Learning from adverse events
Te ako i ngā pāpono kōaro

Learning culture

Just culture

Reporting culture

Don't normalise the abnormal

Constant critical thinking

The importance of documentation

Speak up
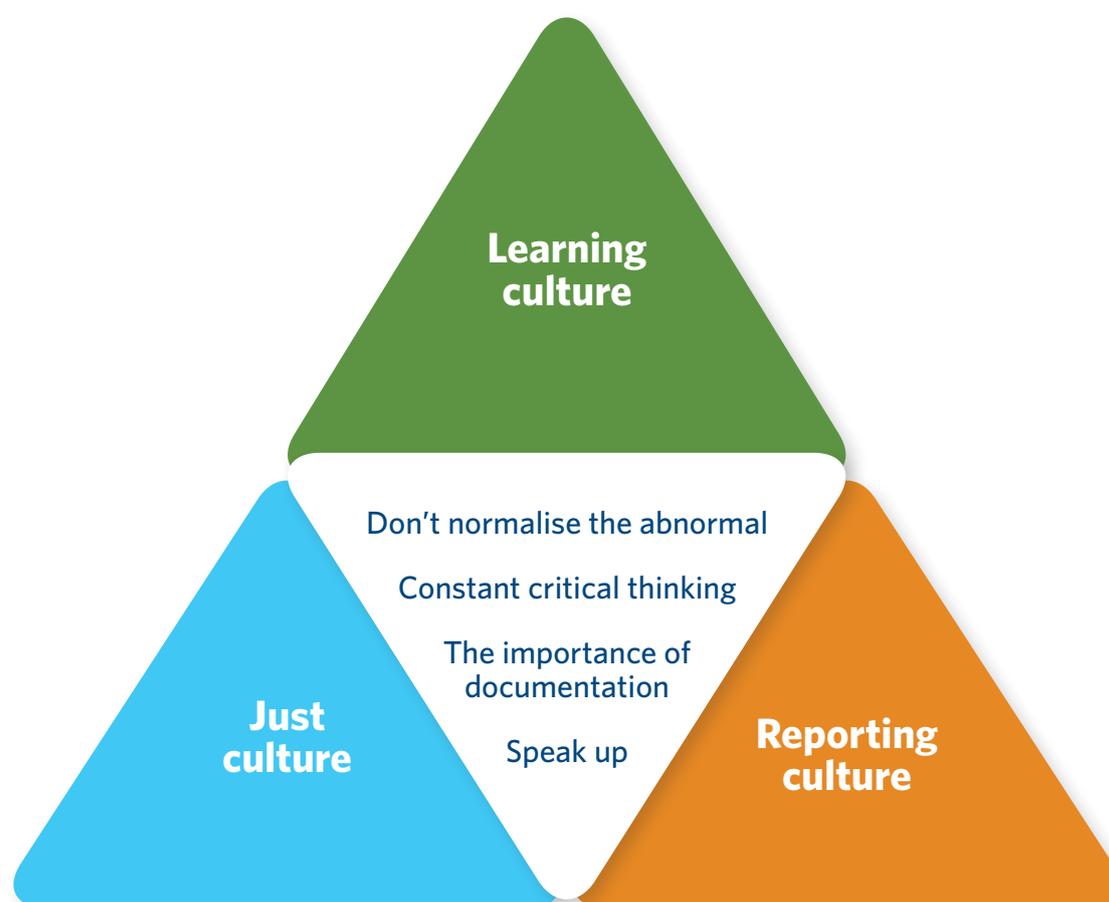
Adverse events reported to the Health Quality & Safety Commission
1 July 2018 to 30 June 2019

Ngā pāpono kōaro i pūrongorongotia ki te Kupu Taurangi
Hauora o Aotearoa i te
1 o Hōngongoi 2018 ki te 30 o Pipiri 2019

Acknowledgements | He mihi

This report was prepared by the Health Quality & Safety Commission based on information and data provided by district health boards and other health and disability service providers.

Every event described in this report has a consumer and their whānau at its centre. We must exercise vigilance to make sure that adverse events are never reduced to numbers and that we listen to consumers and whānau during the review process. We hold a duty to those who are harmed to listen to their stories, to learn from our mistakes and to work to prevent harm to others.

We would like to thank the many people and organisations that have contributed to this report. Their contributions have strengthened this report and helped us to learn from the events described within.

Foreword | Kupu whakataki

A safety culture places the goal of zero preventable harm to consumers, whānau and staff at the centre of the organisation. A safety culture is one where there is accountability, but not blame for mistakes, and harm is reviewed and learnt from, in order to improve systems and processes. A safety culture cannot be built from the top down, or the bottom up, but requires everybody in the system, including consumers, to work towards the same goals. This shared purpose can create a culture founded upon trust, safety and openness that enables the workforce to have confidence to share, to be supported and to enhance the capability to learn in often new and different ways.

The overarching theme of this report is one of safety culture. As you read this report, we encourage you to consider the culture that exists within your organisation and reflect on what you could do within your personal sphere of influence to contribute to building a safety culture in that organisation.

> 'Culture is tribal; it lives and breathes at provider level and in middle management level. The reality is that there are significant cultural differences between shifts and even team members. Furthermore, a unit's culture can be influenced – both negatively and positively – by a single individual.'
>
> – Hugh MacLeod, past CEO Canadian Patient Safety Institute

This report highlights adverse events reported to the Health Quality & Safety Commission (the Commission) between 1 July 2018 and 30 June 2019. Most events in this document have come from district health boards (DHBs), with additional reporting from private surgical hospitals and emergency ambulance service providers. Unfortunately, there is minimal reporting from outside of these areas, which reduces our ability to analyse themes and share lessons learnt at a national level. I encourage providers from areas such as general practice and aged residential care to consider how they might align their internal policies to the National Adverse Events Reporting Policy 2017.[1]

This year we have taken a closer look at the contributory factors and recommendations from adverse events relating to in-hospital falls. I hope the findings from this work will assist providers to strengthen the work they are already doing in preventing consumer harm from falls.

The Commission is committed to assisting providers to better meet the needs of Māori who are affected by adverse events. Our current research into whānau Māori experiences of adverse events will inform this work. The data presented in this report indicates that Māori are less likely to be reported as having had an adverse event. This finding requires the sector to better understand how they are collecting and investigating adverse event data. This is an area we will explore further in the coming year so recommendations can be given.

The Commission is currently investigating how we can assist providers to build and strengthen their safety cultures. To support this work, we hosted a second visit from Professor Erik Hollnagel in December 2018. Professor Hollnagel's focus was on implementing resilient health care within organisations, and the Commission is currently working to consider how we might work with providers to achieve this.

I would like to thank those organisations that reported the events contained within this report, and those who provided commentary and learning stories. There is an enormous amount of good work being carried out within the health sector and it is encouraging to be able to showcase it here.

I would also like to acknowledge all those who were harmed by the events reported here. No one should experience preventable harm when they are receiving health care, but if they do, it is important that we learn from it and do our best to prevent anyone else being harmed.

Dr Dale Bramley MBChB, MPH, MBA, FAFPHM, FNZCPHM
Chair, Health Quality & Safety Commission

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1   www.hqsc.govt.nz/our-programmes/adverse-events/publications-and-resources/publication/2933

Contents | Rārangi take

Executive summary | Whakarāpopototanga matua

This is the Health Quality & Safety Commission's (the Commission's) 2018/19 annual report on adverse events in the health sector. Many of the adverse events in this report are the result of system and process failures within health care. These events are reported and reviewed by health and disability service providers, and reported by us, in the interests of transparency and learning. The lessons learnt give providers the opportunity to improve systems to prevent further harm and help us promote national learning and quality improvement.

Between 1 July 2018 and 30 June 2019, health and disability service providers reported a total of 916 adverse events to us, with reports coming from district health boards (DHBs), ambulance services, private hospitals and primary care providers.

For the first time since 2011/12, the number of adverse events reported by DHBs decreased in 2018/19. In previous reports we have said that an increase in reported events does not necessarily mean an increase in harm; it is more likely to be as a result of better systems to identify existing harm. Equally, it would be unwise to say that a reduction in reported events is due to a reduction in harm.

Chapter 1 reports on adverse events from DHBs. Clinical management events continue to make up the majority of reported events, although there has been a reduction in reported events resulting from delays in referral, treatment and follow-up within ophthalmology services. Although there is still a need for improvement, this reduction is encouraging and is supported by Ministry of Health data showing a drop in the number of people waiting for follow-up appointments.

All DHBs have implemented, or are in the process of implementing, the New Zealand Early Warning Score (NZEWS) across their hospitals. Events relating to patient deterioration have increased this year, and we believe this is related to the increased focus DHBs are placing on this area.

Reported harm from falls has remained constant this year. Our thematic analysis of contributory factors identified four themes that appear to underpin reported harm from falls: situational factors, local working conditions, organisational factors and communication systems.

Chapter 2 outlines reporting from other providers, such as members of the New Zealand Private Surgical Hospitals Association (NZPSHA) and providers of emergency ambulance services.

Chapter 3 discusses the work of the 'learning from adverse events, consumer, family and whānau experience' workstream of the mental health and addiction (MHA) quality improvement programme. The total number of reported adverse events involving consumers in the MHA sector was unchanged from last year; however, suspected suicides reduced slightly in 2018/19.

Chapter 4 considers the effect of the national policy on Māori, and whether it reduces or increases Māori health equity. It provides an update on our research into the experiences of whānau Māori who have been involved in adverse events. We describe our initial attempts to recruit participants and how we have successfully changed our approach.

Chapter 5 is an update on the work of the adverse events learning programme and identifies future work we are planning.

Chapter 6 provides details on some key concepts of resilient health care, including restorative practice, which is a powerful way of repairing trust and relationships that may have been damaged after an adverse event. We are working on how we best incorporate resilient health care concepts into our adverse events learning programme and outline the next steps here.

Adverse events reporting 2018/19

All adverse event reports we received in 2018/19 were submitted using the criteria set out in the National Adverse Events Reporting Policy 2017.

Of the 916 reported adverse events:

566 were reported **by DHBs**

232 were reported from the **mental health and addiction sector** (DHBs only)

100 were reported **by members of the NZPSHA**

7 were reported **by ambulance services**

5 were reported from the **primary care sector**

5 were reported **by other providers**

1 was reported from a **hospice**

Of the 566 events reported by DHBs:

278 were **clinical management events**

18 were **healthcare associated infections**

11 were related to **medication or IV fluid**

1 was due to **documentation**

1 was related to **nutrition**

2 were **consumer accidents**

255 were **harm because of falls**

Actions for improvement

To continue to improve consumer safety and support providers to improve their patient safety knowledge, culture, leadership, systems and processes, we intend to work on the following activities in 2019/20.

- Continue to promote consumer engagement in adverse event reviews across the sector.
- Complete the research into whānau Māori experience of adverse events, and identify and recommend quality improvement initiatives.
- Seek to understand why Māori appear to be under-represented in adverse event reporting.
- Continue to actively engage with the wider health and disability sector to embed the National Adverse Events Reporting Policy 2017 at a local level.
- Create a national repository of publicly accessible adverse events tools and resources.
- Consult on a national policy for open communication.

- Develop accessible education and training for providers across the health and disability sector.
- Incorporate restorative practice principles into existing adverse event workshops.
- Complete the introduction of the national adverse events database system across all DHBs.
- Seek to understand the barriers to completing adverse event reviews in a timely manner.
- Continue to work in collaboration with other agencies, such as the Accident Compensation Corporation (ACC) and the Health and Disability Commissioner (HDC), to reduce preventable harm in health care.

Matt's story[2]

Over the past 12 months, ACC has been supporting Heather Gunter to visit providers to tell the story of her son Matt, who died as a result of preventable harm. Matt's story is a powerful reminder of the importance of a strong safety culture in health care and reminds us that behind every event there is a person and their whānau.

> It is heart-warming to see the response that I am getting from hospital staff throughout New Zealand. 'Matt's story' is not easy to watch as it shows the fallibility of both humans and systems, but this story goes beyond that to share the learnings that have come from such a tragedy. It is never easy to share this experience, but the response is what keeps me going. Here are a few quotes from evaluations gathered so far:
>
>> 'I will ensure I continue to speak up and not feel worried/ashamed about doing so. And ensure I escalate care as soon as needed – listen to my "gut". Also ensure I listen to family/whānau.'
>>
>> 'Amazing and so true. It will make me stop and think is this the right route to take? What else should I be considering?'
>>
>> 'Ongoing importance of critical thinking and documentation and reflecting in practice with consumer and whānau at centre.'
>>
>> 'Don't normalise the abnormal and speak up.'
>
> Hearing the impact this has had on health care professionals is both positive and humbling. At the end of the day, if people reflect on their own practice, then sharing Matt's story is worth it.
>
> – Heather Gunter

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2   www.hqsc.govt.nz/our-programmes/partners-in-care/publications-and-resources/publication/3445

Introduction | Kupu arataki

For the last few years I have chaired the Commission's adverse events learning programme expert advisory group (EAG). It has been a privilege working with Commission staff and colleagues from around the country, all of whom are committed to improving the safety and quality of health and disability services in New Zealand.

Regardless of the remarkable advances technology has brought to our sector, the assessment, diagnosis, treatment and care that our communities rely on remain very much a human business. The safety and quality of the services we provide are still highly dependent upon the effectiveness of human communication and interactions, sound critical thinking and skilled, timely use of technology. Placing the 'human-ness' of our work within the complex and dynamic environments in which we work helps us understand why, try as we might, things do not always go as intended.

Over the years, the EAG has been heartened by the development of the 'Safety-II' movement and certainly has supported looking to improve the safety and quality of services through better understanding and replicating safely delivered health care. This said, we all recognise that the elimination of preventable harm to patients within health and disability settings is a lifetime away.

I hold strongly to the view that all the fundamentals of what has come to be termed 'Safety-I' remain critical to the social contract we have with our communities. When we don't achieve what we intend for a patient, especially if preventable harm has occurred, there are two absolutes. Firstly, the patient and their whānau have an absolute right to understand what happened. Secondly, we have an absolute responsibility to future patients (and staff) to learn from what went wrong to, if possible, avoid it happening again.

Neither can be achieved unless we are committed to a transparent and honest approach to how we review adverse events and how we communicate with and support the patient, family and the affected staff members.

I know I have just stated the obvious. I am confident there would not be a health professional, whether they be a clinician or a manager, who would not agree with me. Why, therefore, are we, as a sector, still so far from achieving this?

Our sector has made considerable gains for our communities through the work led by the Commission. It saddens me, however, that improving our performance in how we manage and learn from adverse events is not one of our outstanding successes. Over the years I have continued to hear, 'We just can't afford the resource necessary to review our adverse events'.

Of course, the counter is that we simply can't afford **not to** review and respond to our adverse events. If we don't, then we as health leaders need to be able to defend the effect that preventable harm has on health and ACC expenditure and, importantly, be able to justify the social cost to our patients, whānau and our staff.

