Safer Care Victoria

January 2020

Putting patient safety first

2018–19 sentinel events annual report

When it comes to healthcare, we know that everyone has a unique story to share.

At times these experiences are positive, while for others, experiences have left patients, their families and the clinicians who care for them feeling disappointed, hurt and devastated.

Victorian health services do their best to prevent patients from being harmed and to continuously learn and improve. But we must recognise the personal impact of serious adverse events.

These stories move us, and motivate and drive us to do better.

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VICTORIA State Government

Anthony's experience – what it means to be impacted by a sentinel event

In January 2019, scans to investigate Anthony's stomach pain showed a large abdominal tumour. He and his wife Frances and baby daughter Andrea went straight to the emergency department. The surgeons admitted him to hospital that day for emergency surgery to remove it. During the surgery, an artery in his bowel was torn. Although it was quickly repaired, Frances recounts the impact on her family as further complications arose from the torn artery, including a blood clot and a serious infection.

"Anthony was transferred to another hospital where he spent the next week in an induced coma in the intensive care unit with sepsis (overwhelming infection) from the dead bowel.

"Over the following months, he had 15 more surgeries to remove the dead bowel and repair the parts the surgeons thought might survive. In the end none of it survived, and he has been left with short gut syndrome and is dependent on being fed intravenously.

"My husband suffered a catastrophic injury which has been devastating for our family. The first several weeks were the most stressful, wondering if he'd survive at all. Then a long and difficult hospital stay, with nausea, vomiting, pain, setbacks and infections, and more operations.

"It was difficult to go from him being young and healthy with a new baby to having him clinging to life with a serious and debilitating illness. We cried a lot. We also felt very grateful for surviving and for being very close as a couple. It was hard to support Anthony's relationship to our baby Andrea, but to also keep her from pulling at his naso-gastric tube or jumping on his stomach.

"There was also financial stress. I moved out of home to be close to him in hospital, so neither of us were working and had to put our baby in day care, which ate up all our savings. When we ran out of money, I had to go back to work, and it was hard being apart.

"We were assigned a contact person at the first hospital who was good at checking in with us weekly. Unfortunately, it was months before the hospital started the open disclosure process, and we still feel like we don't have all the facts. I felt like we were an annoyance to them. At one point we asked if we could speak with the treating surgeon but were denied because it would be upsetting for her.

"We made the step of requesting his medical records so we could learn for ourselves why it happened. We are angry when we think about it. But we are mostly happy to have each other, and that Andrea still has her daddy.

"It's taken most of the year, but now we're at a point where life is getting back to normal. Intravenous feeding, nausea and diarrhoea are becoming a part of life. He's getting his strength back and we're pretty happy to be where we are, considering how bad things got."

About this report

This report provides the Victorian community and the health sector with information on the most serious adverse events reported in Victorian public and private hospitals, and ambulance services between 1 July 2018 and 30 June 2019. Safer Care Victoria (SCV) publishes this information every year to help Victorians understand what sentinel events have occurred, what has been learnt and how we have improved as a result.

An **adverse event** is an incident in which a person receiving healthcare was harmed.

Sentinel events are the most serious adverse events that result in a patient dying or being seriously harmed.

How to read this report

This report includes an overview of sentinel events notifications, recommendations for improvement arising from reviews, and case studies from consumers and health services.

It is structured around three main chapters that reflect the way we review sentinel events:

1. Notifying

Health services are required to notify sentinel events to SCV.

Health services must report all sentinel events within **three working days** of becoming aware of it.

2. Reviewing

Health services must conduct a formal and thorough review using root cause analysis (RCA) methodology.

Following the review, services must submit a RCA report to SCV within **30 working days** of the initial notification.

3. Improving

Health services must submit a risk reduction action plan (RRAP) feedback report within **three months** of the RCA report being submitted.

This shows the progress made in implementing the recommendations from the RCA report.

What's new in this report?

- **Location of the sentinel event** As a result of improved notification requirements, we can now share where sentinel events happened.
- **Health service type** We are also now able to breakdown types of health service – specialist, tertiary, major, regional or sub-regional service.
- **Recommendation type** We have changed how we categorise recommendations to give a more accurate indication of their nature and effectiveness.

At a glance 2018–19

CEO foreword

In healthcare, adverse patient safety events that affect the lives of patients and families, as well as providers and organisations, can and do occur. Those whose personal consequences are affected by the most serious adverse patient safety events, or sentinel events, are not always given a voice. And for the Victorian community, the enormous efforts made to learn and improve from sentinel events remain largely unseen. With the intent of making our healthcare safer, this report makes sentinel events visible and transparent, without losing sight of their often devastating personal impacts.

Anthony's experience illustrates one family's struggle to both survive and recover from a sentinel event. Although they are getting back to a new kind of normal, their lives will never be the same. Preventing other families from having to go through the same experience is one reason why Victorian health services work hard every day to provide the safest healthcare possible. An important part of doing this is learning from our most serious mistakes and making improvements and system changes that will help prevent them from happening again.

This report summarises not only the number and type of sentinel events that have affected people's lives, but also the work undertaken to make our healthcare safer. It highlights the progress we are making in sentinel event program. For instance, SCV's new online platform PEER has helped more health services meet the requirement to have an external independent member on all sentinel event review panels. We have also increased consumer participation through the recruitment, training and support of consumer representatives for review panels.

During 2018–19, the Australian Commission on Safety and Quality in Health Care released revised national sentinel event categories. These came into effect from 1 July 2019. To support these, we issued a guide to sentinel event reporting that appears to have increased the rate of notification. This is a positive sign reflecting health service reporting and will lead to safer care.

In the next year, we look forward to helping health services manage all adverse safety events, not just sentinel events. We will be following up on our new Adverse Patient Safety Event Policy with a supporting framework to help guide review processes, the presentation of reports and the development of recommendations.

Sentinel events are a tiny proportion of the harms that can occur in healthcare, however, as in Anthony's case, they are devastating. We must strive to learn from them.

Professor Euan Wallace AM
Chief Executive Officer

1. Notifying

Since 2017 sentinel events have become far more visible, leading to an increase in how many are notified to SCV. Victoria is now on par with other comparable jurisdictions. Through encouraging a just reporting culture in health services (page 23) we hope to eventually see all sentinel events notified. This allows review and learning opportunities to improve patient safety.

In SCV's first two years there was a steady increase in the number of notifications. **Table 1** shows the number of sentinel events notified in 2018–19 was similar to 2017–18, maintaining the level of increased notification that started in 2015–16 (**Figure 2**). With the change in categories and the production of a new guide to sentinel events we expect numbers will increase in the coming year.

Health services, including services under their governance, must notify SCV of sentinel events within **three working days** of becoming aware of them.

The eight nationally agreed sentinel event categories are detailed in the table below. Victorian health services are also required to notify under an additional **Category 9. Other catastrophic: Incident Severity Rating (ISR) 1.**

If you are unsure, please contact sentinel.events@safercare.vic.gov.au or 03 9096 1546.

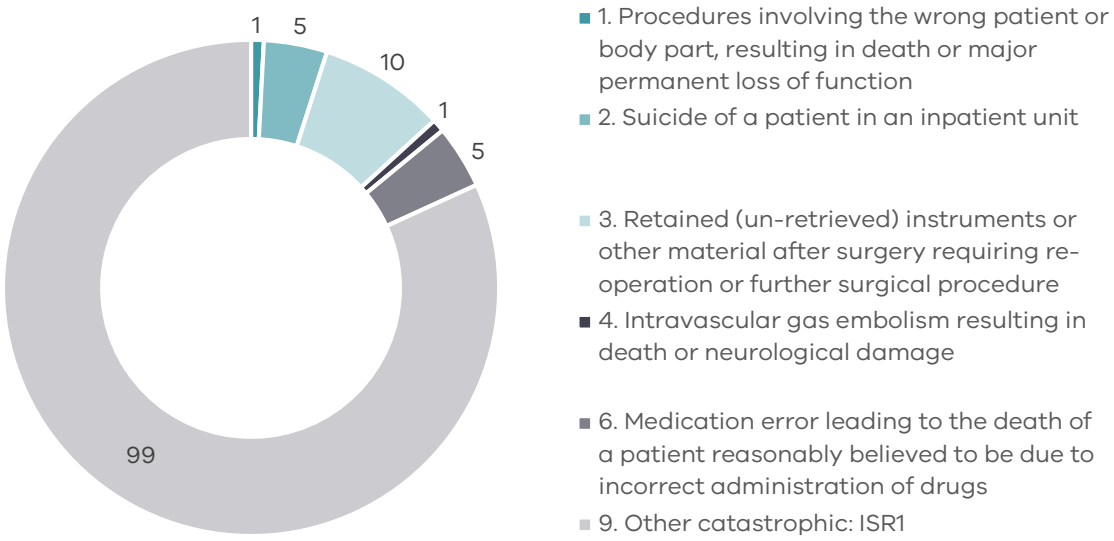
WHAT HEALTH SERVICES NOTIFIED

Between 1 July 2018 and 30 June 2019, 47 health services notified 121 sentinel events.

