ANNUAL REPORT 2022

Victorian Perioperative Consultative Council

Safer Care Victoria

Improving care, before, during and after surgery

Acknowledgement of Country

We proudly acknowledge Victoria's Aboriginal communities and their rich culture and pay respect to their Elders past and present. We acknowledge Aboriginal people as Australia's First Peoples and as the Traditional Owners and custodians of the land and water on which we rely. We recognise and value the ongoing contribution of Aboriginal people and communities to Victorian life and how this enriches us. We embrace the spirit of reconciliation, working towards the equality of outcomes and ensuring an equal voice.

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Contents

Abbreviations and acronyms

ANZCA – Australian and New Zealand College of Anaesthetists

ANZELA-QI – Australian and New Zealand Emergency Laparotomy Audit – Quality Improvement

ANZHFR – Australian and New Zealand Hip Fracture Registry

CCOPMM – Consultative Council on Obstetric and Paediatric Mortality and Morbidity

ASC – Anaesthetic Subcommittee (of VPCC)

EL – emergency laparotomy

GIRFT – Getting It Right First Time (program)

NELA – National Emergency Laparotomy Audit

OSA – obstructive sleep apnoea

PLHN – Perioperative Learning Health Network

RACS – Royal Australasian College of Surgeons

SCV – Safer Care Victoria

SSC – Surgical Subcommittee (of VPCC)

VASM – Victorian Audit of Surgical Mortality

VAHI - Victorian Agency for Health Information

VCCAMM - Victorian Consultative Council of Anaesthetic Mortality and Morbidity

VIFM – Victorian Institute of Forensic Medicine

VPCC – Victorian Perioperative Consultative Council

VSCC - Victorian Surgical Consultative Council

VTE – venous thromboembolism

About the Victorian Perioperative Consultative Council

The Victorian Perioperative Consultative Council (VPCC) investigates and reviews cases of perioperative mortality and morbidity in Victoria to improve outcomes for patients before, during and after surgery.

About us

The VPCC was established as a multidisciplinary council in 2019 to build on the work of the former Victorian Consultative Council of Anaesthetic Mortality and Morbidity (VCCAMM) and the Victorian Surgical Consultative Council (VSCC). The VPCC membership includes experts with a surgical, anaesthetic, nursing, consumer or other medical backgrounds, who bring their diverse experiences, expertise, perspective and lived experience to the council's agenda and deliberations.

The VPCC identifies improvement opportunities in perioperative care and shares these with the health sector for the benefit of patients, their families and the wider healthcare community.

Safer Care Victoria (SCV) supports the VPCC in its functions through, but not limited to, providing secretariat support, data analysis, communication and publication.

Reporting

The VPCC reports to the Minister for Health. It aims to improve perioperative care through engaging with clinicians and health services, SCV, the Department of Health (including via sentinel event reports), the Victorian Agency for Health Information (VAHI), the Victorian Audit of Surgical Mortality (VASM), the Coroner's Court of Victoria and Clinical Quality Registries.

Case reviews inform the lessons learned and identify emerging safety themes. The council's 2 subcommittees, the Anaesthetic Subcommittee and the Surgical Subcommittee, analyse the cases. These subcommittees also have multidisciplinary and consumer membership. Timely reporting of mortality and morbidity to the VPCC enables it to carry out its legislated functions effectively.

Health services and clinicians are encouraged to also report perioperative morbidity and mortality directly to the VPCC online, via the website or via the VPCC e-form.

About the Victorian Perioperative Consultative Council continued

Governing legislation

The VPCC operates in accordance with sections 33–43 of the *Public Health and Wellbeing Act 2008* (the Act). Any discussions involving the identity of patients, clinicians or health services are protected under Victorian legislation.

- Under s 39 of the Act, the chair of a consultative council may request general or specific information from a Victorian health service provider or pathology service which the chair considers is necessary to enable the council to perform its functions.
- Section 40 of the Act provides that the health service provider is authorised to provide such requested information.
- Section 41 of the Act outlines the circumstances in which the council can disclose information.
- Sections 42 and 43 of the Act describe the confidentiality obligations that apply to the council.

Membership

Members of the council are appointed by the Minister for Health for a 3-year term. Members may serve multiple terms if renominated and subsequently reappointed. Council subcommittees are formed subject to the approval of the minister, while membership is determined by the council. The council may hold workshops, form working groups and commission other activities, as necessary.

Full details of the members of VPCC and its subcommittees are included in **Appendix 1**.

Chair's report

The year of this report, 2022, marked a period of transition and consolidation for the VPCC. The council was formed in 2019 to assume and improve on how we identify and report on preventable harm in perioperative care in Victoria. The council's work, like that of of the then Department of Health and Human Services as a whole, was subsumed by the need to optimise care, communication and resources during the COVID-19 pandemic.

The inaugural chair, Professor David Watters, with the support of the council, its subcommittees and staff, created effective networks to guide consistency in surgical and anaesthetic approaches during the pandemic. During this time the council also tackled important areas of clinical practice and review, but from the start of 2022 the council refocused on its core responsibilities. During this period the council conducted workshops on managing high-risk patients, especially those with obstructive sleep apnoea, and on emergency laparotomy processes, taking a view on Victorian and national data from the Australian and New Zealand Emergency Laparotomy – Quality Improvement (ANZELA-QI) project. It remains a challenge to engage sufficient Victorian hospitals in these projects, as well as in registries such as the Australian and New Zealand Hip Fracture registry, to enable service-wide insights to be gained. The council is working with Safer Care Victoria (SCV) and the Department of Health to improve health service participation in these important areas, which enable benchmarking of performance and improving quality of care.

An overarching theme that emerges from cases examined during 2022 is that of communication and how a failure of communication can lead to poor clinical outcomes and distress for patients and those close to them. Many of these areas are highlighted in this report. They are not new or novel but range from the need for clinicians to communicate appropriate expectations of risk and outcome, for medical and nursing staff to effectively hand over care when transferring patients within and outside of hospital, and for clear, honest and compassionate conversations with those affected by adverse outcomes. The new Duty of Candour legislation is relevant to the latter if serious patient harm has occurred. It moves us a step further in our obligations over and above the well understood Open Disclosure framework.

An overarching theme that emerges from cases examined this year is that of communication

Chair's report continued

Looking ahead, the VPCC will aim to increase its 'perioperative medicine' engagement and increase the awareness of its work in the health sector, working under strengthened legislation that includes clear standards of confidentiality and reporting. This will ensure lessons for preventable harm can be identified, implemented and followed up (sometimes called 'Safety-I'). We are also working with SCV and other organisations towards identifying and strengthening the processes that make things go correctly ('Safety-II'), hence the section on the Getting It Right First Time (GIRFT) program in this report.

Finally, changes within the VPCC have included Prof. David Watters taking on the role of Director of Surgery for SCV and stepping down as VPCC chair. A/Prof. Phillipa Hore took on the acting role as chair until I was appointed in September. I would like to acknowledge and thank both Prof. Watters and A/Prof. Hore for their significant and ongoing contributions to the council and its work. I would also like to thank the members of the Consultative Council Unit, based at SCV, who support the activities of the consultative councils so well.

David A Scott
VPCC Chair

Safety-I & Safety-II

Safety-I is learning from 'what went wrong' (preventing errors by identifying opportunities for improvement).

Safety-II is learning from 'what went well' and repeating it (i.e. identifying aspects of care that prevented or mitigated harm).

Safety-I has an important place in practice because we must learn from our mistakes or weaknesses, but it is, by its very nature, reactive. On the other hand, Safety-II strategies seek to be proactive by implementing best practice standards (refer to Figure 1).

With Safety-I, traditionally the mainstay of the work is case review, as is done by the VPCC subcommittees, to derive learning points and recommend system improvements that improve patient outcomes and safety within our health services.

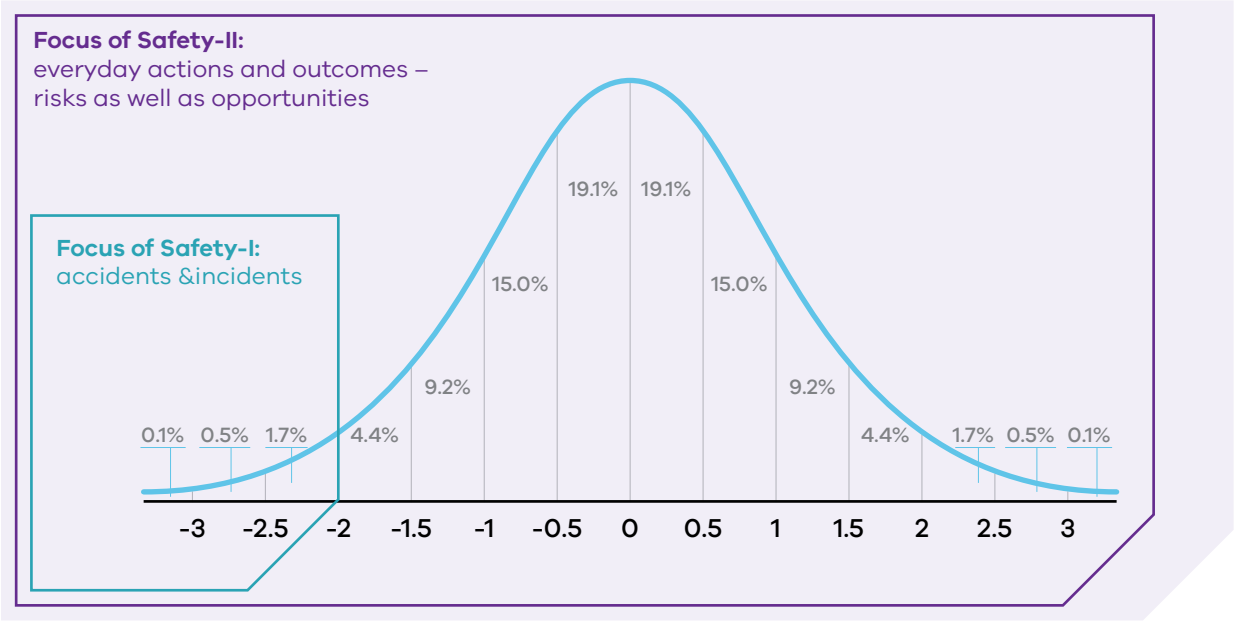
Safety-I & Safety-II continued

Aspects of Safety-II being supported by the VPCC include recommending the conduct of quality improvement audits (e.g. ANZELA-QI), implementing clinical practice standards and adopting programs such as 'Getting It Right First Time'. These are highlighted in this report.

