what went wrong and acting on the findings to improve patient care.

This report describes some of the many actions taken by NSW Health staff in recognising, reporting and responding to risks to patient safety, between July and December 2009.

This report also examines longer-term data in two important clinical safety areas – issues associated with diagnosis and management of sepsis and with transfer of patients between services to obtain specialist care.

The types of incidents reported can vary across time and jurisdictions for many reasons, including the focus and maturity of reporting systems. It is unwise to use such data in isolation to make comparisons about the safety or quality of health care.

Analysis of the NSW Incident Information Management System (IIMS) and root cause analysis (RCA) reports is of greatest benefit when the findings are shared with those who care for patients every day. In addition to this bi-annual report, the Clinical Excellence Commission (CEC) does this through:

- annual IIMS reports to each health service
- monthly feedback to directors of clinical governance from the RCA Review Committee
- clinical focus reports, highlighting emerging themes
- liaison with clinical interest groups, the Agency for Clinical Innovation, NSW Health taskforces and committees
- working with the Bureau of Health Information to enhance public reporting
- participation in other clinical quality forums.

Provision of clinical focus reports to the NSW Clinical Risk Review Committee has also been effective in prompting and informing safety alerts and reviews of care processes.

These reports are also provided to health service staff. They are already spurring improvements.

We invite you to take the time to read this report carefully and make your own contribution. Together we can make a difference.

Professor Clifford Hughes, AO
Chief Executive Officer
Clinical Excellence Commission

Dr Mary Foley
Director-General
NSW Department of Health
About this Report

This report has been prepared by the CEC to provide the community with information on clinical incidents reported in the NSW health system between 1 July and 31 December 2009.

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

Clinical incident management reports are compiled twice a year, as part of the CEC’s commitment to keep 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 IIMS
- Lessons learned from analysing individual incidents
- Results of other reviews into patient safety and quality issues
- Actions taken within the reporting period to make improvements.

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

How it Works

IIMS can be accessed electronically by all staff 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 (PIT).

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 rated under IIMS have been assessed as SAC3 or 4 – indicating little or no harm.

All SAC1 incidents are subject to a thorough investigation known as a root cause analysis (RCA). This analysis makes health services safer by finding out what happened and identifying opportunities to learn from it.

The system also enables longer-term review of all the information collected since IIMS began. This identifies or confirms key issues and trends relating to clinical care and helps shape effective strategies to reduce the risks and improve care for all patients.
Executive Summary

There were 64,767 clinical incidents and 7,515 complaints notified in IIMS between 1 July and 31 December 2009.

The most frequently reported incidents were for falls (13,137), issues associated with medication and intravenous (IV) fluids (10,793) and clinical management (10,082).

As in previous reports, the overwhelming majority of notifications were precautionary and the reported incidents did not result in patient harm.

The number of SAC1 (most serious) notifications fell slightly to 316. All were subjected to root cause analysis to find out what went wrong and to learn from it.

This report also examines longer-term data in two important clinical safety areas – issues associated with (i) diagnosis and management of sepsis and (ii) transfer of patients between services to obtain specialist care.

The analysis of issues associated with diagnosis and management of sepsis will help to improve care. This is a time-critical illness that does not always declare itself, particularly in very young or elderly patients.

Review of IIMS and RCA reports shows that delays in diagnosis and treatment of sepsis often result in poor clinical outcomes for patients. A clinical focus report to alert services to the findings was developed and released across the system in 2010.

The Agency for Clinical Innovation is currently leading a project to assist clinical staff to provide timely and appropriate treatment to this group of patients.

Moving patients between hospitals and health services to obtain high-level specialist care for their clinical condition is complex and must be done safely to ensure the best outcome for each patient.

Systems for transfer of critically ill patients who need an intensive care unit bed are well established and effective. It is often patients requiring time-critical specialist care, rather than an ICU bed, for whom the process is most challenging.

The review has identified a number of steps where difficulties can arise throughout the process ranging from recognition of the need to transfer the patient to mechanisms for feedback about what worked (or didn’t) during transfer.

These findings are already spurring improvements. There are many factors involved in any transfer and co-ordination is critical. Solutions are being developed that maximise the time clinical staff can spend with very sick patients, while arranging for the best possible transfer.
Key Issues

In addition to regular six-monthly reporting, review of aggregated incident reports collected over longer periods helps to identify or confirm key issues related to clinical care. During this reporting period, these reviews included (i) the diagnosis and management of patients with sepsis and (ii) retrieval and inter-hospital transfer of patients.

