Safety

Essential for quality and high performance

Safety is central to healthcare quality. It means avoiding medical error and eliminating unnecessary risk to patients.

In NSW, the Clinical Excellence Commission (CEC) is a board-governed statutory health corporation responsible for monitoring and supporting improvement in safety processes in public healthcare organisations. In its most recent report on clinical incidents, the CEC found that between 1 January and 30 June 2010, healthcare staff made 64,225 notifications to the Incident Management System. The most frequently notified incidents related to falls (12,670), issues associated with medications and intravenous fluids (11,171) and clinical management (9,915).

The rate of serious incidents was 0.10 per 1,000 bed days – or 0.04% of all admissions.

Healthcare in Focus 2012 adds to the incident management data, using administrative data to quantify complications of medical and surgical care and place rates in an international context; as well as a patient-eye view of safety processes in the form of survey data.

Interpreting safety data is not straightforward. Increasing rates of reported incidents may seem to suggest deteriorating quality however, they may actually represent an improvement culture with greater transparency and willingness to report. Administrative data are subject to variation in coding, particularly across jurisdictions. Patient survey data are affected by information limitations. For example, patients may be unaware of some errors, or may assume errors in situations with poor medical outcomes, when in fact no mistake was made.

How well does NSW perform?

<table>
<thead>
<tr>
<th>International and national comparisons</th>
<th>NSW performed better than:</th>
<th>NSW performed worse than:</th>
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<tbody>
<tr>
<td>There were 306 hospitalisations for complications of surgical or medical care per 100,000 population.</td>
<td>United States, Germany and Switzerland</td>
<td>France, Canada, Sweden, Netherlands, United Kingdom, Norway and New Zealand</td>
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<tr>
<td>The standardised rate of post-operative pulmonary embolism or deep vein thrombosis was 875 per 100,000 discharges.</td>
<td>United States</td>
<td>New Zealand, United Kingdom, France, Sweden, Germany, Canada and Switzerland</td>
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<tr>
<td>One in 20 sicker adults (5%) report being given the wrong medicine or wrong dose at a pharmacy or while hospitalised in the past two years.</td>
<td>No countries</td>
<td>United Kingdom and Switzerland</td>
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Variation within NSW

There was a 25 percentage point range across NSW public hospitals in the proportion of day-only patients who said healthcare providers/staff always washed or cleaned their hands before providing care for them.

*Statistical analyses indicate that NSW results were truly different from those in the countries indicated.
Complications of surgical and medical care

Wound infections are the most common complications in NSW

Complications of surgical and medical care can follow hospital, general practitioner (GP) or community care. Rates can serve as indicators of quality of care – low rates may reflect the use of effective prevention and monitoring systems in patient care. However, not all complications are avoidable and rates should be interpreted with caution. In 2010, there were 92 deaths in NSW attributed to complications of surgical or medical care.

Between 2000–01 and 2010–11, NSW saw a 20% increase in rates of hospitalisations for complications from 255 to 306 per 100,000 population. Over that period, NSW had a higher rate of hospitalisations for complications than most comparator countries (Figure 4.1).

The average length of stay for hospitalisations due to complications was 7.1 days in 2010–11. This was mid-range internationally (Figure 4.2).

Across the state in 2010–11, the most commonly recorded complications (by principal diagnosis), were wound infections (4,564 hospitalisations), haemorrhage or haematoma complicating a procedure (2,919), and mechanical complication of internal joint prosthesis (1,570) (Figure 4.3).

International estimates show that at least 20% of healthcare associated infections come from surgical wounds. The consequences of wound infections range in severity. One severe consequence is sepsis and data are presented on post-operative sepsis rates on page 48.

Figure 4.1: Hospitalisations (public and private) for complications of surgical or medical care (principal diagnosis), 2000–01 to 2010–11.

Figure 4.2: Average length of stay for overnight hospitalisations (public and private) for complications of surgical or medical care (principal diagnosis), 2010–11 (or latest year).

Figure 4.3: Most commonly recorded complications of surgical and medical care (principal diagnosis), public and private hospitals, NSW, 2010–11.
Sentinel events and adverse events

NSW rates are mid-range internationally

**Sentinel events** are rare but dramatic medical errors. Sometimes referred to as ‘never events’, they are indicative of patient safety system failures.

One such sentinel event is the failure to remove ‘foreign bodies’ (such as surgical instruments, gauze swabs or needles) at the end of a surgical or medical procedure. In 2009–10, there were 64 cases of foreign bodies recorded in NSW – a standardised rate of 8.2 per 100,000 surgical and medical discharges – a rate similar to most other countries (Figure 4.4).

**Adverse events** are unintended incidents caused by healthcare that sometimes can lead to patient harm. Unlike sentinel events, adverse events can never be fully avoided, given the high-risk nature of some interventions and underlying health problems of patients.