Table 1: Number of sentinel events notified by category

Category		10–11	11–12	12–13	13–14	14–15	15–16	16–17	17–18	18-19
1	Procedures involving the wrong patient or body part resulting in death or major permanent loss of function	1	1	0	0	0	0	1	1	1
2	Suicide of a patient in an inpatient unit	9	8	9	8	4	7	7	7	5
3	Retained (un-retrieved) instruments or other material after surgery requiring re-operation or further surgical procedure	5	7	6	6	6	7	7	12	10
4	Intravascular gas embolism resulting in death or neurological damage	1	0	0	1	0	1	2	0	1
5	Haemolytic blood transfusion reaction resulting from incompatibility	1	0	0	0	0	0	0	2	0
6	Medication error leading to the death of a patient reasonably believed to be due to incorrect administration of drugs	2	4	1	3	7	1	3	2	5
7	Maternal death associated with pregnancy, birth and the puerperium	2	0	1	3	2	0	3	0	0
8	Infant discharged to the wrong family	0	0	0	0	0	0	0	0	0
9	Other catastrophic: ISR1	37	21	17	33	23	31	49	98	99
	Total	**58**	**41**	**34**	**54**	**42**	**47**	**72**	**122**	**121**

Figure 1: Category of sentinel events notified 2018–19



What the numbers show

- The number of notifications involving **Category 6. Medication error leading to the death of a patient reasonably believed to be due to incorrect administration of drugs** increased, from two to five. Meanwhile the numbers in **Category 3. Retained (un-retrieved) instruments or other material after surgery requiring re-operation or further surgical procedure** declined by two compared to 2017–18.
- Apart from this, notifications remained steady across other categories.
- There were no notifications for **Category 5. Haemolytic blood transfusion reaction resulting from ABO incompatibility, Category 7. Maternal death associated with pregnancy, birth and the puerperium** and **Category 8. Infant discharged to the wrong family**.

THE NOTIFICATION RATE

SCV received 123 sentinel events notifications. Two were subsequently withdrawn for not meeting the sentinel event criteria. Public health services were responsible for 82 per cent of the 121 notifications accepted by SCV.

Figure 2 shows that the trend in notifications, which has been increasing since 2015–16, has plateaued.

There was a marked increase in notifications from private health services with 22 notifications received from 11 private health services, compared to eight notifications in 2017–18. This represented increase is mostly a result of legislative changes that now require Victorian private health services to notify SCV when a sentinel event occurs.

While we commend those services on their commitment to improving patient safety, there is more work to do to create a transparent reporting culture in all health services. We are working with the sector to ensure we don't miss any opportunities for learning. For example, we are expanding our incident review training program and incident review framework (page 18) to include guidance on creating a just culture, where staff and consumers feel safe to talk about adverse events.

We will continue to monitor this trend, particularly with the changes to sentinel event categories (page 11).

Figure 2: Trend in sentinel event notifications

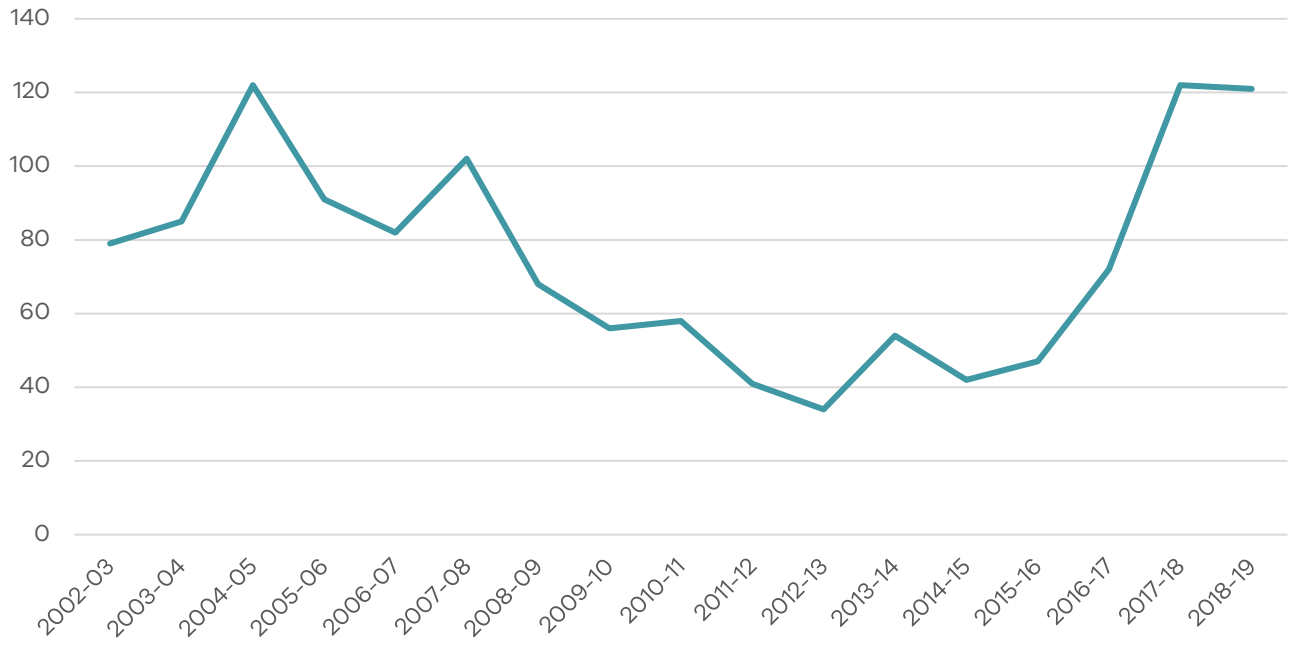
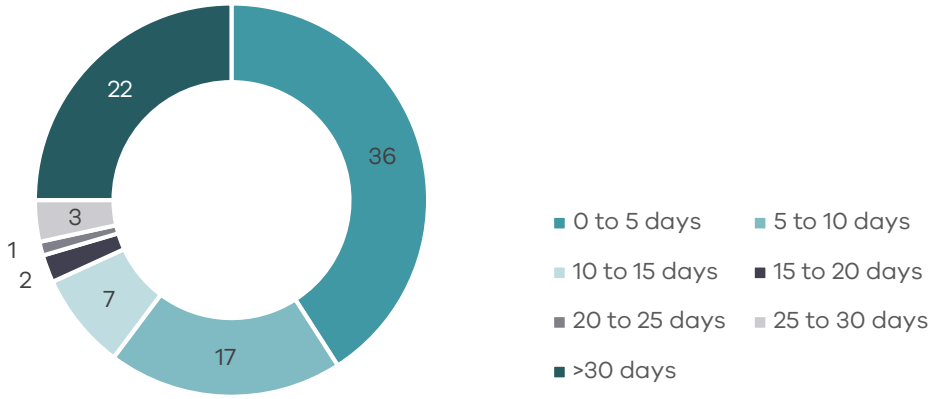


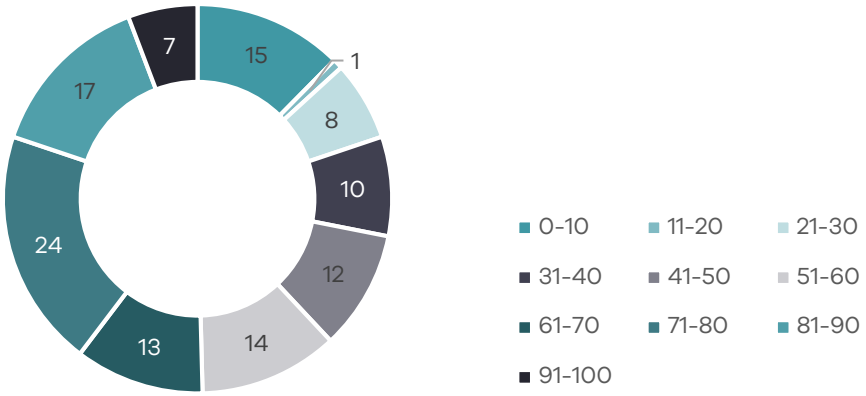
Figure 3: Timeliness of notifying of sentinel events 2018–19



Notifying SCV of sentinel events in a timely way is important because it initiates the sentinel event review processes. It also helps to send a clear message that these processes must be made an organisational priority.