Using this framework enables a more comprehensive and nuanced approach to capturing key safety messages from referred cases and assists when making recommendations for practice. Our VPCC consumer members have been instrumental in helping develop a patient/carer perioperative safety theme as part of this model, emphasising the need for effective bilateral communication between patients (and their families/carers) and healthcare staff.

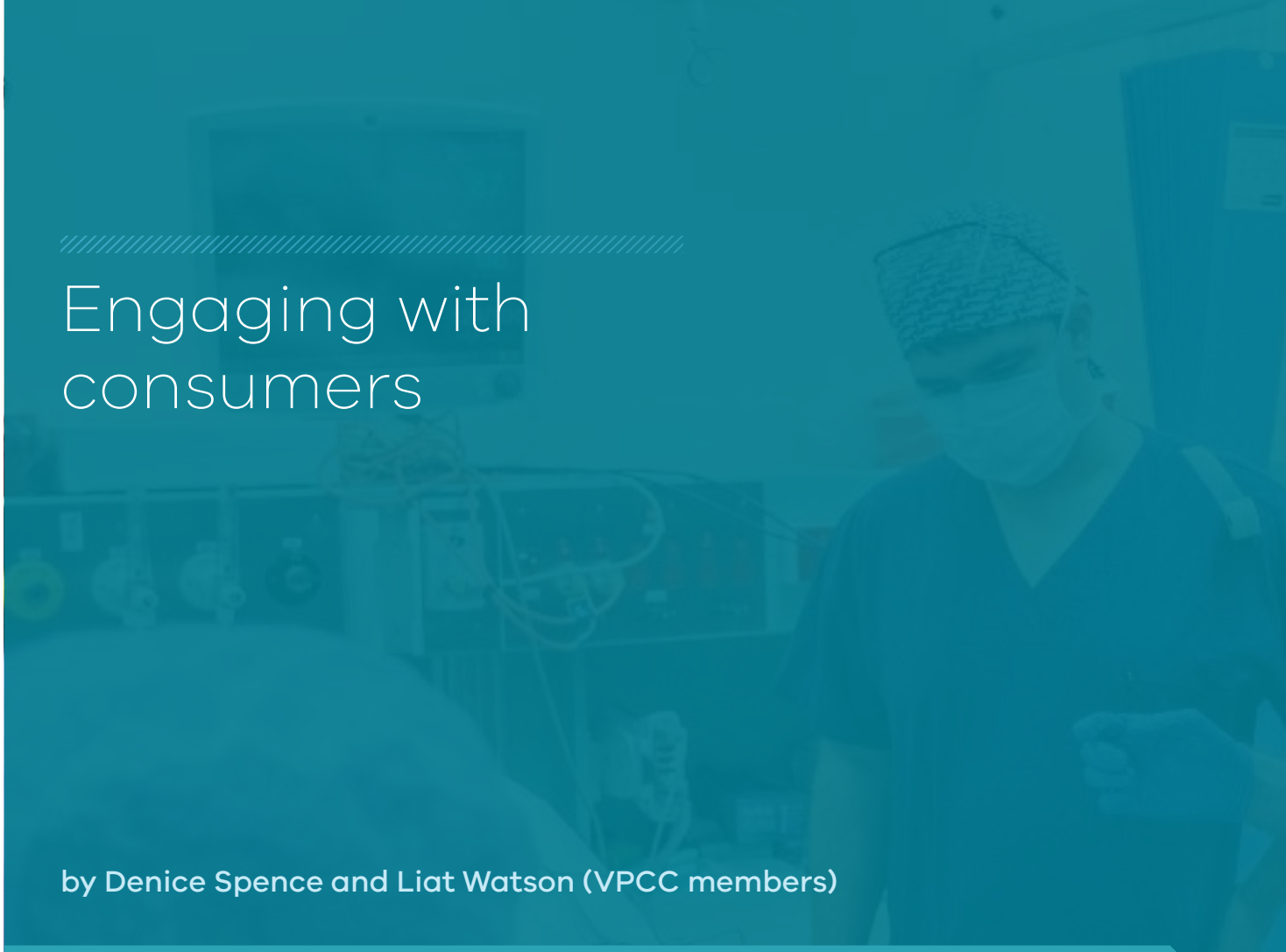
More information on Safety-I and Safety-II can be found in **From Safety-I to Safety-II: a white paper** from the NHS in the UK or **Resilient health care: turning patient safety on its head**.

Figure 1: Safety-I to Safety-II



Demonstrating that Safety 1 is focussing on the lower proportion of performance and adverse outcome events (below 2 standard deviations) , whereas Safety II looks at lessons that can be learned form effective routine care or exceptional performance

Source: EUROCONTROL 2013, From Safety-I to Safety-II: a white paper.
© September 2013 – European Organisation for the Safety of Air Navigation(EUROCONTROL)



Engaging with consumers

by Denice Spence and Liat Watson (VPCC members)

The VPCC values the input of our consumer representatives on the council and its subcommittees. Our consumers continue to highlight the consumer perspective including the risks associated with poor communication with patients and families. In particular, the different communication methods for different people and situations needs to ensure information is conveyed in the right way, at the right time and with an understanding of broader contexts.

The importance of effective communication with patients and families: Improving patient experience and outcomes, and preventing adverse events

The VPCC reviewed several cases where the concept of 'success' as it relates to the technical aspects of a procedure and the ultimate outcome for a patient differed.

For a family to be told 'the operation was a success, but your loved one has died' is not only deeply inappropriate but unacceptable according to the principles underpinning Victoria's **Statutory Duty of Candour**.

When a patient suffers unexpected harm or death despite receiving optimal care and treatment, we would recommend using more sensitive wording such as, 'Although we hoped the operation would achieve what we set out to do, due to circumstances beyond our control unfortunately [name], has deteriorated/died'.

Another challenging area involving communication in hospitals is the ability for patients to convey or take in medical information. This can be due to the health literacy of both the patient and the organisation, combined with:

- the patient's illness
- language or cultural barriers
- staff or patients feeling under pressure or stressed
- the difficulty of trying to communicate in a busy, noisy environment.

For this reason, patients often rely on family members, carers or friends to interpret what has been said or what is to be done, to remind them of any actions they need to take, or to advocate on their behalf if they feel what they're trying to communicate isn't being heard.

Communication failures were a significant factor in perioperative adverse patient safety events during the year, including complications arising from failures to listen and communicate appropriately with patients, carers and family members.

Outcomes of poor communication included:

- patients not fully understanding the risks of their surgery and anaesthesia
- **informed consent** not being undertaken appropriately or failing to convey specific risks that would result in significant consequence for patients
- patients not following preoperative instructions correctly, risking their safety
- important medical history or medication use not being disclosed, affecting anaesthesia and/or surgery
- delays or cancellations of procedures, affecting patient plans, expectations and clinical outcomes, as well as hospital efficiencies.

Case study

Mr F was an elderly man living alone in a rural area; his grown children lived several hours away in Melbourne. Mr F was first treated in a large rural health service but was to be transferred to his local regional health service for ongoing care. The rural service did not have compatible IT systems to share patient information with the local service, and there had been workforce shortages impacting staff workloads, so Mr F was transferred with his notes to follow.

On arrival at the local service, Mr F was triaged but not medically reviewed or assessed, resulting in incomplete admission documentation and patient goals of care not being sought or recorded.

The following day, 22 hours after transfer, a primary assessment found that Mr F had nil respiratory effort and no palpable pulse. Staff began CPR, continuing until communication from family members established that Mr F had an advance care plan that stated his wish not to be resuscitated in such circumstances.

While this was noted in the rural health service's records, it had not been reconfirmed on admission to the local health service.

This lack of communication of medical information was upsetting to family m embers, as well as staff involved in res uscitation efforts.

Success of advance care directives

The VPCC reviewed several cases of elderly patients with comorbidities who had serious complications resulting in palliation but where medical teams consulted with the patient before and after surgery to record their preferences via advance care plans.

While it is always difficult for medical teams not to proceed with treatment, in these cases respecting the patient's clearly stated wishes eased decision making. The families in such cases were comfortable with the decision-making process and expressed their gratitude to the medical teams for providing them with valuable time with their loved ones.

More information

Advance care plans
Better Health Channel

Advance care planning forms
Department of Health

Workshops

by Phillipa Hore (VPCC member)

The VPPC held two workshops in 2022, perioperative management pathways for the high risk patient and the emergency laparotomy workshop. These are outlined below.

The high-risk surgical patient, risk assessment and optimisation workshop

The final triennial report of the Victorian Consultative Committee on Anaesthetic Morbidity and Mortality (VCCAMM) published in 2019 recommended 'developing a state-wide set of principles to guide and support a more consistent approach to the perioperative care of patients with diagnosed or suspected obstructive sleep apnoea (OSA) to reduce the risk of postoperative complications'.

Workshops continued

The VPCC hosted a workshop on 17 August 2022 to discuss this recommendation. The aim of the workshop was to develop recommendations for achieving optimal patient outcomes by, first, better identifying higher risk patients and, second, ensuring facilities in which their care is undertaken can support their perioperative needs. With the pandemic-related expansion of waiting lists for elective (planned) surgery and ICU/HDU resource constraints, the workshop represented a timely opportunity to consider care of higher risk patients with OSA but also high-risk patients more generally.

Expert content was provided in the areas of:

- risk prediction and data-driven care
- perioperative pathways and facility capability
- a model of care for perioperative management of patients with OSA
- enhanced recovery room care for intermediate and higher risk patients.