Diagnosis and management of sepsis

Sepsis and septic shock are life-threatening conditions, responsible for nearly 12 per cent of admissions to intensive care units in Australia and New Zealand (2).

The work of the Australian and New Zealand Intensive Care Society (ANZICS) and the ARISE trial (2) indicate that early identification and treatment with antibiotics and fluid resuscitation are vital when caring for patients who develop this time-critical condition. Delays in effective management of sepsis noted in a number of RCA reports warranted further investigation.

The CEC reviewed IIMS and RCA reports and identified 167 incidents, (including 23 SAC1) related to management of patients with sepsis in the 18 months between January 2008 and July 2009. An aggregated analysis identified specific issues and opportunities for improvement. While most incidents are outside this reporting period, a similar pattern appears to have continued in the current period.

Review of the 167 incidents, including 23 RCA reports, found that:

- The distribution of incidents largely matched hospital activity levels, with the highest numbers reported from large city hospitals, followed by major country hospitals.
- Most patients involved were aged over 65; however, 36 per cent were aged between 30 and 64. It is known that very young and older patients may not have obvious clinical signs of sepsis, such as pain or fever, making diagnosis more difficult.
- Sixty-one cases indicated a delay in recognising and responding to a patient whose condition deteriorated due to sepsis.
- Where the source of sepsis could be identified, it was most commonly urosepsis (urinary tract), followed by abdominal infections, sometimes after surgery. Pneumonia and intravenous lines were the next most common sources identified. In 19 (12 per cent) of the incidents, the source of the sepsis may have been associated with the provision of care.

The level of supervision of junior staff was identified as having contributed to 16 of the incidents reviewed.

The findings were circulated to area health service clinicians and managers to develop recommendations to reduce the risk. These recommendations have resulted in a clinical focus report, distributed across the health system, to assist clinicians in recognising and responding to patients with sepsis. One recommendation was to form a high-level working party to improve management of the condition. This group is being led by the Agency for Clinical Innovation, with support from the CEC and NSW Health.

Other recommendations included an awareness campaign and targeted education of junior medical staff to recognise the symptoms of sepsis as they may appear in all age groups.
Retrieval and inter-hospital transfer

Patients regularly need to be moved to access the most appropriate care for their clinical condition. Issues associated with safe and timely transfer of patients to both higher-level care and for specialist treatment, particularly in rural settings, have been reported in IIMS since its inception in 2004. Systems for transfer of critically ill patients who need an intensive care unit bed are well established and effective. It is often patients requiring time-critical specialist care, rather than an ICU bed, for whom the process is most challenging.

RCAs provided detail of the challenges encountered in transferring patients within and across health services. This is a complex process, which needs to happen in a safe and timely manner to ensure the best outcome for each patient. The CEC undertook a review of IIMS and RCA reports in July 2009. Similar concerns, raised by the CEC Clinical Council, were explored at a workshop in October 2009.

Both groups identified difficulties with the transfer process, which fell into the following categories:

- Recognition of the need to transfer the patient
- Accessing the level of care required
- Arranging the transfer
- Preparing the patient for transfer
- Maintaining the patient safely during transfer
- Managing the patient effectively on arrival at the receiving facility
- Usefulness of policy and frameworks
- Mechanisms for feedback about what worked (or didn’t) during transfer.

Opportunities were identified to improve the system by better co-ordinating the different stages of the transfer process to minimise interruptions to clinical staff caring for critically ill patients. Ensuring pathways for patients requiring time-critical specialist care outside the scope of critical care networks was also highlighted.

A clinical focus report, reflecting all findings and recommendations was developed and distributed across the health system for comment. Recommendations were agreed and changes are underway. While these changes focus on each of the transfer stages, co-ordination often creates the most difficulty. Solutions are being developed to reduce the time clinical staff need to spend away from very sick patients while arranging for the best possible transfer. These are underpinned by a revision of the primary policy and framework for retrieval of patients requiring higher-level care (PD2010_021 Critical Care Adult Tertiary Referral Networks – Intensive Care Default Policy) (3). Key clinical groups, including NSW Ambulance Medical Retrieval Service and the Emergency and Rural Critical Care Taskforces are working with NSW Health to further streamline the process.
What IIMS is Telling Us

Overall notifications

There were 64,767 clinical incidents (a rise of 3.8 per cent, compared to the previous six months) and 7,515 complaints (no rise) notified in IIMS between 1 July and 31 December 2009.

