Making health and disability services safer

Serious adverse events reported to the Health Quality & Safety Commission

1 July 2013 to 30 June 2014
This report was prepared by the Health Quality & Safety Commission based on information provided by health and disability support service providers.

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When patients are harmed by the health care system, it is reasonable for them to expect that everything that can be done will be done to stop the same thing happening to someone else. That is why the Health Quality & Safety Commission (the Commission) promotes the review and analysis of all serious adverse events, to identify ways to improve the safety of New Zealand's health and disability support services. This process also encourages a culture of transparency and openness.

This sixth report on serious adverse events published by the Commission summarises events reported between 1 July 2013 and 30 June 2014. Numbers have increased progressively, from 182 events in 2006–07, to 454 in the last year. This increase reflects improved mechanisms for reporting events and the sector's increasing commitment to the proper process of reporting. One example of district health boards (DHBs) improving their reporting systems is the collaboration between all five South Island DHBs to use a single patient safety system instead of separate, disconnected systems (see page 31). Knowledge and experience are shared, and the ability to learn from, and thus prevent, serious adverse events is improved.

The increased engagement in reporting and analysing events goes beyond public hospitals. In the private sector, members of the New Zealand Private Surgical Hospitals Association began routinely reporting serious adverse events to the Commission in 2013–14 (see page 26). This is very encouraging.

Since 2007, the reporting of serious adverse events has brought about a number of quality and safety initiatives. Preventing serious harm from falls, for example, was the first topic of focus of the Open for better care national patient safety campaign, spurred by numbers reported to the Commission. The sector has put huge efforts into this objective. This report describes a team-based approach to preventing falls at Palmerston North Hospital (see page 28), an excellent example of how the sector has acted to prevent patient harm. These and other examples of quality improvement activities in this report are just a few of the many taking place all over the country.

In my experience, when something goes wrong unexpectedly, patients and their families all say that – above all else – they do not want the same thing to happen again. Preventing the recurrence of harm requires thoughtful review, recommendations leading to actions, and sharing of review findings across the whole country. Therefore, over the coming year, we will ask DHBs to send their detailed review findings to the Commission, and allow key messages to be shared. I will write to every DHB chief executive and chair asking them to support this important aspect of preventing patient harm.

The purpose of serious adverse event reporting is not to compare one DHB with another; it is about learning, and thereby improving safety. Sharing information to prevent harm is obviously more important than any possibility of adverse publicity. I have every confidence in the sector’s willingness to engage with the Commission’s aim to share lessons learnt. I am also very encouraged by the willingness of the private sector to join us in this endeavour.

The standard of health care in New Zealand is generally high. However, like other countries, we continue to experience unnecessary serious adverse events. The Commission will continue to work with clinicians, health care workers and managers to ensure our patients stay as safe as possible. I am confident the highly skilled and very well motivated professional staff in New Zealand’s health and disability support services will continue the ongoing battle to reduce preventable harm to our patients.

Foreword

Professor Alan Merry, ONZM
CHAIR, Health Quality & Safety Commission
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Executive summary

BACKGROUND

- This is the eighth national report on serious adverse events,¹ and the sixth by the Health Quality & Safety Commission. These events have affected consumers of health and disability support services, and caused, or could have caused, serious harm or death. DHBs are required to report serious adverse events to the Commission. Increasingly, other providers – such as private surgical hospitals, aged residential care facilities, disability services, National Screening Unit and hospices – are choosing to do the same.

- International literature does not support using the number or rate of reported events to judge a hospital’s safety, as there is considerable variation in reporting and event rates. For example, DHBs reporting the most events may have better local systems for reporting and investigating events, or a superior safety culture, with a lower threshold for performing detailed review. Larger DHBs are likely to report more events than smaller ones due to the relative size of the local population served, and their provision of services to patients outside the immediate locality.

- The Commission’s national reportable events policy² sets out a process for ensuring a serious adverse event is reviewed correctly by the provider organisation, and subsequently reported to the Commission.

2013–14 REPORTING

- In total, 454 serious adverse events were reported by DHBs to the Commission. The increase in events reported since 2006–07 reflects a steady improvement in processes used by DHBs to identify and review events, rather than an increase in the frequency of events.

- One hundred and four serious adverse events were reported to the Commission by other providers.

- The number of DHB-reported events rose by 4 percent from 2012–13, and 149 percent since the first report was published in 2007,³ when 182 events were reported by DHBs for the 2006–07 period.

- Serious harm from falls were the most frequently reported events; DHBs reported 248 cases, 55 percent of all DHB-reported events. Of these, 98 resulted in a patient suffering a fractured neck of femur (broken hip).

- Clinical management incidents were the next most frequently reported events, with 158 cases relating to delays in treatment, assessment/diagnosis and observation, amongst others.

- Incidents involving the prescribing, dispensing or administration of medication were the next most frequently reported events, with 30 cases.

- The Commission collaborates with the Director of Mental Health to publish serious adverse events affecting users of DHB mental health and addictions services. In total, DHBs reported 161 such events during 2013–14. These events will be included in the Office of the Director of Mental Health’s annual report.

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¹ A serious adverse event is an incident affecting a health and disability consumer that has been classified as SAC (severity assessment criteria) 1 or 2. In general, these incidents have resulted in, or could have resulted in, serious harm or death. For further information on SAC classification of incidents, see www.hqsc.govt.nz/our-programmes/reportable-events/publications-and-resources/publication/636/.


³ Published by the Ministry of Health.
Summary of serious adverse events reported to the Commission in 2013–14:

- **454 events** reported by DHBs, including:
  - 248 cases of serious harm from falls
  - 158 cases involving clinical management
  - 30 cases involving medication dispensing, prescribing or administration

- **104 events** reported by other providers (eg, private surgical hospitals, aged residential care facilities, disability services, National Screening Unit and hospices)

- DHB-reported events **increased by 4 percent** from 2012-13

- Events affecting users of DHB mental health and addictions services are reported by the Director of Mental Health.

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**Commission and sector working together for high quality care**

Health and disability providers have invested significant resources to improve the quality and safety of care provided to their consumers, and they should receive much credit for all their work. I visit hospitals and other providers regularly, and continue to be extremely impressed at the commitment of staff at every level to providing a higher standard of care.

The Commission’s role is to support providers to make their consumers’ care safer and better, and improving the capability of the sector is a key goal for the Commission’s many different programmes. These vary from the mortality review committees with their legislated responsibilities, the Open for better care campaign (falls prevention, surgical site infections, high-risk medicines, perioperative harm), to the enduring programmes of health quality evaluation and adverse event learning.