Discussion included input from clinicians, consumers, facility/service managers and departmental representatives.

The focus was on elective (planned) surgery, with the intention that recommendations 1 and 2 (listed below) should apply to all healthcare facilities (i.e. metropolitan and rural, public and private, inpatient and day stay). Although the term 'surgery' is used, procedural interventions such as endoscopy were within scope.

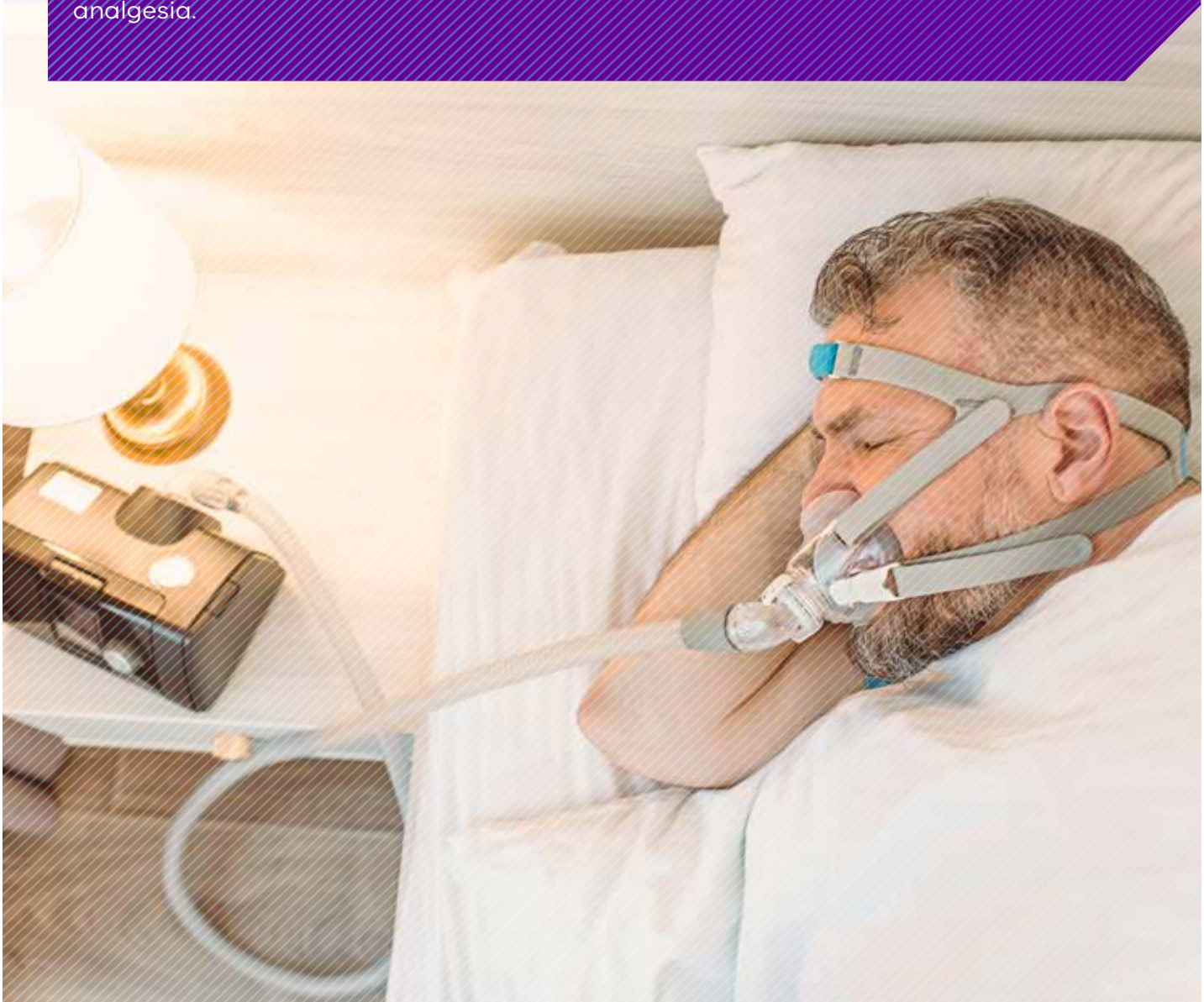
After consideration by the VPCC and its Surgical and Anaesthetic subcommittees, the following recommendations have been endorsed, noting the focus on elective (planned) surgery.

Case study

A 53-year-old man with well-controlled hypertension and diabetes and a BMI of 38 presented to hospital for an anterior cervical discectomy and fusion. His right arm pain was controlled with regular paracetamol, an anti-inflammatory medications, gabapentinoids and oxycodone as required.

His partner confirmed that he snored, but he had never been assessed for obstructive sleep apnoea (OSA). The surgery and anaesthesia were uncomplicated, and he was discharged to the ward on patient-controlled analgesia.

The nurse observed that he appeared to be sleeping peacefully but snoring in his single room at 10 pm, but at 2 am he was found cyanosed and unresponsive. Resuscitation was unsuccessful. Polypharmacy and probable undiagnosed OSA were implicated in his death.



Workshops continued

High-risk patients – recommendations

Recommendation 1

A surgical facility with appropriate capability should be selected based on the patient's risk.

1.1 Healthcare facilities should develop a standardised approach to perioperative risk assessment to determine whether an individual patient meets inclusion or exclusion criteria for the facility or requires higher level postoperative care.

1.2 An objective risk assessment tool should be used and timely referral to the relevant anaesthetist and/or a perioperative physician should occur if individual risk factors or a **global risk assessment score** indicate higher risk.

1.3 The procedure should be undertaken in a facility with appropriate capability both to perform the procedure and to provide safe management of the patient's postoperative recovery. The Department of Health's Perioperative Capability Framework project should be progressed, with an emphasis on ensuring that the facility capability is matched to patient risk (due for release in 2023).

To mitigate risk, consider recommending a less complex procedure or moving the procedure to a facility that can offer higher acuity postoperative care. Discussion of these risks with the patient is an integral part of the consent process, which must also consider cultural and social factors and patient preferences.

"Discussion of these risks with the patient is an integral part of the consent process, which must also consider cultural and social factors and patient preferences."

Recommendation 2

Healthcare facilities should identify patients with known or suspected obstructive sleep apnoea (OSA) / sleep disordered breathing where opioids or sedating medicines are likely to be used in postoperative management. Unless a procedure will be performed under local anaesthesia alone, an OSA screening tool should be used in patients likely to be at high risk for OSA, including criteria such as obesity, snoring, diabetes and hypertension.

Pathways of care should be well defined, and elective (planned) surgery should be delayed if appropriate postoperative care is not available.

A validated OSA screening tool such as **STOP-BANG** should be applied before admission.

Patients with known OSA must be advised to bring their therapeutic equipment to hospital. If not available, consider cancelling the procedure depending on the type and urgency of surgery, anaesthetic technique, ability to monitor postoperatively and the need for opioid/sedative analgesia. The risks of continuous positive airway pressure (CPAP) devices in the immediate postoperative period following trans-nasal or oesophageal procedures must also be considered.

"Identified postoperative risks should be communicated to the patient and included in the discharge summary to the primary practitioner."

Workshops continued

Recommendation 3

Postoperative models of care should be developed for intermediate- and high-risk surgical patients who do not require intensive care but who would benefit from enhanced monitoring and/or physiological support such as low-dose vasopressor administration or non-invasive ventilation.

Such models may include extended/advanced recovery room care[1] or ward-based care with high nurse-to-patient ratios and line-of-sight monitoring.

[1] Ludbrook G, et al. 2021, The effect of advanced recovery room care on postoperative outcomes in moderate-risk surgical patients: a multicentre feasibility study. *Anaesthesia*, 76(4):480–488.

Emergency laparotomy workshop

by Prof. David Watters AM OBE (Director of Surgery, SCV)

In November 2022, the VPCC hosted a workshop on emergency laparotomy (EL) surgery. The ongoing work of the Australian and New Zealand Emergency Laparotomy Audit-Quality Improvement (ANZELA-QI) was discussed and considered, as was the National Emergency Laparotomy Audit finding in the UK. The Victorian Agency for Health Information is working towards reporting risk-adjusted EL rates for Victoria.

From ANZELA data available in 2022, Victorian statewide participation is low, reporting only about 20% of ELs in the state, from only 9 (of more than 60 eligible) hospitals (see ANZELA report on page 31). This indicates significant room for improvement. The VPCC is actively encouraging Department of Health support for hospitals to be actively involved.

Recommendations from the workshop follow, with further details on page 33.

Emergency laparotomy workshop continued

VPCC Recommendations following the Emergency Laparotomy Workshop

The following recommendations were made and endorsed by the VPCC during the emergency laparotomy workshop:

1. All patients should have a **formal preoperative risk assessment** undertaken when being considered for an emergency laparotomy.
    a. If surgery is planned, this should be implemented at the local level such that it is embedded in the emergency theatre booking system or process.
2. All Victorian hospitals are encouraged to **participate in ANZELA-QI** by:
    a. reporting of ANZELA-QI performance
    b. having outcomes measured against internationally proven key performance indicators
    c. reporting mortality rates and 'no laparotomy' (decision not to operate) rates.
3. The **importance of involving specialists** in older persons' medicine / geriatrics in EL decision making and care pathways should be recognised, promoted and supported with appropriate resources for patients over 65 years old.

Anaesthetic Subcommittee of the VPCC

by Ben Slater (VPCC member and Chair, Anaesthetic Subcommittee)

The work of the subcommittee

The Anaesthesia Subcommittee of the VPCC reviews and reflects on morbidity, mortality and near-miss events related to anaesthesia or sedation. These data can be used to identify patterns of practice that may be contributing to adverse patient outcomes. Concerning patterns of practice and recommendations for practice or system improvement are reported to the VPCC for discussion.

Anaesthetic Subcommittee of the VPCC continued

Data inputs

The Anaesthesia Subcommittee collects data from a broad range of sources. Perhaps the most important of these, is direct reporting from anaesthetists throughout Victoria. Direct reporting is the key channel to discovering anaesthesia-related morbidity and potentially the only mechanism for identifying near-miss events. The **e-form** anaesthetists use for direct reporting has been updated and is available on the **SCV webpage**.