Figure 1: Clinical incident notifications in IIMS January 2005 – December 2009

Comparatively few notifications relate to incidents resulting in actual harm to a patient. Most are precautionary notifications from staff who notice things that haven’t gone as expected, or might have been done better, even though they did not result in harm to the patient. This is shown in the graphs below, where green and purple represent SAC3 and SAC4 incidents respectively.

Figure 2: Top five principal incident types and complaints by SAC rating July-Dec 2009
Incidents reported in IIMS by principal incident type

(Accurate at time of extraction 29 January 2010).

Table 1: IIMS notifications by principal incident type, July-December 2009

<table>
<thead>
<tr>
<th>Principal Incident Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>13,137</td>
</tr>
<tr>
<td>Medication/IV fluid</td>
<td>10,793</td>
</tr>
<tr>
<td>Clinical management</td>
<td>10,082</td>
</tr>
<tr>
<td>Aggression-aggressor</td>
<td>6,704</td>
</tr>
<tr>
<td>Behaviour/human performance</td>
<td>5,446</td>
</tr>
<tr>
<td>Pressure ulcer</td>
<td>4,512</td>
</tr>
<tr>
<td>Documentation</td>
<td>4,182</td>
</tr>
<tr>
<td>Accident/occupational health and safety</td>
<td>2,735</td>
</tr>
<tr>
<td>Organisation management/service</td>
<td>1,647</td>
</tr>
<tr>
<td>Medical device/equipment/property</td>
<td>1,519</td>
</tr>
<tr>
<td>Blood/blood product</td>
<td>910</td>
</tr>
<tr>
<td>Aggression-victim</td>
<td>768</td>
</tr>
<tr>
<td>Health care associated infection/infestation</td>
<td>679</td>
</tr>
<tr>
<td>Pathology/laboratory</td>
<td>415</td>
</tr>
<tr>
<td>Complaint</td>
<td>401</td>
</tr>
<tr>
<td>Nutrition</td>
<td>395</td>
</tr>
<tr>
<td>Security</td>
<td>228</td>
</tr>
<tr>
<td>Building/fittings/fixtures/surrounds</td>
<td>174</td>
</tr>
<tr>
<td>Oxygen/gas/vapour</td>
<td>40</td>
</tr>
<tr>
<td>TOTAL</td>
<td>64,767</td>
</tr>
</tbody>
</table>

Table 2: Prevalence of clinical incidents in the NSW public health system July-December 2009

<table>
<thead>
<tr>
<th>SAC rating</th>
<th>Number</th>
<th>Percentage (%) of notifications</th>
<th>Percentage (%) of all hospital admissions</th>
<th>Per 1,000 bed days</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAC1</td>
<td>316</td>
<td>0.49</td>
<td>0.04</td>
<td>0.10</td>
</tr>
<tr>
<td>SAC2</td>
<td>1,222</td>
<td>1.89</td>
<td>0.15</td>
<td>0.39</td>
</tr>
<tr>
<td>SAC3</td>
<td>27,835</td>
<td>42.98</td>
<td>3.46</td>
<td>8.82</td>
</tr>
<tr>
<td>SAC4</td>
<td>31,655</td>
<td>48.87</td>
<td>3.93</td>
<td>10.03</td>
</tr>
<tr>
<td>No SAC allocated</td>
<td>3,738</td>
<td>5.77</td>
<td>0.46</td>
<td>1.18</td>
</tr>
<tr>
<td>TOTAL</td>
<td>64,767</td>
<td>100</td>
<td>8.04</td>
<td>20.52</td>
</tr>
</tbody>
</table>
The top three principal incident types

Falls

Falls remain the highest group of incidents notified in IIMS, with 13,137 reported in the period. Of the top 25 services reporting patient falls, the majority (54 per cent) were aged care, general medical or rehabilitation services. The impact of falls was discussed in detail in previous reports, in particular Incident Management in NSW Public Health System July-December 2008, available at: http://www.cec.health.nsw.gov.au/files/cec/publications/incident-management-2008_07to12.pdf

The issues identified in the 18 SAC1 fall incidents notified during the current reporting period related primarily to patient care planning (11 cited) and communication between staff (n=12). Application and usefulness of policy and guidelines was next most common (n=7). This included the guidelines for caring for patients who fall during their hospital stay.