I think the time has come to stop allowing our health leaders, clinicians and managers to view adherence to the National Adverse Events Reporting Policy as discretionary. On all levels, following this policy is the right thing to do by our patients, their whānau, our communities and our staff.

Yes, we will have to divert precious resources to improving both the capacity and capability of our specialist patient safety professionals, but the payback period will be very short. This is an integrity issue for our sector, and as leaders we are accountable.

Julie Patterson RN, BA, MBA
Chair, adverse events learning programme expert advisory group

Chapter 1: Learning from adverse events reported by DHBs | Wāhanga 1: Te ako i ngā pāpono kōaro kua pūrongorongotia e ngā Poari Hauora ā-Rohe

This chapter summarises adverse events reported by district health boards (DHBs) in the 2018/19 financial year. This is the first year that all events were reported to us by using the criteria set by the National Adverse Events Reporting Policy 2017 (the national policy), compared with 2017/18, where providers were transitioning from the 2012 policy to the 2017 policy.

DHBs are required to report all events initially classified as Severity Assessment Code (SAC) 1 or 2, and all events, regardless of SAC rating, on the Always Report and Review (ARR) list. Providers may also choose to report events that fall outside of these requirements (eg, SAC 3 and 4). These other events are often near misses[3] or no-harm events[4] and are used to share lessons nationally through Open Book reports[5] or more informal means.

Providers report adverse events to us using an adverse event brief (AEB), which is split into two parts – Part A, and Part B. Part A includes a brief description of the event based on what is known at the time, and the age, sex and ethnicity of the consumer. It does not contain any identifiable consumer information. Part B is submitted once providers have formally reviewed an event and contains a summary of contributing factors and recommendations. Some providers choose to supply a full anonymised report, which allows us to better analyse event data, and we encourage all providers to do this.

The national policy requires Part A to be submitted within 15 working days of the provider becoming aware of the event and Part B to be submitted within 70 working days of the provider becoming aware of the event. In 2018/19, 51 percent of Part A forms and 28 percent of Part B forms were submitted within the required timeframe. Overall, only 46 percent of events reported to us also had a Part B form submitted. We are concerned at the low number of Part B forms received, and by the even-lower number of Part B forms being submitted within the 70-working-day timeframe.

Reviewing adverse events in a timely manner is important for several reasons. People's recollections of events can fade with time, and working conditions can change, making findings obsolete or irrelevant. It is also important to review events within the timeframes in order to honour the consumer harmed by the adverse event. Consumers affected by adverse events want to be told about the event soon after it occurs, and they want to be able to choose their level of involvement in the review. A prompt review maximises the willingness of consumers to participate in the review, and as consumer participation is often beneficial for the consumer, we should do everything we can to enable this. A prompt review shows we are taking the consumer's harm seriously.

The national policy gives providers the ability to select the review methodology they think will result in the most learning. To support the sector to meet their obligations for prompt reporting and reviewing, we have introduced onsite national policy workshops. The objective of these workshops is to provide participants with an understanding of the process of adverse event reporting, review and learning, as outlined in the national policy.

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3   A near miss (or good catch) is an event that has potential for harm, but the event is managed before harm can occur. For example, the wrong medication is drawn up for a consumer but the checking process catches it before it is administered.

4   A no-harm event is one where an adverse event occurs, but the consumer does not suffer any harm because of it – for example, a consumer receives an incorrect medication dose but does not suffer any harm.

5   www.hqsc.govt.nz/our-programmes/adverse-events/projects/open-book

Total DHB adverse events

Adverse events reported by DHBs decreased slightly in 2018/19, with a total of 566 events reported (excluding code 10: behaviour events) (Figure 1). This is the first time since 2011/12 that the number of reported events has decreased.

Sixty events reported to us in 2018/19 occurred prior to 1 July 2018. This is because in some events, such as delays in referral or follow-up, the harm is not immediately apparent or because notifications from external agencies, such as the Health and Disability Commissioner, may have taken some time to reach the provider. We report events in the year they were reported to us, as a way of making preventable harm visible and transparent.

In some cases, events initially reported as SAC 1 or 2 may have been downgraded to SAC 3 or 4 when the review was completed, as more information on the actual harm suffered by the consumer became available. In some cases, the SAC rating may have changed between our database closing and the publication of this report, which means the numbers presented here may not match the final numbers reported by DHBs in their annual adverse event reports.

Figure 1: Reported DHB adverse events (non-mental health), 2006/07 to 2018/19
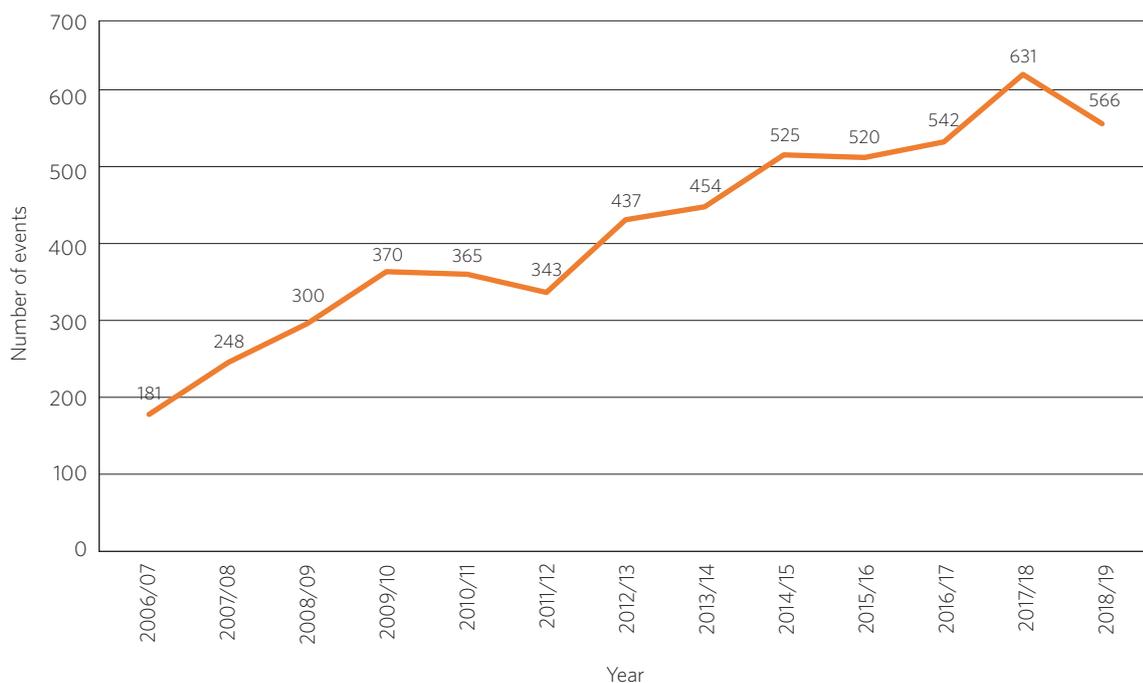
Note: As this figure does not include mental health and addiction adverse event numbers, numbers before 2013 will differ from those in previous adverse events reports.

We use the World Health Organization's (WHO's) *Conceptual Framework for the International Classification for Patient Safety*[6] to classify adverse events (Table 1). These codes are selected by the providers when they first become aware of the event and are updated as required on completion of the event review. We currently use only the first level (of three) from the WHO's classification. We intend to work with providers to begin using all three levels, as this will allow better analysis of events.

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6   www.who.int/consumersafety/implementation/taxonomy/ICPS-report/en

Table 1: Severity Assessment Code (SAC) 1 and 2 adverse events reported by DHBs, by WHO category, 2018/19

WHO category	WHO code	DHB-reported SAC 1 and 2 adverse events 2018/19
Clinical administration (eg, handover, referral, discharge)	01	12
Clinical process/procedure (eg, assessment, diagnosis, treatment, general care)	02	260
Documentation	03	1
Healthcare associated infection	04	18
Medication/IV fluids	05	11
Blood/blood products	06	0
Nutrition	07	1
Oxygen/gas/vapour (eg, wrong gas, wrong concentration, failure to administer)	08	0
Medical device/equipment	09	0
Behaviour* (eg, intended self-harm, aggression, assault, dangerous behaviour)	10	232
Consumer accidents (eg, burns, wounds not caused by falls)	11	2
Falls	12	255
Infrastructure/buildings/fittings	13	0
Resources/organisation/management	14	6
Total		**798**

IV = intravenous.
SAC = Severity Assessment Code.
WHO = World Health Organization.
* Behaviour events are included here for completeness; for further commentary on this category of adverse events, see Chapter 3, which discusses adverse events in the mental health and addiction sector.

Categories 01, 02 and 14 are combined to make up clinical management events. These are events that occurred in, or impacted on, the clinical environment. Table 2 categorises these events in more detail.

Table 2: Clinical classification of clinical management events reported by DHBs, 2018/19

Clinical management event classification	No of events	Description example
Adverse outcome	20	Unexpected consumer death or outcome
Assessment and diagnosis	0	Initial assessment did not find the key clinical issue
Clinical process	2	Incomplete process during care (eg, consent, coordination of care)
Complication	29	Complication of treatment or procedure (eg, stroke following surgery)
Delayed diagnosis or treatment	79	Issue in referral process, results in delay seeing specialist or receiving treatment
Deterioration	64	Consumer deterioration not recognised or managed in expected timeframe
Monitoring	0	Inadequacy of monitoring (eg, breathing rate after morphine given)
Other	0	Security issue
Pressure injury	70	Pressure injury from insufficient position change/nutrition, etc
Resources/organisation/management	0	Insufficient clinic, equipment, staff or appointments to meet demand
Retained item	10	Item left inside the body beyond expected time
Transfer	0	Harm related to transfer of care between services or providers
Treatment	0	Allergic reaction to products used for treatment
Wrong consumer/site/side	4	Wrong consumer in procedure room/theatre
Total	**278**	

Themes emerging from 2018/19 adverse event reporting

This year clinical management events are again the most common category of adverse event (see Figure 2). As clinical management events consist of several sub-categories, we have discussed potential reasons for this in the individual sections of this chapter. Falls are the second largest category and are discussed further in the 'Preventing harm from falls' section (page 15).

Figure 2: Reported DHB adverse events (non-mental health), by event type, 2018/19

Clinical management; 278	Falls; 255	HCAI; 18
		Medication; 11
		Other; 4

HCAI = healthcare associated infections.

Delayed diagnosis or treatment

Delayed diagnosis or treatment events decreased from 104 in 2017/18 to 79 in 2018/19. Sixteen events relating to delays in referral, treatment or follow-up came from ophthalmology services. This is a reduction from 2017/18 and is in line with Ministry of Health (the Ministry) data showing a significant reduction in people waiting long periods of time for follow-up ophthalmology appointments. Although there is still work to do, this reduction shows the value of a whole-of-system approach to reducing consumer harm.

Healthcare associated infections

The number of reported adverse events from healthcare associated infections reduced from 31 in 2017/18 to 18 in 2018/19, with 12 events related to surgical procedures.

Surgical site infections (SSIs) are strongly associated with increased morbidity and mortality, extended hospital stays and long-term antibiotic treatment. SSIs are also a leading reason for ACC treatment injury claims.

Quality and safety marker (QSM) data for SSIs[7] (which constitute most healthcare associated infections reported) shows a steady improvement in both process and outcome measures[8] for orthopaedic surgery. This improvement has led to a significant reduction in the rates of SSIs suffered by consumers. It is likely that the success being seen in these markers is contributing to the reduction in reported infections, although it is important to note that reported adverse events only capture events where the consumer suffered serious harm. We are unable to comment on infections that may be associated with mild-to-moderate harm to consumers accessing health care.

Recognising patient deterioration

Acute physical deterioration can happen at any point during a consumer's admission to hospital. Many consumers show signs and symptoms of physiological instability for some time before events such as cardiac arrest or unplanned admission to an intensive care unit. This means there are opportunities to intervene and prevent these events from occurring.

In the context of adverse events, the problem is not that the consumer was deteriorating, but that it may not have been recognised promptly, or responded to appropriately, leading to worsened outcomes.

Deteriorating patient events

There were 64 events relating to patient deterioration reported by DHBs, a 28 percent increase from 2017/18. This increase is likely due to the increased focus DHBs are placing on this area as they implement their recognition and response systems, including the New Zealand Early Warning Score (NZEWS). As these systems are implemented locally, we expect to see a reduction in adverse events in this area, as consumer deterioration is recognised and acted upon sooner.

Recognising and responding to acute deterioration

We have invested in a patient deterioration quality improvement programme that aims to reduce harm from failures to recognise or respond to acute physical deterioration for all adult inpatients by July 2021.

There are three work streams to the programme. The first is a nationally consistent approach to recognising and responding to acute deterioration. The second is Kōrero mai, which is designed to support patients and whānau to escalate care when they are worried about acute deterioration. The third is shared goals of care, which is designed to reduce unwanted or unwarranted treatments at the end of life, as these can contribute to suffering for patients and whānau, moral distress for clinicians and unnecessary expenditure for the health system. These work streams are supported by measurement and evaluation to support the work in this area to be effective and sustainable.

As of June 2019, all DHBs have implemented, or are in the process of implementing, the NZEWS across their hospitals, over 90 percent of audited early warning scores were calculated correctly, and about 70 percent of patients that triggered an escalation of care received the correct response. We expect to see further improvements as DHBs continue to embed the new systems.

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7   www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/quality-and-safety-markers/qsms-january-march-2019

8   **Process measures** are used to measure whether an activity has been accomplished and can be leading indicators of whether the outcome measure is likely to be impacted.

    Outcome measures are used to measure the performance of the system. They relate directly to the aim of the project and provide evidence that changes made are having an impact at the system level.

Preventing harm from falls

Consumers continue to suffer harm from falls while receiving health care. Despite a reduction in reported adverse events from falls between 2014/15 and 2016/17, reported harm from falls has maintained the increase seen last year, with 255 adverse events from falls being reported. Ninety-eight of these reported falls resulted in a neck of femur fracture (86) or hip fracture (12). Figure 3 shows the total number of falls reported, split into falls causing neck of femur or hip fractures, and other injuries. Other injuries in this category are 'other' fractures (130) (excluding neck of femur/hip) and head injuries (27).