Most cases the subcommittee receives for review come from the **Victorian Audit of Surgical Mortality** (VASM). VASM reviews all cases of surgical mortality, with any cases where anaesthesia is suspected to contribute to the patient's death referred to the subcommittee. The chair of the subcommittee attends the relevant VASM meetings to identify appropriate cases for review. Other sources of data include direct referrals from the **Victorian Coroner's Office**, reviews of **sentinel events** and referrals from other bodies such as the Consultative Council on Obstetric and Paediatric Mortality and Morbidity (CCOPMM).

Data processing

When a case is identified, the secretariat of the Anaesthesia Subcommittee applies to the relevant institution to access medical notes relevant to the event. The request for information is made under the appropriate legislation, protecting the confidentiality of the data that are supplied by the health service. The subcommittee chair reviews the case notes, and the cases are then allocated to expert committee members for in-depth review. The reviewed cases are presented at quarterly subcommittee meetings. At these meetings consensus on causative factors is reached wherever possible. Case information is stored in a protected database to facilitate a more global review of data. Where the committee believes it appropriate, cases can be referred to more appropriate bodies such as the VPCC, CCOPMM or other expert advisory committees.

Data output

Data output from the Anaesthesia Subcommittee may be either specific or general. Where patterns of practice are identified or cases reveal issues that the anaesthesia community should be made aware of, a specific notification and recommendation will be made to the VPCC for consideration and further action. Cases, analysis and recommendations can also be referred to the Surgical Subcommittee or to CCOPMM if appropriate. General data outputs include the VPCC annual report and the Australia New Zealand College of Anaesthetists (ANZCA) triennial mortality review.

Challenges of the COVID-19 pandemic

The entire health system has been challenged by the COVID-19 pandemic. The work of the Anaesthesia Subcommittee has likewise been challenged because of centralised record-keeping systems being unavailable to the secretariat, who were necessarily working from home. The ability to obtain patient notes and details from health services was also impacted, which in turn prevented the full range of cases from being assessed.

Priorities

The Anaesthesia Subcommittee priorities for 2023 are to cement workflows that ensure efficient and timely processing and analysis of reported cases of anaesthesia morbidity and mortality. The new workflows will centre on using the carefully designed Salesforce Database. The subcommittee is also looking to diversify its membership to maximise the opportunity for broad-ranging discussion and analysis.

Summary of 2022

In 2022 the Anaesthesia Subcommittee undertook detailed reviews of 27 cases. Four of these cases represented morbidity and 23 cases represented mortality. Morbidity cases included 2 episodes of anaphylaxis, an episode of awareness and a potential episode of local anaesthetic toxicity.

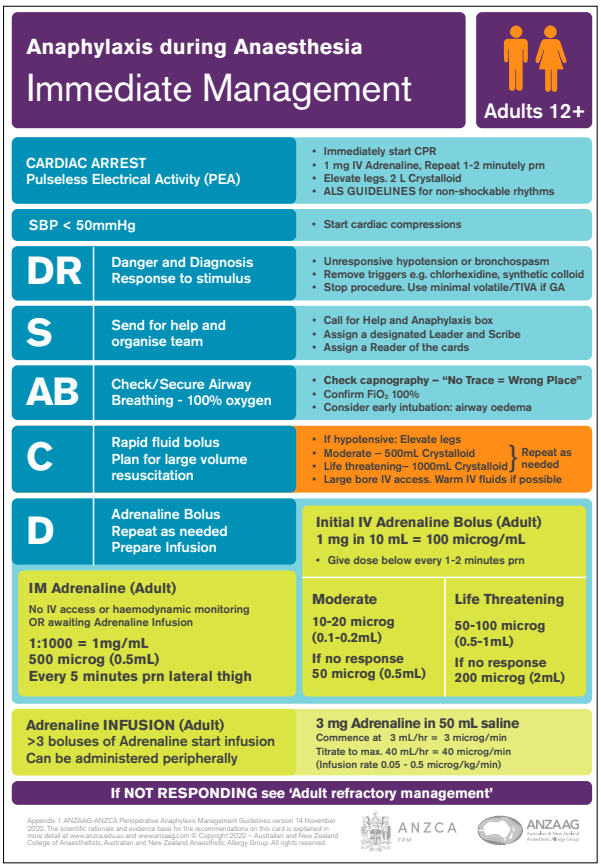
Anaphylaxis

The management of anaphylaxis was appropriate in both cases, probably reflecting the significant efforts of the ANZCA to promote the Australian and New Zealand Anaesthetic Allergy Group's evidence-based and human factors–appropriate therapies. The ANZCA Library Guide provides an integrated source of information about anaphylaxis and its management (Figure 2 is an example of one of the crisis resource cards).

Anecdotally there are many more episodes of perioperative anaphylaxis occurring in Victoria than the subcommittee reviewed. Not capturing all episodes of perioperative anaphylaxis prevents recognition of patterns that may be important. For example, cases reviewed for 2022 included both a morbidity and mortality attributed to anaphylaxis to sugammadex. Sugammadex is a novel agent used to reverse muscle relaxation. It is due to come off patent soon, becoming cheaper and therefore more readily available and more widely used. If it is associated with anaphylaxis, it would be important to have a signal of this to report to the anaesthesia community. We will continue to engage with the VPCC and the wider community to promote voluntary reporting of anaesthesia morbidity and to examine ways of expanding our data capture.

Resources, such as the Crisis Management Cards in Figure 2, should be readily available in theatre. Additional management resources can be found on the Australian and New Zealand Anaesthetic Allergy Group website.

Figure 2: Anaphylaxis during Anaesthesia, Adult Immediate Management resource card.
Available here



Anaesthetic Subcommittee of the VPCC continued

Other comments

An episode of potential **local anaesthesia toxicity** occurred in which the patient had neurological symptoms that, at the time, were attributed to a possible transient ischaemic attack. As a result of this, therapy with intra-lipid was not used.

An episode of awareness was caused by a disconnection of an intravenous infusion and occurred despite the presence of recommended bispectral index monitoring. This emphasises the need to have a reliable and visible site of infusion when relying on total intravenous anaesthesia wherever possible.

Many mortalities reviewed were in the very elderly or those with comorbidities undergoing emergency surgery. In this group, most surgeries were for a **fractured neck of femur**; the second most common group had intra-abdominal pathology (requiring **emergency laparotomy**). Both groups of patients are being monitored through national audits (Australian and New Zealand Hip Fracture Registry and ANZELA-QI), which are discussed later in this report. Both audits assess whether optimal care has been given pre-, intra- and postoperatively and provide frameworks within which to discuss cases. In many of the cases there is well-documented multidisciplinary discussion and discussion with **patients** and next of kin, reflecting appropriate patient-centred care.

Case study – identifying preventable harm

A 78-year-old man was scheduled for a hip joint replacement to relieve pain associated with osteoarthritis. He had been hospitalised 6 weeks before to treat community acquired pneumonia. Prior to surgery, several investigations were arranged. These were reviewed with the surgeon in an outpatient setting. The investigations showed that the patient was anaemic and had suboptimal diabetic control. Despite the investigations, the patient wanted to proceed quickly with surgery to expedite pain relief. A referral to a physician was made to manage the patient's comorbidities in the perioperative period.

The surgery and anaesthesia proceeded uneventfully, and the physician reviewed the patient on the ward within 6 hours of completing surgery. At this review, the physician noted severe neutropaenia, which had been shown on preoperative blood tests. Broad-spectrum antibiotic treatments were initiated when the patient developed fevers and hypotension and he was admitted to ICU. In the ICU the patient was intubated for hypoxia and administered vasoactive infusions for septic shock. Unfortunately, he continued to deteriorate and suffered a cardiac arrest on the first postoperative day. Resuscitation attempts were discontinued at the request of his family, and he subsequently died.

In this case both the preoperative assessment and, crucially, the optimisation of comorbidities, were incomplete. The patient's desire to undergo surgery quickly to improve pain management may have contributed to this. Where patients with complex comorbidities are scheduled to receive major surgery, there should be a process to ensure thorough preoperative assessment. This is likely to involve clinicians from multiple backgrounds, including the patient's GP. It may also need the expertise of a perioperative physician. Careful and well-informed communication with the patient and their family is also essential in planning and decision-making.

Optimal timing for surgery is a careful balance; early surgery may leave insufficient time for optimisation, while delayed surgery may lead to further deterioration of the underlying surgical condition and possibly increased risk.

Case study – Deep neck infection

A patient presented to their GP with a deep tender neck mass. The patient was referred to an emergency department where antibiotics were prescribed, and the patient went home. Antibiotics were continued, but the patient's condition worsened. They re-presented and were admitted to hospital 9 days after their initial symptoms developed. The patient needed surgical exploration and was booked onto an operating list with an experienced ENT theatre team. An appropriate plan was developed for induction of anaesthesia involving an awake fibreoptic intubation.

The airway was initially secured as planned, with extensive swelling noted. However, during preparation and positioning there was some coughing, and the endo-tracheal tube became displaced. A multidisciplinary approach to airway salvage ensued, but despite the best efforts of the team it took more than 10 minutes to establish a surgical airway, during which time the patient had a cardiorespiratory arrest.

Reflecting on the anaesthesia care of the patient, and the events leading to the patient's presentation, it can be concluded that, overall, the perioperative care provided was of a high level. However, the use of a longer endotracheal tube, although not readily available, may have helped it to be inserted the appropriate distance and well secured and thus may have decreased the likelihood of displacement. The main concern was the length of time between the patient's initial presentation to the emergency department and surgical intervention, time which allowed the underlying pathology to progress. This concern is of particular relevance to emergency medicine and infectious diseases specialist groups.

VPCC recommendations

Deep neck space infections recommendation

The Anaesthetic Subcommittee reviews patient morbidity and mortality where anaesthesia may have played a role in an adverse event. Deep neck space infection is an area of concern (see case example earlier). The subcommittee has produced recommendations for managing patients with deep neck space infections (Figure 3).