Nearly all of the patients involved were aged 75 or older. Nine had concurrent significant clinical conditions (co-morbidities), which increased their risk of falling and/or sustaining critical injuries.

The most common RCA recommendations made to reduce the risk of falls and fall injury related to:

- Policies, procedures or guidelines ................................................................. 13
- General education for staff ............................................................................ 8
- Strengthening communication and documentation processes about falls risk .................................................. 5
- Further audits and system reviews .................................................................. 5

Four recommendations related to more tangible changes, including equipment, ward environment, staffing/skill mix and redesigning the way in which care processes are delivered.

Medication/IV fluid

Issues related to treatment with medication and IV fluids remain the second most common type of notification in IIMS, with 10,793 reported in the second half of 2009. Most described omissions and errors in the required processes for medication checking, including unclear or incomplete documentation. Most resulted in no harm to the patient. The distribution of medication/IV fluid incidents across SAC ratings can be seen on page 8 of this report. A significant number (38 per cent) relate to the administration phase of medication/IV fluid delivery. This suggests a high level of vigilance in the final checking processes when medications are administered to patients. Errors occurring earlier in the ordering and supply process are often captured here and reported as ‘near-miss’ events in IIMS.

The CEC continued to monitor incidents notified through IIMS and explored several themes in response to requests from health services and other organisations. This included analysis of incident notifications related to:

- the use of opioid hydromorphone - to identify potential risks of adding sustained release hydromorphone to hospital formularies (lists of medications approved for use at each site). The CEC worked with the NSW Therapeutic Advisory Group (TAG) to develop a clinical focus report, which has been distributed to health services.
- inadequate labelling of medicines and fluids prepared for administration to patients. This was used to inform National Recommendations for User-applied Labelling of Injectable Medicines, Fluids and Lines being developed by the NSW TAG, on behalf of the Australian Commission on Safety and Quality in Health Care.
Clinical management

The issues identified in the 10,082 IIMS notifications under the PIT of clinical management are similar to those described in previous reports. Over all SAC ratings (1-4), 74 per cent of notifiers indicated the ‘primary problem’ (an optional field) in their incident notification. The most common categories were problems associated with treatment (32 per cent), complications of care (17 per cent), transfer of care (15 per cent) or monitoring and observations (11 per cent).

These categories highlight the importance of programs such as Between the Flags, DETECT, clinical handover (e.g., ISBAR\(^1\)) and ongoing education and training for clinical staff.

In the SAC1 group of clinical management incidents, patient identification remained the highest category (27 per cent), followed by treatment (19 per cent), diagnosis (16 per cent) and complications (14 per cent). Four per cent related to transfer of care, primarily clinical handover.

SAC1 clinical incidents

All serious (SAC1) incidents undergo RCA to determine the factors that contributed to their occurrence. 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 prevent human errors during complex care processes. RCAs show that the harm which may have resulted from these errors was never intended to occur. With the benefit of hindsight and analysis, RCAs help 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.

Despite differences between industries, it is clear that learning from disasters in other industries may provide important insights on how to prevent or ameliorate them in health care (4).

The Clinical Management RCA Review Committee reviewed 214 RCA reports in this reporting period. The most common factors identified by the Committee were:

- inadequate communication and documentation (in 69 per cent of RCAs reviewed)
- inadequacies in policies and guidelines or their use (57 per cent)
- inadequate care planning (40 per cent)
- issues with workforce, including staffing, skill mix and training (19 per cent).

Issues with teamwork, supervision, environment and equipment were also identified in at least 10 per cent of the RCAs reviewed. These are detailed on page 18 of this report.

Case study: Communication

An elderly patient was admitted to hospital from a nursing home. In the emergency department, she was seen by doctors from several different specialities, to determine the best care for her current and underlying conditions. A number of blood tests were performed. However, the ordering and results of one test were not written in her medical record or communicated verbally to the medical team who subsequently cared for her. Her condition improved enough for her to return to the nursing home. The missed communication and documentation about her test was not recognised and meant that her abnormal result was not included in her discharge summary. This meant her local doctor was unaware of the need to provide ongoing treatment. She required urgent readmission to hospital soon after returning to the nursing home.

The RCA team who reviewed this incident recommended more robust systems for recording tests ordered and ensuring that all results are discussed when patients are handed over from one treating team to another. They also recommended a more reliable process for pathology departments to notify doctors of critical abnormal results.