Only 36 (30 per cent) of events were notified within three working days. Sometimes this is because health services are not immediately aware that a sentinel event has occurred. However, some health services initiated (or even completed) review processes before making a sentinel event notification. While we acknowledge more information is sometimes needed before confirming an event meets sentinel event criteria, unsubstantiated delays to sentinel notification reflects weak governance in an organisation. Our incident response team is available to provide advice to health services on whether a serious adverse event meets sentinel event criteria.

Figure 4: Age of patient affected by sentinel events 2018–19

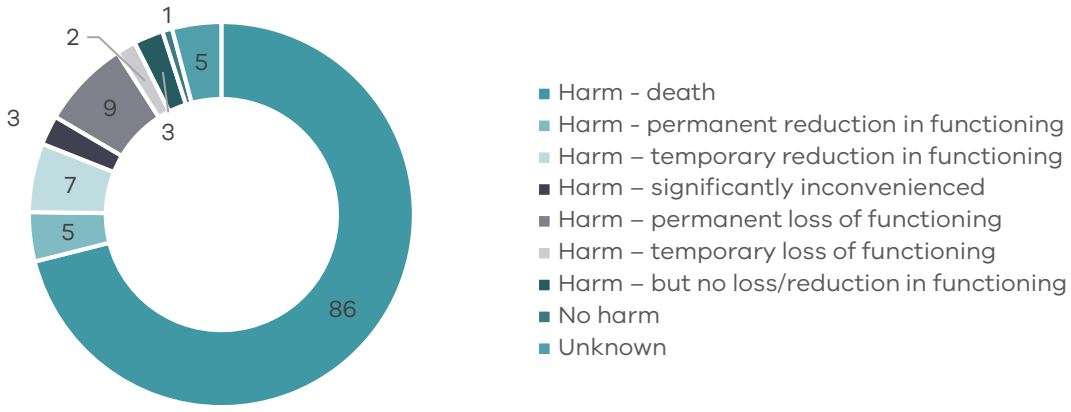


Sentinel events were noted for all age groups, with over-representation in the younger and older cohorts. This highlights challenges around communication with, and the vulnerability of, these age groups.

OUTCOME OF SENTINEL EVENTS

Of the 121 sentinel events notified in 2018–19, 86 (71 per cent) resulted in death of the patient. This compares with 76 per cent in 2017–18.

Figure 5: Degree of patient impact 2018–19



HEALTH SERVICE TYPE AND LOCATION OF SENTINEL EVENT

Sentinel events are more likely to occur in health services that treat more patients and provide more complex care. As to be expected, the highest number of sentinel events notified occurred in large tertiary hospitals and major hospitals.

Smaller health services in rural Victoria accounted for a third of notifications from public hospitals, which highlights their commitment to transparency and learning. This helps inform how SCV provides incident review training and other patient safety initiatives.

Figure 6: Health service type (public) 2018–19

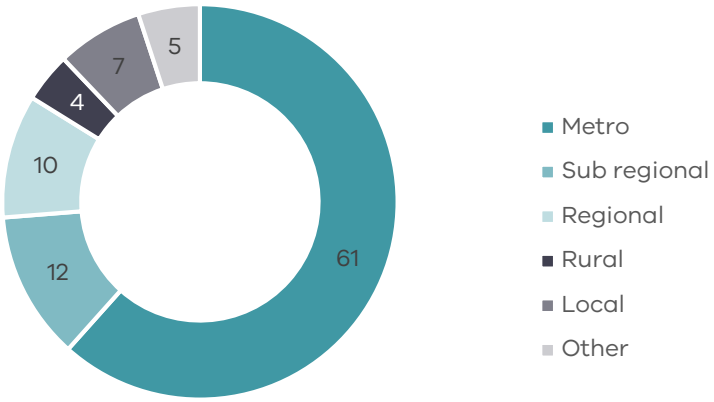
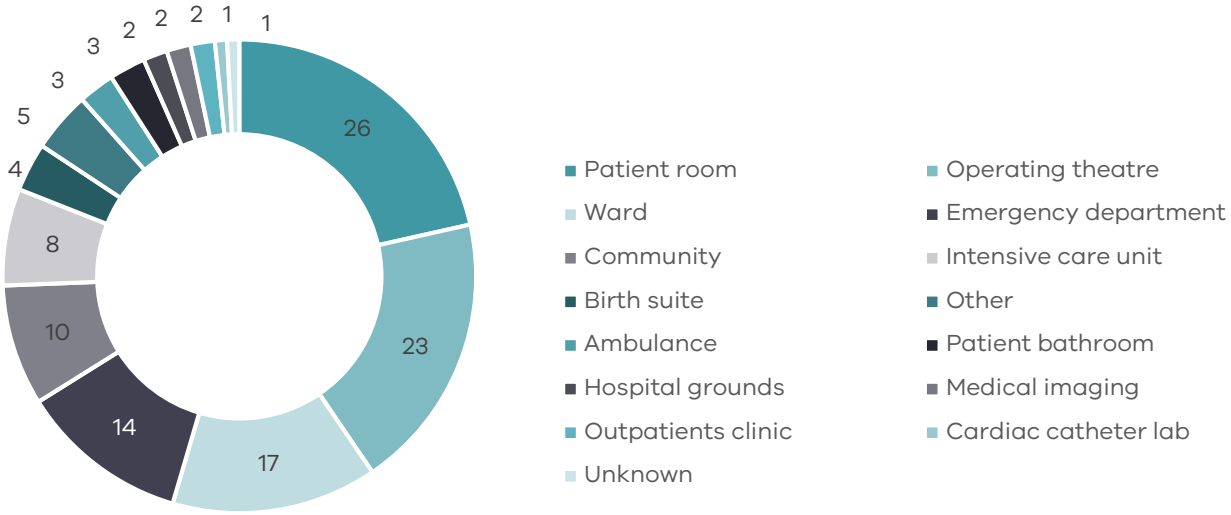


Figure 7: Location of sentinel event



Sentinel events occurred in a wide variety of locations.

Given patients spend most of their time on their ward or in their room, it is unsurprising that sentinel events, such as falls and medication errors, happen there more frequently. Operating theatres, intensive care units and emergency departments provide more complex care, with higher patient safety risks. When these risks ultimately lead to a sentinel event, this highlights the need to better understand and manage these risks through undertaking a RCA review.

CATEGORIES

The distribution of sentinel event notifications across the nine categories remains largely consistent with previous years.

Examples of notifications from each of the national sentinel event categories are detailed below.

There were no notifications for **Category 5. Haemolytic blood transfusion reaction resulting from ABO incompatibility, Category 7. Maternal death associated with pregnancy, birth and the puerperium** or **Category 8. Infant discharged to the wrong family.**

1. Procedures involving the wrong patient or body part resulting in death or major permanent loss of function

There was one event in this category, involving a central venous catheter that was incorrectly inserted into the femoral artery (rather than the femoral vein). Placement was not adequately checked at the time of insertion.

2. Suicide of a patient in an inpatient unit

There were five events reported by mental health facilities, compared to seven in 2017–18.

Locations included:

- a patient's room (mental health facility) – 3
- a patient's bathroom – 1
- outside the facility while the inpatient was on approved leave – 1.

Apparent patient suicides in other healthcare settings are also reported as **Category 9. Other catastrophic: ISR1** (page 14).