Figure 3: Reported DHB serious harm from falls events, 2009/10 to 2018/19
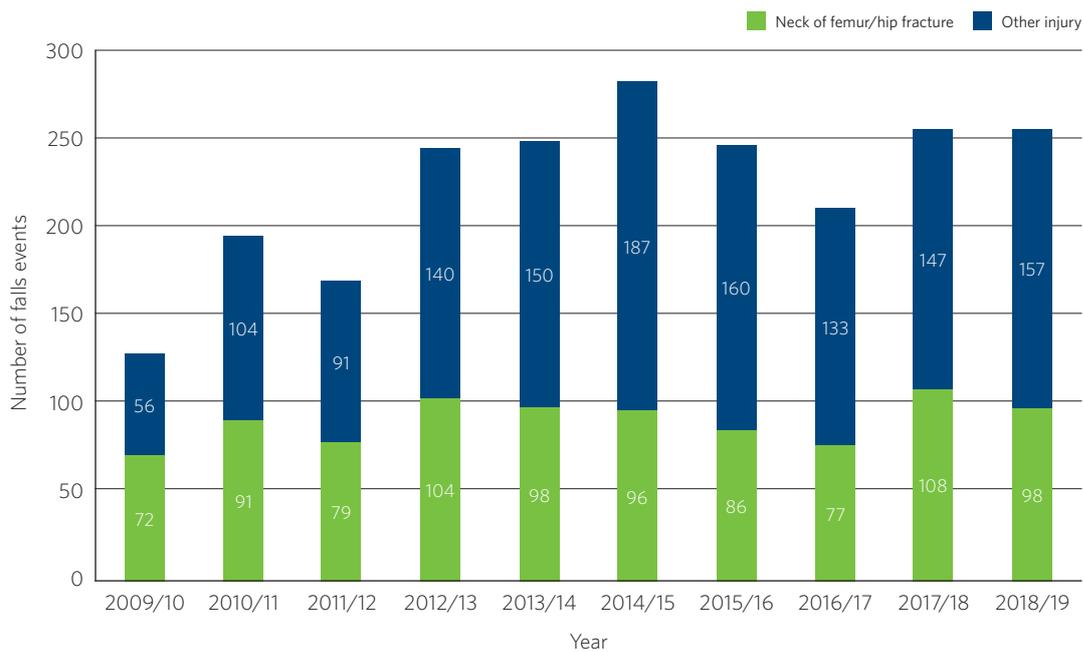
Harm from falls occurred disproportionally to those aged over 75 (Figure 4) and identifying as non-Māori (Figure 5). Although reported adverse event data only includes falls that occurred in hospital, the demographics reported are similar to those reported in both the Atlas of Healthcare Variation[9] (falls domain) and the annual report of the Australian and New Zealand Hip Fracture Registry (NZHFR).[10]

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9   www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/atlas-of-healthcare-variation/falls

10 www.anzhfr.org/reports

Figure 4: Reported DHB falls events by age group, 2018/19

75+; 190

50–74; 57

25–49; 6

< 25; 2
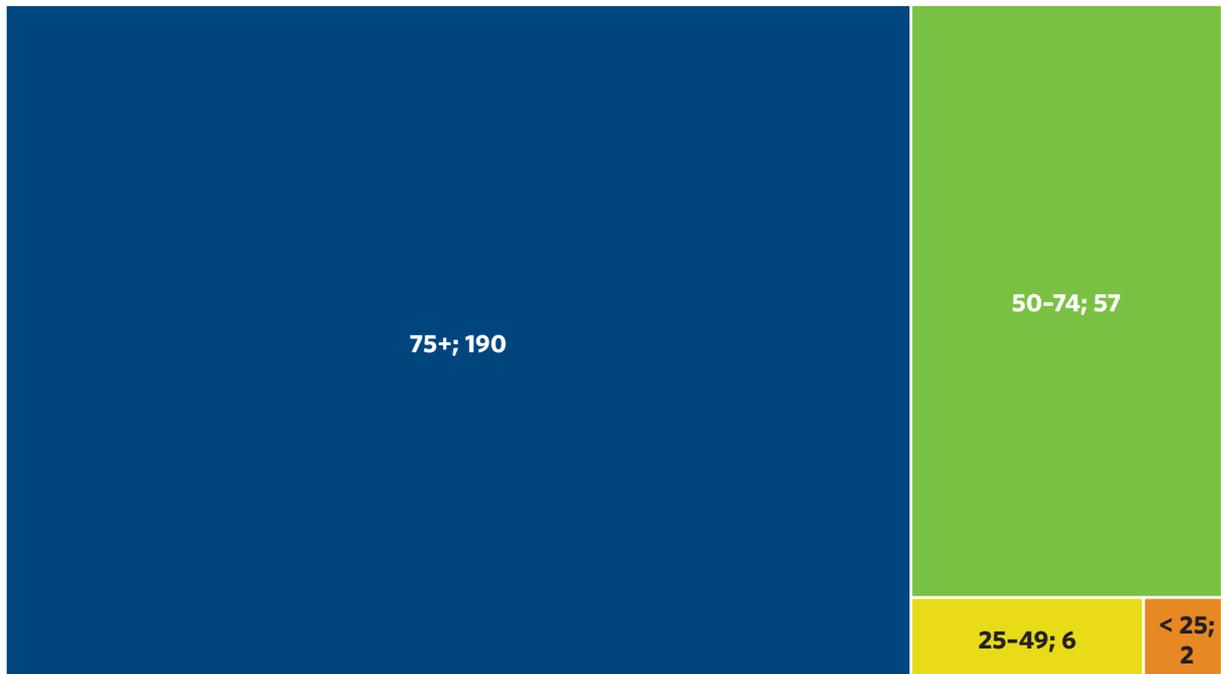
Note: Age groups are in years.

Figure 5: Reported DHB falls events by ethnicity, 2018/19

Non-Māori; 242

Māori; 13
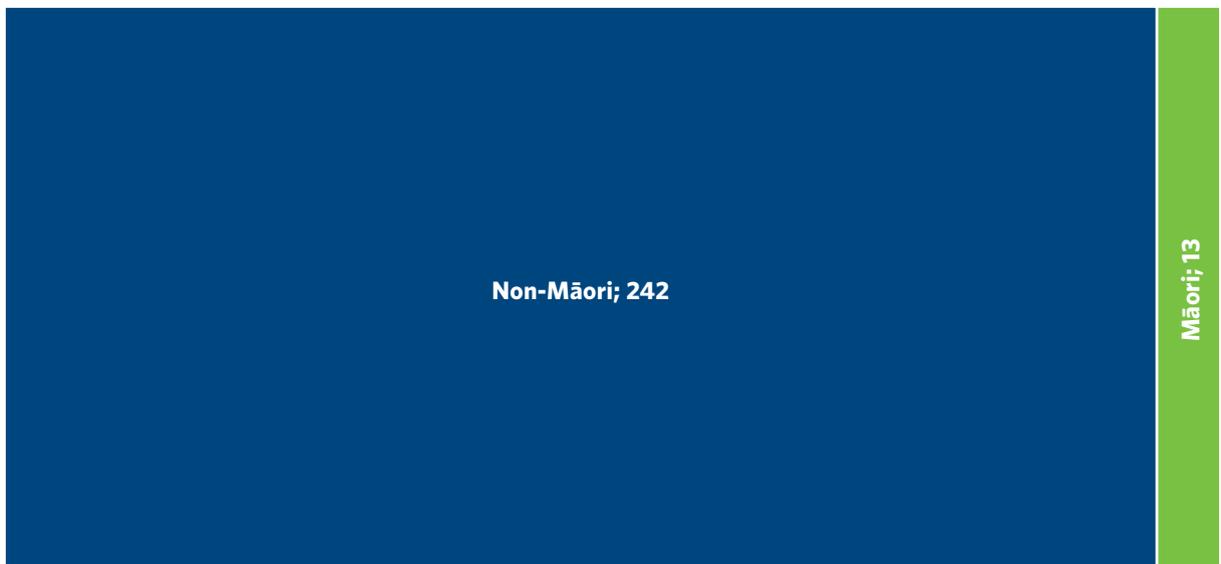
In 2017/18 we stated that although falls had increased, the increase was within normal statistical variation and we would continue to monitor the data. We have done this, and our data continues to suggest that reported adverse events due to falls are within normal variation. This is supported by falls data from the QSMs, which, although not directly comparable (due to differing definitions[11]), show similar trends. This does not suggest we should become complacent, however, as each adverse event represents a consumer who has suffered harm. Figure 6 shows the number of falls reported per month, plotted on a statistical process control (SPC) chart.[12] This shows common cause variation, which is the normal variation in the system due to chance. Plotting this data at a national level allows us to monitor the system and identify either increasing or decreasing harm. This allows us to alert providers to investigate further.

Figure 6: Control chart showing falls reported per month by DHBs, 1 July 2015 to 30 June 2019
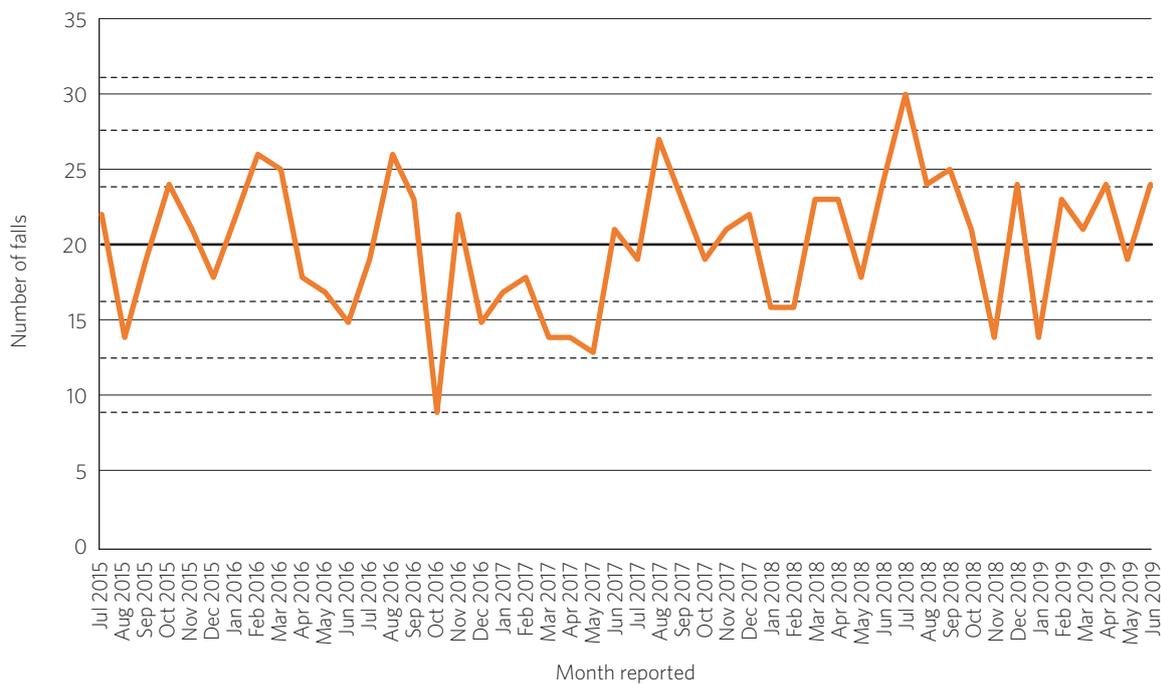
To support providers to continue to reduce harm from falls, we commissioned an updated literature review. In April 2019 we published *Reducing harm from falls: Recommended evidence-based resources 2019*[13] along with *Interventions for reducing falls and harm from falls in older people with cognitive impairment.*[14] These documents, and other resources on our website, provide guidance on interventions that can reduce harm from falls.

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11 QSM data includes only in-hospital falls resulting in a fractured neck of femur. Adverse events include all falls that resulted in a fracture and falls post-surgery that resulted in damage to the original surgical repair.

12 The solid line in the middle of an SPC chart shows the mean of the data. The three dotted lines on either side of the mean show the upper and lower control limits and are three standard deviations from the mean.

13 www.hqsc.govt.nz/assets/Falls/PR/falls-2019-evidence-base-final.pdf

14 www.hqsc.govt.nz/assets/Falls/PR/cognitive-impairment-interventions-2019-final.pdf

A closer look at falls events

In order to better understand falls events reported to us, we carried out a thematic analysis of contributory findings and recommendations received from DHBs. Only DHBs were included because we received only four reports of falls from other providers. We reviewed 68 of 135 AEB Part B forms received for reported fall events in 2018/19, which is a sample of 25 percent of all falls reported.

Contributory findings

The themes from the contributory findings were grouped using the Yorkshire Contributory Factors Framework (YCFF),[15] which is shown in Appendix A. Table 3 shows the YCFF groupings, and examples of, the contributory factors listed on the AEB Part B forms. The examples in Table 3 have been taken directly from different AEB Part B forms received from providers.

Table 3: YCFF groupings for contributory factors reported for falls, 2018/19

YCFF groupings	Examples of contributory factors from AEB Part B forms
Patient factors	• Patient attempting to self-toilet • It is likely that cognitive impairment significantly increased her risk of falls at night
Management of staff and staffing levels	• Unit had incorrect skill mix due to illness • The skill mix of staff on this shift was not adequate
Staff workload	• Large number of patients in ward with high acuity, requiring high level of nursing care • TrendCare was in negative variance and medical ward at 100% occupancy
Equipment and supplies	• Lack of alarms to monitor patient movement – eg, Invisa-beam unit • The consumer did not have grip socks
Physical environment	• Poor lighting in corridors at night • [There] was a missing gully drain cover creating an uneven surface
Communication systems	• Lack of documentation about patient's risk factors • Clear delegation from RN [registered nurse] to HCA [health care assistant] broke down
Training and education	• Not all staff in unit have completed mandated training package • Fall prevention training has not been undertaken by the RN completing the first assessment and most subsequent RNs looking after Mr A until his fall

The YCFF allows the contributory factors to be grouped further. In this case, the factors identified can be grouped into four themes (Table 4).

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15 Lawton R, McEachan RR, Giles SJ, et al. 2012. Development of an evidence-based framework of factors contributing to patient safety incidents in hospital settings: a systematic review. *BMJ Quality & Safety* 21(5): 369–80.

Table 4: YCFF themes for reported falls, 2018/19

YCFF theme	Contributory factors
Situational factors	• Patient factors • Team factors
Local working conditions	• Equipment and supplies • Management of staff and staffing levels • Staff workload
Organisational factors	• Training and education • Physical environment
Communications systems	• Impact all factors

Situational factors

Situational factors include patient factors. In the events analysed, the main contributory factor that emerged in this area was consumers with cognitive impairment. Cognitive impairment increases the risk of falling, and those with cognitive impairment do not always see falls prevention interventions as relevant to them. Reducing falls in consumers with cognitive impairment requires the assessment of cognitive function and the development of individualised care plans.[16]

Local working conditions

Local working conditions include factors such as equipment and supplies, management of staff and staffing levels, and staff workload. The main contributory factors in this area include findings such as falls assessments not being carried out within the mandated timeframe or not being repeated when the consumer's condition changed, due to staff resourcing issues. This links to the findings under situational factors, as a lack of assessment and individualised care plans can contribute to falls. It is important to have policies and processes that set expected levels of care, however, having the resources (both personnel and equipment) available to follow them is equally important.