Over the next year the Commission will be working with the sector to prevent harm to patients through improving organisations’ ability to learn from adverse events. This work will include developing with the sector annual workshops for provider staff most closely involved in adverse event prevention, and learning from international experts on patient safety, such as Dr James P Bagian.

**Dr Janice Wilson**

CHIEF EXECUTIVE, Health Quality & Safety Commission

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4 The New Zealand Private Surgical Hospitals Association reporting year is from 1 January to 31 December.
CONSUMER ENGAGEMENT TO IMPROVE REVIEW

The Commission’s programme responsible for supporting serious adverse event reporting is governed by an expert advisory group (EAG) of experienced and highly qualified health sector representatives (see Appendix 1). All Commission EAGs include consumer representatives.

The importance of involving consumers

As the consumer representative on the Adverse Event Learning Programme EAG, I see bringing a different perspective to the Commission’s programmes as one of my main roles - to ensure the consumer remains pivotal to any care, and to be certain the effect of an adverse event on the consumer and their family is never forgotten.

Involving a consumer and their family in all aspects of the review of an adverse event will result in a better review, better answering the questions that arise, and improving the opportunities to learn from the incidents - and therefore prevent them from recurring.

If consumers and their families are closely involved in a review, they will better understand the complexities of modern health and disability care, allowing them to be more fully engaged in their care. Not all adverse events are found on review to have been preventable, and involving those affected by the event will result in greater partnership between the consumer and the clinical staff.

Jane Bawden
CONSUMER REPRESENTATIVE, Adverse Event Learning Programme Expert Advisory Group
INCREASING SECTOR CAPABILITY FOR SERIOUS INCIDENT REPORTING

It is now over five years since the first national training initiative in methods of serious adverse event case review.

As a result of the initiative, we have in New Zealand a core group of mainly hospital clinicians and quality managers with expertise in responding to serious adverse events causing patient harm. They have a standard approach to the immediate response on the day of the event and the analytical case review, and to implementing remedial actions to prevent event recurrence.

This is exactly what is needed when a patient is accidently injured by the health and disability system. Immediately that person and their family/whānau want to know:

- what happened?
- why did it happen?
- how can it be prevented from happening again?

Serious adverse events are fortunately uncommon, so individual clinical units may have very little experience in answering these questions. They may have access to one of the core expert group to assist, but sector feedback to the Commission suggests this is not always the case. Hence the initiation this year of the sector capability support programme.

The programme, which is facilitated by the Commission, offers adverse event review training to experienced clinicians. Training will improve the quality of reviews and strengthen experienced reviewer networks, so there are people available to offer advice when an incident occurs.

Increasing the number of staff in the health and disability sector with the capability to review adverse events will result in the following benefits:

- Patients benefit from highly competent case review.
- Staff are exposure to rigorous case analysis, spread safety culture and understand system failure and failure modes.
- High-quality reviews are the starting point for effective cross-communication, within providers and nationally, to generalise harm prevention methods across the sector.

In next year’s reporting I would like to see increased numbers of case reviews and a greater proportion of reports submitted as ‘final’, including all the essential elements of good quality root cause analysis.

Dr David Sage
CLINICAL LEAD, Adverse Event Learning Programme
GLOBAL TRIGGER TOOLS

The Commission is developing a work programme to help implement the global trigger tool (GTT) programme in New Zealand.5

The GTT is an internationally recognised tool developed by the Institute for Healthcare Improvement (IHI) for measuring patient harm. It is a simple, validated and cost-effective methodology that complements other reporting systems for patient harm.

The GTT involves applying a systematic record review process to a random set of medical records each month. Triggers are used as ‘clues’ indicating a potential serious adverse event resulting in patient harm may have occurred. When a trigger is identified, the relevant part of the medical record is searched in more depth to confirm if harm has occurred. By contributing to our understanding of why harm occurs, the GTT informs initiatives to improve patient safety and the quality of the patient experience.

As a result of using the GTT, harm associated with the use of opioid medication is an area flagged as a cause for concern. This is being addressed as part of the Commission’s broader national patient safety campaign, Open for better care, in October 2014 to March 2015, when the focus is on high-risk medicines.

HIGHLY PREVENTABLE AND POTENTIALLY SERIOUS EVENTS

The Commission consulted with the health and disability sector on whether there should be compulsory review and reporting of a defined set of highly preventable adverse events that have the potential for causing serious harm to patients.

Other countries have a list of ‘never events’ which providers are required to report. Part of the Commission’s consultation asked for feedback on the systems used in those countries (USA and National Health Service England in particular). Feedback was unanimously in support of the Commission introducing a process that resulted in highly preventable and potentially serious events being reviewed and reported, although debate remains over the terminology for describing such events.

The Commission’s Board subsequently accepted the results of the consultation, and asked that the review of the national reportable events policy (due 2015) formalises a process for the reporting of highly preventable and potentially serious events.

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INFORMATION SHARING

The Commission, Health and Disability Commissioner, Ministry of Health and Accident Compensation Corporation (ACC) have signed a memorandum of understanding in relation to working together to prevent serious patient harm.

As part of this work, a review was performed during 2013–14. The review compared serious adverse event reporting with cases ACC became aware of through treatment injury claims, and which ACC subsequently report to the Ministry of Health. The review showed that, in the time period selected, there was more disparity between the reporting than expected.

As a result of that review, ACC now reports to the Commission on the same cases it reports to the Ministry. The Commission hopes during 2014–15 to work with DHBs to help them identify adverse events which may otherwise have not been identified.

PUBLIC REPORTING OF SERIOUS ADVERSE EVENTS INVOLVING MENTAL HEALTH AND ADDICTIONS SERVICES CONSUMERS

In 2012–13, the Commission released a separate report on serious incidents affecting consumers of mental health and addictions services. The Commission and the Ministry of Health’s Director of Mental Health are now working together to coordinate efforts in this area. To place them in their proper context, these serious incidents will now be published within the annual report from the Office of the Director of Mental Health, rather than in a separate report by the Commission.

SUICIDE MORTALITY REVIEW COMMITTEE

The Suicide Mortality Review Committee (SUMRC) is an independent committee that reviews suicide deaths and advises the Commission on how to reduce their number.

The SUMRC was established as the result of a contract between the Ministry of Health and the Commission to trial a suicide mortality review mechanism. The trial will operate from 30 April 2014 to 30 September 2015. Its focus is to advise the Commission on how to reduce New Zealand’s suicide deaths. The SUMRC aims to collect a standard set of information for every New Zealand suicide death to improve knowledge about people who die by suicide.

The committee will review three sub-groups with particularly high rates or numbers of suicide. These are Māori youth, users of specialist mental health and addictions services (from the time they are admitted to a year after discharge) and men aged 25–64.

For each sub-group reviewed, the aim is to improve knowledge about people who die by suicide, and identify contributing factors, patterns of suicidal behaviour and key intervention points for suicide prevention.