The Anaesthetic Subcommittee considers it important to highlight the importance of early surgical consultation in the case of infections in the tissues of the neck, especially if there is no improvement after 48 hours. This reduces the risk of mortality. Making this recommendation to emergency and infectious diseases physicians would have the most impact.

Figure 3: Red flags and recommendations for deep neck space infections

Surgical Subcommittee of the VPCC

by Wendy Brown (VPCC member and Chair, Surgical Subcommittee)

While surgery is predominantly undertaken with the aim of treating disease or pathology, and improving quality of life, the unfortunate reality is that there is always risk of harm, which can be as severe as death. The aim of all quality improvement initiatives is to seek ways to change practice and minimise the risk of these unwanted consequences of surgery.

Surgical Subcommittee of the VPCC continued

The work of the subcommittee

The role of the Surgical Subcommittee is to identify teaching points from surgical deaths that were potentially preventable, as well as to collate and classify all surgical deaths in Victoria to identify systemic issues that could be contributing to surgical deaths. We achieve this through multisource case reviews as well as information hosted in clinical quality registries and in sentinel event reports. The findings and recommended actions of the SSC are reported to VPCC.

Themes identified – practice recommendations

The Surgical Subcommittee has identified the following areas of opportunity for improving patient outcomes:

- Safe and timely **interhospital transfer** for patients requiring escalation of care, recommending reducing barriers to transfer by establishing formal partnerships between hospitals of differing capability.
- Optimising **preoperative preparation** for patients having planned/elective surgery including actively managing the health of patients who are on waiting lists for surgery.
- **Including perioperative medicine specialists**, who may be physicians, anaesthetists or geriatricians, in the care team of vulnerable patients undergoing a surgical procedure.
- Routinely **calculating the risk** of high-risk surgical interventions so patients and their families can make informed choices about the appropriateness of surgery.
- Ensuring procedures that are not performed commonly are undertaken in a facility where there is not only the surgical skill but appropriate interdisciplinary perioperative support.
- **Clear communication** between health professions that is led by the consultant, rather than delegated to a junior team member, is important for best outcomes, particularly for complex or critically unwell patients.
- **Recognising the high risk of Emergency Laparotomy** and the potential to better select and support patients requiring care through the data provided by the ANZELA-QI. The VPCC led a multidisciplinary workshop to support best practice in emergency. The outcomes of this workshop have been published, with strong recommendations for clinicians to routinely calculate the risk of benefit for an EL, for clinicians to involve perioperative physicians at an early stage of care, and for all Victorian hospitals to participate in the audit.

Cluster identification

Over the course of 2022, the Surgical Subcommittee identified a cluster of adverse outcomes associated with a percutaneous cardiac procedure leading to oesophageal perforation. The cases were collated and reported to SCV for further investigation and action.

Equity for bariatric surgery access

After reviewing the ANZ Bariatric Surgery Registry, which showed the efficacy and safety of bariatric surgery but with less than 5% of operations occurring in the public system, the Surgical Subcommittee wrote to the Secretary of the Department of Health calling for more equitable access via the public health system to this effective treatment option for people with obesity.

Communication in perioperative environments

The VPCC's 2021 annual report raised the importance of shared decision making, using safety checklists and predicting and planning for unexpected events along the perioperative patient journey. Specifically, safe perioperative care requires teamwork and effective communication.

The Surgical Subcommittee and the VPCC note the impact and contribution of missed and failed communication within the patient perioperative journey via the cases brought for review and those known as near-miss incidents. Despite the robust processes initiated by the **World Health Organization's surgical safety checklist**, missed opportunities for clear communication still occur, contributing to opportunities for improvement for patient safety.

Victorian hospital perioperative environments affected by reduced activity during the COVID-19 pandemic are now working at increased capacity to treat our patients at pre-pandemic levels. A strong focus on safety culture, staff psychological safety and the 2 national standards, **Partnering with consumers** and **Communicating for safety**, can contribute to make our perioperative environments safer for patients. A strong focus on consumer involvement that includes Team Time Out safety processes (which are steps included in the surgical safety checklist) and advocacy, including the ability for all clinicians to speak up and be heard in this environment, has the potential to significantly reduce critical incidents.

The VPCC and the Surgical Subcommittee supports all efforts to improve communication between team members and consumers in the perioperative environment.

Recommendation: Completing the surgical safety checklist and Team Time Out activities are increasingly important to ensure best and safest practice when workload pressures are high.

Additional recommendations

Facility capability: Hospital capability must be considered when undertaking procedures, including the facility's ability to manage common complications.

Patient transfer: Complex cases that are transferred between on within hospitals often need consultant-to-consultant handover or discussion, which is documented.

EL cases require risk calculation and the involvement of a geriatrician.

Safety-II – quality improvement

by Marinis Pirpiris (VPCC member)

The Australia and New Zealand Emergency Laparotomy Audit – Quality Improvement (ANZELA-QI)

ANZELA-QI is based on the UK's National Emergency Laparotomy Audit (NELA) program, which has reported a reduced mortality from 11.8% to a sustained 9.2%, and median length of stay for those who survived to discharge (12 to 10 days) over an 8-year period[2]. In Australia and New Zealand, ANZELA-QI is co-led by the Royal Australasian College of Surgeons (RACS) and the ANZCA, with data collection by RACS. ANZELA-QI has published its 2-year report based on registry data from 2020 to 2021[3]. There has been a significant fall in risk-adjusted mortality from 8.2% to 6.2% over the period, with a reduction in length of stay from 17.1 to 13.3 days (for patients in hospital < 60 days).

[2] Refer to the 8-year NELA report.
[3] Refer to the 2020-21 ANZELA-QI report.

Safety-II – Quality Improvement continued

Both NELA and ANZELA-QI promote clinical care standards that can be measured as key performance indicators (see Table 1, Page 35). The implementation (and monitoring) of these components of care is what makes the program work to improve clinical outcomes and reduce the overall costs of resources. Consensus guidelines for EL have recently been published[4,5]. Through a program such as ANZELA-QI, hospitals that are individually highly effective in implementing specific elements are encouraged to share any strategies that may be useful to other hospitals.

The number of hospitals in Victoria that participate in ANZELA-QI remains low. There were only 9 participating hospitals in the 2-year report period, reporting data on 1,057 patients. This represents less than a third of potential hospitals and around 20% of ELs performed. In addition to the considerable variation between reporting hospitals across NELA and ANZELA-QI, there are still Victorian hospitals performing ELs that do not contribute to ANZELA-QI and may therefore not be aware of the care standards.

The VPCC and SCV organised a workshop on EL in November 2022 to help improve this. The workshop, chaired by Prof. David Watters, was attended by approximately 68 people from Victorian health services and included key contributions from the RACS ANZELA-QI lead, Dr James Aitken. The recommendations are summarised below, and details are available on the VPCC website.

Emergency laparotomy workshop

Key recommendations from the workshop include to:

- strongly encourage hospitals to participate in ANZELA-QI
- emphasise the importance of a preoperative risk assessment in planning case management
- to involve geriatricians or specialists in older persons medicine in decision making and care.

[4] Peden CJ, et al. 2023, Enhanced Recovery After Surgery (ERAS(R)) Society consensus guidelines for emergency laparotomy Part 3: Organizational aspects and general considerations for management of the emergency laparotomy patient. *World Journal of Surgery*, 47(8): 1881–1189.

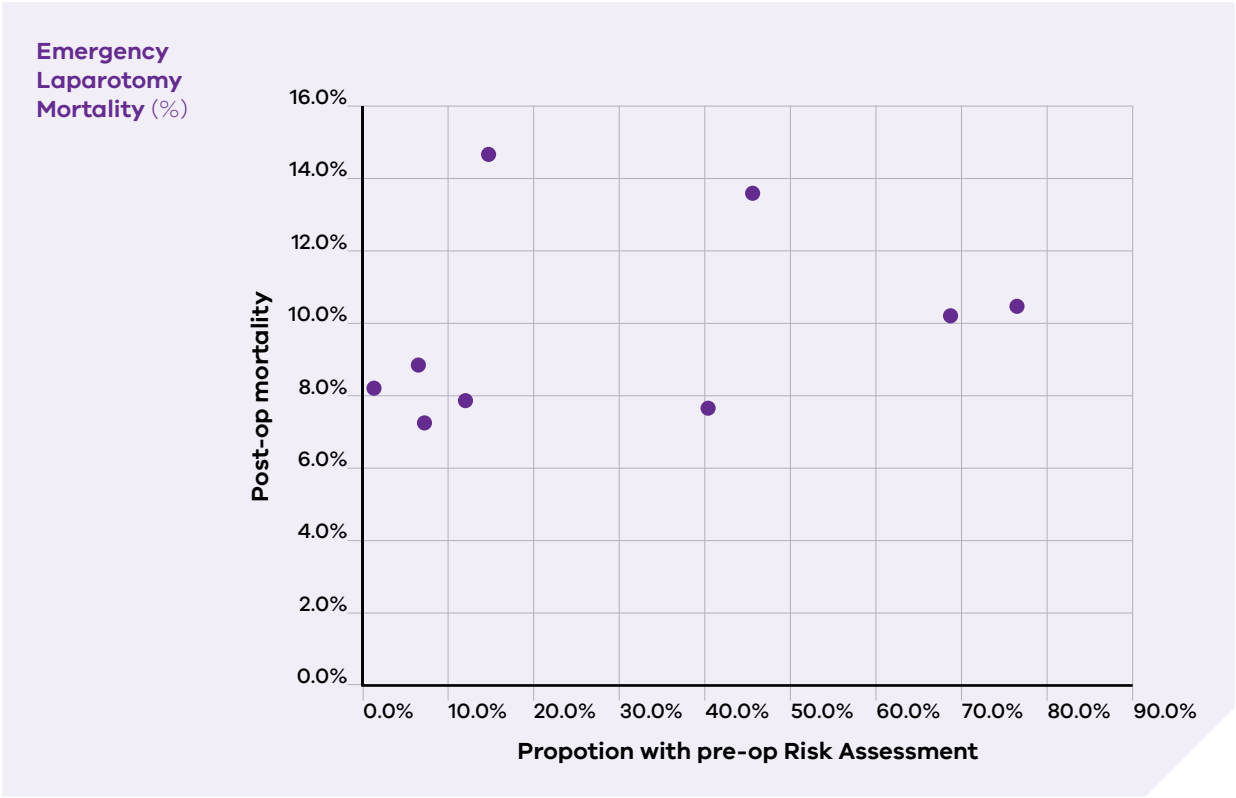
[5] Scott MJ, et al. 2023, Consensus guidelines for perioperative care for emergency laparotomy: Enhanced Recovery After Surgery (ERAS((R))) Society recommendations Part 2: Emergency laparotomy: intra- and postoperative care, *World Journal of Surgery*, 47(8): 1850–1880.