Recommendations

Recommendations were also grouped into themes using the YCFF, which, although not strictly designed to be used in this manner, provides a useful framework for analysis. Table 5 shows the YCFF groupings for recommendations, with examples of recommendations taken from AEB Part B forms received from DHBs.

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16   www.hqsc.govt.nz/assets/Falls/PR/cognitive-impairment-interventions-2019-final.pdf

Table 5: YCFF groupings for recommendations reported for falls, 2018/19

YCFF groupings	Examples of recommendations from AEB Part B forms
Training and education	Staff who have not completed the upright falls prevention education module within the last 2 years should complete it by end 2018
Equipment and supplies	Patient alarms to be purchased for falls risk patients
Management of staff and staffing levels	Review staffing level/mix to ensure safe staffing levels as per current agreements
Communication systems	Falls risk status to be clearly identifiable on handover documentation
Policy and procedures	Adherence to falls documentation requirement on admission and following a fall

As with the contributory factor findings, these were then grouped further into three themes (Table 6).

Table 6: YCFF themes for recommendations reported for falls, 2018/19

YCFF theme	Recommendations
Local working conditions	• Equipment and supplies • Management of staff and staffing levels • Staff workload
Organisational factors	• Training and education • Physical environment
Communications systems	• Impact all recommendations

The recommendations reviewed were largely targeted at a local level, with little system-level change recommended. Many recommendations focused on reviewing policies and ensuring staff had received education.

Education and policies focus on people's behaviour and are less effective than system-focused changes. However, they are often simpler and faster to implement, giving the impression that something has been done. Although it is important that staff have the knowledge to perform their roles, education does not remove system-based barriers that may be preventing people from doing their jobs to the required standard. Equally, policies must be achievable. There is little point to developing a policy if the conditions within the system do not allow for it to be followed (see Chapter 6).

What is encouraging is the increasing focus on addressing the staffing numbers and skill mix deficits that were identified. This is not a quick (or simple) fix, and the recommendations in this area acknowledge this. Providers must also ensure that recommendations are evidence-based and evaluated carefully after implementation to see if they have worked as intended.

Every older person is different. Don't try to answer the question 'What will stop older people from falling' and just repeatedly ask 'What might stop this person from falling?'

– Frances Healey RN, PhD, deputy director of patient safety, NHS Improvement

Always Report and Review events

Reported Always Report and Review (ARR)[17] events increased by 36 percent in 2018/19 compared with 2017/18, with 114 ARR events reported by DHBs (Table 7).

By far the largest category of ARR events were 'wrong' events (blood component/implant/consumer/procedure/site). Eighty-three of the reported events are in this group. Sixty-six percent of wrong events were in radiology, which is an increase from 2017/18. Radiology events made up 48 percent of all ARR events reported. This is the second year that radiology events have been comparatively high, and although these are small numbers, in the context of the number of procedures being carried out, each event represents a consumer who has been harmed or potentially harmed. We plan to work with the New Zealand Institute of Medical Radiation Technology and the Royal Australian and New Zealand College of Radiologists to look further into these events.

Of the 31 events involving retained items, nearly a quarter were in the maternity setting. Submitted AEB Part B forms suggest that swabs are not being counted, nor are external tails being left visible after swab placement. We have previously published an Open Book report on retained vaginal swabs following childbirth,[18] and we encourage providers to ensure they are following best practice in this area.

Table 7: Reported DHB ARR events, by degree of harm caused to the consumer, 2018/19

ARR event	SAC 1*	SAC 2*	SAC 3	SAC 4/near miss	Grand total
Retained item	0	9	10	12	31
Wrong blood component	0	0	0	1	1
Wrong implant	0	1	1	0	2
Wrong consumer	0	1	5	34	40
Wrong procedure	0	0	1	2	3
Wrong site	0	2	6	29	37
Total	**0**	**13**	**23**	**78**	**114**

*The SAC 1 and 2 events noted here are also included in the total number of events reported.
ARR = Always Report and Review.
SAC = Severity Assessment Code (1 = most severe, 4 = least severe).

Adverse events in paediatric dental services

There were 63[19] adverse events reported involving consumers aged 16 years or younger.

Twenty-four percent (15/63) of these adverse events involved the provision of dental care. Almost half of these events were reported as ARR events, with the remainder predominantly delays in diagnosis or treatment. There were seven dental events reported in 2017/18 and none in 2016/17. We acknowledge providers who have identified and reported these events and challenge others to recognise and report adverse events in this area. This will enable robust systems to be in place to provide the right child with the right procedure.

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17 ARR events are events that can result in serious harm or death but are preventable with strong clinical and organisational systems.

18 www.hqsc.govt.nz/our-programmes/adverse-events/publications-and-resources/publication/2408

19 Including SAC 1 and 2 events and SAC 3 and 4 events reported under the ARR criteria, and excluding events categorised as code 10: behaviour events (eg, intended self-harm, aggression, assault, dangerous behaviour).

In the learning story below, a representative of Waitematā DHB describes how they are working to make these events visible and improve their systems and processes to prevent further harm.

Increased reporting of, and learning from, oral health adverse events – by Waitematā DHB

Waitematā DHB recognised there was very little guidance with regard to the grading of oral health adverse events. For example, does the loss of a tooth constitute 'Permanent major or temporary severe loss of function' (SAC 2) or is it 'Permanent moderate or temporary major loss of function' (SAC 3)? Upon review, we felt this was leading to the inconsistent SAC scoring of some adverse events.

To address this, we delivered a number of targeted adverse event training sessions to our oral health service, and a culture of 'if in doubt, report as a SAC 2' was developed within the teams. This approach supports our organisation's commitment to learning, enabling continuous improvements to be made to the quality and safety of the services we deliver to our community.

As anticipated, the impact of this initiative was an increase in the identification of SAC 2 and oral health always report and review events. The learning from investigating these events has led to notable service improvements, including:

- improved access to correct equipment
- writing and revision of policy documents
- further developing staff training, support and supervision
- clearer communication with and information for consumers and their families and whānau
- increasing skills in finding at-risk transient children
- accurate risk assessment so children are placed on correct recall.

In addition, we made improvements to existing electronic systems and processes, including the development of a 'capacity-at-a-glance' screen, which gives visibility across all clinics and chairs within each clinic in regard to utilisation. We are pleased to see that these improvements have already had positive benefits for current service users across our 80-plus oral health clinical facilities.

Pressure injuries

Pressure injuries (PIs) are often avoidable and have significant negative impact on consumers, whānau and those providing care. They also increase hospital length of stay and are associated with extra resource consumption.

In July 2018 we implemented national QSMs for PIs.[20] To ensure a consistent approach to measurement of PI prevalence, we developed a guide on preparing and implementing a PI measurement programme,[21] which was implemented prior to the QSMs. Providers are required to report grade three, four and unstageable PIs, which is consistent with adverse event reporting, which categorises grade three, four and unstageable PIs as SAC 2 events.

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20 www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/quality-and-safety-markers/qsms-january-march-2019/#[PRESSUREINJURY]

21 www.hqsc.govt.nz/our-programmes/pressure-injury-prevention/publications-and-resources/publication/3235

We provide PI measurement support focused on bringing about national consistency in data collection and reporting within the hospital sector. Having a strong measurement approach in place means health care providers can evaluate the impact or success of their PI improvement and prevention work over time.

The Ministry is providing clinical oversight and support for engagement with clinical leaders working to prevent PIs. An ongoing focus is developing a culture and infrastructure that supports PI prevention, promoting a multidisciplinary approach and improving collaboration between sectors. The Ministry, through HealthCERT,[22] has focused on PI management in aged residential care. More information can be found in HealthCERT's March 2018 bulletin.[23]

The number of reported PIs has decreased from 84 in 2017/18 to 70 in 2018/19, with all events reported by DHBs. In 2017/18, many reported PIs were downgraded or de-notified after review, suggesting that the initial assessment of the PI was incorrect. The number of downgraded and de-notified events reduced in 2018/19, suggesting that providers are better assessing consumers with PIs, and the PI measurement programme is leading to increased consistency across the sector.

Demographic information

Prior to the implementation of the 2017 national policy, demographic information was collected via the reportable event brief (REB) Part B form. Due to the low rate of return for REB Part B forms, our data is incomplete prior to July 2017. To improve data collection, the 2017 national policy shifted the collection of demographic information to the AEB Part A form. This has resulted in an improvement in data collection, as we now receive demographic information for all events reported to us.

The gender of those who suffered harm was split evenly: 53 percent female and 47 percent male.

Figure 7: Age range of consumers experiencing SAC 1 and 2 adverse events reported by DHBs, 2018/19

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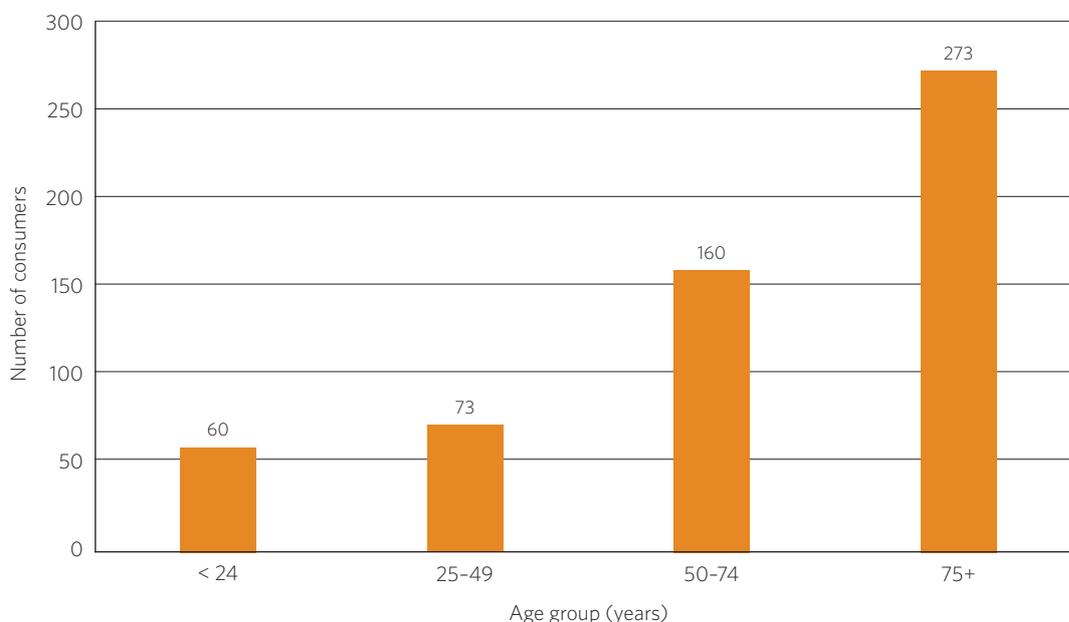
22 HealthCERT, as part of the Ministry of Health, is responsible for ensuring hospitals, rest homes, residential disability care facilities and fertility providers provide safe and reasonable levels of service for consumers, as required under the Health and Disability Services (Safety) Act 2001.

23 www.health.govt.nz/our-work/regulation-health-and-disability-system/certification-health-care-services/healthcert-bulletin

The spread of ages is very similar to 2017/18. Seventy-six percent of all SAC 1 and 2 events reported by DHBs involved consumers aged 50 or older (Figure 7). This reflects that consumers are more likely to be hospitalised as they age, with 1 in 3 hospitalisations in 2015/16[24] being for consumers aged 65 or over, and hospitalisation rates being highest for consumers aged 85 or over.

Figure 8: Ethnicity of consumers experiencing SAC 1 and 2 adverse events reported by DHBs, 2018/19
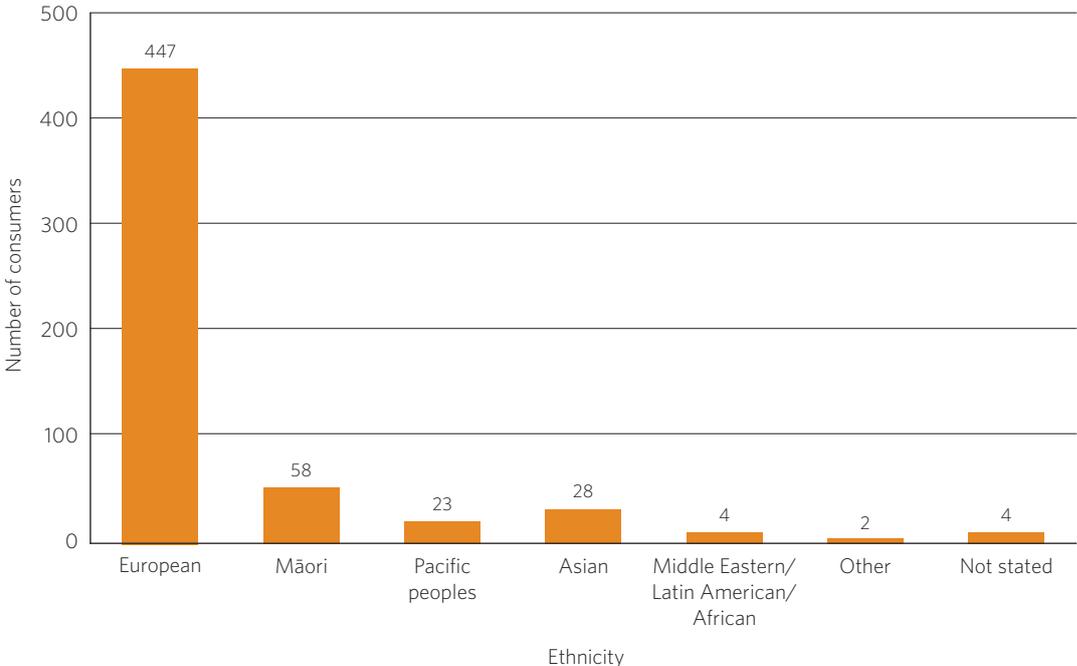
As in 2017/18, most reported events involved New Zealand Europeans, with Māori being the second-highest reported ethnicity and those identifying as Asian the third-most reported.

While Ministry data[25] demonstrates that Māori have a higher rate of hospitalisation than non-Māori, our information illustrates that, despite this, the majority of reported adverse events involved consumers of European descent (Figure 8). This goes against what we might expect to see based on the work of Davis et al, who claimed that Māori were more likely to experience adverse events. More work is required to understand why there were not more reported adverse events involving Māori in 2018/19. We will do this in the 2019/20 year and report back in 2020, so recommendations can be made to the sector.

Of the 58 adverse events involving Māori reported in 2018/19, 71 percent were clinical management events (Figure 9). We have broken this down further (Figure 10) to show the largest category of adverse events in 2018/19 involving Māori was unrecognised deterioration.

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24 The most recent data available from the Ministry of Health is from 2015/16: www.health.govt.nz/publication/publicly-funded-hospital-discharges-1-july-2015-30-june-2016.