3: Retained (un-retrieved) instruments or other material after surgery requiring re-operation or further surgical procedure

There were 10 events in this category compared to 12 in 2017-2018. These events involved:

- laparoscopic peanut – 1
- laparoscopic stay suture – 1
- raytec swab – 1
- broken drill bit – 1
- surgical pack – 2
- portacath introducer – 1
- micro-clamp – 1
- drain tube – 1
- vaginal pack – 1.

In eight of the 10 cases the problem was recognised while still in surgery, however the instrument or other material was unable to be retrieved immediately. The additional risk of these items being left inside patients and requiring further surgery only confirms the need to undertake more analysis to understand what happened and to avoid it happening again. Insights from these events can inform changes to equipment design.

4. Intravascular gas embolism resulting in death or neurological damage

There was one event in this category at a day procedure centre where the patient under anaesthetic suffered an air embolism resulting in severe brain injury. No events occurred in this category in 2017–18.

6. Medication error leading to the death of a patient reasonably believed to be due to incorrect administration of drugs

There were five events in this category, compared to two in 2017–18.

Two events involved the incorrect prescription and administration of medication, one at 10 times the required dose.

In another event, the process of reconciling the patient's medications from home with those prescribed during their stay in hospital led to an erroneous tenfold increase in the patient's morphine dose.

The fourth event involved pain medication that became toxic due to a lack of appropriate systems to support its safe administration.

The fifth event involved administration of a medication to which the patient was known to be allergic.

CATEGORY 9. OTHER CATASTROPHIC: ISR1

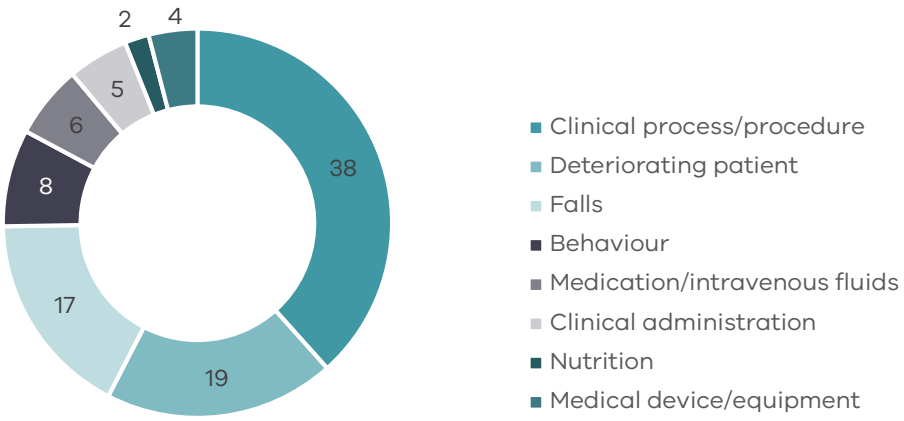
The proportion of notifications made under **Category 9. Other catastrophic: ISR1** remained in 2018–19 with a total of 99 events (82 per cent). These events resulted in serious harm or death to patients and could not be classified in one of the eight national sentinel event categories.

These events are further categorised using the International Classification for Patient Safety (ICPS) incident types, including:

- clinical process or procedure
- falls
- delay recognition or response to patient deterioration
- behaviour
- clinical administration
- medical device/equipment
- medication/intravenous fluids
- nutrition
- healthcare associated infection.

See **Appendix 1** (page 24) for a detailed description of the ICPS incident types.

Figure 8: Other catastrophic: ISR1 sentinel events reported 2018–19



There were no notifications relating to healthcare associated infection in 2018–19. In general, there was a significant increase in clinical process/procedure and a decrease in the number of falls and deteriorating patients.

Falls

Seventeen patients were harmed as a result of a fall while under the care of a health service compared to 25 in 2017–18.

Fourteen patients died, and two patients suffered significant harm.

Of those who fell:

- 17.5 per cent (3) were aged 61–70 years
- 35 per cent (6) were aged 71–80
- 17.5 per cent (3) were aged 81–90
- 30 per cent (5) were aged 91–100.

Ten of the falls occurred in the patient's room, with five of those occurring in their bathroom. Two occurred while the patient was on the ward but not in their room.

Two patients had a documented acute confusion (delirium) before their fall.

Clinical process/procedure

Thirty-eight patients were harmed or died as a result of failures in clinical processes. This compares to 25 patients in 2017–18.

Fifteen patients experienced inadequate or delayed assessments, leading to missed diagnoses.

Twelve patients were harmed as a result of procedures, treatments, or interventions not being performed when needed, or that were incompletely or inadequately performed. Events included the management of labour and birth (4), complications post-surgery (4), failure to properly insert an artificial breathing tube (2) and an inappropriate intervention (2).

One patient suffered permanent harm when an imaging scan was not performed when it was needed. Two involved errors in triage assessment for head injuries following a fall.

Delays in recognising or responding to patient deterioration

There were 19 sentinel events where delays occurred in recognising a deterioration in a patient's condition. This compares to 24 such events in 2017–18. Of these, 17 patients died, and two patients suffered permanent harm.

For eight patients, the worsening of their condition was not recognised quickly enough.

For another five patients, even though the worsening of their condition was recognised, there were significant delays in communicating the problem to the right people.

And six patients did not get the treatment they needed quickly enough, even though their needs were recognised and communicated.

Behaviour

Eight sentinel events involved patients who died from self-harm, including suspected suicide, while in the care of health services. This compares to 13 events in the previous year.

Of the eight, three patients left a health service without approval and before they were well enough to go home.

Two patients were on approved leave from a health service.

Another three died from apparent self-harm within 24 to 48 hours of being assessed by a health service.

Please note: sentinel events may also be reported as **Category 2. Suicide of a patient in an inpatient unit** (page 6).

Clinical administration

Five patients were harmed from events involving significant administrative errors compared to two in 2018–18.

For two of the five patients, abnormal test results were not communicated to the right specialist medical staff, which meant the patient did not receive urgent care when needed.

The remaining three patients did not receive follow-up tests as planned, leading to a substantial delay in a crucial diagnosis.

Medication and intravenous fluids

Six medication errors resulted in permanent or serious harm, the same as 2017-18. These included:

- not administering an anticoagulant (blood thinning medication)
- not following standard risk management for low blood sugar (glucose) levels
- erroneous administration of high blood pressure medication to a baby
- an error involving crucial medication (adrenaline) in resuscitation
- multiple system problems associated with a local anaesthetic wound infusion
- misunderstanding units of measure of an insulin dosage.

Please note: these sentinel events differ to **Category 6. Medication error leading to the death of a patient reasonably believed to be due to incorrect administration of drugs.**

Medical device/equipment

There were four events in this category compared to one in 2017-18. These involved:

- a delay in obtaining emergency equipment required for a critically ill patient
- a naso-gastric tube being inserted into the patient's lung by mistake causing severe infection and lung damage
- procedural and equipment complications during the implantation of a prosthetic heart valve
- a patient receiving severe burns after the oxygen being administered through nasal prongs was ignited by an electrical surgical device being used close by.

Nutrition

There were two events in this category, the same as in 2017–18.

In one, an aged care resident with known swallowing difficulties, died as a result of choking.

In the second, the patient was not provided with the specific type of nutrition they required. Eating regular food resulted in them not being able to swallow properly and the food went into their lungs.

THE YEAR AHEAD

New sentinel event categories

During 2018–19, the Australian Commission on Safety and Quality in Healthcare released revised national sentinel event categories. These categories came into effect on 1 July 2019. The new categories are listed below.

To help Victorian health services better understand these new categories, SCV released a 'Victorian sentinel events guide' available on SCV's website.