VPCC Recommendations following the Emergency Laparotomy Workshop

The following recommendations were made and endorsed by the VPCC during the emergency laparotomy workshop:

1. All patients should have a **formal preoperative risk assessment** undertaken when being considered for an emergency laparotomy.
   a. If surgery is planned, this should be implemented at the local level such that it is embedded in the emergency theatre booking system or process.
2. All Victorian hospitals are encouraged to **participate in ANZELA-QI** by:
   a. reporting of ANZELA-QI performance
   b. having outcomes measured against internationally proven key performance indicators
   c. reporting mortality rates and 'no laparotomy' (decision not to operate) rates.
3. The **importance of involving specialists** in older persons' medicine / geriatrics in EL decision making and care pathways should be recognised, promoted and supported with appropriate resources for patients over 65 years old.

Figure 4: Emergency laparotomy mortality rates, Victoria, 2022. Each dot represents a participating hospital.



Source: ANZELA database, 2022

Safety-II – Quality Improvement continued

In participating Victorian hospitals data are limited and should be viewed with caution. Noting this, risk assessment was only documented for 37.4% of cases (range 1.4% to 76.4%), which demonstrates a gap needing considerable improvement. Mortality is 9.5% overall. The relationship between risk assessment and postoperative mortality by site is shown in Figure 4, noting that limited numbers and sites are available. Risk assessment guides other elements of care such as ICU admission but also aids consideration of the benefits of surgery in any given case.

To increase uptake of the ANZELA-QI principles, the VPCC wrote to the Australian Commission on Safety and Quality in Health Care requesting that a clinical care standard be developed for EL, similar to those for hip fractures, colonoscopy and venous thromboembolism. The VPCC has received a response indicating that such a standard will be considered; this is an encouraging outcome. If developed, this will have the potential to reduce the mortality from EL but also improve the lives of survivors.

Other important before-surgery key performance indicators in addition to a preoperative assessment of risk, are shared decision making and documenting the goals of management. ANZELA-QI promotes consultant surgeon and anaesthetist engagement in decision making and promotes their participation in the operating theatre. Postoperatively, managing high-risk patients i n ICU and review by a specialist physician or geriatrician is essential to both short- and long -term outcomes. Medical input into these high-risk surgical patients is still relatively limited in many hospitals.

The VPCC recommends full data collection in already participating hospitals and recruitment of other interested hospitals. The council is continuing to engage nationally and with the state, highlighting the importance of ANZELA and its need for support. The challenge of maintaining and growing the ANZELA-QI program for the benefit of patients needing EL and for the health system is that of resources and active support. Hopefully the ultimate development of EL as a clinical care standard will enable this change.

Key performance indicator summary

Table 1: Compliance with key care standards (Red, Amber, Green [RAG]), ANZELA-QI PATIENT REPORTS FOR THE KEY STANDARDS AND SUPPORTING PROCESS MEASURES. (National data from 25 hospitals)

Key standards	Key performance indicators (KPI)	Patients achieving standard (%)	Hospitals rated green (n = 24)	Patients achieving standard (%)	Hospitals rated green (n = 25)
		2018–2019		2020–2021	
Before surgery					
Hospitals that admit patients as emergencies must have access to CT scanning 24 hours per day	Proportion of all emergency laparotomy patients for whom a CT scan was performed and reported by a consultant radiologist before surgery (PRE 1)	68.1% n = 1,747	5	61.6% n = 1,809	11
In September 2021, availability of lactate level to the surgeon at time of referral for patients admitted via the emergency department was added as a regularly reported metric	Lactate level available to the surgeon at the time of surgical referral for patients admitted via the emergency department (PRE 2)	N/A	N/A	65.3% n = 1,835	6
An assessment of mortality risk should be made explicit to the patient and recorded clearly on the consent form and in the medical records	Proportion of patients for whom a risk assessment was performed and documented preoperatively (PRE 3)	45.0% n = 1,299	1	51.4% n = 1,635	0
Along with lactate levels, frailty assessment has recently been added to the monthly reporting, and it is an important consideration with which to guide patient management during and after surgery	Preoperative frailty assessment performed for patients age ≥65 years (PRE 4)	N/A	N/A	28.0% n = 468	2

Safety-II – Quality Improvement continued

Key standards	Key performance indicators (KPI)	Patients achieving standard (%)	Hospitals rated green (n = 24)	Patients achieving standard (%)	Hospitals rated green (n = 25)
Hospitals should ensure theatre access matches need and ensure prioritisation of access is given to emergency surgical patients ahead of elective patients whenever necessary	Proportion of patients arriving in theatre within an appropriate time frame where urgency of surgery is 24 hours or less (PRE 5)	59.7% n = 1,351	0	51.3% n = 1,631	0
During surgery					
Each high-risk case should have the active input of a consultant surgeon/ anaesthetist	Proportion of patients with a calculated preoperative National Emergency Laparotomy Audit (NELA) risk of death ≥5% for whom a consultant surgeon and consultant anaesthetist were present in theatre (OP 1)	75.2% n = 445	7	75.4% n = 608	16
	Proportion of patients with a calculated preoperative NELA risk of death ≥5% for whom a consultant surgeon was present in theatre (OP 2)	84.1% n = 498	10	83.6% n = 674	20
	Proportion of patients with a calculated preoperative NELA risk of death ≥5% for whom a consultant anaesthetist was present in theatre (OP 3)	90.4% n = 535	14	84.6% n = 682	18

Safety-II – Quality Improvement continued

Key standards	Key performance indicators (KPI)	Patients achieving standard (%)	Hospitals rated green (n = 24)	Patients achieving standard (%)	Hospitals rated green (n = 25)
After surgery					
Highest-risk patients should be admitted to critical care	Proportion of patients with a preoperative NELA risk of death ≥10% who were directly admitted to critical care postoperatively (POST OP 1)	69.6% n = 296	8	64.2% n = 327	12
Each patient over the age of 65 should have multidisciplinary input that includes early involvement of geriatrician teams	Proportion of patients age ≥65 years who were assessed by a specialist in elderly medicine (POST OP 2)	17.7% n = 271	1	17.4% n = 280	0

Abbreviations
OP = operative
POST OP = postoperative
PRE = preoperative

Notes
* Key standards used here have been based on NELA's standard of care.
N/A = not applicable
N = number of cases meeting the KPI
Red = <50% of patients meet the KPI
Amber = 50% to 79% of patients meet the KPI
Green = ≥80% of patients meet the KPI

The above table and additional information can be found in the second ANZELA -QI program summary report.

Australian and New Zealand Hip Fracture Registry (ANZHFR)

Hip fractures are serious conditions that may lead to disability, loss of independence and premature death. They represent one of the 3 major causes of perioperative deaths in Victoria.

Older Australians sustain around 19,000 hip fractures each year. They are at a higher risk for hospitalised falls due to reduced bone density and muscle tone, frailty and medical conditions affecting balance and eyesight.

In the 2018-19 financial year, $4.3 billion was spent in healthcare and related costs on treating injuries due to falls across Australia.[6] In the 2015-16 financial year, the estimated cost to the Australian health system for managing fractured hips was $445 million.

The Australian and New Zealand Hip Fracture Registry (**ANZHFR**) provides timely and meaningful comparisons between healthcare providers in patients with a fractured neck of femur. It complements the efforts to provide hip fracture care according to the **Hip Fracture Clinical Care Standard** by the Australian Commission on Safety and Quality in Health Care and endorsed by the **Health Quality and Safety Commission of New Zealand**. The registry helps healthcare workers and administrators to work together to reduce unwarranted variation in care and promote shared decision making between clinicians, patients and carers.

The key markers of quality of care in the ANZHFR include:

- care at presentation (the timely assessment and diagnosis at the time of presentation including diagnostic imaging, pain assessment and cognitive assessment)
- pain management throughout a hospital stay and using multimodal analgesia as clinically appropriate (including regional nerve blocks)
- applying an orthogeriatric model of care treatment plans based on a multidisciplinary strategy (as defined in the *Australian and New Zealand guideline for hip fracture care*)
- timely surgery where surgery is clinically indicated and preferred by the patient and their carers (usually on the day of presentation or the day after presentation)
- early postoperative mobilisation and weightbearing in the postoperative period, depending on the patient's clinical condition and agreed goals of care (usually on the day of surgery or the day after surgery)
- preventive therapy – treatment to minimise the risk of another fracture (a falls assessment and a bone health assessment and management plan to reduce the risk of another fracture)
- transition from hospital care (an individualised holistic care plan that describes the patient's ongoing care and goals of care that includes changes in medications, wound care advice, mobilisation activities and contact details for the rehabilitation providers).

Since the inception of the ANZHFR, national data have shown clinically unwarranted variations in managing this vulnerable patient group. The variations may place this patient group at increased risk of adverse outcomes and readmission to hospital by not following best practice. While the uptake of data contribution in Victoria has been slow, the ANZHFR has identified an unwarranted variation for Victorian patients receiving care for a fractured neck of femur. In 2020 SCV partnered with 5 hospitals to develop a best practice pathway to promote high-quality care and support timely surgery. The targets included improved access to pain management, diagnostic imaging, cognitive screening and decreased median time to surgery.