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6 In accordance with ACC’s requirement to report a risk of harm to the public under section 284 of the Accident Compensation Act 2001.
MEDICATION SAFETY ALERTS

The Commission’s Medication Safety Programme has a role to provide expert guidance to the sector, including the development of safety alerts. The alerts produced by the Commission are recommendations relating to either internationally recognised or locally identified high-risk medicines or situations. Alerts are sent out directly to relevant health care providers with the latest information and advice on particular topics of concern.

In the past, the programme has released alerts on several topics, including:

- use of abbreviations that can cause medication prescribing, dispensing or administration errors (October 2012)
- prescribing of heparin (September 2011)
- prescribing and dispensing of oral methotrexate (December 2011)
- prescribing of caffeine citrate oral solution (October 2011).

Two alerts were published in 2013–14, relating to the use of transdermal patches and the administration of metoprolol.7

OPEN FOR BETTER CARE NATIONAL PATIENT SAFETY CAMPAIGN

The Open for better care campaign was launched by the Commission in May 2013 and is supported by DHBs, private surgical hospitals and other providers.

The campaign’s goal is to inform and mobilise the New Zealand population to ensure safety and quality improvement in health and disability care by preventing harm, avoiding waste and getting better value from resources.

Since its launch, the campaign has focused on reducing harm from falls, healthcare associated infections (particularly surgical site infections) and surgery. Its current focus is medication safety.

In collaboration with the sector, the campaign has developed many resources to support clinicians, including webinars to learn from experts on subjects such as skin preparation before surgery, use of antibiotics to prevent infections, and consumer engagement.

The focus on falls prevention has produced 10 topics to reduce harm from falls, such as the importance of maintaining a safe environment, and the prescription of vitamin D to help strengthen bones.

The resources to improve the safety of patients in the perioperative stages of their care include information on the introduction and use of the surgical safety checklist, and a competition for surgical teams to produce the most entertaining and educational video on the surgical safety checklist.

For more information go to www.open.hqsc.govt.nz.

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Other avenues of national adverse event reporting

Various other well-established processes exist in New Zealand for gathering reports on serious adverse events in the health system. Examples are the National Minimum Dataset (NMDS) database managed by the Ministry of Health, direct case reporting to the Ministry of Health, personal injury reports to ACC, and investigations by Coronial Services and the Health and Disability Commissioner. The primary purposes differ, but most share with the Commission a common goal of learning from events to reduce future harm.

The Commission is actively exploring these apparent overlaps of reporting, in the context of an increase in the number of serious adverse events being reported, and Commission efforts to improve the ability of DHBs to learn from these events.

Two examples of data matching illustrate the complexity. The main cause for serious brain injury in newborn babies is oxygen deprivation during pregnancy and delivery. Individual case descriptions are collected both by ACC to assist provision of lifetime care support, and by the Perinatal and Maternal Mortality Review Committee (PMMRC) to establish the incidence of neonatal encephalopathy, risk factors and recommendations for risk reduction. The reporting of serious adverse events is a third avenue for health care providers to report these same cases. But in practice this does not always happen. A comparison of neonatal encephalopathy reporting to the Commission as serious adverse events and to the PMMRC showed 11 cases over three years reported to the Commission, but in one year alone 113 cases were reported to the PMMRC.

A second example is a comparison of serious adverse events reports with a sample of patient injury claims to ACC that met an ACC clinical threshold for ‘belief of serious harm’. In the six-month sample of 244 ACC reports, serious adverse events reporting included just six of these cases, although the different definitions and sampling of these cases explain most of this discrepancy. Of note, the DHB reporting of serious adverse events did not include reports of 30 pressure ulcers, six wrong site procedures or five retained objects that were captured in the ACC reports of the same time period.

In general, the reporting of adverse events through other avenues and the reasons for reporting need to be better understood and, where possible, duplicate reporting should be eliminated. Strong inter-agency collaboration is needed to correctly identify the serious issues, and drive change in the sector for the proven initiatives that will reduce harm.

Dr David Sage
CLINICAL LEAD, Adverse Event Learning Programme
Since the first report on serious adverse events was published in 2007, reporting rates have significantly increased (see Figure 1). The increase is due to DHBs improving their local processes to identify and review events – including developing systems that encourage staff to report, and cross-checking other information systems (see the Commission’s 2012–13 report, p9).

Figure 1: DHB serious adverse events 2006–07 to 2013–14

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8 Note the first four reports included cases of suspected suicide of mental health outpatients, which subsequent reports have excluded. Those rates were: 2006–07, not available; 2007–08, 6 cases; 2008–09, 29 cases; 2009–10, 60 cases.

As in previous years, events involving serious harm from falls were the most frequently reported (see Figure 2). There were 248 cases, making up 55 percent of total events reported. Clinical management incidents were the next most common (158 events, 35 percent), and medication incidents the third (30 events, 7 percent).

**Figure 2: DHB serious adverse events 2013-14 by event type**

- Serious harm from falls: 248
- Clinical management: 158
- Medication: 30
- Other patient accidents (not falls): 5
- Other events: 13

Total DHB serious adverse events: 454
SERIOUS HARM FROM FALLS EVENTS IN 2013–14

DHBs reported 248 cases where patients suffered serious harm from falls (see Figure 3).

Serious harm from falls are the most frequently reported serious adverse events. The increase in reported events since 2007–08 is likely due to hospitals improving their systems to identify and report events, rather than an actual increase in events. In particular, DHBs routinely cross-reference ACC injury claims with hospital reportable event systems, to ensure all falls involving patient harm are identified and reviewed appropriately. The Commission is confident DHBs are consistently reporting cases of patients suffering a fractured neck of femur after a fall in hospital as serious adverse events (see Figure 4).

On admission to hospital, patients should be assessed for their relative risk of falling. This assessment includes clinical staff asking about the presence of various factors that increase the risk of falling, including:

- any past history of falling
- level of mobility assistance needed
- medication currently being taken
- mental state.

Following assessment, a plan can be developed to reduce a patient’s risk of falling.

Figure 3: Serious harm from falls events 2007–08 to 2013–14

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10 Reporting in 2006–07 did not include details of specific cases.
Included in the number of falls reported were 98 cases when a patient suffered a fractured neck of femur (see Figure 4).

**Reducing harm from falls**

Every serious injury resulting from a fall in hospital represents someone who has sadly suffered life-changing harm or died in our care. That these incidents are reported and analysed to understand why the person suffered harm after falling, increases my conviction that preventing our patients from falling should be a high priority for health and disability support services staff.