New sentinel event categories from 1 July 2019

1. Surgery or other invasive procedure performed on the wrong site resulting in serious harm or death

2. Surgery or other invasive procedure performed on the wrong patient resulting in serious harm or death

3. Wrong surgical or other procedure performed on a patient resulting in serious harm or death

4. Unintended retention of a foreign object in a patient after surgery or other invasive procedure resulting in serious harm or death

5. Haemolytic blood transfusion reaction resulting from ABO incompatibility resulting in serious harm or death

6. Suspected suicide of a patient in an acute psychiatric ward

7. Medication error resulting in serious harm or death

8. Use of physical or mechanical restraint resulting in serious harm or death

9. Discharge or release of an infant or child to an unauthorised person

10. Use of an incorrectly positioned oro- or naso-gastric tube resulting in serious harm or death

11. (Victoria only) All other adverse patient safety events resulting in serious harm or death

- clinical process and procedure
- falls
- deteriorating patients
- self-harm (behaviour)
- communication of clinical information
- medical device or equipment
- nutrition management
- resource or organisational
- healthcare associated infection
- patient accidents.

Michelle's story – my experience as an independent Root Cause Analysis (RCA) panel member

As an experienced paediatric nurse, Michelle was asked to be an independent panel member on a RCA team. The sentinel event under review involved a child who was given the wrong dose of a critical medication during cardiopulmonary resuscitation. From Michelle's point of view, including a nursing perspective was necessary to conducting a comprehensive and accurate RCA.

"It was critical that the sequence of events was mapped out in order to understand all the possible contributing factors. I learned there are many members of the team who are necessary to contribute to this overall picture, and nursing is one of them.

"I also learned the importance of looking well beyond the clinicians involved in the care of the patient to identify the system failures that contributed to the sentinel event and develop realistic useful recommendations. I have been reminded of the importance of supporting and encouraging staff to confidently and respectfully question clinical care processes, along with making clinical resources readily available.

"The RCA process was aided by a comprehensive guide that made the process clear and promoted well-organised teamwork.

"The team reviewing the event was integral to guiding me through the formal RCA process. I drew upon my experience having been involved in many similar clinical situations over the past 18 years, and I understand the role a nurse performs within a resuscitation team – including the pressure that is involved in a time-critical resuscitation. I'm also familiar with the resources, clinical practice guidelines, team dynamics and skill mix that can come into play.

"I found the whole experience extremely valuable both in learning the RCA process, and when considering all the factors at play. The staff leading the RCA were very open to the process and well organised, respectful and considered all input. I would encourage others to embrace participating in a RCA if offered the opportunity – even those inexperienced in the process will likely be surprised by what they can bring to the table, especially if they are open to the process. By sharing knowledge, participation in a RCA contributes to recommendations that will improve patient outcomes."

2. Reviewing

SCV requires health services to submit RCA reports within specified timelines. A timely response addresses consumer concerns and increases transparency. Pleasingly, in a continuing trend, health service timeliness has improved again in 2018–19.

Review teams also benefit from involving external members and consumer representatives who offer different perspectives, and who challenge biases and assumptions through the review.

Health services must:

- use RCA methodology to review sentinel events
- submit a RCA report to SCV within 30 working days (six weeks) from the time of notification
- include a member from outside of the health service on its review team to provide a level of independence and diversity in thinking.

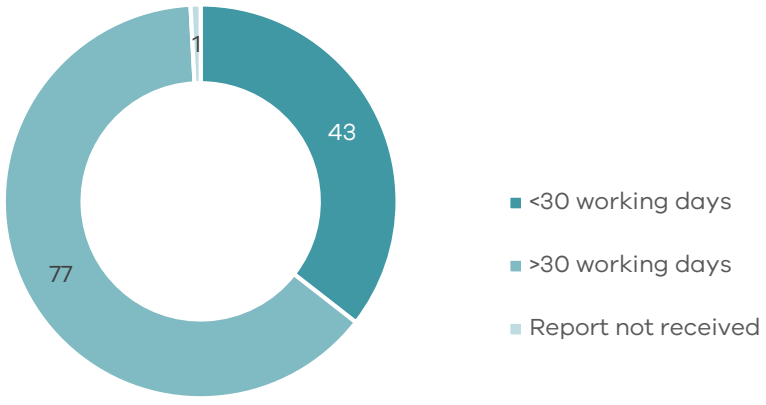
Best practice includes a consumer representative on the review team. This helps health services gain a patient and family perspective through the review.

TIMELINESS OF REPORT SUBMISSION

In 2018–19, we received 120 RCA reports from the 121 sentinel event notifications.

Of these, 43 reports (36 per cent) were submitted within the required 30 working days, an increase from 18 per cent in 2017-18. One report remained outstanding at 36 weeks after the sentinel event notification.

Figure 9: Timeframe of submitted RCA reports

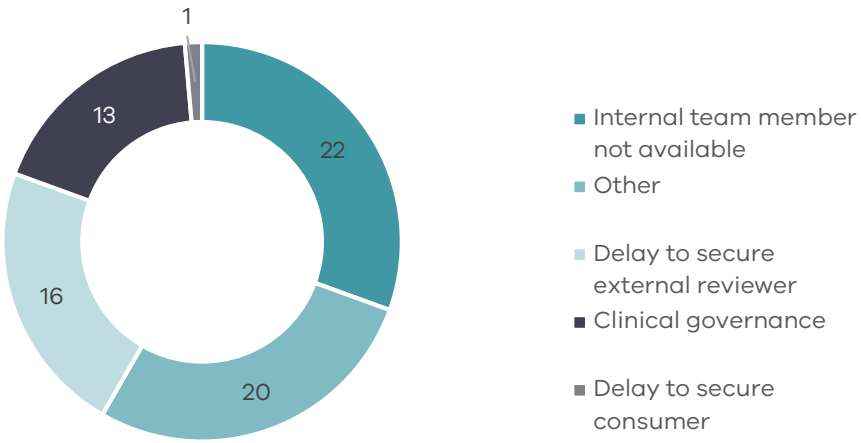


Sentinel events are often a symptom of systems issues that represent risks to patient safety. We believe identifying these systems issues is a matter of priority and must be addressed in a timely way so that other patients are not exposed to the same risks. That is why we set a 30-working day timeframe for reviewing sentinel events and submitting a RCA report.

Health services have told us that while they understand and agree with this rationale, they sometimes struggle to achieve it for many reasons (**Figure 10**).

In response to this feedback, and to ensure health services review sentinel events and identify systems issues in a timely way, we have changed how RCA reports are submitted. See 'Allowing more time to develop stronger recommendations' (page 18).

Figure 10: Reasons for extensions granted



If needed, health services can request extensions for their RCA report due dates. A first extension was granted on 72 occasions (60 per cent), with a second extension granted on 25 occasions.

Availability of team members, both internal and external, was the most common reason for seeking an extension. Internal team members not being available may mean that sentinel event reviews are not being given sufficient priority, or that an alternative internal staff member should be considered. All sentinel event reviews should have an executive sponsor able to address these barriers.

Finding external experts to participate in RCA teams is a different challenge. SCV's PEER (Panel of external expert reviewers) platform makes a wider range of independent external experts available, on a cost-neutral basis. We urge all public and private health services to encourage their clinical experts to apply for the PEER platform via the SCV website. This will make more experts available to participate in sentinel event reviews and decrease delays. Expanding the number and diversity of experts or both will benefit all services.

There was a significant decrease in clinical governance processes as a reason for extension in 2018–19 (33 per cent to 18 per cent). This is a good sign that more health services are prioritising learning and improving from sentinel events.

REVIEW TEAM MEMBERSHIP

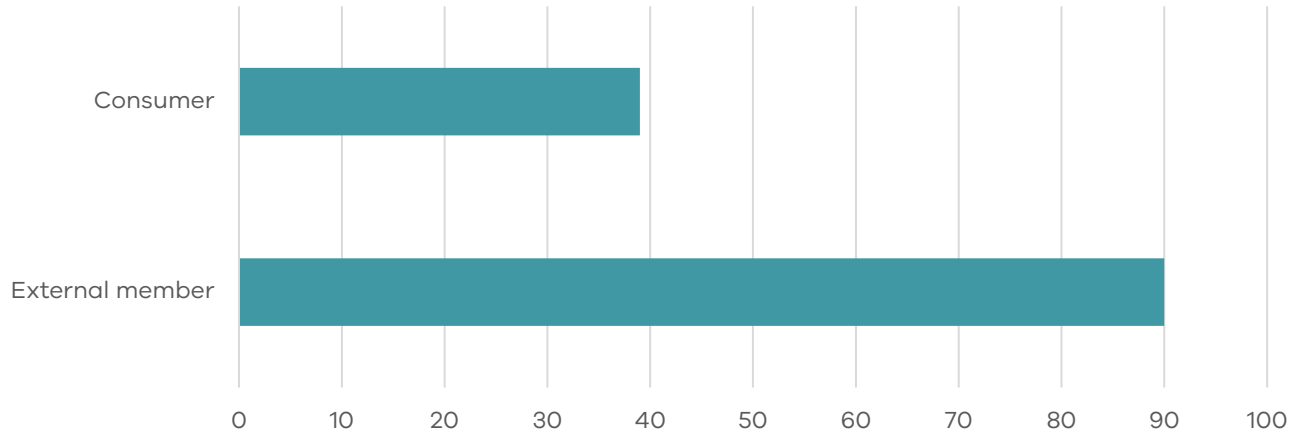
A team-based approach to reviewing sentinel events facilitates a broader range of perspectives on what happened, a more in-depth understanding of why it happened, and broader ideas on how safety can be improved as a result.