25 *Ibid.*

Figure 9: Reported DHB adverse events involving Māori consumers, 2018/19

02 Clinical process/procedure; 41

12 Falls; 13

04 Healthcare associated infection; 3

01 Clinical administration; 1
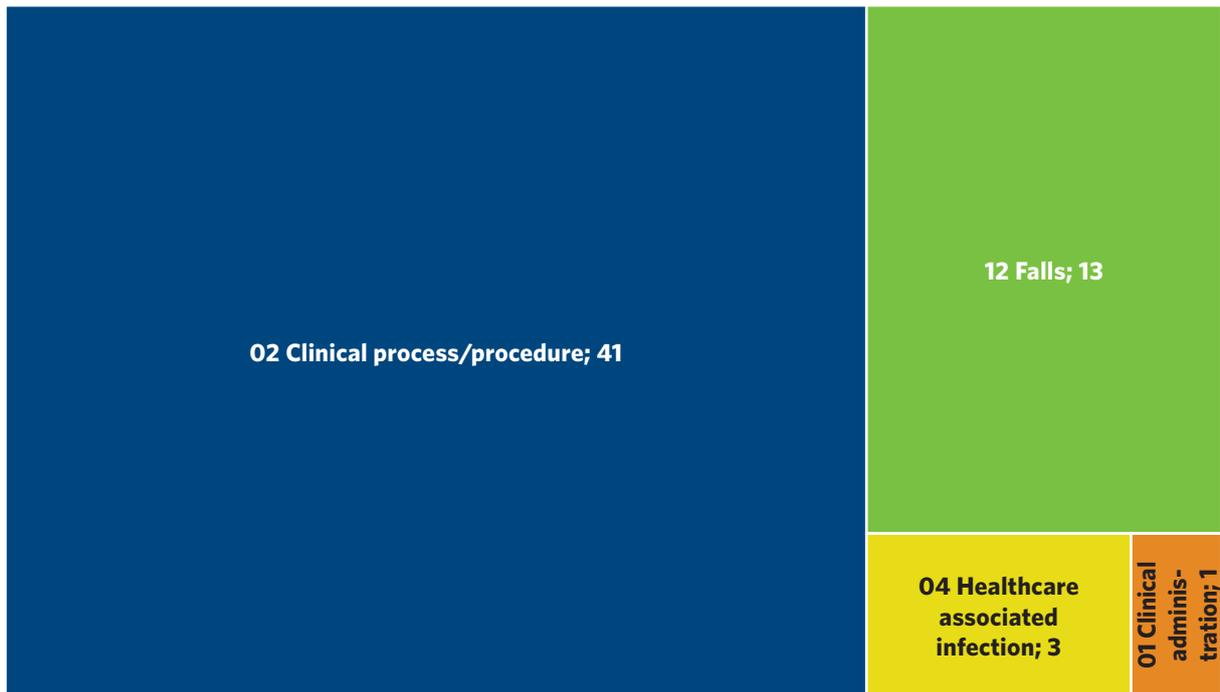
Figure 10: Reported DHB clinical management events involving Māori consumers, 2018/19

Deterioration; 18

Adverse outcome; 7

Complication; 7

Delay; 6

Pressure injuries; 3

Retained item; 1
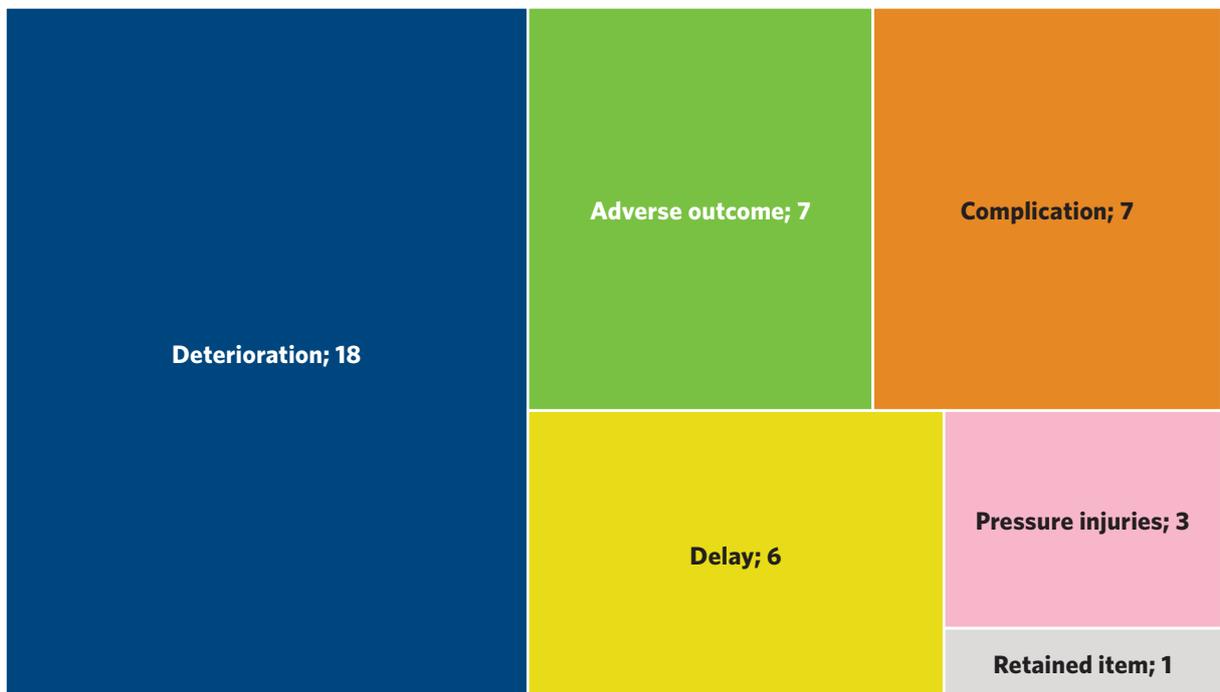
Chapter 2: Learning from adverse events reported by other health and disability service providers | Wāhanga 2: Te ako i ngā pāpono kōaro kua pūrongorongotia e ērā atu kaiwhakarato hauora, hauā hoki

In 2018/19 we received reports of 118 adverse events from health and disability providers outside of the DHBs. This includes 100 events from members of the New Zealand Private Surgical Hospitals Association (NZPSHA), seven events from emergency ambulance providers, five events from general practices/primary health organisations (PHOs), one event from a hospice and five events from other private providers.

The national policy is designed to be relevant to all providers of health and disability services. It is of concern that, except for private surgical hospitals and emergency ambulance providers, there is little visibility of adverse events that are occurring outside the DHB hospital system. Over the past year we have worked with some general practices, primary birthing units and disability support services to help them incorporate the national policy into their local systems and processes. We are happy to work with any other providers at an individual level who would like assistance in implementing the national policy. We will also be working with quality improvement networks at the sector level.

Tables 8 and 9 show events reported by other health and disability providers. Events reported directly to us by members of the NZPSHA are excluded from these tables to avoid counting them twice.

Table 8: SAC 1 and 2 adverse events reported by other health and disability providers (excluding events from NZPSHA members), by WHO category, 2018/19

WHO category	WHO code	Reported non-DHB SAC 1 and 2 adverse events 2018/19
Clinical administration	01	0
Clinical process/procedure	02	9
Documentation	03	0
Healthcare associated infection	04	0
Medication/IV fluids	05	1
Blood/blood products	06	0
Nutrition	07	0
Oxygen/gas/vapour	08	0
Medical device/equipment	09	0
Behaviour	10	2
Consumer accidents	11	0
Falls	12	4
Infrastructure/building/fittings	13	0
Resources/organisation/management	14	2
Total		**18**

Table 9: Clinical classification of clinical management events reported by other health and disability providers, 2018/19

Clinical management event classification	No of events	Description example (hypothetical)
Adverse outcome	2	Unexpected consumer death or outcome
Assessment and diagnosis	0	Initial assessment did not find the key clinical issue
Clinical process	0	Incomplete process during care (eg, consent, coordination of care)
Complication	0	Complication of treatment or procedure (eg, stroke following surgery)
Delayed diagnosis or treatment	5	Issue in referral process results in delay seeing specialist or receiving treatment
Deterioration	4	Consumer deterioration not recognised or managed in expected timeframe
Monitoring	0	Inadequacy of monitoring (eg, breathing rate after morphine given)
Other	0	Security issue
Pressure injury	0	Pressure injury from insufficient position change/nutrition, etc
Resources/organisation/management	0	Insufficient clinic, equipment, staff or appointments to meet demand
Retained item	0	Item left inside the body beyond expected time
Transfer	0	Harm related to transfer of care between services or providers
Treatment	0	Allergic reaction to products used for treatment
Wrong consumer/site/side	0	Wrong consumer in procedure room/theatre
Total	**11**	

Private surgical hospitals

The NZPSHA represents the interests of 27 organisations that are responsible for 39 private surgical hospitals. In 2018/19, NZPSHA members discharged approximately 182,000 elective surgical consumers. This represents a significant proportion of all elective surgery performed in New Zealand.

The NZPSHA has clinical indicators that members are required to report on (including adverse events). The Injury Prevention Research Unit of the University of Otago analyses this data and reports back to member organisations without identifying individual providers, other than providers' own figures. The clinical indicator information is used internally, at members' hospitals, and the NZPSHA shares the aggregated data annually with the Commission. Member organisations use the data for benchmarking and driving internal quality improvement initiatives.

Between 1 July 2018 and 30 June 2019, the NZPSHA reported 100 aggregated SAC 1 or 2 incidents. The denominator for reported incident rates was per 1,000 discharges and per 1,000 reported clinical indicator events. In the previous year, the reporting denominator was admissions, so a direct comparison cannot be made. The figures cannot be compared directly with DHB-reported events because the reporting criteria differ. In addition to reporting to the NZPSHA, some private surgical providers report directly to the Commission.

> The NZPSHA supports and promotes private surgical sector transparency, working collaboratively with HQSC [the Commission] and enabling all providers of elective surgery to drive quality improvement and reduce consumer harm.
>
> – Richard Whitney, president, NZPSHA

Reviewing adverse events without placing them into the wider quality improvement work being carried out by providers means it is easy to side-line or ignore the lessons we learn. The case study below describes how one provider is using lessons from adverse events to inform its quality improvement work to improve both consumer outcomes and experience.

Private surgical hospital case study by Mercy Hospital Dunedin Ltd

Infections can have a significant impact on consumers' lives, causing unnecessary pain and suffering for them and their families. Infections prolong hospital stays, create long-term disability, increase resistance to antimicrobials and can lead to preventable deaths.

ACC claims for healthcare associated infections are increasing, with more than 2,500 accepted in 2017/18.[26]

It is in this environment of adverse events resulting from healthcare associated infections, and following consumer feedback, that Mercy Hospital Dunedin undertook a review of its multidrug-resistant organism (MDRO) policy and processes.

Renewed MDRO processes resulted in improved risk management prior to admission, with screening of consumers beginning when they were booked for theatre and then reinforced at the time of the pre-admission phone call.

External to the hospital, this process was supported by memos to surgeons' rooms and the provision of testing kits and clear algorithms with decision-making options.

Internally, clinical and support staff evaluated several iterations of the new algorithms (a MDRO flow chart and a clinical decision-making tool for nurses) as improvements were made. In addition, a matrix regarding required cleaning processes was developed with housekeeping staff.

The infection control nurse trained members of clinical and non-clinical teams on the agreed algorithms prior to implementation.

Consumer feedback led to a co-design project that resulted in the development of information pamphlets that are now shared with consumers and their families. Feedback suggests the simple design in non-medical language offers supportive information that consumers understand.

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26 Accident Compensation Corporation. 2019. *Preventing Healthcare Associated Infections.* Information sheet ACC8048. Wellington: Accident Compensation Corporation.

Ambulance services

There were 546,721 '111' calls for ambulance services in 2018/19, a 2.4 percent increase in calls from 2017/18. Emergency ambulance providers report adverse events to us and to the National Ambulance Sector Office. In 2018/19 the two emergency ambulance providers (St John New Zealand and Wellington Free Ambulance) reported seven adverse events.

Changes to the way air ambulances are operated has resulted in air ambulance providers taking on more responsibility for clinical governance, including adverse events. This has led to them being invited to join the national adverse events review group. This group consists of representatives from the National Ambulance Sector Office, St John Ambulance, Wellington Free Ambulance and the Commission. It has been meeting since 2015, with the aim of improving consumer safety within the ambulance sector and improving the management of adverse events. In addition to sharing lessons across the sector, the group has adopted an SAC rating tool based on the rating and triage tool published by the Commission. The adapted version provides guidance to help providers prioritise events for review, enabling maximal use of limited resources. It will also provide consistency between providers when classifying and reporting adverse events.

Primary care

General practice

PHOs reported five adverse events in 2018/19, an increase from one reported event in 2017/18. Published literature describing rates of adverse events in primary care provides estimates that vary hugely, with one study suggesting a rate of one event every 1,250 to 20,000 consultations,[27] and another suggesting one event every 48 consultations.[28] This suggests there are adverse events occurring and being managed within PHOs and general practices but not being reported nationally. This lack of national reporting prevents the identification of themes; a lack of numbers at a local level reduces the ability of providers to see patterns of harm across the whole system and decreases the opportunities to learn from events.

We plan to work with the PHO quality improvement network to investigate ways of increasing national reporting, and to better understand what assistance the sector requires to increase learning from adverse events. In the meantime, we are working with providers on an ad hoc basis to support them in integrating the national policy into their local processes. We have been supporting Green Cross Health in this way over the last year, and its story follows.

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27 Sandars J, Esmail A. 2003. The frequency and nature of medical error in primary care: understanding the diversity across studies. *Family Practice* 20(3): 231–6.

28 De Wet C, Bowie P. 2009. The preliminary development and testing of a global trigger tool to detect error and patient harm in primary-care records. *Postgraduate Medical Journal* 85(1002): 176–80.

Adverse event management journey by Green Cross Health

Green Cross Health is a primary health care organisation with a growing network of medical centres (42 currently) across New Zealand from Northland to Canterbury.

The provision of quality care is an essential part of everyday practice and everyday business across the network, and Green Cross Health shares the accountability for reducing avoidable and preventable harm to patients and consumers while striving to continually improve the quality of health service delivery.

The introduction of an electronic reporting and event management system in 2016 (capturing health and safety incidents, clinical and organisational incidents, sentinel and serious adverse events, complaints and compliments) presented us, for the first time, with the ability to see the size and scale of adverse events in each entity and overall medical division. Notably, it was the scale of under-reporting of all incidents and feedback that was first realised.

Our automated escalation framework has assured early support and guidance to medical centre teams while giving Green Cross Health the ability to prevent, mitigate and reduce further patient, staff and organisational risk in a timely manner. Regular reporting has meant up-to-date data is used to identify trends, prioritise quality improvement projects and report to senior management and boards on quality. We also provide regular adverse event updates to staff to share lessons learnt.