We know reporting is giving us an increasingly accurate picture of harm from falls in hospital. Numbers reported to the Commission as serious adverse events are now very similar to data obtained from other available sources, such as the NMDS (see page 16), particularly in those areas where the Commission has a programme focus. While this shows reporting by hospital staff has greatly improved, for the people who are harmed in hospital, this is largely irrelevant; we need to progress from accurately reporting falls, to preventing them.

DHBs are working hard to reduce rates of falls with harm in their hospitals, with some success. Yet we cannot realistically expect the rates to significantly reduce until a more integrated approach is adopted across both hospital and community settings. This requires an increased understanding of the relationship between falls, fragility, fractures and ultimately bone health.

Reducing falls rates must start in a patient’s own home and in primary care, with those identified as being at risk having their bone health assessed and appropriately treated. This would mean osteoporosis is identified, treated and supported by health services at an earlier stage, and strength and balance exercises designed for older people made available. A person’s risk of falling should be identified wherever they seek health services, and an individualised plan of care put in place in partnership with the patient and their family/whānau.

Collectively, we need to work with people in the community and in hospitals to ensure they stay safe.

**Sandy Blake**  
CLINICAL LEAD, Reducing Harm from Falls Programme
### Serious harm from falls events 2013–14

<table>
<thead>
<tr>
<th>Injury Type</th>
<th>Number</th>
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<tr>
<td>Fractured neck of femur</td>
<td>98</td>
</tr>
<tr>
<td>Serious head injury</td>
<td>22</td>
</tr>
<tr>
<td>Fracture from hand to shoulder</td>
<td>43</td>
</tr>
<tr>
<td>Fractured pelvis</td>
<td>14</td>
</tr>
<tr>
<td>Fracture from foot to thigh</td>
<td>29</td>
</tr>
<tr>
<td>Other categories of injury (all categories &lt;10 serious adverse events)</td>
<td>18</td>
</tr>
<tr>
<td>Wound requiring sutures</td>
<td>14</td>
</tr>
<tr>
<td>Fractured rib</td>
<td>10</td>
</tr>
</tbody>
</table>

**Serious harm from falls events total:** 248
Evidence of improved reporting

The first step in preventing serious adverse events is identifying them, so a detailed review can take place. While this sounds simple, reporting systems like New Zealand’s do not capture all events.

One way of measuring the difference between the number of events occurring and those being reported is to compare events reported to the Commission with the information produced by public hospitals on the discharge of every patient. This information is called the National Minimum Dataset (NMDS). It provides information on key aspects of a patient’s care, such as a patient falling and breaking a hip in hospital.

Since 2011–12, there has been an increasing correlation between events involving broken hips in hospital, as recorded in the NMDS, and those reported to the Commission as serious adverse fall events. For 2013–14, the numbers are almost identical. This indicates hospital systems for identifying, reviewing and reporting incidents closely align with what has actually occurred. Improved reporting culture, along with a strong focus on falls prevention, has likely resulted in hospitals now identifying a higher proportion of serious injuries from falls than before.

Richard Hamblin
DIRECTOR, Health Quality Evaluation

Clinical management events were the second most frequently reported events (see Figure 6) with 158 in total.

Most cases were reported not because of a preventable error or omission resulting in patient harm, but because the outcome for the patient was serious and unexpected.

There are several types of reported clinical management events, including:

Outcome – 31 reported events due to a serious unexpected outcome for a patient, such as a baby being stillborn, or a patient unexpectedly dying after an operation.

Delay in treatment – 28 reported events due to a significant delay in a patient’s care caused by failings in hospital systems (see page 19 and Figure 7).

Assessment/Diagnosis – 21 reported events in which there were concerns about a patient’s assessment or diagnosis, eg, eye injury assessment in an emergency department or misinterpreting X-rays leading to a potential or actual delay in treatment.

Care for patients in hospital has to continue around the clock, but at weekends and in the evenings services are much reduced. As a result of an adverse event, a DHB made changes to the procedures that govern the reporting of X-rays out of hours, including having a system to prioritise cases. This will result in a better quality of care to patients out of hours.
Incorrect process – 16 reported events in which patients received an incorrect process. This included a wrong patient being taken for an X-ray, a wrong patient receiving a barium meal examination and patients receiving unnecessary procedures such as a renal biopsy or lumbar puncture. Two cases were reported which were classified as near misses – in each case the wrong patient was identified before any harm could occur (see page 20 and Figure 8).

Complication of procedure – 16 reported events in which patients experienced a complication as a result of an operation or procedure. All invasive procedures carry a level of risk of complications, and the informed consent process exists to ensure patients are aware of potential complications. Examples include bleeding after an operation, a perforated bowel during surgery and a patient’s condition deteriorating after a diagnostic cardiac procedure (coronary angiogram).

General care – 11 reported events. The reporting of pressure sores is within this category, however this figure is likely under-representing the true number of events. In 2012–13, the Commission supported the four DHBs in the Northern region in their policy to report all grade 3 or 4 pressure sores developed in hospital as serious adverse events. Other DHBs were advised that, in the Commission’s view, such incidents satisfied the criteria for serious adverse events reporting. It is notable that all events reported this year came from the Northern region DHBs.

Retained item during procedure – 11 reported events. When a procedure is performed on a patient, great care is taken to ensure the number of swabs, needles and other equipment used are accounted for at the end. However, there are still rare occasions when items are left inside a patient. In most cases, a further operation or procedure is required to remove the retained item, entailing the risks of further surgery and possibly a longer stay in hospital. If a retained item is not discovered immediately, there is also the potential complication of infection at the operation site, causing harm to the patient and an additional burden of cost to the health system (see page 21 and Figure 9).

In 2013–14, DHBs have increasingly started to share the lessons learnt from serious adverse events. This includes a case which has resulted in additional safety steps being included to ensure patients receive the correct blood product. A Learning Report was produced by the DHB which reported the incident, and this was sent to all other DHBs so they could review their own systems.

Another DHB released three Learning Reports based on incidents that occurred in 2012–13, and – as signalled in the Foreword to this report – this is an initiative the Commission intends to encourage further.

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11 One case has been counted twice – a wrong patient event resulted in a delay in treatment for cancer.
Figure 6: Clinical management events 2013–14

- Delay: 28, 17.7%
- Complication of procedure: 16, 10.1%
- Incorrect process: 16, 10.1%
- Assessment/Diagnosis: 21, 13.3%
- Other: 11, 7%
- General care: 11, 7%
- Retained item: 11, 7%
- Observation: 7, 4.4%
- Treatment: 6, 3.8%
- Outcome: 31, 19.6%
Delay in treatment events in 2013–14

Twenty-eight cases were reported in which there was a delay in treatment due to hospital system failures (see Figure 7).