Accidental puncture or laceration during a surgical procedure is a recognised risk, and increased rates may indicate system problems, such as inadequate training or fatigued health staff. In 2009–10, there were 1,539 accidental punctures or lacerations recorded in NSW, with a standardised rate of 202 per 100,000 surgical or medical discharges (Figure 4.5).

Similarly, the incidence of post-operative pulmonary embolism (PE) and deep vein thrombosis (DVT) can be reduced through the use of appropriate preventive measures (such as use of anticoagulants). In 2009–10, there were 2,292 PEs/DVTs recorded in NSW, a standardised rate of 875 per 100,000 surgical discharges (Figure 4.6).

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**Figure 4.4:** Foreign body left in during procedure per 100,000 discharges (age-sex standardised), public and private hospitals, 2009–10 (or latest year)

**Figure 4.5:** Accidental puncture or laceration, per 100,000 discharges (age-sex standardised), public and private hospitals, 2009–10 (or latest year)

**Figure 4.6:** Post-operative pulmonary embolism or deep vein thrombosis, per 100,000 surgical discharges (age-sex standardised), public and private hospitals, 2009–10 (or latest year)

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(OECD Health Data 2012 and NSW Ministry of Health, NSW Admitted Data Patient Collection (BHI analysis for NSW only).

Age-sex standardised to the 2005 OECD population. Differences in procedural or post-operative patient safety indicators may reflect differences in recording and reporting practices rather than safety of care.
Infections in healthcare settings
Post-operative infection rates are falling

Sepsis after elective surgery is a severe complication that can lead to multiple organ dysfunction and death. It usually results from less severe, localised infections which should be avoided or treated promptly. Many cases of post-operative sepsis can be prevented through the appropriate use of prophylactic antibiotics, sterile surgical techniques and good post-operative care.

In 2009–10, there were 485 cases of post-operative sepsis recorded in NSW at a rate of 779 per 100,000 surgical discharges. This rate was lower than the United States and New Zealand but higher than Canada and European comparators (Figure 4.7). Between 2006–07 and 2010–11, there was a 16% drop in the post-operative sepsis rate in NSW (data not shown).

Minimising healthcare associated infections relies upon appropriate hand-washing practices. In NSW, the CEC coordinates state participation in the national hand washing audit program. In June 2010, the audit reported that the hand hygiene compliance rate before patient contact was 63.3%. Overall, nurses had higher rates of hand hygiene compliance than doctors.⁴

Survey data give a patient-eye view of safety incidents and processes in place to prevent them. Information from the NSW Health Patient Survey shows marked hospital-level variation within the state in the extent to which patients said their healthcare providers always washed or cleaned their hands before providing care for them (Figure 4.8).

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Medication safety

Most NSW patients receive clear information about medications

Medicines are the most commonly provided healthcare treatment and are associated with a higher incidence of errors and adverse events than other interventions. Many of these events are potentially avoidable and some can be costly.

In 2011, the Bureau invested in the international Commonwealth Fund survey so that NSW performance could be placed alongside Australia and 10 other countries. The survey focused on people likely to have had significant direct experience of the healthcare system in the recent past – termed ‘sicker adults’.

One in 20 NSW sicker adults (5%) said they had been given the wrong medicine or wrong dose at a pharmacy or while hospitalised in the previous two years (Figure 4.9).

Most NSW sicker adults (75%) reported taking one or more prescription medications. Almost one in 10 (9%) of this group said that in the previous two years they had a negative reaction to a medicine that resulted in them going to hospital (data not shown).

To minimise adverse medication events, patients taking prescription medicine should always be provided with information about appropriate use and potential side effects.

Figure 4.10 illustrates the variation in the proportion of overnight, day-only and emergency department (ED) patients in NSW public hospitals who said that staff explained the purpose of medicines in a way they could completely understand. Across the state, more than two in 10 overnight, day-only and ED patients said staff did not explain medications in a way they could completely understand.

Figure 4.9: Commonwealth Fund survey 2011 In the past two years, have you been given the wrong medicine or wrong dose at a pharmacy or while hospitalised? (Ω)

Figure 4.10: NSW Health Patient Survey 2011 Did hospital staff explain the purpose of medicines you were to take at home in a way you could understand? (% of patients answering ‘yes, completely’ in each public hospital) (Ÿ)

(Ω) The Commonwealth Fund, The Commonwealth Fund 2011 International Survey of Sicker Adults in Eleven Countries (fair / poor self-rated health OR chronic condition OR hospitalised or had surgery in previous two years). Percentages may not add up to 100 due to rounding. (Ω) estimate almost certainly higher than NSW; (Ω) estimate almost certainly lower than NSW (BHI analysis).

(Ÿ) NSW Ministry of Health, NSW Health Patient Survey, 2011. Only peer groups A–C are shown. Results for hospitals with sample size <30 or high standard error around estimates are not reported. Question for ED patients had slightly different wording: Did someone explain the purpose of new medicines in a way you could understand? (BHI analysis).