\(^1\) The acronym ISBAR is a prompt for Introduction, Situation, Background, Assessment and Recommendation.
**Working together**

It may be difficult for people outside the health system to understand how problems can be caused by everyday activities such as communicating with colleagues, making notes and working as team. The reason is anything but simple.

The public health system in NSW is highly complex, with around 100,000 people involved in caring for patients 24 hours a day every day of the year. Each health professional cares for many patients and has a high number of tasks to complete in doing so. Each task may require information from multiple sources, as well as co-ordination of several services and liaison with other staff - all the while trying to consider the wishes, well-being and comfort of each patient. Add to this, the technical skills and constant evolution of treatment methods, policy and guidelines, the effects of busy environments, shift work and the multiple work sites (from the patient’s bedside to the computer ordering system, medication cupboard, other wards/hospitals/theatres, to name a few). Then add the fact that those who are part of the team may spend little time in the same area at the same time. This is not an excuse for errors, but does highlight that health care providers are busy, well-intentioned people working in complex systems.

As Alexander Pope (1688-1744) stated, “To err is human”. Incidents most often occur because we do not have robust systems to prevent the types of errors that humans make every day. Most have no consequence and go unnoticed. Incident reporting helps us to identify and understand how some errors make it through our trapping and checking processes.

Creating environments where teamwork is both achievable and valued is the focus of many initiatives within NSW health services and internationally. Some strategies are adapted from other high-risk industries. Training and expecting all staff to speak up if they have any concerns about safety is a feature of programs such as crew resource management used in aviation and is increasingly being adopted in critical care areas such as surgery, anaesthesia and intensive care (5).

**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>
</tr>
</thead>
<tbody>
<tr>
<td>Mental health - suspected suicides and aggression</td>
<td>73</td>
<td>74</td>
<td>79</td>
</tr>
<tr>
<td>Maternal and perinatal stream (all PITs)</td>
<td>30</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Blood/blood products</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Clinical management – all clinical streams (includes HAI, complaints about clinical care, patient identification and retained accountable items)</td>
<td>172</td>
<td>181</td>
<td>171</td>
</tr>
<tr>
<td>Falls</td>
<td>16</td>
<td>26</td>
<td>18</td>
</tr>
<tr>
<td>Medication/IV fluids</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Mandatory reporting - including deaths in custody</td>
<td>9</td>
<td>5</td>
<td>7</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>
</tr>
<tr>
<td>Medical device/equipment/property</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>311</td>
<td>327</td>
<td>316</td>
</tr>
</tbody>
</table>
RCA teams make many recommendations to address the issues they identify during their investigations. The 243 RCAs related to both mental and physical health (excluding maternity) reviewed for this period made 616 recommendations. These most commonly related to development or review of policies, procedures or guidelines (220), improved processes for written and verbal communication related to patient care (112) and general education of staff. Safety experts tell us that the most robust solutions relate to physical changes to processes, including design or equipment. Teams recommended 33 such changes - primarily to workflow - and a further 24 in relation to equipment required for safe clinical care. Thirty-six recommendations were made in relation to rostering, skill mix and staffing.

Putting it into practice is the next step. Health services are using the RCA recommendations to improve patient care across NSW. The challenges and successes are often shared in peak quality committees and some are credited at the NSW Health Awards - promoting wider discussion and learning.

**Serious incidents involving patients who died**

During the reporting period, 234 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.

All deaths in custody (mandatory reporting) and in circumstances where concerns were raised about management of a critically ill or dying patient, are classified as SAC1 incidents. Whenever any concern is raised about the care provided to a patient who subsequently dies, staff have been instructed to report a SAC1 incident, so that a detailed RCA can be undertaken.

It is also NSW Health policy to review all deaths associated with care from NSW Health services. This process of retrospective review by experienced clinicians and coders adds another layer of scrutiny to ensure any underlying issues, which may not be apparent at the time of death, are reviewed. A small number of SAC1 incidents are reported following routine death audits. These also undergo RCA.

**Maternal and perinatal care**

There were 35,311 babies delivered in NSW public health services between July and December 2009. Staff in obstetric-maternity services reported 2,364 clinical incidents. This was a 15 per cent increase on the number reported in January-June 2009.

The largest increase (16 per cent) was in incidents classified under clinical management, where 61 per cent of all incidents in maternity services are recorded. This may be a reflection of the implementation of the Maternity - Clinical Risk Management Program PD2009_003 (6), which directs staff to report specific clinical events (such as post-partum haemorrhage) into IIMS. Medication/IV fluid was next most common, followed by documentation.