Since the Commission first reported on these events in the 2011-12 report, the majority have involved delayed diagnosis of cancer and fallen into four main categories:

• An X-ray report identified an abnormality and recommended further treatment or investigation, but this did not occur.
• A follow-up appointment was required to monitor a patient’s condition, but was not made.
• A biopsy was reported as malignant, but the report was not read.
• A referral was made between specialties, but not received.

In a number of cases reported to the Commission over the past three years, a patient had an X-ray, which showed an abnormality. The radiologist who reported the X-ray stated in the report further investigation was needed as a result of an abnormality. However, that recommendation was not noticed, for a variety of reasons: change-over between staff; reporting systems not working as they should; or the report being sent to no specific or currently employed doctor. In these cases, the patients subsequently presented some months or years later with a cancer at the site previously seen. Only then was it realised the earlier investigation had detected a problem. The cause of these errors are multiple: a conflict between paper and IT clinical records; the need for decisions to be transcribed from one record to another; and staff changes.

As a result of one such case reported in 2013–14, one DHB changed procedures so all radiology results are signed off. The results are also provided to a patient’s GP on the discharge summary as an additional safety measure.

As a result of another case reported during the year, in which a referral was sent but not received, the DHB altered processes to ensure referrals are acknowledged, and the referring service is responsible for ensuring any referral is received.

Figure 7: Delay in treatment events 2007–08 to 2013–14
Incorrect process events in 2013–14

Fourteen cases were reported involving a patient undergoing an incorrect process. There were also two further cases where no harm was caused, as the error was identified before further action was taken (see Figure 8).

While rare, an error is occasionally made whereby a patient undergoes a procedure intended for someone else, or the wrong procedure is performed. Included in reported events are those where an unnecessary procedure was performed, for example, a patient received a repeat of an investigation performed a few weeks earlier, or an unnecessary biopsy was performed. While these cases may not have resulted in identifiable ‘harm’ compared to, for example, a serious medication administration error, there was a breakdown in patient identification processes. These cases reach the threshold for being reviewed as serious adverse events.

Figure 8: Incorrect process events 2013–14

Incorrect process events total: 16
- Unnecessary procedure: 5
- Wrong site: 3
- Wrong patient: 4
- Wrong procedure: 2
- Wrong patient (near miss): 2

Wrong patient

In 2013–14, two cases were reported relating to the wrong patient being taken for an X-ray. While this may not be seen to some as a ‘serious’ error, the patients received an additional, unplanned dose of radiation. In addition, the person who was intended to have the X-ray may have had their care delayed. There has been a failure in the systems that ensure the right patient receives the right care. Ensuring these systems work for the lower-risk events – such as a chest X-ray – will mean they will also work for the riskier, more invasive procedures.
Retained item during procedure events in 2013–14

The most frequently reported retained item events (see Figure 9) were swabs being left inside patients during a procedure; five cases related specifically to swabs being retained after a normal birth. In response to this, DHBs have introduced measures to prevent event recurrence, including:

- the use of different swabs which are less likely to be left behind after birth
- using a swab count process similar to that used in operating theatres
- having a checklist to ensure swabs are not retained.

Figure 9: Retained item during procedure events 2013–14

Retained swabs

In five cases reported in 2013–14, a swab was left inside women who had given birth. Similar cases were also reported in previous years. Unlike in operating theatres – where there are strict processes for ensuring swabs are accounted for – the same approach to ‘counting’ swabs is not universally followed during childbirth.

In 2013–14, one DHB decided to change its obstetrics processes and the use of swabs is now covered by the same counting processes used in main operating theatres. ‘Tags’ allowing swabs to be seen on an X-ray are also used.
Reducing perioperative harm

The Commission’s Reducing Perioperative Harm Programme is working to help hospitals improve patient safety by improving teamwork and communication in the operating theatre.

We know the message is an easy one to express, but evidence shows this is one of the most difficult challenges that can be set in the hospital system today, because it requires a change in team culture.

The programme is focusing on making the patient journey through the operating theatre safer by introducing advice and support for three clinical interventions – a pre-list briefing, all three stages of the World Health Organization (WHO) surgical safety checklist and a post-list debriefing. These three steps are internationally proven to reduce preventable surgical errors and patient harm by supporting open and robust team communication. To support hospitals in introducing these interventions, the Commission has developed a range of training resources and videos demonstrating each intervention and advising on implementation.12

If these interventions are to work, there must be a whole-of-system understanding of the challenges involved and importance of the changes being introduced. The role of DHB chairs, chief executives, directors of nursing and executive managers is crucial – organisational leaders must support change for it to be effective.

Ian Civil and Miranda Pope
MEDICAL CLINICAL LEAD AND NURSING CLINICAL LEAD
Reducing Perioperative Harm Programme

Hospital system failures are preventable

Since 2011–12, 69 events have been reported in which a delay in treatment resulted from hospital system failures. Worryingly, we have seen little in the way of initiatives to address this important problem.

It is easy to see how these incidents might come about, but some of them have very serious consequences for patients: blindness, for example, or delays in treating cancer identified on an X-ray or by a biopsy.

From the perspective of the patients involved, these events should never happen. Patients have every right to expect hospital systems to connect together. Most failures seem to occur as a result of preventable conflicts in systems: unaligned IT and paper processes; results being sent to a wrong clinician; or there being no systems to acknowledge referrals sent or biopsies received.

I ask all DHBs to consider very carefully the recommendations coming from event reviews, make prevention a priority and share system changes and improvements they have made.

Professor Alan Merry, ONZM
CHAIR, Health Quality & Safety Commission

MEDICATION EVENTS IN 2013–14

Serious adverse events involving medication are the third most frequently reported events, with 30 cases reported this year (see Figure 10).

Examples of medication events include the wrong medicine or wrong dose being administered, or a medicine being administered via the wrong route, for example, intravenously instead of by mouth (see Figure 11).

Figure 10: Medication events 2007–08 to 2013–14

Reducing harm from medication errors

A medication error can be devastating not only for the patient, but also for the health care professionals involved. The review of serious adverse events is important so we can learn from errors, and put steps in place to prevent them from recurring. When similar events recur, it is likely that processes or systems need to change. Reviewing events is a key part of prevention.

The Medication Safety Programme, jointly led by the Commission, the National Health Board and National Health IT Board, identifies quality improvement initiatives and system changes to reduce medication-related patient harm. Over the next three years, the programme will focus on reducing harm from high-risk medicines such as insulin, anticoagulants and opioids. These medicines are often involved when a patient suffers serious harm as a result of a medication error.

Reducing harm from high-risk medicines is an area of focus of the Commission’s Open for better care national patient safety campaign from October 2014 to March 2015. This leads into the programme’s latest initiative, an 18-month quality improvement project to reduce harm to hospital patients from opioids. The project aims to develop a bundle of interventions with measures that can be used in all public hospitals, then adapted and spread across the wider health and disability sector.