Having at least one RCA team member who is independent of the health service is an important part of ensuring sentinel event reviews are robust, fair and unbiased. Providing 'fresh eyes' to a sentinel event review, 90 review teams (85 per cent) included an independent external member who did not work at the health service. This figure is a slight increase on the previous year (80 per cent). However, all RCA reviews teams must include an independent external expert.

Similarly, including consumer representatives continually re-focus the thinking of the RCA team on the issues that matter most in healthcare – patient safety and experience. Offering a different perspective and an ability to challenge the norm, 33 per cent of RCA teams included consumer representation. This is also a significant increase on 2017–18 (17 per cent) and demonstrates a growing commitment to including the consumer voice in reviewing sentinel events.

To support this commitment, SCV developed guides for health services and consumer representatives, as well as a guide to paying consumers for review work. These guides can be found on the SCV website. Consumer representatives can now also attend SCV's incident review training, and the PEER platform is being adapted to include consumer profiles. As with independent external experts, it is important that the expertise provided by consumer representatives is included in all RCA review teams.

Figure 11: External independent and consumer representation on review teams



RECOMMENDATIONS

Based on in-depth analysis of sentinel events, RCA teams make recommendations for improvement as a key part of the review process. In total, arising from sentinel events in 2018–19, health services are now implementing 603 recommendations to make their systems of care safer.

Some improvements are considered to be more effective than others in making healthcare safer. See **Appendix 2** (page 25) for the approach SCV uses to assess the effectiveness of recommendations.

Of the 603 recommendations:

- 439 (73 per cent) were assessed as weak
- 119 (20 per cent) as moderate
- 45 (7 per cent) as strong.

In comparison, there were 466 recommendations in 2017–18 of which 11 per cent were strong and 47 per cent moderate.

As can be seen from **Table 2** (page 17), stronger recommendations, such as architecture and physical changes, new devices, engineering and simplifying processes, have remained steady. Weaker recommendations, such as double checks and training, have more than doubled and form a larger proportion of recommendations in 2018–19.

While the detail of recommendations varied greatly, common themes were found across sentinel event categories. Changing or developing new policies, procedures and guidelines were the most common (50 per cent), followed by education and training (21 per cent). While these are an important part of building safer systems of care, they are much less effective than other patient safety strategies. Stronger systems improvements based on human factors, safety science and the expert perspectives of clinicians and consumers are needed.

Seven sentinel event reports did not have any recommendations. This is more than in 2017–18 when three RCA reports were submitted without recommendations. This is disappointing. Sentinel event reviews provide an in-depth look at complex systems and are a significant resource investment. It's unfortunate that this combination would result in no recommendations for improvement. Health services, their leaders and systems of clinical governance must work to ensure their sentinel event review processes are thorough and well-resourced, and that RCA review teams apply human factors and systems thinking in all facets of sentinel event review.

SCV will continue to provide advice and support to ensure RCA reports do not fail to contribute to safer patient care.

Table 2: Breakdown of recommendation categories

Recommendation category	Number	Percentage	Recommendation category	Number	Percentage
Architectural/ physical changes	15	3%	Standardise communication tools	28	2%
New devices with usability testing	11	2%	New policy/procedure/ memo/audit	300	50%
Engineering/ forcing functions	9	4%	Training	129	21%
Simplify process/ remove steps	10	>2%	Software enhancement	23	4%
Tangible leadership	9	>2%	Decrease distractions	2	>1%
Redundancy	2	>1%	SIM training plus refreshers	8	1%
Staffing and workforce	20	3%	Checklist list/cognitive aid	35	6%
Remove look-alike/sound-alike	1	>1%	Warnings	1	>1%

Improving the quality of recommendations

While the total number of recommendations has increased this year, the strength of those recommendations is important.

Since 2017, SCV has been working to improve the quality of recommendations from health services. For example, we extended the time allowed to submit recommendations, encouraged consultation with experts, consumers, clinicians and management, and expanded our incident review training. We also actively engage with health services through our quality assurance process to make sure reviews result in recommendations that are more effective in addressing any identified systems problems.

Some examples of strong recommendations in 2018–19 include:

- installing anti-ligature handrails which are suitable for older patients
- providing cordless equipment in wards to reduce trip hazards
- adjusting bathroom doors to allow easier access and reduce the likelihood of falls
- diverting after-hours phone calls to a 1800 service to ensure continuity of access to important information.

THE YEAR AHEAD

Adverse patient safety event framework

In 2020, SCV will progressively release an 'Adverse Patient Safety Event Framework' designed to support the 'Adverse Patient Safety Event Policy' published in August 2019. The framework will provide information and templates to guide health services in:

- reviewing adverse events in a robust, transparent and systems-oriented way
- choosing from a wider range of updated and contemporary review methodologies, including RCA[2], London Protocol and Accimap
- applying human factors and systems thinking to design improvements that prevent sentinel events from recurring
- conducting open disclosure when an adverse event may have affected numerous patients
- creating a safer environment for reporting sentinel events through a just culture approach (page 23).

Including consumer representatives on PEER

Following the successful launch of the PEER platform to provide external experts for review panels, the service will be expanded in 2019–20 to include consumer representatives. This will help health services who are still developing systems to support the role of consumers in sentinel event reviews. It may also help rural health services that face different challenges associated with small and often close communities by making consumer representatives available from other geographic areas.

Allowing more time to develop stronger recommendations

From July 2019, SCV changed the timeframes and process for submitting RCA reports to provide additional time to develop stronger, more effective recommendations. Health services are now required to submit RCA reports in two sections. Parts A and B provide the RCA analysis and the findings, and are still due within 30 business days (six weeks) of the sentinel event notification. Health services now have an additional 20 business days (four weeks) to submit part C, which includes the recommendations and an action plan.

This means RCA teams can share their findings with relevant groups such as frontline clinicians, consumer representatives and other expert groups to gain input into what would work (and not work) to address any identified systems issues. This reflects a more contemporary safety approach (Safety II) by ensuring recommendations (or work-as-imagined) are informed by those who provide and experience healthcare (or work-as-done). Hopefully the resultant recommendations will be stronger and more effective in improving safety in complex systems of healthcare.

Case study – how a health service became safer after a sentinel event

The mis-interpretation of the position of a naso-gastric tube (NGT) on a chest X-ray and the unexpected deterioration and death of a patient triggered a sentinel event at a health service.

"NGTs are an invasive medical intervention associated with a range of serious risks and all staff should maintain a high index of suspicion for complications in any patient with a NGT," the Director Quality, Safety and Patient Experience at the health service said.

Reflective of the risks and available safety strategies associated with this procedure, the Australian Commission on Safety and Quality in Healthcare updated sentinel event categories to include **Category 10. Use of an incorrectly positioned oro- or naso-gastric tube resulting in serious harm or death**.

"Through the RCA process, it was identified the organisational 'Adult NGT Insertion and Management' procedure in place at the time of the sentinel event did not adequately support early recognition of patient deterioration following commencement of naso-gastric feeds. The procedure did not specify how medical staff should document confirmation of NGT placement or confirm suitability for commencement of NGT feeding in the patient's medical record.

"At the time of this incident, there was no standardised organisational risk assessment of patient or environmental factors in relation to the timing of commencement of NGT feeds, or requirements for enhanced observation once NGT feeds commence."