**Mental health, drug and alcohol services**

As in previous reports, staff working in mental health inpatient units notified the highest number of clinical incidents in IIMS. Of the 11,476 notifications reported by mental health services between July and December 2009, 40 per cent related to instances where patient behaviour was perceived as being either verbally or physically aggressive. This must be considered in the context of the patient group who receive care from mental health services. A further 26 per cent of notifications related to patients’ behaviour/human performance (which includes self-harm), 11 per cent related to patient falls and six per cent were reported under clinical management.
Aggregated review of RCA reports on SAC1 incidents in this category found that:

- patients involved were most commonly aged between 25 and 65 and were being managed in the community at the time of the incident
- the most common incident was suspected suicide (57 in the community and four inpatients\(^2\))
- the most common factors identified were care planning (23 per cent), communication between care providers (15 per cent) and documentation about the patient’s intended care or risk of harm (14 per cent). A further 15 per cent related to policies and guidelines not being known or applied by staff.
- Almost half (46 per cent) of recommendations made by RCA teams related to development and/or review of policies and guidelines, 22 per cent directed changes to communication and documentation processes within and between mental health services and related agencies.

**Suspected suicides**

NSW Health’s range of initiatives to try to prevent inpatient suicide includes:

- specific staff training to enhance comprehensive assessment of each patient’s level of suicide risk
- regular safety audits of each inpatient unit environment, to identify, reduce and/or eliminate any risks
- ensuring that clinical management plans for all inpatients consider the need for an increased level and frequency of nursing observations, allocation of a ‘special’ nurse to stay with the patient, frequent re-assessment, clear documentation and communication of the level of risk
- searches of patients and their possessions on admission to the unit, or if returning from leave, to reduce the person’s access to dangerous items.

**Transition to community care**

The period following transfer back into the community after admission to an acute facility is a particularly vulnerable time for many mental health clients. Reviews of suspected suicides during this period reaffirmed an opportunity for improved assessment of need, communication and documentation during this transition.

A review of the Discharge Planning Policy for Adult Inpatient Mental Health Services (7), has led to the development of a new policy which articulates the responsibilities for both the transferring and receiving services. It also addresses the needs of children and adolescents leaving inpatient mental health treatment. Initial consultation has identified the need for the state-wide policy to specify the requirements for safe transfer of a patient’s care between other mental health care settings.

**Aggression/aggression management**

Project officers have been employed in each of the former area health services as part of the state-wide seclusion reduction project. They are working with clinical staff, to improve skills in de-escalation and early intervention in managing agitation. Data and incident review processes at inpatient unit and senior management level are also being strengthened.

Standards for core aggression management training for mental health staff have been developed, following a review of current training in health services. It is anticipated these standards will be released in conjunction with the revised NSW policy on managing aggression, restraint and seclusion.

Clinical risk assessment and management training, funded by NSW Health, was rolled-out to mental health/psychiatric intensive care units in NSW during 2010. This training, which specifically targets high-risk patients, has been developed by Justice Health, in conjunction with the University of Melbourne. It will build skills in clinical risk assessment, the use of planning tools and treatment interventions.

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2 This includes an admitted patient who has absconded from an inpatient service
Between the Flags

Since its launch in January 2010, (see Clinical Incident Management in the NSW Public Health System, January-June 2009\(^3\)), the Between the Flags program has continued to work with clinical staff to improve the recognition and response to patients whose condition deteriorates. This has included:

- establishing oversight structures in each health service to drive implementation of the program
- introduction of the Standard Adult General Observation chart (SAGO) to all acute care facilities. Similar charts for specific services, including paediatrics, emergency and obstetric care, are currently being developed. These will highlight the most important triggers for escalating a patient’s care.

The program is supported by a learning program, known as DETECT. DETECT is available as an e-learning package, as well as face-to-face training. There are 170 ‘super trainers’ working across NSW to ensure that all health service staff are trained in the application of the program and its observation charts.

The challenges faced by rural areas and smaller hospitals responding to a deteriorating patient are also being addressed. This includes identifying where nurses with advanced skills and emergency care guidelines can assist.

Between the Flags program staff are working closely with health services to ensure that the program is implemented in ways that best suit each hospital’s model of care. Ongoing evaluation will enable successful approaches to be promoted across the system, resulting in ongoing improvements in patient care.