Dr John Barnard  
CLINICAL LEAD, Medication Safety Programme (since 1 October 2014)
In 2013–14, four incidents were reported when patients were administered medicine via the wrong route. In general, these cases involved a medicine in a syringe being given the wrong way – intravenously when it was meant to be into an epidural or an oral dose. In the busy and complex care environment, clinical staff need to be sure simple, basic steps are still followed; those steps, in relation to medicine administration, include the ‘five rights’ of right route, right time, right drug, right patient, right dose.
HEALTHCARE ASSOCIATED INFECTION EVENTS IN 2013–14

Three healthcare associated infection events were reported. While this number is relatively low compared with other types of event, reporting will probably increase over the next few years due to the focus from the Commission’s national programme to reduce surgical site infections (SSIs).

Reducing SSIs

Only three SSIs reached the threshold for being reported as serious adverse events over the past year, despite a substantial number of patients experiencing serious (deep or organ space) infections after surgery performed in New Zealand hospitals. In total, in the 12 months from March 2013 to March 2014, 56 deep or organ space infections were reported through the SSI Improvement Programme. It is therefore clear that more work needs to be done to encourage the reporting of these events.

The Commission recognises these infections have a significant impact on patients and their families/whānau, and result in significant costs to the New Zealand health care system. Accordingly, the national SSI Improvement Programme is working to reduce these infections through a bundle of interventions focused on the timely administration of the appropriate dose of surgical antibiotic prophylaxis and the use of the appropriate skin antisepsis.

Dr Arthur Morris
CLINICAL LEAD, Surgical Site Infection Improvement Programme
Serious adverse events reported by other providers in 2013-14

Unlike DHBs, other providers are not required to report serious adverse events to the Commission. However, the Commission supports those providers in reporting events.

PRIVATE SURGICAL HOSPITALS

The New Zealand Private Surgical Hospitals Association (NZPSHA) represents the interests of private surgical hospitals. Twenty-four organisations are members, responsible for 35 hospitals, where approximately 162,000 patients are treated each year (50 percent of all elective surgery in New Zealand).

A requirement of membership is involvement in the reporting of clinical indicators (including serious adverse events). These are subsequently analysed by the Injury Prevention Research Unit of the University of Otago and reported back to member organisations without identifying individual providers, other than their own figures.

The members of the NZPSHA have recognised the importance of learning from adverse events, which is why they have all adopted the reporting of clinical indicators. The next step we intend to take is to share the lessons learnt from individual incidents more formally, as we recognise the power to change practice comes not just from data analysis, but also the discussion and debate that comes with sharing details of specific incidents.

While members of the NZPSHA may be business competitors, we collaborate fully when it comes to improving the safety of care for our patients.

Greg Brooks
NZPSHA PRESIDENT

From 1 January to 31 December 2013, the NZPSHA organisations reported 79 SAC 1 or 2 incidents, from 160,715 admissions. This figure cannot be directly compared with DHB-reported events as reporting criteria differ.

AMBULANCE SERVICES

During 2012–13, 29 serious adverse events were reported by ambulance services, and subsequently included in the Commission’s report for that year. During 2013-14, the National Ambulance Sector Office (NASO) developed a separate reporting system, and these events are now reported by NASO, on the Ministry of Health’s website.13

PROVIDERS OTHER THAN PRIVATE SURGICAL HOSPITALS

Other providers (excluding private surgical hospitals) reported 25 serious adverse events to the Commission in 2013–14.

Aged residential care
- Five reports from two providers, including four cases of serious harm from falls and one of serious adverse behaviour of a relative.

Disability service
- One reported event, for attempted self-harm.

Hospice
- Eleven reports from two providers, including five cases of serious harm from falls, three medication events, one clinical management event, one pathological fracture and one case of self-harm.

Non-governmental organisation
- One reported event, of a resident setting light to accommodation.

National Screening Unit
- Five reported events, including three relating to the Universal Newborn Hearing Screening and Early Intervention Programme and two relating to pathology services.

Primary health organisation
- Two reported events from one primary health organisation, including one case of serious harm from falls and one relating to assessment/diagnosis.

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Reducing harm from falls was the first area of focus for the Health Quality & Safety Commission’s Open for better care campaign. A small team at MidCentral DHB has demonstrated that a simple team-based approach to raising falls awareness can have positive and far-reaching effects on patient safety.

Based on ideas gained at the 2012 Australian and New Zealand Falls Prevention Conference, the clinical team at MidCentral DHB decided to trial a new falls prevention strategy at ward 25, an acute medical ward at Palmerston North Hospital. The trial ran from November 2012 to March 2014.

Interviews with nurses and ward staff identified what the team considered were five essential elements of falls prevention and safe care for patients. These elements formed the basis of the ‘falls aware ward’ trial.

1. Beds being at the appropriate height for the patient.
2. Call bells being within patient reach.
3. Bed space being free of clutter.
4. Suitable footwear for safe walking.
5. A regular programme to support patients who require help with hygiene needs.

The ward 25 team with the ‘5 essentials of falls prevention’ banner. From left: Charge Nurse Caroline Dodsworth, Health Care Assistant Polu Tyson, Registered Nurse Kavita Gedar, Registered Nurse Sue Farrell and Food Service Assistant Ngaire Williams.
The team supported the national Reducing Harm from Falls Programme approach (see page 14) and agreed that reducing falls was everyone’s responsibility, so a multidisciplinary approach was adopted across the ward. All staff, from doctors and nurses through to social workers, chaplains, orderlies and cleaners, were required to ensure all five elements were in place when caring for patients.

To raise awareness of staff, patients and families/whānau, banners at the ward 25 entrance announced it was a falls aware ward and posters at every bedside listed the ‘5 essentials of falls prevention’. Information brochures were given to patients and their relatives, staff carried reminder cards and audit results were posted on a ‘Knowing how we’re doing’ board, which was displayed in a public area.

Before the trial started, a spot audit of the ward environment and patients’ clinical notes was taken to provide a baseline against which improvements and success could be measured. The ward was found to be 38 percent compliant with the ‘5 essentials’. A review conducted after the trial revealed compliance had climbed to nearly 99 percent.

Charge Nurse Caroline Dodsworth says, while recognising ward 25 had patients with a higher risk of falling and hurting themselves, the aim of the initiative was to reduce the severity of harm from falls when they did occur.

‘The project has definitely been successful in raising awareness of falls risks and prevention for staff, patients and their relatives. Clutter has reduced, beds are all at appropriate heights and patients have their call bells close by. Now everyone takes responsibility instead of assuming someone else is going to keep the patient safe.’