Once the RCA was completed, the relevant Divisional Director and Clinical Services Director presented the case to the Serious Adverse Events Committee, chaired by the Chief Medical Officer. The committee discussed approval of the recommendations arising from the RCA investigation process.

The RCA review has ultimately led to better practice being adopted across the service.

"The Adult NGT Insertion and Management procedure was updated, specifically addressing the gaps the RCA investigation identified in the previous version. The updated Adult NGT Insertion and Management procedure was formally endorsed by the internal Safe Care Committee in September 2019."

It has also resulted in improvements in staff education, and ultimately patient outcomes.

"To facilitate adoption of practices outlined in this procedure, education has been given at intern orientation, and medical Grand Round education sessions. The updated procedure is accessible to all staff on the organisational intranet site. Online education modules are currently under development for medical and nursing staff. The Serious Adverse Events Committee, and the Division of Quality, Safety and Patient Experience have provided oversight and assisted with completion of the recommendations from the RCA."

3. Improving

SCV has changed the way it works with health services to support their progress after a sentinel event review. After setting clear expectations, we received significantly more risk reduction action plan (RRAP) feedback reports this year. While this is encouraging, we will work to increase this number further – using what has been learned from sentinel events and making the changes needed to prevent reoccurrence.

Health services must submit a RRAP feedback report to SCV **three months** after the RCA report was submitted.

This report includes:

- progress in implementing the recommendations made in RCA reports
- evaluation of their impact on quality and safety.

This is often referred to as 'closing the loop'. It is an important opportunity for health services to share how they are providing safer, better healthcare as a result of lessons from a sentinel event.

Occasionally, health services find some recommendations are ineffective or have unintended consequences. Finding out what doesn't work is also important. RRAP feedback reports are an opportunity for health services to tell us what has worked and hasn't worked, so that SCV can share these with other health services, where appropriate.

HOW HEALTH SERVICES IMPROVED

During 2016–17, SCV received just two RRAP feedback reports (3 per cent). In 2017–18 that increased to 42 (35 per cent). This year we received 65 (53 per cent) reports.

Although this is a significant improvement over time, we still don't know the outcome of half the recommendations made from RCA reviews. This is not to say that recommendations were not implemented or that the subsequent safety improvements were not effective. However, we are missing opportunities to understand which recommendations are effective (or ineffective) in improving safety. It also means we have fewer opportunities to share patient safety initiatives with other health services. We will continue to work with health services to improve the number and quality of RRAP feedback reports submitted.

Improving the quality of reviews and reports

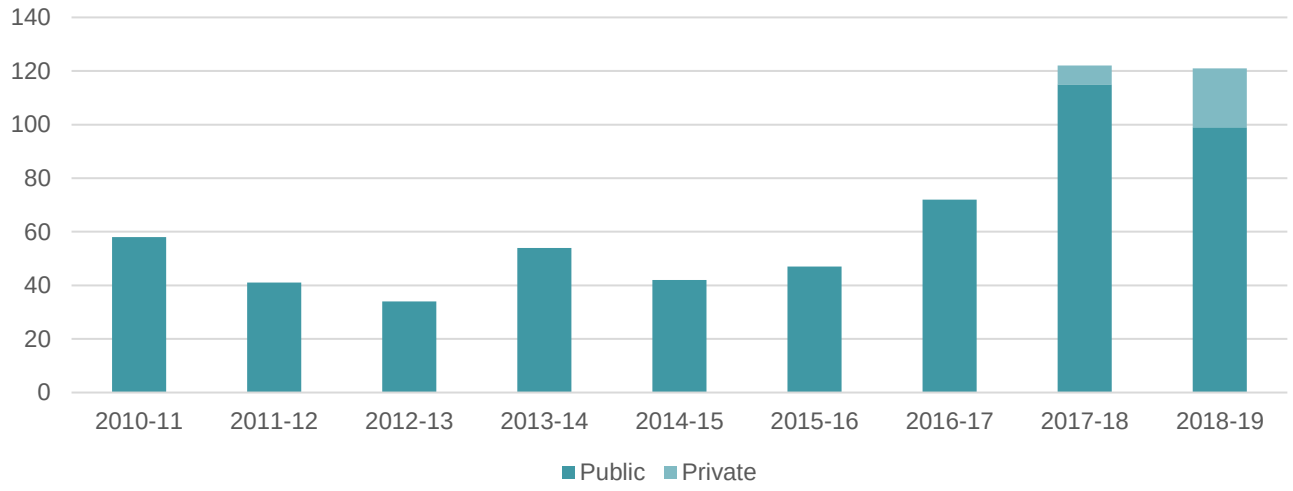
Of 120 RCA reports submitted, SCV completed a quality assurance assessment on 116 (98 per cent). Only two reports did not meet the minimum standard so required further review, compared to 14 (2 per cent) the previous year. This suggests that health services are getting better, undertaking more robust reviews that result in safer systems of care.

This process also gives us the opportunity to provide feedback to health services about their strengths and how they can improve future reviews. We provided this feedback within an average of eight weeks of health services submitting their RCA reports.

Reviewing sentinel events in private health services

Corresponding with legislative changes that mandated sentinel event notifications for all health services, the number of sentinel events reported from private health services increased significantly this year.

Figure 12: Number of sentinel events reported public compared with private health services



There was no obvious difference in the pattern of events reported from the private sector. Only two sentinel event reviews had a consumer on the RCA panel. And there were some delays in preparing reports, with only three being submitted within the required timeframe.

There was no apparent difference in the sentinel event types reported. The admitting specialty was more likely to be a surgical specialty, which may reflect the skew towards procedural work in the private sector.

Most private hospitals have well established and robust systems of reviewing sentinel events, which are generally consistent with SCV requirements, and some have the support of national quality and safety teams. With support from the Department of Health and Human Services Private Hospitals Unit, we will continue to remind private health services of their obligation to notify sentinel events to SCV. We offer the same support and advice regarding sentinel events to all health services, regardless of whether they are public or private.

THE YEAR AHEAD

Throughout 2018-19, we have been listening carefully to patients and their families, clinicians and health services. In response to what they have said, we will implement a number of improvements.

Incident review training

SCV is diversifying its incident review training in 2020, with updated and contemporary adverse event review methodologies, including RCA[2], London Protocol and AcciMap. We will offer training in managing cognitive bias and cognitive interviewing methods. We will also pilot a train-the-trainer program in just culture to better support health services to deliver their own training on this important topic.

This diversified training is aimed at:

- enhancing the capability of health services to conduct robust reviews of sentinel events and other adverse patient safety events
- providing health services with a choice of review methods that may provide a more effective approach to reviewing specific types of sentinel events
- helping review teams understand the role of cognitive bias as a contributing factor to sentinel events, as well as helping to manage their own bias in review processes
- helping ensure interviews conducted during review processes better capture the memory, perceptions and understanding of those involved in the sentinel event and minimise the influence of the interviewer
- promoting a more balanced, systems-oriented approach to reviewing sentinel events and tackling the problem of blame when sentinel events occur
- contributing to a safer environment for reporting adverse events for health service staff and consumers.

By strengthening knowledge and skills in these areas, we believe there will be an even stronger focus on continually improving the quality and safety of healthcare provided to patients, carers and their families.

Revised recommendation monitoring

SCV is launching a new process for monitoring the implementation of recommendations. This will help provide greater transparency of follow through on recommended actions from sentinel event reviews and assurance of safer systems of care as a result.

Based on their feedback and the challenges they face in implementing change in complex systems, health services will be given more time (120 business days or six months) from the date of sentinel event notification to submit a recommendation monitoring report. This has replaced the RRAP feedback report and has been designed to better capture the lessons learned from implementing RCA report recommendations, including what worked, what didn't work and what had to be done differently.

SCV will also pilot a program in which a random sample of recommendation monitoring reports will be audited for evidence that the recommendations have been implemented and their impact on quality and safety evaluated.

Spotlight on just culture

Reviews of sentinel events and other adverse patient safety events in healthcare are often hampered by a subtle but pervasive culture of blame. This includes naming, shaming, blaming, re-training and sometimes even firing individuals thought to be responsible for the occurrence of the event. Consequently, any system factors that contributed to the adverse event often remain hidden. They are not addressed and potentially put future patients at risk. A culture of blame also means that important opportunities to learn, improve and restore trust in our healthcare system are missed. As evident in Anthony's experience (page 1), trust in our systems of care and in each other are often shaken or damaged.