Transfer of care and clinical handover

“Clinical handover is the effective 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.” (8)

The Acute Care Taskforce is working with NSW Health to continue to standardise and improve systems for handover of patient care. This work highlights the importance of junior medical staff handing over care:

- at all shift changes
- according to a consistent process
- with an emphasis on clear communication of clinical information (e.g., using ISBAR) and improving patient outcomes.

In 2010 the JMO shift to shift change clinical handover was tested and is now being implemented across prevocational centres. This work highlights the three key elements for JMO safe clinical handover which includes senior leadership, a communication framework (ISBAR), and 24/7 shift handover.

The Safe Clinical Handover Program aligns with the Special Commission of Inquiry into Acute Care Services in NSW Public Hospitals (Garling Report) recommendation that each facility in NSW Health should have a mandated clinical handover policy within 18 months.

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Looking, Learning, Acting

The growing body of work includes the development and implementation of the Standard Key Principles for Safe Clinical Handover which was mandated in 2009.

The Acute Care Taskforce will be undertaking a GP/Facility clinical handover project in 2011 which addresses the transfer of information in both directions between GPs and facilities.

Suicide prevention

Seventy-nine (25 per cent) of serious (SAC1) incidents reported into IIMS relate to the suspected suicide of people receiving care from NSW public health services. Most relate to patients being managed in community settings. Incident notifications and RCAs reflect the complexity of managing individuals at risk of suicide.

NSW Health is actively involved in the National Suicide Prevention Strategy (9) – an interagency approach to building resilience and community support for those likely to be at risk. The goal is to reduce deaths by suicide and reduce suicidal behaviour by:

- adopting a whole-of-community approach to suicide prevention to extend and enhance public understanding of suicide and its causes
- increasing support and care available to people, families and communities affected by suicide or suicidal behaviour, by providing better support systems.

Data Analysis Dashboard

The following tables and figures provide information about specific issues identified during the incident management process.

Table 4: Clinical management SAC1 incidents by specific issue over time

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

*includes near-miss incidents

Table 5: Location of wrong patient, site, procedure incidents over time

<table>
<thead>
<tr>
<th>Department</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan-Jun</td>
<td>Jul-Dec</td>
<td>Jan-Jun</td>
</tr>
<tr>
<td>Operating suite</td>
<td>3</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>Dental</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Imaging/nuclear medicine</td>
<td>32</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td>Radiotherapy</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wards &amp; other areas</td>
<td>7</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>TOTAL</td>
<td>45</td>
<td>42</td>
<td>61</td>
</tr>
</tbody>
</table>

*includes 6 wrong breast milk incidents (previously reported under maternity & perinatal)
Figure 3: System issues identified - clinical management RCAs (n=185)

Electronic ordering systems
Access
Teamwork/lead clinician
Equipment
Identified risk not managed
Environmental factors
Supervision
Workforce - staffing/skill mix
Care planning inadequate
Policy/procedure/guideline
Communication - verbal/written/handover

Figure 4: System issues identified - falls - RCA Review Committee (n=17*)

*One RCA under PIT of falls was yet to be reviewed at the time of report

Figure 5: System issues identified - mental health drug & alcohol RCAs reviewed

*Includes risk assessment, discharge planning, care continuity and rapport
Figure 6: Highlighted diagnostic categories in RCAs related to physical health

- Trauma management
- Thromboprophylaxis
- Airway management
- Transfer of an unstable patient
- Aspiration
- Health care associated infection
- Sepsis
- Post-fall management
- Pulmonary embolus
- Acute abdominal pain
- Medication-related
- Acute coronary syndrome
- Response to deteriorating patient

Figure 7: Types of recommendations made by RCA teams (all RCA types, N=243)

- Alerts/warning/labelling
- Checklists
- Environmental modification
- Organisation/rostering
- Targeted education
- Counselling/directive/memo
- Staffing & skill mix
- Equipment
- Audit/review
- Workflow/process redesign
- General education
- Communication & documentation
- Policy/procedure/guideline

Figure 8: Stages of medication provision where incidents were reported

- Undesired side-effect
- Supply/ordering
- Storage/security
- Controlled drug discrepancy
- Delivery
- Other
- Dispensing
- Prescribing
- Administration
## APPENDIX 1: Managing Clinical Incidents in the NSW Health System