The project has only been trialled in one ward and a formal evaluation is yet to take place so it is not possible to measure conclusively any reduction in the frequency of falls or the severity of harm from falls. However, Caroline says she is confident the initiative will produce positive benefits over time.

‘Falls prevention has become a common language and staff say falls awareness is now part of everything they do. It’s spreading into the community too, with primary health organisations and residential care facilities also being introduced to the “5 essentials”.’

Once evaluation is complete, the proposal is to extend the falls aware ward project to other inpatient wards and, eventually, to other DHBs in the region.
SOUTHERN DHB SUPPORTING QUALITY IMPROVEMENT IN COMMUNITY AGED CARE PROVIDERS

Recent work by Southern DHB to support aged residential care providers has resulted in improved quality of care for elderly residents in the community, reducing the need for hospital services.

Sharon Adler is the Portfolio Manager Health of Older People & Disability for Southern DHB. Part of her job is to review reports from aged residential care providers when an incident results in actual or potential harm. She then works with the provider to ensure corrective measures are in place so similar incidents do not recur.

For example, a series of errors in administering insulin was detected by Southern DHB’s Needs Assessment and Service Coordination while it was reassessing a residence for a change in care status level. The errors occurred over a single 24-hour period.

Sharon brought in a DHB nurse practitioner and worked with the provider’s clinical manager to uncover the root cause of the errors, which related to the level of supervision and training provided to kaiāwhina (support workers). The clinical manager interviewed staff to determine exactly why each error occurred and new training and medication competency testing was put in place to prevent the errors happening again. Sharon then required the manager to undertake fortnightly audits for three months and report back to her so she could be sure better procedures were in place and working.

‘It isn’t about punishing anyone,’ Sharon says. ‘Humans make errors, but we have to make sure we prevent them where we can and that good systems are in place. It’s really about providing the support required to learn from mistakes and make sure improvements in quality of care really are happening.’

Southern DHB’s public health unit, Public Health South, proactively offers annual training on infection outbreak control to rest home providers. Sessions are scheduled in different areas throughout the region to make it easier for all rest home providers to attend.

Providers must inform Public Health South when they suspect they have an outbreak. The unit will support them to control the outbreak by ensuring providers have sent specimens to the lab and are using appropriate infection control procedures such as effective masks, hand hygiene, isolation and signage.

Sharon says preventing harm from falls is another good example of where rest home providers can be supported.

‘Falls will always occur because some of their causes are beyond our control, but many can be prevented. When they’re reported to us, we go through that same process to be sure measures are in place to prevent the same thing happening again.’

The DHB is proactive about falls prevention, taking a district-wide multi-agency approach to falls.

‘In aged care facilities, medications or their combinations can increase the risk of falls. I think an effective thing we do is having a health of older people’s mental health nurse practitioner who can provide medication reviews for rest homes. She may do this in response to a reported falls incident, but the rest homes are encouraged to call her for advice or if they think a resident needs an assessment so a fall can be prevented,’ Sharon says.

‘I look at the health system as a whole, as there is an interdependent relationship between aged care facilities and our acute hospitals. The more we can support excellent care in aged care facilities, the fewer emergency department presentations and hospital admissions will occur. More importantly, residents will have better lives.’

The five South Island DHBs – Nelson Marlborough, Canterbury, South Canterbury, Southern and West Coast – have collaborated to form the South Island Alliance. The Alliance allows the DHBs to work in partnership to develop more innovative and efficient health services than could be achieved independently.

A shared patient and staff incident reporting and management system, being implemented this year, is just one example of how combining resources and sharing knowledge can have a significant and positive impact on the health of New Zealanders. The system stores information relating to serious adverse events, including what happened and why, along with all complaints, feedback and compliments to do with risk management. Reviewing the data can help establish procedures to ensure incidents are minimised or, ideally, do not recur.

In 2012 it was agreed that if all five DHBs used and shared the same system, they could learn from each other’s data. The RL6 system, already being used by Nelson Marlborough DHB, was chosen, and considerable work over the last 18 months has gone into standardising how data will be recorded so it can be shared meaningfully across the DHBs.

‘Currently, as part of this process, we’ve been working on consistent taxonomy and forms inside the system so we’re all using the same processes and terminology,’ says Canterbury DHB Quality and Patient Safety Director Sue Wood.

‘Clinicians can travel a lot so this will be great for them. No matter where they are in the region, they’ll be able to enter the system and everything will look the same.

‘Most importantly, it will be easier to record adverse events and their root causes. And because we’re all speaking the same language, it will be much easier to learn from each other and monitor trends across the region.’

The system will also be used to provide online training programmes. Each DHB will take a lead role in a different improvement area and share what has been learned.

The software was developed by RL Solutions and is being used by several other DHBs around the country, as well as by the Health Quality & Safety Commission.16

RL Solutions Vice President and co-founder Jason Schuy says the five DHBs will be able to customise their software according to their own needs so, while reporting will become more standardised, there will also be plenty of flexibility.

He says RL Solutions is delighted to be part of a project to reduce patient harm through improved reporting and reviewing of serious adverse events.

The contract to provide the service was signed at the end of July 2014. Software configuration across the DHBs is estimated to take four months.

The Benefits of Reviewing Adverse Events

An incident at Auckland City Hospital illustrates the value of reviewing serious adverse events, the lessons we can learn and how a simple but proactive action plan to address problems can reduce costs and improve patient safety.

In late 2013, rips in the packaging of a surgical instrument set rendered it unsterile and, because there were no other sterile sets available, an orthopaedic surgery case had to be cancelled. Fortunately the patient had not yet been anaesthetised so there was no further harm beyond the cost and inconvenience of a delayed operation.

However, as this was a recurring problem, the hospital’s Central Sterile Services Department (CSSD), which looks after sterilising and repackaging surgical equipment, conducted a review and uncovered a number of factors increasing the potential for packaging rips.

The inspection of used equipment and wrapping for the heat sterilisation process took place in an environment with distractions and insufficient space. This led to poor handling techniques such as heavy trays containing equipment being stacked on top of each other due to lack of storage shelving.

Sometimes equipment packs were over-handled, increasing the risk of damage. Work surfaces on the transportation trolleys were rough and some of the trays provided by loan companies were heavy and had feet that could cause rips. Tight timeframes meant wrapped items could not be fully inspected before they were sterilised. The labelling process meant staff receiving sterile wrapped equipment in the operating room had to manoeuvre it several times to read the title. It was identified that in some cases trays could be moved up to 19 times prior to use.

The review made recommendations to address these risk factors. These included:

- revised training for CSSD staff
- providing more and better transportation trays
- trialling a new wrapping material
- modifying the CSSD staff roster
- modifying the labelling process to reduce the need for equipment handling.