Wherever possible, we have aligned ourselves with national guidelines, and in 2017 with guidance from the Commission, we modified the National Adverse Events Reporting Policy to reflect primary care and Green Cross Health aspirations of developing a learning culture and fair and just principles. In 2018, the Commission supported us with rewriting the severity rating examples, and this year helped us with an 'Always Report and Review' (ARR) list to more accurately reflect primary care/general practice settings. The ARR list was created by the clinical advisory team with guidance from our clinical advisory group and medical centre clinical leads. It will be reviewed annually and is open for ongoing feedback.

Moving to a new reporting system at the end of 2019 gives us an opportunity to use the learnings from the last three years to make improvements. Top on the list are accessibility, quick and easy reporting and an adverse event management process that reflects an 'investigate the event not the person' and a 'be hard on systems, soft on people' approach.

Aged residential care

Adverse events from the aged residential care sector are reported directly to the Ministry through the section 31 process. We are meeting with the Ministry to understand this process. We will then meet with the aged residential care quality leaders forum to discuss how we can support the sector in learning from adverse event reviews and reporting to us.

Chapter 3: Learning from mental health and addiction adverse events | Wāhanga 3: Te ako i ngā pāpono kōaro hauora hinengaro me te waranga

This chapter gives an overview of the mental health and addiction (MHA) adverse event reports and why MHA events are reviewed and considers what we can learn from the emerging themes. It provides an update on our Ngā Poutama: MHA quality improvement programme (QIP), including its specific focus on equity and learning from adverse events and the consumer, family and whānau experience of these events. It also includes relevant results from the Ngā Poutama Oranga Hinengaro: Quality in Context survey of MHA service staff that took place in August 2018.

Reported adverse events

The events detailed here are those that were classified as 'behaviour' events (eg, intended self-harm, aggression, assault, dangerous behaviour) and given the WHO code of 10. Code 10 events have been rising steadily since 2013/14, with a marked increase beginning in July 2017. We suspect that the increase in 2017 is related to the introduction of the updated national policy, which provides more concrete guidance on SAC rating these events. In 2018/19 a total of 232 code 10 SAC 1 or 2 events were reported (Figure 11), which is unchanged from last year. Suspected suicide events (Figure 11) decreased slightly this year, however, they were still the highest category (Table 10), with most events involving consumers receiving treatment in the community. This number does not include other events, such as medication harm, that occur to consumers of MHA services as DHBs use other codes to classify these events. Unfortunately, this means we do not have a good view of the total impact of adverse events on consumers of MHA services. The adverse events learning programme and MHA QIP teams will work together to investigate how we can 'shine a light' on these events.

Figure 11: Mental health and addiction adverse events, 2011/12 to 2018/19
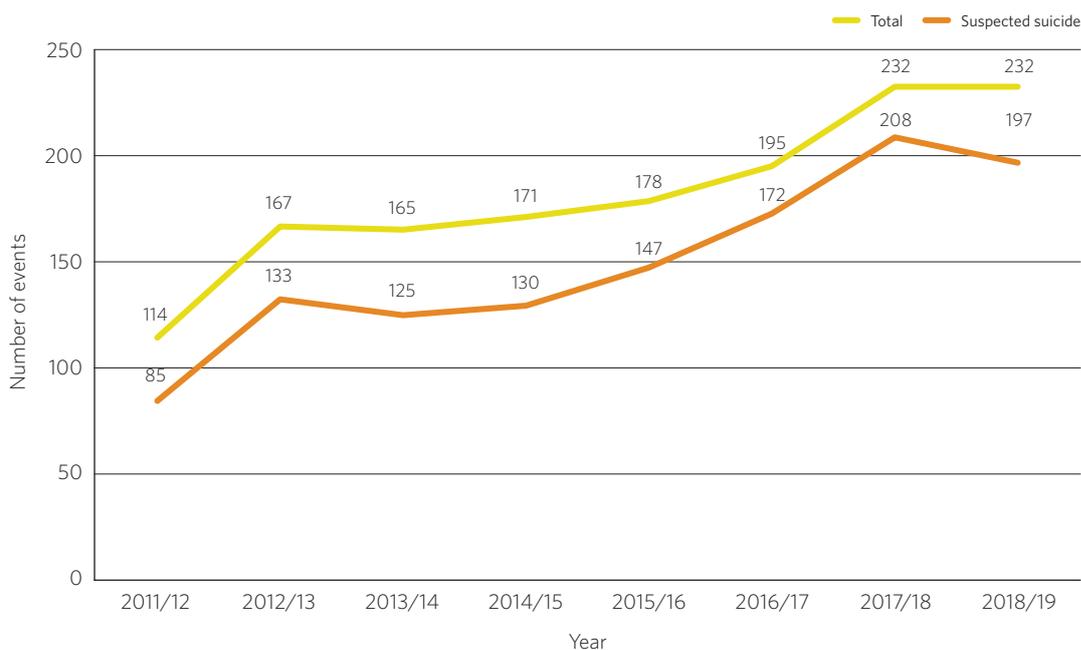
Table 10: Adverse events (code 10: behaviour) reported by DHBs, 2018/19

Type of event	Community	Inpatient unit	Total
Suspected suicide events	184	13	**197**
Serious self-harm	15	10	**25**
Serious adverse behaviour	4	6	**10**
Total	**203**	**29**	**232**

Ngā Poutama Oranga Hinengaro: Quality in Context survey of MHA services staff

A quality and safety culture at all levels of an organisation is fundamental to positively impacting the experience of consumers, their families and whānau, and ultimately the outcome of care. In August 2018, the national Ngā Poutama Oranga Hinengaro: Quality in Context survey of MHA services staff was conducted for the MHA QIP, coordinated by the Commission. The survey took a closer look at MHA quality and safety culture and was the first national survey of its kind in this sector. Over 2,500 MHA services staff participated in the survey.

The Ngā Poutama staff survey asked respondents to rate the following statements using the Likert agreement scale (ranging from 'strongly disagree' to 'strongly agree', including 'don't know' or 'not applicable' options):

- In this service, recognising and reporting incidents is encouraged and valued.
- Learning from adverse events has led to positive change in this service/organisation.
- In this service we use data to monitor and make improvements to our quality of care/support.
- Senior staff in this service/organisation actively encourage staff to put forward ideas about how care/support can be improved.

It is recognised in the literature that a successful adverse event review process is facilitated by several things, including a safety culture within an organisation in which the reporting of errors is encouraged and seen as a positive action. Survey results found that only 35 percent of MHA clinicians in DHBs reported that learning from adverse events has led to positive change in their organisation, and 51 percent reported that recognising and reporting incidents was encouraged and valued (Figure 12).

Figure 12: Selected results from Ngā Poutama Oranga Hinengaro: Quality in Context survey of mental health and addiction services staff, 2018

In this service, recognising and reporting incidents is encouraged and valued
- National: 61%
- DHB: 51%*
- NGO: 80%*
- PHO: 73%*

Learning from adverse events has led to positive change in this service/organisation
- National: 46%
- DHB: 35%*
- NGO: 68%*
- PHO: 60%*

In this service we use data to help us monitor and make improvements to our quality of care/support
- National: 43%
- DHB: 35%*
- NGO: 61%*
- PHO: 55%*

Senior staff in this service/organisation actively encourage staff to put forward ideas about how care/support can be improved
- National: 46%
- DHB: 37%*
- NGO: 64%*
- PHO: 58%*

* Statistically significant difference compared with national result.
DHB = district health board.
NGO = non-governmental organisation.
PHO = primary health organisation.

Ngā Poutama Oranga Hinengaro: Quality in Context survey of consumers, family and whānau

In late 2019, the MHA QIP will carry out a further survey to gather feedback from consumers, family and whānau who have recently used, or had contact with, DHB MHA inpatient or community services. This survey will capture a baseline snapshot of their experiences and will inform service quality improvement, prioritised by the consumer, family and whānau voice. This survey will be repeated in two years to help monitor changes over time.

Consumer, family and whānau perspective

We sought input from those who had experienced bereavement by suicide, and who had been involved with DHB investigation processes, on how they would like to be treated during the review process. One perspective is on the following page.

When making initial contact with the family, it would be helpful for the DHB representative to suggest that the family may like to nominate either a family member or close family friend to be their representative at DHB meetings. Families should ensure that the person is someone who is able to constructively support family and whānau members, someone who is confident (as official settings can be intimidating), someone who is calm, and someone who is not too overwhelmed by grief or anger: this can be practical and useful for all present. The DHB representative should aim to maintain a clear line of contact with the nominated family contact person. If the review process is taking some time, the DHB representative should get in touch part way through the process and say, 'This matters to us, we are taking a thorough approach and this will take some time.' Once a review process is complete, the DHB representative should proactively get in touch with the nominated family contact person as soon as possible and invite the family for a face-to-face meeting. Please do what you say you will do and keep your promises to the family and whānau.

– Virginia Brooks, Mental Health Foundation of New Zealand

Learning from MHA adverse events and consumer, family and whānau experience

We conducted an evidence review to inform the 'learning from adverse events and consumer, family and whānau experience' priority area of the MHA QIP.[29] The evidence review includes an outline of the benefits, challenges and key approaches to partnering with consumers and whānau affected by adverse events in the review and learning processes that follow an adverse event. It provides evidence and recognises that including the affected consumer and whānau perspective in the review process enables a broader understanding of the circumstances surrounding the event.

This priority area launched in September 2019 with supra-regional co-design[30] workshops for DHB-led multidisciplinary project teams. In preparation for the launch, two preliminary workshops were held in March and June 2019 to explore:

- the way adverse event processes in MHA services are managed
- current international thinking around adverse event management
- how we can improve our learning from these events.

Key themes were evident from the feedback from these two preliminary workshops, including:

- inconsistent involvement of consumers, families and whānau in adverse event processes
- length of time the adverse event review process takes
- lack of resources, workforce capacity and capability to lead and be involved in reviews
- same recommendations documented in many reviews that don't necessarily lead to sustainable improvements
- lack of processes to disseminate learning across the MHA sector
- inconsistent feedback to the clinical team and staff involved in a review
- multiple concurrent reporting requirements (ie, DHB, the Commission, ACC, Coronial Services, Health and Disability Commissioner, Office of the Director of Mental Health and Addiction Services).

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29 www.hqsc.govt.nz/our-programmes/mental-health-and-addiction-quality-improvement/publications-and-resources/publication/3620

30 Co-design is a process where a challenge or an opportunity is identified. A range of people who have experience and expertise in delivering or receiving services are engaged. The experiences they have are shared and captured with specific attention to how they feel at each step and any ideas they may have for improvement. More information can be found at www.hqsc.govt.nz/our-programmes/partners-in-care/work-programmes/co-design.

These themes will form the focus of improvement efforts for this priority area, which will be explored in the six-month co-design phase that began in September 2019.

Demographic information

Reported events show that those experiencing code 10 adverse events are younger than those in other categories, with the majority aged between 25 and 49 (Figure 13). Twenty-seven events involved consumers under the age of 18.

Figure 13: Age range of consumers experiencing SAC 1 and 2 adverse events (code 10: behaviour) reported by DHBs, 2018/19
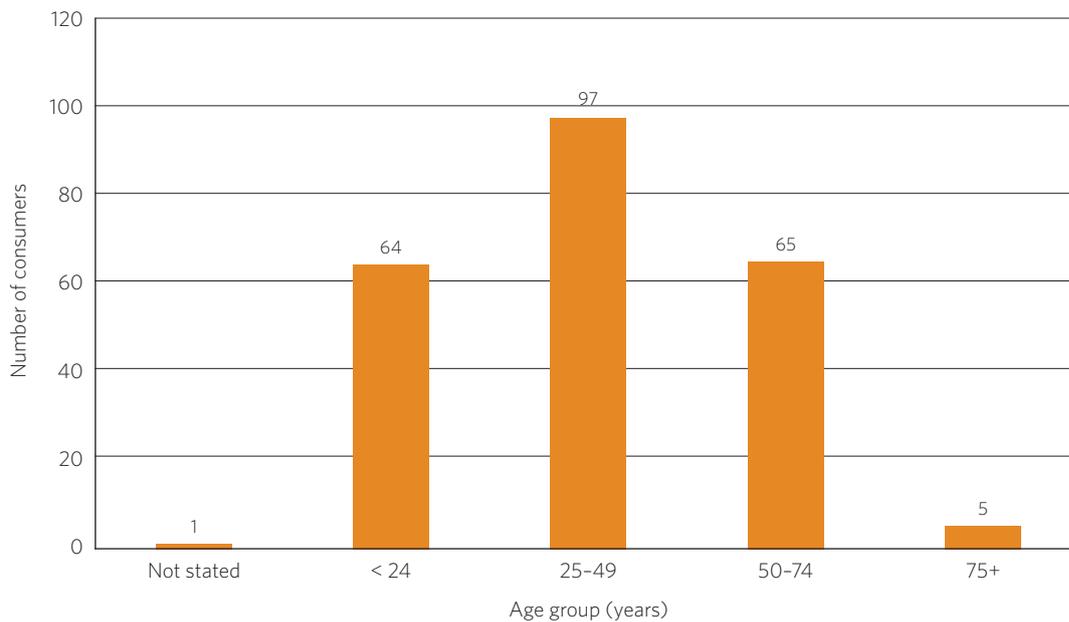
Figure 14: Ethnicity of consumers experiencing SAC 1 and 2 adverse events (code 10: behaviour) reported by DHBs, 2018/19
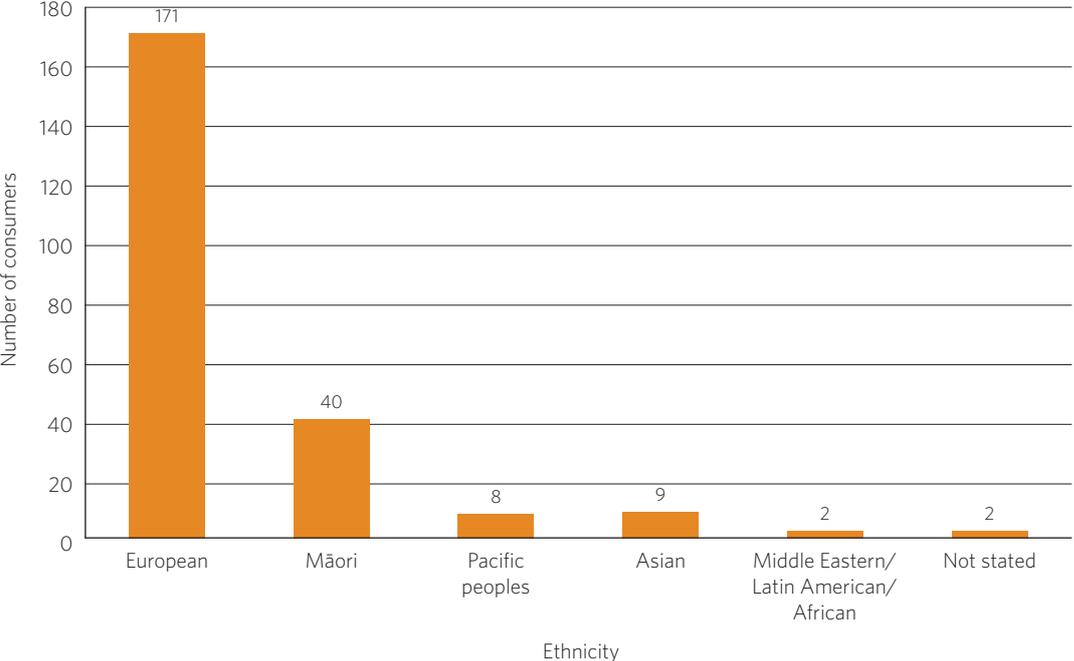
Māori are over-represented in MHA incidence and prevalence data, and each year make up 28 percent of those people accessing specialist MHA services. In 2018/19, Māori made up 17 percent of reported adverse events (Figure 14). Based on the higher numbers of Māori accessing MHA services, we would expect higher numbers of adverse events than have been reported. We will continue to work with the MHA QIP to support providers to continually improve their systems for recognising, reporting and reviewing adverse events.