Table 2 compares Victoria-wide data with hospitals contributing data across Australia, revealing clear trends.

[6] Australian Institute of Health and Welfare 2020, *Disease expenditure in Australia 2018-19*, AIHW, Canberra.

Table 2: Trends in quality indicators, 2022

Quality indicator – patients	Australia-wide data (%) n = 12,582	Victoria-wide data (%) n = 2,324	% change in Victoria since 2021, n = 1,944
Preoperative assessment of cognition	75%	68%	-4%
Patients received a nerve block prior to surgery	91%	81%	-8%
Patients seen by a geriatrician during their stay	85%	77%	-8%
Patients having surgery within 48 hours	76%	77%	5%
Patients given the opportunity to walk on the day or the next day after surgery	91%	81%	3%
Patients walking on the first day	46%	33%	-10%
Patients on active treatment for osteoporosis at discharge	31%	27%	3%

The data in Table 2 shows that the combination of the ANZHFR benchmarking of hospital local data, combined with local quality assurance programs, can result in improvements in care in this vulnerable patient group.

The numbers from Victoria are based on 2 public hospitals (and 2 private hospitals) that contributed patient-level data in 2022. There are 3 more public hospitals approved, but these sites were not able to contribute data.

Overall, there are 20 eligible public hospitals in Victoria in addition to an uncertain number of eligible private hospitals.

Safety-II – Quality Improvement continued

VPCC recommendation: VPCC strongly recommends all eligible Victorian hospitals engage in providing data to the ANZHFR.

This will provide a metric for reducing non-beneficial variation in care. Transparency of outcomes enables healthcare workers, family and carers the ability to advocate for the care of patients with a hip fracture. This has been seen already with a steady move towards less variation between Victorian hospitals and a higher proportion of hospitals meeting the defined standards of patients care, which were originally published in September 2016 (Australian Commission on Safety and Quality in Health Care and the Health Quality and Safety Commission of New Zealand).

The Australian population aged over 50 years is predicted to increase to around 12 million in 2050. With a corresponding predicted annual case load of 60,000 hip fractures, the ANZHFR will play an increasingly important role in ensuring patients with hip fractures receive high-quality care in an agile, efficient and sustainable Victorian healthcare network.

Perioperative sentinel events

by Andrew Jeffreys (VPCC member)

In 2022 the VPCC received 39 sentinel event reports (this differs to the Sentinel Events Annual Report which reports data on a financial year basis). These reports mostly related to aspects of perioperative care.

In Victoria a sentinel event is:

> ... an unexpected and adverse event that occurs infrequently in a health service entity and results in the death of, or serious physical or psychological injury to a patient as a result of system and process deficiencies at the health service entity.

Perioperative sentinel events continued

Serious harm is considered to have occurred when, due to a serious adverse patient safety event, a patient has either:

- required life-saving surgical or medical intervention
- a shortened life expectancy, or
- experienced permanent or long-term physical harm, or experienced permanent or long-term loss of function.

The SCV website provides a full description of the sentinel event **criteria and associated categories.**

In reviewing the perioperative-related sentinel events, 5 main categories were identified:

- wrong site
- wrong procedure
- retention of foreign object
- medication error
- all other adverse patient safety events resulting in serious harm or death (category 11).

Sentinel events: category 11

Of the 39 events, 30 were categorised as 'other' (category 11). This is consistent with category 11 events making up most of the sentinel events across Victoria. These were further classified into subcategories. Of the 30 events, most related to 'clinical process' and 'deteriorating patient'. The resulting outcome was patient death or serious harm.

Safety actions

The VPCC participated in several safety actions because of information provided through the sentinel events reporting system:

- A cluster of oesophageal perforations following transoesophageal echocardiography was identified, and VPCC, along with SCV, instituted actions designed to prevent recurrence.
- The anaesthetic and surgical subcommittees cross-referenced cases and referred those for review that had not already been referred by alternative pathways.

The VPCC also identified key safety messages for future implementation, as outlined below.

Consideration of retained packs/swabs in a deteriorating patient

Three events related to retained packs/swabs were reported. All involved clinical deterioration likely due to the presence of the foreign object. Delays in identification ranged from several days to several months. All were eventually identified on imaging. It is possible that the cause was not suspected earlier due to the count being documented as correct at the time of operation.

Safety message

Consider a retained object as a possible cause of unexplained postoperative symptoms despite a correct count being documented.

Perioperative sentinel events continued

Managing complex patients

The VPCC observed that category 11 reports often described a complex chain of events in unwell patients and/or high-risk surgery or procedures. Several of the category 11 reports were examples of procedural complications such as:

- perforation during colonoscopy
- urological injury during surgery
- arterial injury during central venous catheter insertion
- vascular injury during complicated thoracic surgery
- chyle leak following oesophagectomy.

There were also examples of incorrect management or use of medical equipment or devices. These included:

- air embolisms while removing a central venous catheter in the sitting position
- barotrauma resulting from incorrect connection of wall oxygen during anaesthetic recovery.

Complex patients require a thorough perioperative care involving assessment, multidisciplinary planning, discussion of options and alternatives with the patient, and a well-informed pathway through anaesthesia, surgery and recovery. This is difficult to achieve in emergencies but this doesn't override the importance of consultation and planning.

Management of post-discharge venous thromboembolism prophylaxis

There were 5 reports of pulmonary embolism associated with deficiencies in prescribing post-discharge venous thromboembolism (VTE) prophylaxis. Three of these cases resulted in death. Issues described included the following:

- Risk assessment
  - This includes using additional strategies for high-risk patients and careful documentation of situations where VTE prophylaxis is modified due to other patient or surgical factors
- Failures in handover of clinical responsibility
  - Patient transfers between units or hospitals being incomplete and not including the VTE prophylaxis plan
- Failures in communication
  - Communication issues underpin the above two points but also must involve the patient in understanding the nature and importance of VTE prevention, signs or symptoms of concern, and clear communication to the primary care physician.

Case study – VTE

A 47-year-old man with a body mass index (BMI) of 45 fractured his right ankle on holiday in Asia. A local clinic assessed his ankle, finding no neurovascular deficit and placing him in a back slab. He returned to Australia and sought further treatment from his GP and then via an orthopaedic surgeon.

He was admitted to a private hospital for open reduction and internal fixation of his ankle. Intraoperatively the surgeon and the anaesthetist discussed thrombo-prophylaxis and a plan was developed for the postoperative period. After returning to the ward, the patient became increasingly agitated, wanting to leave the ward to smoke. The operative team were in the operating room and could not help to defuse the situation. Four hours postoperatively the patient abruptly discharged himself against medical advice.

Five days after surgery the patient presented to the emergency department of his local public hospital with increasing shortness of breath and chest pain. CT pulmonary angiography showed that he had a heavy load of subsegmental pulmonary emboli.

Safety message

Ongoing VTE prophylaxis post discharge is required for many high-risk patients. The transition back into the community is a time of heightened risk. A high degree of vigilance is required to ensure appropriate communication, handover and ongoing clinical supervision. For more information on VTE prophylaxis please see here.

Safety message

In the event of patient self-discharge, postoperative follow-up is still essential. Additional support for the patient may also be required.

Perioperative mortality

by Philip McCahy (VPCC member and Chair, VASM)

Victorian Audit of Surgical Mortality report

Together with the VPCC, VASM monitors the quality of surgical care offered to patients who, often despite the most appropriate care, die while in hospital. VASM provides independent feedback to surgeons with the goal of improving surgical outcomes. These efforts are most effective when hospitals and surgeons submit information to VASM in a timely manner so feedback is available soon after the death occurs. In addition to this, VASM recommends health services consider the guidelines developed by **RACS for conducting effective morbidity and mortality meetings.**

Perioperative mortality continued

The **VASM 2021 annual report** summarises the outcomes of independent peer reviews of all patient mortalities where a surgeon was involved or surgical care was offered. Most cases were emergency presentations to public hospitals with no surgical management issues identified.

The annual report highlights that even with COVID-19 impacting on services, Victorian surgeons continued to maintain high standards consistent with world's best practice.

Nonetheless, several potential areas for improvement were identified:

- **Goals of care** should be discussed and clearly understood between patients, their families and health practitioners.
- **Active senior consultant engagement** in cases will contribute to achieving the best possible patient outcomes.
- **Risks versus potential rewards** of surgical intervention should be clearly understood, particularly when considering nonoperative management of patients.

VASM is protected by the **Commonwealth Qualified Privilege Scheme**. Recent updates allow for information to be referred by VASM to the VPCC and vice versa. This improved information sharing is mediated by the *Perioperative Mortality Committee*, a multidisciplinary body that triages cases for potential independent review by the VPCC. Demographics of the cases discussed are listed below.

VASM has entered into a new 3-year agreement with SCV that facilitates the continued independent peer evaluation of inpatient mortality involving surgical care. Through ongoing constructive engagement with the VPCC and SCV, VASM will continue contributing to improved surgical outcomes for Victorian patients.

Tables 3 to 7 summarise the details of cases referred to the Perioperative Mortality Committee in 2022.

Table 3: Sex of cases referred to the Perioperative Mortality Committee, 2022

Sex	Count	%
Female	51	43.6
Male	66	56.4
Total	117	100.0

Table 4: Hospital status (public or private) of cases referred to the Perioperative Mortality Committee, 2022

Hospital status	Count	%
Private	29	24.8
Public	88	75.2
Total	117	100.0

Perioperative mortality continued

Table 5: Hospital status (size and location) of cases referred to the Perioperative Mortality Committee, 2022

Hospital category	Count	%
Capital city	62	53.0
Other metropolitan	8	6.8
Large rural centre	39	33.3
Small rural centre	7	6.0
Other rural centre	1	0.9
Total	117	100.0

Table 6: Referral outcomes of cases referred to the Perioperative Mortality Committee, 2022

Case referral	Count	%
Anaesthetic Subcommittee	17	14.5
Surgical Subcommittee	6	5.1
Anaesthetic and Surgical subcommittees	2	1.7
Noted	92	78.7
Total	117	100.0

Table 7: Themes noted in cases referred to the Perioperative Mortality Committee, 2022

Theme	Count
Aspiration	2
Communication	1
COVID-19	1
Delays	1
Falls	1
Hiatus hernia	1
Myocardial infarction	7
Neck of femur fracture	5
Patient factors	4
Patient management	7
Poor documentation	1
Pulmonary embolus	2
Stroke	2
Preoperative management	5
Surgical complications	11
Transfer issues	2
Unthemed	72

Note: Some cases can have multiple themes.