Outcome measures were set and an action plan to implement the recommendations was approved by the Health Quality & Safety Commission.

As a result of the review and action plan, rips in surgical equipment packaging decreased from 24 in October 2013 to 15 in November and just 8 in December. This reduction has also reduced surgery cancellations, which should further reduce the need for manual handling of equipment and trays.
IMPROVED EARLY WARNING SYSTEM AT HAWKE’S BAY DHB

In August 2013 Hawke’s Bay DHB began a project to improve the effectiveness of its early warning system (EWS). The EWS is used to identify early those patients whose conditions are seriously deteriorating and who may need urgent intervention.

‘We were noticing that occasionally patients would be getting slowly sicker and it wasn’t always being picked up straight away,’ says Dr Michael Park, Head of Intensive Care Services at Hawke’s Bay Hospital, Hastings.

‘So we thought if we modified the EWS to identify problems earlier, we’d achieve better outcomes by administering treatment more quickly on the wards, reducing the need to transfer patients to the high dependency unit (HDU) or intensive care unit (ICU).’

The EWS is mostly used by nursing or junior medical staff. It consists of a scoring system for patients’ vital organ functions. Signs of deterioration include increased respiratory and heart rate, blood pressure changes, changes in urine output, and sudden and acute confusion. These can all happen over a matter of hours.

The ability to identify patient deterioration improves over time and most experienced staff do it simply based on the way a patient looks. But the EWS is a useful tool for less experienced staff because it highlights deterioration in uncertain cases.

Before the project began, nurses identifying deterioration would typically consult with a junior doctor, who would then consult with a senior doctor if they thought it necessary, and eventually help would be sought from ICU if patients failed to improve.

‘We thought we could do this better and faster,’ says Michael.

‘The first thing we did was tighten the parameters for measuring deterioration, so we’d identify all patients who were getting worse. We thought it would be better to have more false negatives than false positives because this is about saving people’s lives.

‘We also built in a better response process. Now, when the patient reaches the “trigger score”, a rapid response team of more experienced clinicians is called in to make an immediate assessment. This reduces delays and allows us to get intervention to the patient more quickly, or to get them to HDU or ICU earlier.’

Having an HDU is important for the EWS, because it allows serious intervention for patients who suddenly need a higher level of care before ICU treatment is required.

The new EWS tool will not be formally evaluated until it has been in place for a year, but Michael says there has been a clear trend towards improvement.

‘So far we’ve seen a definite reduction in admissions to the HDU and ICU, shorter lengths of stay and fewer deaths of those who are admitted.’

One key to the success of the new EWS tool has been having a nurse dedicated to championing the change. Clinical Resource Nurse Emma Hamilton has spent time educating staff about the benefits of the new system and how to use it.

‘At first there was a little resistance from some staff who didn’t see much need for the EWS, but my key messages included that this was a good system to have in place for less experienced staff and the focus is on overall patient wellbeing rather than on telling experienced nurses what to do,’ Emma says.

She has also monitored staff compliance and says, although formal evaluation is yet to take place, there has been an upwards trend, with the number of patients receiving EWS-based observations within the first 24 hours rising from around 76 percent to around 97 percent.
The new tool has now been rolled out to other Hawke’s Bay DHB hospital care facilities, in Wairoa, Central Hawke’s Bay and the Chatham Islands, and adapted for each, depending on the response facilities involved.

‘What we’ve done isn’t a new concept or anything that’s radically different,’ says Michael. ‘It’s just a commonsense approach to a system that could be made to work better and increase patient safety with a few simple tweaks and adjustments.’

Clinical Resource Nurse Emma Hamilton and Head of Intensive Care Services Dr Michael Park
REDUCING PERIPHERAL LINE INFECTIONS AT WAITEMATA DHB

In October 2011 the Health Quality & Safety Commission began working with DHBs on a national collaborative to reduce the incidence of central line associated bacteraemia (CLAB) in ICUs.

Central lines are inserted into large veins and are mainly used in intensive care, surgery and emergency departments for administering drugs and fluids. However, peripheral lines (inserted into smaller veins) are more common and also a potential entry point for infection. Peripheral lines are used to administer medication to patients in wards. When infections happen, they can prolong hospital stays and result in death, and costs to the health system increase.

Charge Nurse Manager Liz Dalby led the CLAB project for Waitemata DHB, and was asked to extend the programme to peripheral lines in all wards across the DHB.

Liz convened a team of Waitemata DHB’s senior nurses, who audited every single line across the DHB within one day in May 2013. Of the 390 lines examined, 97 percent were peripheral. Lines were visually inspected and practice was also assessed, including insertion, removal and the documentation being recorded to reflect each line.

Results indicated clinical practice was sound although gaps in documentation were identified, increasing the chance of errors occurring and contributing to potential infections developing.

‘We needed to establish a consistent approach to the documentation of both insertion and maintenance so we could be clear as to the duration of the line. We also needed to implement an objective measure to reflect the state of the line,’ Liz says.

The team created a form similar to the one developed for the CLAB initiative. The form used a number, called a phlebitis score, which is an evidence-based, objective measure describing any infection associated with a line. The scale between 0 and 5 was developed in the UK and is used internationally. The form also had fields for insertion and removal technique, and line maintenance to ensure information was recorded every time.

The form was trialled in two wards (medical and orthopaedic surgery) at North Shore Hospital using the IHI improvement model’s plan-do-study-act cycles, which Liz learned through the CLAB initiative. The form was then modified on the basis of nurses’ feedback.

‘Next we launched the project across the entire DHB,’ Liz says. ‘The charge nurse managers at all the hospitals attended a presentation about how to use the form, and we’ve now incorporated this document into our practice.’

Liz says it is not always difficult to implement change; the challenge is embedding change into practice so it becomes standard and something nurses do consistently.

‘The audit was repeated in June 2014 to measure improvement and maintain the visibility of the management of peripheral lines.

‘It’s still early days, but we expect to see some improvement as we did with our central line practice. We’re looking for nurses to take ownership – that needs to happen for change to become sustained.’
Appendix 1: Adverse Event Learning Programme Expert Advisory Group

Jane Bawden  Barrister (consumer representative)
Professor Samuel Charlton  Waikato University
Dr Denys Court  Auckland DHB
Dr George Downward  Canterbury DHB
Diana Gunn  Canterbury DHB
Dr Colin McArthur  Auckland DHB
Kate Macintyre  Capital & Coast DHB
Julie Patterson  Chief Executive, Whanganui DHB
Gillian Robb  Commission Global Trigger Tools Clinical Lead
Dr David Sage  Programme Clinical Lead
Richard Whitney  Chief Executive, Mercy Hospital Dunedin, for NZPSHA