Chapter 4: Whānau Māori experience of adverse events | Wāhanga 4: Te wheako whānau Māori o ngā pāpono kōaro

The 2017 national policy has a strong focus on involving consumers and whānau in the review process. The policy encourages providers to engage with consumers and whānau, particularly by involving them as partners in the review process. It also sets the expectation that this engagement will be done in a culturally appropriate way. This consumer and whānau-centred approach, along with robust systems and processes, can help support the reduction of harm.

The data presented in previous chapters indicates that there is less reporting of adverse events involving Māori. The data suggests that Māori are under-represented in reported events, younger when experiencing events and more likely to be affected by events where implicit bias could impact on their care, such as unrecognised deterioration.

Despite the focus on consumer and whānau engagement, and cultural appropriateness in the national policy, we know little about how consumers and whānau experience adverse events in Aotearoa New Zealand, and about how the national policy may contribute to increasing inequity for Māori.

This chapter highlights health care inequities for Māori, and provides an update on the work we are doing to understand how the experience of adverse events impacts on Māori.

Understanding why inequities exist is key to understanding how to resolve them

A large body of research and literature considers why the health system has a different impact for Māori and non-Māori, and this can assist our thinking about the impact of adverse events on Māori.

In July 2019, the Commission released its latest *A window on the quality of Aotearoa New Zealand's health care* (Window 2019),[31] which focused on Māori health equity. Window 2019 showed that current systems are supporting non-Māori to live healthier, longer lives than Māori. Inequity is clear across the life course, in many indicators: within the wider determinants of health; within access to health services; and in the quality of treatment. These factors each impact on health outcomes for Māori, contributing to a clear difference in health outcomes and a stark difference in life expectancy.[32] The failure of the health system to meet Māori needs has been named institutional racism.[33] Window 2019 highlights that, in the Aotearoa New Zealand health system:

> '… institutional racism presents as inappropriate action; inaction in the face of need, and as monocultural perspectives and worldviews embedded in systems.'[34]

Monocultural perspectives are unconsciously reinforced by health professionals who don't recognise different world views, and therefore can't understand their significance in delivering quality services that are effective for meeting needs. The Commission's recent Patient Safety Week 2019[35] encouraged health professionals to examine their unconscious and implicit biases and how these affect the health care they provide.

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31 Health Quality & Safety Commission. 2019. *A window on the quality of Aotearoa New Zealand's health care 2019 – a view on Māori health equity.* Wellington: Health Quality & Safety Commission. URL: www.hqsc.govt.nz/assets/Health-Quality-Evaluation/PR/Window_2019_web_final.pdf (retrieved 3 October 2019).

32 *Ibid.*

33 Came H. 2014. Sites of institutional racism in public health policy making in New Zealand. *Soc Sci Med* 106(0): 214e220.

34 Health Quality & Safety Commission 2019, *op. cit.*, p 43.

35 www.hqsc.govt.nz/our-programmes/patient-safety-week

Implicit bias and systematised, institutional racism, as well as other factors, may be contributing to different adverse events reporting and learning experiences for Māori and non-Māori. We need to know more. While the research and literature can help inform our thinking, we also need to better understand the impacts of the national policy in practice, on Māori and on non-Māori. We need to look to Te Tiriti o Waitangi and to partnership with Māori. We also need to draw on matauranga Māori to support us to understand and resolve the issues within our national policy and the ways it is being implemented that may be inequitable for Māori. The work described in this chapter represents the start of this important mahi.

Whānau Māori experiences of in-hospital adverse events

Research aim

The aim of the research is to investigate and describe the experiences of whānau Māori who experienced an SAC 1 or 2 in-hospital adverse event. The objectives are to:

- collect qualitative data describing the whānau Māori perspective of how health service providers managed the event both during and after
- identify practices that would improve experiences
- describe current open communication practices
- develop guidance for providers on how to engage with whānau Māori following an adverse event.

Method

We are using a mixed-method approach within a kaupapa Māori framework and collecting data from a range of sources, including:

- consumer and whānau interviews
- clinician interviews
- policy reviews.

The interviews will be analysed using a thematic approach.

Whānau Māori participant recruitment

Sixty-three consumers who identified as Māori experienced a SAC 1 or 2 adverse event in 2017/18. For this study, we aimed to interview 20 whānau, or until we reached saturation. We selected whānau based on their location in order to get a geographic spread of participants. As we don't collect identifiable consumer information, we approached the DHBs where whānau had been treated and asked them to make initial contact and obtain consent for us to make contact. Only one DHB was able to contact whānau, and they did so by working with their local Māori health unit.

We believe that the lack of success in contacting whānau is reflective of a system that is not meeting the needs of Māori, rather than a reluctance on the part of whānau to participate.

On reflection, we believe we would have had more success initially if we had asked the DHBs to work with their Māori health units when making contact. This approach would have also fitted better with the kaupapa Māori framework we are using.

We re-evaluated our initial approach to whānau engagement. We chose to contact four regional Te Puni Kōkiri offices, and we asked for their support to engage Māori providers to identify whānau who had experienced an in-hospital SAC 1 or 2 adverse event to take part in the review. While Te Puni Kōkiri sits outside of the health sector, it has key relationships with many Whānau Ora collectives and Māori social service providers in their communities. As these providers are community-based, they often have ongoing relationships with

consumers that DHBs may not, making it somewhat easier for them to make contact. This revised approach was very successful and, with Te Puni Kōkiri's help, we have identified and contacted enough whānau that we anticipate we will have recruited enough participants by 30 November 2019. This new approach also included participants who experienced SAC 3 and 4 events. We expect that this research will be completed by 20 December 2019 and we will begin developing resources on engaging with whānau Māori that are based on what we have learnt from the research in 2020. We will also use the results from this research to inform our work in better understanding the discrepancies in reporting between Māori and non-Māori.

Chapter 5: Adverse events learning programme | Wāhanga 5: Hōtaka ako pāpono kōaro

Maternity SAC examples

Before finishing its work in 2018, the Maternal Morbidity Working Group (MMWG) received notifications of all pregnant or recently pregnant women who were admitted to a high dependency or intensive care unit. It was expected that many of the events reported to the MMWG would also be reported to the Commission; however, on analysis, this was not the case. For example, there were 11 cases of peripartum hysterectomy reported to the MMWG, many of which meet the criteria for SAC 1 or 2, but only two of these were reported as adverse events. This was consistent with research suggesting that instances of maternal morbidity are under-counted in adverse events reporting, with a 2015 study finding that fewer than 9 percent of maternal[36] and perinatal[37] adverse events were reported to the Commission.[38]

To assist the maternity sector with identifying, reporting and learning from adverse events, the MMWG and the adverse events learning programme collaborated to develop a list of maternity SAC examples. The tool was released in May 2019 following consultation with the sector and is available on the Commission's website[39] and in Appendix B.

The existing general SAC examples have been updated to take into account the new maternity examples, and both documents will be reviewed in 2020.

Learning from adverse events workshops

We delivered four two-day learning from adverse events workshops in 2018/19 – one in Dunedin, one in Christchurch and two in Auckland. These were popular, with approximately 160 people from 47 organisations attending. In response to participant feedback, several workshop sessions have been updated and the remaining sessions will be updated during the 2019/20 year.

In 2018/19 we developed two new adverse events workshops – one two hours, and one a full day in length. The two-hour workshop provides an overview of the national policy and is targeted at those in leadership positions and those organisations whose work intersects with adverse events. The one-day workshop expands on the two-hour session, adding more detail on what 'good' looks like with regard to adverse event management. It is targeted at those who are involved in managing adverse events, such as clinical leads and charge nurse managers. If you would like to discuss hosting a two-hour or one-day workshop at your organisation, please email adverse.events@hqsc.govt.nz.

National open communication policy

Consumers have a right to know when something harmful or potentially harmful has happened to them. Open communication refers to the timely and transparent approach to communicating with, engaging

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36 In this instance, maternal means a woman who is pregnant or within 42 days of the end of the pregnancy.

37 In this instance, perinatal means from 20 weeks' gestation to 28 completed days of life.

38 Farquhar C, Armstrong S, Kim B, et al. 2015. Under-reporting of maternal and perinatal adverse events in New Zealand. *BMJ Open* 5(7): e007970.

39 www.hqsc.govt.nz/our-programmes/adverse-events/publications-and-resources/publication/2938

with and supporting consumers and their whānau when adverse events occur.[40] Recent research into open communication processes in Aotearoa New Zealand DHBs has shown significant variation and important gaps in policy/process documents.[41] We believe this shows a need for a national open communication policy and supporting education. We plan to begin consultation with the wider sector in late 2019 to establish what form this might take, and to begin development in 2020.

Collaboration with other agencies

We are working with several other organisations in various areas to reduce harm by learning from adverse events.

We have engaged with the Ministry to explore how section 31 reporting interacts with adverse event reporting. By better understanding the section 31 process we hope to work with aged residential care providers to improve their learning, while not overburdening them with reporting requirements.

We had the opportunity to provide feedback to the Royal New Zealand College of General Practitioners on their Cornerstone standards, and we will be involved in the work to update the Health and Disability (Safety) Standards.

We are also working with ACC to reduce preventable harm related to treatment injuries through ACC's clinical incident review working group and risk of harm external advisory group.

Future developments in the programme

In the 2018/19 year we engaged with several PHOs and other non-DHB providers to help them apply the national policy in their local adverse event management systems. This has been successful at the local level; however, it is still isolated to a small number of organisations. We encourage all providers of health and disability services to consider how to embed the principles of the national policy into their systems, and we are available to help as required.

To continue to improve consumer safety and to support providers to improve their systems and processes, we intend to work on the following activities in 2019/20.

• Continue to promote consumer engagement in adverse event review across the sector.

• Complete the research into whānau Māori experience of adverse events and identify and recommend quality improvement initiatives.

• Seek to understand why Māori appear to be under-represented in adverse event reporting.

• Continue to actively engage with the wider health and disability sector to embed the National Adverse Events Reporting Policy 2017 at a local level.

• Create a national repository of publicly accessible adverse events tools and resources.

• Consult on a national policy for open communication.

• Develop accessible education and training for providers across the health and disability sector.

• Incorporate restorative practice principles into existing adverse events workshops.

• Complete the introduction of the national adverse events database system across all DHBs.

• Seek to understand the barriers to completing adverse event reviews in a timely manner.

• Continue to work in collaboration with other agencies, such as ACC and the Health and Disability Commissioner, to reduce preventable harm in health care.

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40 www.hqsc.govt.nz/our-programmes/adverse-events/projects/engaging-with-consumers

41 McLennan S, Moore J. 2019. New Zealand district health boards' open disclosure policies: A qualitative review. *Journal of Bioethical Inquiry* 16(1): 35–44.

Chapter 6: Where next? | Wāhanga 6: Ki hea ināianei?

Safety culture

In health care there is a wide spectrum of adverse events, from high harm and low frequency to low harm and high frequency, and near misses.

Harm can also result from loss of opportunity through delay in accessing effective care, such as through resource constraint, coordination failures, and diagnostic and treatment errors.[42]

Quality improvement methodologies (including adverse event reviews) sit within the context of a patient safety culture, which includes values, leadership, teamwork, system design and function, and continuous review and improvement. Having an organisational culture of patient safety is fundamental to providing a safe environment for all, including health care workers. Adverse event review and quality improvement should not sit in isolation as specific tools to be applied in order to achieve a state of safety but should be part of 'everybody's business' in the provision of safe health care, all of the time.

A function of adverse event reviews is to learn in order to prevent harm. This can be challenging as health services operate within constrained environments (eg, legal, social, resource and technical), which can create tensions between learning, organisational risk management and the need for accountability. Consequently, adverse event reviews must find ways to manage these tensions and enable the opportunity to learn. It requires an organisational, team-based and individual culture of readiness to learn – to create an active community of learning. A culture based on trust, safety and openness gives the workforce the confidence to share, to be supported and to enhance the capability to learn in often new and different ways. Achieving this requires active partnership with consumers and whānau in all aspects of system design and operation.

Within Aotearoa New Zealand many are actively engaging in the opportunity to improve health outcomes. In early 2019 a group of like-minded clinicians met to discuss the future of resilient health care, building on the workshops by Professor Erik Hollnagel. There is a shared desire to weave Safety-I (reactive safety view) and Safety-II (proactive safety view) together to create a health and disability system that understands how the service is providing safe care most of the time and to understand what happens when things don't go as planned.

We see our role as one of supporting providers to implement resilient health care in their organisations. We will develop guidance for the health and disability sector on how to include both safety approaches in its patient safety framework. This work also aims to enhance the capability within the sector to apply a human factor approach to understanding safety-lapse events. We will also incorporate restorative principles into the two-day adverse events workshop.

> I thought: The problem is errors.
>
> I learned: The problem is harm.
>
> I thought: What's important happens before the injury.
>
> I learned: What happens after the injury is equally important.
>
> I thought: Reporting is necessary to track problems and progress.
>
> I learned: Stories are necessary to gain knowledge.
>
> **– Don Berwick, past president and chief executive officer of the Institute for Healthcare Improvement**

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42 Vincent C, Amalberti R. 2016. *Safer healthcare.* Cham: Springer International Publishing.

Delivering resilient health care: A workshop with Professor Erik Hollnagel

We were pleased to host Professor Hollnagel in Aotearoa New Zealand for a second time in December 2018. At his successful first visit in 2017, Professor Hollnagel delivered a masterclass on a modern view of safety, Safety-II and resilience engineering, and building resilience in health care.

The focus of the 2018 workshop was on delivering resilient health care. Along with Professor Hollnagel, there were presentations from those who are implementing resilient health care into their organisations. One such organisation is Capital & Coast DHB, which implemented a 'Learning from Excellence' initiative in its emergency department (ED).