Just culture offers a very different perspective. Often viewed as a key component of safety culture, just culture balances accountability between the organisation and individuals:

- The organisation is accountable to provide systems and processes that set clinical care up for success
- Senior leaders are accountable for making safety a priority and ensuring adverse events are reviewed fairly
- Individuals are expected to come to work with good intention and fit for duty.

Most importantly, a just culture emphasises that making mistakes is a normal and expected part of being human. We all make mistakes.

When applying a just culture approach to reviewing sentinel events, subtle expression of blame culture can be avoided by asking different types of questions: 'what are my biases?', 'what made sense to those involved at the time?', 'were staff in the event set up for success by the system?', 'what needs to be done to improve?' and 'how do we share our lessons and restore trust?'

Consciously managing each other's biases is critical to limit the influence of unspoken assumptions, avoid blame, and keep an open mind. It requires systems thinking that emphasises that adverse events are usually the result of multiple coincidental system deficiencies, not solely from individual failure.

There is a specific focus on those affected by an adverse event: patients and their family/carers, clinical staff, the broader organisation and community. It requires practical attention to meeting their needs and undertaking the work needed to restore their trust in the health service and the broader healthcare system.

A just culture promotes an environment where both staff and consumers feel safer to speak up, report errors and help the organisation to learn from mistakes. It can give consumers like Anthony and his family greater confidence that, when a sentinel event occurs, what went wrong and why is understood and communicated openly, and effective changes are made to prevent it from happening to someone else.

Just culture is central to SCV's sentinel event program. Taking a just culture approach is not easy, but it is necessary if we want to get the most out of sentinel event reviews and improve the safety of care.

Appendix 1 – International Classification for Patient Safety (ICPS) incident types

Sub-theme	Description
Clinical process/procedure	Diagnosis/assessment (not performed when indicated, incomplete/inadequate, other) Procedure/treatment/intervention (not performed when indicated, incomplete/inadequate, wrong body part/side/site, other) Tests/investigations (not performed when indicated, wrong patient) Specimens/results (wrong patient, mislabelling)
Falls	Mortality or permanent harm relating to a fall i.e. slip with head strike resulting in death
Deteriorating patient	Recognition, escalation or response to patient deterioration
Behaviour	Behaviour that is associated with temporary or permanent harm i.e. intended self-harm or suicide
Clinical administration	Incident involving a process or problems with the administration of clinical information i.e. waitlist delay, inter-hospital transfer delay, delay to ultrasound, delay to referral
Medical device/equipment	An error associated with a medical device/equipment or property i.e. dislodgement or misconnection of a device, equipment that is inappropriate for the task
Medication	An error with the process of delivering a medication to a patient that causes harm i.e. incorrect prescription, dispensing, administration, packing or monitoring of a medication
Nutrition	Related to an error with a process involving nutrition i.e. choking, incorrect diet ordered or delivered
Resources/organisational management	Events where lack of resources and deficiencies in organisational management contribute to error i.e. workload mismanagement, staff availability, bed availability
Documentation	Error associated with documentation i.e. incorrect labelling, diagnostic reports, procedures/guidelines, ambiguous or illegible information
Healthcare associated infection	An infection acquired in the healthcare setting i.e. bacterial blood stream infection, surgical site infection, intravascular device
Patient accidents	Patient harmed in care by accident i.e. bed entrapment, drowning

Appendix 2 – Recommendation hierarchy

Recommendation strength	Recommendation category	Example
Strong actions	Architectural/physical changes in surroundings	Replace revolving doors at the main entrance into the building with powered sliding or swinging doors to reduce patient falls
Strong actions	New devices with usability testing	Perform pre-purchase testing of blood glucose monitors and test strips to select the most appropriate for the patient population
Strong actions	Engineering control (forcing functions which force the user to complete the action)	Eliminate the use of universal adapters and peripheral devices for medical equipment; use tubing/fittings that can only be connected the correct way
Strong actions	Simplify process and remove unnecessary steps	Remove unnecessary steps in a process; standardise the make and model of medication pumps used throughout the service; use barcoding for medication administration
Strong actions	Tangible involvement by leadership	Participate in unit patient safety evaluations and interact with staff; support the RCA process; purchase needed equipment; ensure staffing and workload is balanced
Moderate actions	Redundancy	Use two registered nurses to independently calculate high-risk medication dosages
Moderate actions	Increase in staffing/decrease in workload	Make float staff available to assist when workloads peak during the day
Moderate actions	Software enhancements or modifications	Use computer alerts for drug–drug interactions
Moderate actions	Eliminate/reduce distractions	Provide quiet rooms for programming patient-controlled analgesia pumps; remove distractions for nurses when programming medication pumps
Moderate actions	Education using simulation-based training with periodic refresher sessions/ observations	Conduct patient handover in a simulation lab environment, with after-action critiques and debriefing
Moderate actions	Checklist/cognitive aids	Use pre-induction and pre-incision checklists in operating rooms; use a checklist when reprocessing flexible fibre optic endoscopes
Moderate actions	Eliminate look- and sound-alikes	Do not store look-alikes next to one another in the medication room
Moderate actions	Standardised communication tools	Use read-back for all critical lab values; use read-back or repeat-back for all verbal medication orders; use a standardised patient handover format
Weak actions	Double checks	One person calculates dosage, another person reviews their calculation
Weak actions	Warnings	Add audible alarms or caution labels
Weak actions	New procedure/memorandum/policy	Remember to check IV sites every two hours
Weak actions	Training	Demonstrate the defibrillator during an in-service training

Terminology used

Adverse event An incident in which a person receiving healthcare was harmed

Australian Commission on Safety and Quality in Health Care (ACSQHC) Leads national improvements in safety and quality in healthcare

Consumers Patients and potential patients, their families, carers and organisations representing consumer interests

Delirium A sudden onset of fluctuating consciousness, attention, cognition and perception in a person

Department of Health and Human Services Leads policy development, service and funding design, and system management in Victoria

Emergency department An area of a hospital that provides emergency care for the community

Governance The system by which an organisation is controlled and operates, and the mechanisms by which it, and its people, are held to account

Haemolytic blood transfusion reaction A complication that occurs when blood given during a transfusion is destroyed by the patient's immune system

Human factors A science focused on the interaction between humans and systems in complex environments (like healthcare)

Incident severity rating (ISR) The severity of impact to a patient when an incident occurs. ISR is measured on a scale of 1 to 4 (with 1 being catastrophic)

International Classification for Patient Safety (ICPS) A World Health Organization (WHO) approach to grouping patient safety information

Intravascular gas embolism A situation in which air or gas bubbles enter a blood vessel

Naso-gastric tube (NGT) A special tube that carries food and medicine to the stomach through the nose

Open disclosure The way clinicians communicate with and support patients, and their family and carers, who have experienced harm during healthcare

PEER (Panel of external expert reviewers) An online platform to connect Victorian health services with independent experts that can participate in RCA reviews

Quality assurance Part of quality management focused on providing confidence that quality requirements will be fulfilled

Root cause analysis (RCA) A method of problem solving that can be used to review serious events

Risk reduction action plan (RRAP) feedback report A report health services submit to SCV that monitors the implementation of RCA recommendations

Safety II An emerging view of safety in which our ability to adapt to varying conditions is the reason why everyday work is safe most of the time

Sentinel event categories A national list of eight adverse events that result in death or serious harm to a patient. The Australian sentinel events list was endorsed by Australian health ministers in 2002. Victoria also follows a ninth category

Work-as-imagined An idealised view of work under normal conditions that disregards the need to adjust task performance to match changing work conditions

Work-as-done Describes how work actually happens in complex context

Support and advice

As the state's lead agency for healthcare quality and safety, SCV assumed responsibility for the Victorian sentinel events program when it was established in January 2017.

For advice on sentinel event notification, review and improving systems of healthcare, please contact the incident response team at sentinel.events@safercare.vic.gov.au.

For more information, please go to **safercare.vic.gov.au**

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We share sentinel event case studies, resources, examples of high-quality reviews and procedural tips and advice through our SCV newsletter.

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