<table>
<thead>
<tr>
<th></th>
<th>SAC1 - Extreme risk</th>
<th>SAC2 - High risk</th>
<th>SAC3 &amp; 4 – Medium or low risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Investigation</strong></td>
<td>Root cause analysis investigation is completed by the area health service and sent to the Dept of Health within 70 days.</td>
<td>Detailed investigation overseen by clinical governance unit at area health service level.</td>
<td>Manager reviews and determines actions required.</td>
</tr>
<tr>
<td><strong>Analysis and aggregation of findings</strong></td>
<td>State level – thematic analysis of root cause analyses undertaken and reported monthly to the Reportable Incident Review Committee. Area health service level – peak quality committees and lead clinicians informed.</td>
<td>Area health service aggregated data used to determine local actions.</td>
<td>Data is aggregated and regularly discussed with clinical team. Risks that have broader implications are fed up via management and clinical stream processes.</td>
</tr>
<tr>
<td><strong>Actions in response to identified risks</strong></td>
<td>State level – Actions to address identified risks are determined by the Reportable Incident Review Committee and undertaken by relevant organisation (Dept of Health, CEC). Area health service level – root cause analysis recommendations acted on.</td>
<td>Area health service level – Recommendations from detailed investigations acted on.</td>
<td>Actions managed at local level.</td>
</tr>
<tr>
<td><strong>Feedback</strong></td>
<td>Information about state-level projects/actions is given via monthly meetings with directors of clinical governance, safety alert broadcast system and lessons learned webpage, six-monthly incident report. Area health service 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, safety alert broadcast system and lessons learned website, six-monthly incident report. AHS processes to feedback to patients and 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, safety alert broadcast system and lessons learned website, six-monthly incident report. Area health service processes to feedback to patients and families via Open Disclosure and to staff and clinical teams via local processes.</td>
</tr>
</tbody>
</table>
APPENDIX 2: Principal Incident Type Descriptions

**Accidents/occupational health and safety**
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 – aggressor**
Used to classify 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**
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**
Used to classify details of incidents related to anaesthesia delivery. Does not capture information related to surgical complications or incidents. These need to be reported separately.

**Behaviour/human performance**
Used to classify 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**
Used to classify 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**
Used to classify details directly related to a building, including fittings within, 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**
Used to classify details related to clinical management of a patient. 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**
Used if a patient expressed dissatisfaction about health care services. Examples include a complaint about care provided, or the manner in which it is delivered.
**Documentation**  
Used to classify 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 is filed into another patient’s medical record, a treatment order is ambiguous or difficult to read, incorrectly labelled specimens.

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

**Hospital acquired infection/infestation (HAI)**  
Used to classify 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**  
Used to classify details directly related to medical devices, equipment or property. Examples are routine maintenance not performed on an autoclave, no diathermy earthing plates available for theatre procedure, damaged or faulty patient lifter.

**Medication/IV fluids**  
Used to classify details related to medication or intravenous fluid incidents. Examples are prescribing errors, incorrect intravenous fluid infusion rates.

**Nutrition**  
Used to classify details of nutrition incidents. Examples are a diabetic patient received a non-diabetic meal, the wrong total parenteral nutrition formula was infused, patient’s naso-gastric feed given at 80 mls/hr instead of 40 mls/hr.

**Organisation management/services**  
Used to classify 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**  
Used to classify 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**  
Used to describe issues associated with collection, transport, and processing of specimens.

**Pressure ulcer**  
Used to classify details of either new, or worsening of pre-existing pressure ulcers, that occur during clinical care. An example is a bed-bound patient develops a pressure area.

**Security**  
Used to classify details of incidents directly related to security of the organisation. Examples are theft of personal property, bomb scare.
**APPENDIX 3: Definitions**

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IIMS</strong></td>
<td>Incident Information Management System. An on-line incident reporting and management system developed in Australia for NSW Health.</td>
</tr>
<tr>
<td><strong>Clinical incident/incident</strong></td>
<td>Refers to any unplanned event resulting in, or having the potential to result in, harm to a patient.</td>
</tr>
<tr>
<td><strong>Incident management</strong></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><strong>Near-miss</strong></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, due to either staff recognition and action, or a fortuitous event.</td>
</tr>
<tr>
<td><strong>Notification</strong></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><strong>Peri-natal</strong></td>
<td>The period shortly before, during and after, the birth of a baby.</td>
</tr>
<tr>
<td><strong>Principal Incident Type or PIT</strong></td>
<td>The classification system within IIMS which assists the reporter to describe the incident.</td>
</tr>
<tr>
<td><strong>Reportable incident brief or RIB</strong></td>
<td>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>

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7 References