Learning story by Capital & Coast DHB

We started Learning from Excellence because we wanted to use resilient health care in our daily work. We thought the traditional focus on avoiding harm by learning from error missed opportunities to learn from excellent practice.

Excellence in health care is highly prevalent, but there is no formal system to capture it, and we tend to regard excellence as something to gratefully accept rather than something to study and understand. Our preoccupation with avoiding error and harm in health care can result in the rise of rules and rigidity, which can sometimes create a negative climate. Studying excellence in health care can create new opportunities for learning and improve resilience and staff morale.

We started the Awards for Celebrating Excellence to capture the fantastic things staff were doing so we could learn from them and have a way of congratulating people for their work. All ED staff (both support and clinical) could nominate their colleagues by filling out a card describing what had been done that was excellent. We provided feedback to those who were nominated, and we created awards to give out. The awards are intended to be fun, but also to publicly recognise people's excellence:

- Professional Excellence
- Angus MacGyver Award for Problem Solving
- The Yoda Award for Mentorship/Teaching/Support
- Excellence in Contribution to Project X
- Daenerys Targaryen Award for Firm but Fair Leadership
- Korg from Thor Award for Positivity in the Face of Unrelenting Reality
- S Pool Tannoy Voice Award for Excellence in Being Goodly at Communication Well.

When we evaluated the awards, we found that staff felt they had increased morale and created new learning opportunities, and staff rated them highly. We have shared our project with the wider organisation, and ED continues to work with the quality improvement and patient safety and organisation development teams in developing the awards to their full potential. We plan to roll out the awards to other wards, and the DHB's people strategy includes a workstream based on Learning from Excellence called 'Speaking Up for Success'.

> It's always so encouraging to read about the moments of brilliance, staff going above and beyond, good catches, service with a smile, teamwork and excellence in clinical practice. This is 'what we do, day in and day out' and of course it's what we are paid for... but it's wonderful to stop and appreciate each other and celebrate our department and the amazing work that we do!

– Caroline Leaf, associate charge nurse manager, Capital & Coast DHB

Safety-I and Safety-II: Resilient health care

Health is more than the absence of disease. Consumer safety is more than the absence of harm. These concepts are described in more detail in *From Safety-I to Safety-II: A White Paper* by Erik Hollnagel, Robert Wears and Jeffrey Braithwaite.[43]

Safety-I involves identifying and removing hazards and learning from error, with safety being defined by as few things going wrong as possible. The focus is on understanding failures or errors as causes of adverse events and putting in place measures (often barriers or defences) to prevent them from happening again. It assumes that a well-designed system is safe and that things happen that cause it to become momentarily unsafe.

Some criticisms of Safety-I are that safety is defined by its absence (eg, when things go wrong) and that it assumes there is an understandable connection between cause and effect in adverse events.

Safety-II, on the other hand, is based on trying to understand and enhance what makes things go right most of the time rather than what makes them go wrong. Safety-II focuses on the 'necessary'[44] ability to succeed under varying conditions – both expected and unexpected – and that in order to understand how things sometimes go wrong we must first understand what makes them usually go well.

Safety-critical systems, such as aviation, incorporate a range of processes to understand how failures have occurred (Safety-I), coupled with continuous monitoring and improvement of system resilience and actions to predict and prevent potential accidents (Safety-II). This activity occurs across the entire system, making it everyone's responsibility rather than sitting only with safety or quality experts.

Within health care, safety needs to become how we go about normal work, not something extra we do in order to make normal work safe. The focus must be on overall system performance and outcomes, and designing systems and work to achieve better results rather than trying to make people behave differently through policy and constraint.

Complex adaptive systems

Health services are complex systems with many autonomous yet interdependent components (eg, staff have independent decision-making capability and multiple inter-relationships). By using a human factors approach,[45] we can work within this complex system to enhance success.

In complex systems, success depends on the relationships between the different parts of the system (eg, consumers, staff, teams, services, and primary and secondary services), and changes can have unpredictable effects. A small change can have a large effect, and large change can have minimal effect. Centralised control, standardisation and constraint are not well suited to managing complex systems and can have the effect of limiting the ability of staff to adapt to a constantly changing environment.

The ability to adapt and vary responses depending on the situation allows effective care to be delivered on a day-to-day basis. Supporting staff with high-level governance and strategy, while allowing them to make decisions, is an effective strategy for managing complex systems.[46]

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43 Hollnagel E, Wears RL, Braithwaite J. 2015. *From Safety-I to Safety-II: A white paper.* The Resilient Health Care Net: Published simultaneously by the University of Southern Denmark, University of Florida, USA, and Macquarie University, Australia. URL: www.england.nhs.uk/signuptosafety/wp-content/uploads/sites/16/2015/10/safety-1-safety-2-whte-papr.pdf (accessed 15 September 2019).

44 www.hqsc.govt.nz/our-programmes/adverse-events/news-and-events/event/2963

45 Human factors is the process of designing systems, processes and equipment that allow individuals to perform to the highest level possible.

46 Dekker S, Hollnagel E, Woods D, et al. 2008. *Resilience engineering: New directions for measuring and maintaining safety in complex systems.* Ljungbyhed, Sweden: Lund University School of Aviation. URL: https://pdfs.semanticscholar.org/a0d3/9cc66adc64e297048a32b71aeee209a451af.pdf (accessed 15 September 2019).

Restorative practice

Whenever harm occurs, there may be damaged relationships and a loss of trust, resulting in the safety environment becoming compromised. Restorative practice is a process whereby all parties affected by an event come together to collectively address and resolve the harms related to the event and their implications for the future. The overarching aims of restorative practice include maintaining the dignity of the individuals involved (consumers, families, whānau, staff), healing relationships and restoring psychological wellbeing. Restorative practices give all parties an equal voice, and their accounts become something that can be told, shared and learned from.[47] Restorative practice is founded upon the principle that what happens after the event or injury is as important as what happened prior to the event. It is imperative that consumers and their whānau can talk about their experience with the people (clinicians) directly involved in an environment of open disclosure where they are truly heard, and they must have opportunities for follow-up conversation(s). They are rarely allowed to do this. Rather, often their experience is that their voices become lost and the harm is extended by multiple, lengthy processes over which they have little meaningful control. Restorative practice provides a framework for genuine apology to occur, the opportunity for the consumer and their whānau to be heard and a safe environment for clinicians to resolve conflicts that may have occurred as a result of involvement in an unexpected event or near miss.

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47   Dekker S. 2018. *Just culture: restoring trust and accountability in your organization.* Boca Raton, FL: CRC Press.

Appendix A: Yorkshire Contributory Factors Framework |
Āpitihanga A: Te Anga Take Kokomo nō Yorkshire
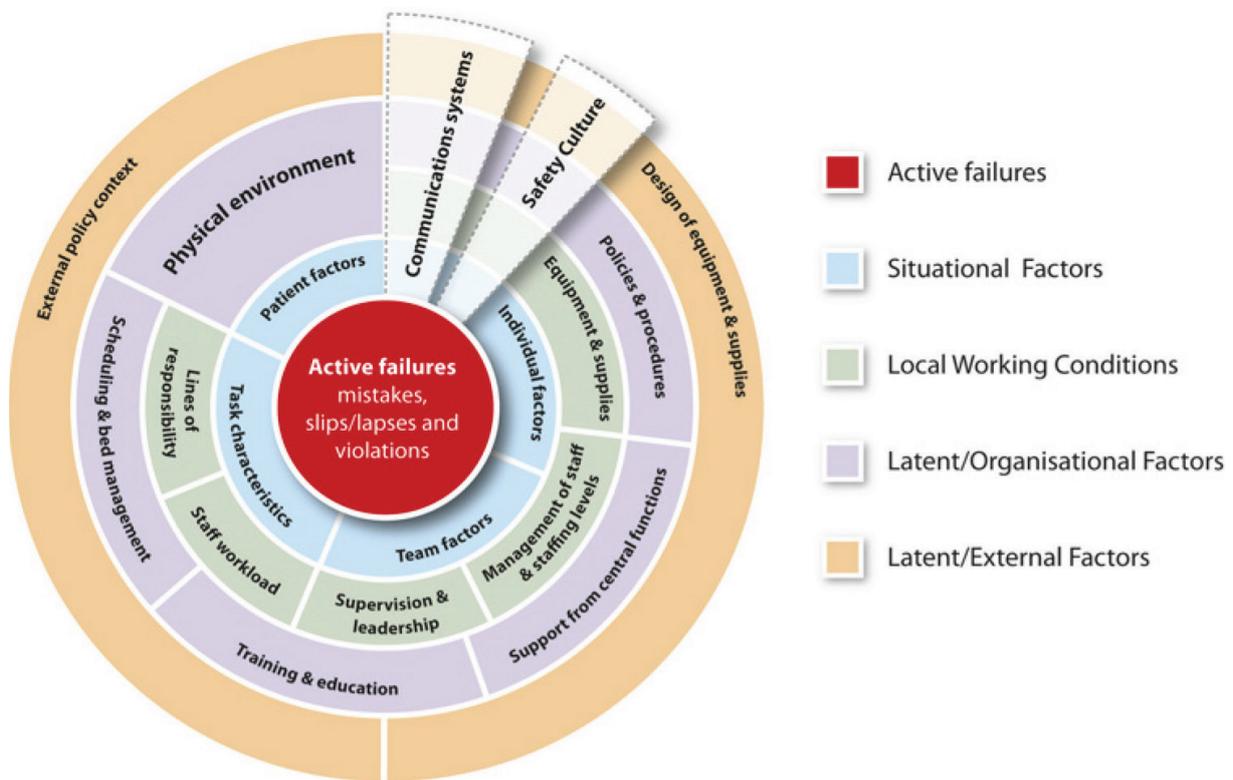
Factor	Definition
Active failures	Any failure in performance or behaviour (eg, error, mistake, violation) of the person at the 'sharp end' (the health professional)
Communication systems	Effectiveness of the processes and systems in place for the exchange and sharing of information between staff, patients, groups, departments and services. This includes both written (eg, documentation) and verbal (eg, handover) communication systems
Design of equipment and supplies	The design of equipment and supplies to overcome physical and performance limitation
Equipment and supplies	Availability and functioning of equipment and supplies
External policy context	Nationally driven policies/directives that impact on the level and quality of resources available to hospitals
Individual factors	Characteristics of the person delivering care that may contribute in some way to active failures (eg, inexperience, stress, personality, attitudes)
Lines of responsibility	Existence of clear lines of responsibility clarifying accountability of staff members and delineating the job role
Management of staff and staffing levels	The appropriate management and allocation of staff to ensure adequate skill mix and staffing levels for the volume of work

Factor	Definition
Patient factors	Those features of the patient that make caring for them more difficult and therefore more prone to error. These might include abnormal physiology, language difficulties, personality characteristics (eg, aggressive attitude)
Physical environment	Features of the physical environment that help or hinder safe practice. This refers to the layout of the unit, the fixtures and fittings, and the level of noise, lighting, temperature, etc
Policy and procedures	The existence of formal and written guidance for the appropriate conduct of work tasks and processes. This can also include situations where procedures are available but contradictory, incomprehensible or of otherwise poor quality
Safety culture	Organisational values, beliefs and practices surrounding the management of safety and learning from error
Scheduling and bed management	Adequate scheduling to manage patient throughput minimising delays and excessive workload
Staff workload	Level of activity and pressures on time during a shift
Supervision and leadership	The availability and quality of direct and local supervision and leadership
Support from central functions	Availability and adequacy of central services to support the functioning of wards/units. This might include support from information technology and human resources, portering services, estates or clinically related services such as radiology, phlebotomy or pharmacy
Task characteristics	Factors related to specific patient-related tasks, which may make individuals vulnerable to error
Team factors	Any factor related to the working of different professionals within a group, which they may be able to change to improve patient safety
Training and education	Access to correct, timely and appropriate training, both specific (eg, task-related) and general (eg, organisation-related)

Appendix B: Maternity SAC examples | Āpitihanga B: Ngā tauira SAC whaea

This list is for guidance only. All events should be rated on actual outcome for the consumer.

See also the Always Report and Review list 2017/18[48] and the SAC rating and triage tool for adverse event reporting.[49]

SAC 1 Death or permanent severe loss of function	SAC 2 Permanent major or temporary severe loss of function
• Unexpected neonatal death – differs from the immediate expected outcome of care • Unexpected intra-uterine death at term – differs from the immediate expected outcome of care • Unexpected peripartum hysterectomy – differs from the immediate expected outcome of care • Maternal death during pregnancy or within 42 days from end of pregnancy (including labour) • Maternal suicide (during pregnancy or within 42 days of birth) • Neonatal hypoxic brain injury resulting in permanent brain damage (or permanent and severe loss of function) • Maternal hypoxic brain injury resulting in permanent brain damage (or permanent and severe loss of function) • Delayed recognition of patient deterioration resulting in permanent disability or death	• Medication or treatment plan error resulting in major harm (eg, requiring dialysis, intervention to sustain life, anaphylaxis) • Infant fall resulting in fracture or other significant injury • Maternal fall resulting in fracture or other significant injury • Perineal trauma – grade 4 tear involving temporary or permanent loss of sphincter function • Eclampsia following admission in woman with known pre-eclampsia • Hospital acquired stage 3, 4 or unstageable pressure injury • Delayed recognition of patient deterioration resulting in cardiopulmonary resuscitation and/or intubation, or unplanned transfer to intensive care unit (ICU)/high dependency unit (HDU)/neonatal intensive care unit (NICU)/1:1 care, or to another hospital for higher acuity care

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48 www.hqsc.govt.nz/our-programmes/adverse-events/publications-and-resources/publication/2936
49 www.hqsc.govt.nz/our-programmes/adverse-events/publications-and-resources/publication/2937

SAC 3 **Permanent moderate or temporary major loss of function**	SAC 4 **Requiring increased level of care including:** • **review and evaluation** • **additional investigations** • **referral to another clinician**
• Stage 2 pressure injury • Sepsis in pregnancy requiring higher level of care • Maternal influenza requiring ICU/HDU admission • Medication error requiring additional treatment • Unanticipated admission to NICU for neonate for longer than 24 hours • Unplanned return to operating theatre • Neonate requiring cooling for suspected neonatal encephalopathy • Postpartum haemorrhage requiring blood transfusion of 3 units or greater • Perineal trauma – grade 3 tear • Injury following shoulder dystocia manoeuvres (to infant and/or mother) • Anaesthetic complications requiring ICU/HDU admission • Pulmonary embolism/deep-vein thrombosis during admission or within 42 days of discharge • Organ trauma during caesarean section	• Medication error – no harm • Stage 1 pressure injury • Delay in response and/or escalation requiring additional monitoring • Anaesthetic complication requiring additional monitoring or intervention (ie, dural tap or dural puncture headache)

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