Victorian Institute of Forensic Medicine and the Coroners Court of Victoria

by Hans de Boer (VPCC member)

The Victorian Institute of Forensic Medicine (VIFM) is a statutory agency within the Department of Justice and Community Safety responsible to the Attorney-General for Victoria.

As an institution focused on forensic medicine, the VIFM serves the community and the courts. The VIFM's statutory responsibilities include providing independent forensic medical and scientific expertise, helping to reduce preventable deaths, promoting public health and safety, education, and undertaking research that will benefit the community.

Victorian Institute of Forensic Medicine and the Coroners Court of Victoria continued

Primary stakeholders of the VIFM are the Coroners Court of Victoria and other Victorian courts. Other important partners include Victoria Police, Monash University, the University of Melbourne, the Australian Federal Police, legal and medical professionals, and public and private hospitals.

In Victoria, all deaths that are unexpected and potentially causally related to a medical procedure must be reported to the coroner. All these deaths are referred to the VIFM for postmortem examination. The death investigation services of the VIFM are therefore an important source of information for the VPCC. They help to understand the the frequency, causes and circumstances of perioperative deaths.

The VIFM is one of the few institutes in the world to incorporate full-body CT scanning of all bodies admitted to its care. Other technical advancements such as using (targeted) postmortem angiography and the forthcoming installation of an MRI machine enable the VIFM to provide death investigation services of the highest quality.

Changing community attitudes and expectations, as well as cultural and religious imperatives, can present significant challenges to today's death investigation systems. VIFM's Coronial Admissions and Enquiries office liaises with the next of kin of the deceased so cultural and religious beliefs can be considered, and to allow families to express any concerns of care. For deaths that occurred in hospital, medical practitioners are invited to put forward specific issues they would like to have addressed by the coroner or during the postmortem examination. This helps guide the postmortem examination and increases the opportunity to learn from postoperative deaths.

The VPCC uses various information sources from the Coroners Court and the VIFM, both during individual case review and while trying to identify larger trends and learning opportunities. These sources of information include autopsy reports, postmortem toxicological analysis and coronial findings. A forensic pathologist from the VIFM sits on the VPCC and the Anaesthetic Subcommittee to help interpret these findings and to ensure optimal data sharing.

In an era when hospital (or consent-driven) autopsies have become a rarity, the VIFM's death investigation services are increasingly relied on to help understand the causes of perioperative deaths.

Victorian Institute of Forensic Medicine and the Coroners Court of Victoria continued

Changing community attitudes and expectations, as well as cultural and religious imperatives, can present significant challenges to today's death investigation systems. In response, more sophisticated approaches have been developed, supported by technological advancements.

The result is a more responsive service, providing answers while ensuring case reviewability and minimising distress to families.

Deaths post-discharge

The VPCC has worked with the coroner and the VIFM to ensure we are notified of perioperative deaths that occur after discharge from hospital. Perioperative deaths after discharge and in the community are not always notified to the hospital that treated the patient and therefore represent a potential gap in health system reporting and learning. There are safety and quality themes that can be derived from some of these cases, including the risks of post discharge pulmonary embolism (see page 44), aspiration, and stroke.

Photo courtesy of VIFM

Projects with Safer Care Victoria and the Department of Health

In 2022 the VPCC and its members worked to support several projects and working/advisory groups managed by SCV and the Department of Health, many of which continued into 2023. These included:

- the SCV Perioperative Learning Health Network
- expert advice for specific case or health service reviews
- Guidelines for Venous Thromboembolism Prophylaxis – working group
- Personal Protective Equipment – advisory group
- Quality and Safety Signals Group – advisory group
- Victorian Service Capability Framework – working group.

SCV is also participating in other perioperative improvement opportunities at the committee and advisory group level, many supported by the VPCC. These include (in addition to those listed above) supply chain disruptions, licensing of day procedure centres for cosmetic procedures, rural and regional perioperative clinical governance, best practice in colonoscopy, and a Victorian Managed Insurance Authority–funded orthopaedic pilot for Getting It Right First Time (GIRFT). Refer to page 54.

Safer Care Victoria Perioperative Learning Health Network and the Surgical Recovery and Reform Taskforce

by Prof. David Watters AM OBE (Director of Surgery, SCV)

Learning Health Networks were established to bring together patients, consumers and the many clinical disciplines that provide health care, in our case, those that deliver perioperative care. In July 2022 the Perioperative Learning Health Network (PLHN) was the first Learning Health Network established at SCV thanks to the initial funding provided by the Department of Health's Surgical Recovery and Reform Taskforce, led by Prof. Ben Thomson, the Chief Surgical Advisor.

The PLHN is committed to the VPCC's mission to improve perioperative care before, during and after surgery, so Victorian patients experience the best outcomes – those that matter to them and their families. Several members of the VPCC and its subcommittees take part in PLHN advisory or working groups.

Safer Care Victoria Perioperative Learning Health Network and the Surgical Recovery and Reform Taskforce continued

The PLHN's initial work has focused on opportunities provided through the recovery and reform initiatives and so have been directed at planned surgery. While focusing primarily on planned surgery, the Surgical Recovery and Reform Taskforce recognises that there must also be timely and equitable access to perioperative care for emergency surgery, a topic championed through the VPCC's support for the ANZHFR and ANZELA-QI.

The first task of the PLHN was to deliver a report to the taskforce on expanding the **delivery of day surgery in Victoria**. There are many procedures in which day surgery should become the preferred option for 60-80% of patients who need the procedure. Examples include inguinal hernia surgery, laparoscopic cholecystectomy (gall bladder), tonsillectomy over the age of 4 years, sinus surgery, anterior cruciate ligament (knee) reconstruction and hysterectomy. There is good evidence that not only is day surgery safe for suitably selected patients but that it is also the preferred option for most patients.

The second report focused on the **preoperative patient journey**, considering both alternatives to surgery and treatments aimed at optimising the patient's preoperative condition. Examples of alternatives to surgery include patients with hand conditions such as carpal tunnel syndrome or trigger finger, women suffering pelvic pain, and programs aimed at exercise and weight loss for patients potentially needing a knee or hip replacement. One of the VPCC workshops in 2022 focused on high-risk patients, particularly those with OSA, and the benefits of identifying higher risk patients early and improving their preoperative condition so they are less likely to suffer postoperative complications.

Patients with other medical conditions including diabetes, cardiac conditions or lung disease will also benefit from adjunctive medical treatment to improve their condition before surgery. It is our aim that when patients are placed on a waiting (preparation) list for planned surgery their risk for complications is assessed using a valid risk tool. While on the waiting (preparation) list they should receive advice and care that best prepares them for their procedure.

Our third report in 2022 addressed **enhanced recovery after surgery programs**. These provide a bundle of best care interventions to improve the patient's condition before, during and after surgery. The result is a shorter length of stay and a reduced likelihood of complications. Enhanced recovery after surgery requires clinicians to agree on the elements of the bundle, then to coordinate the delivery of these elements while measuring performance.

Victoria has established 9 Health Service Partnerships. Each partnership has received seed funding to turn the recommendations of the Surgical Recovery and Reform Taskforce into practice, which in turn have been informed by our reports. The Health Service Partnerships and providers of perioperative care meet monthly as a Community of Practice to share their progress. Reform and improvement in perioperative care before, during and after surgery are the primary objective of the group, whose members have shown passion and enthusiasm for change.

Projects with the Victorian Managed Insurance Authority

by Marinis Pirpiris (VPCC member, GIRFT lead)

Getting it Right First Time (GIRFT)

GIRFT began in the UK as a national program in 2016, designed to improve medical care by reducing unwarranted variation in practice. By addressing variation in service delivery and by sharing best practice initiatives and programs, changes to improve patient care and outcomes are identified along with other benefits including reducing unnecessary procedures and ultimately providing cost savings.

GIRFT builds on the initial work of orthopaedic surgeon Prof. Tim Briggs, who pioneered the orthopaedic component. It represented one element of the government's response to the recommendations of Lord Carter's **'Operational productivity and performance in English NHS acute hospitals: unwarranted variations'** report, published in February 2016.

Projects with the Victorian Managed Insurance Authority continued

By 2020, GIRFT in the UK had resulted in 336 detailed clinical practice pathway reviews in trusts (i.e. regional healthcare networks or specialist hospitals) and 3,064 actions agreed by trusts, with £696 million (approximately AUD1.3 billion) operational and financial benefits released by trusts over the course of the program. GIRFT showed that operations delivered by surgeons who perform low *volumes of that surgery* are associated with increased length of stays, complications and costs. GIRFT also provided an ability for administrators and clinicians to enforce better *infection control* management of bed location ('ring-fenced' beds) to work towards decreased infection rates. GIRFT also supported the implementation at hospitals with higher and lower *emergency caseloads* ('hot' and 'cold') sites, thereby reducing cancellations and increasing planned surgery activity. GIRFT has also resulted in changes that have decreased the length of stay in hospitals, permitting patients to make better and quicker recoveries and providing local hospitals with a greater ability to perform more surgeries and to reduce patient waiting times. It had also reduced legal claim volumes in orthopaedics.

Victoria is in the process of beginning the orthopaedic stream of the GIRFT program, where Victorian hospitals will be benchmarked to identify variances in performance based on several parameters affecting acute and elective (planned) surgery. GIRFT uses benchmarked data to identify clinical outliers and best practices among different health services. It is a peer-to-peer model that assists clinicians in identifying changes that will improve care and outcomes and deliver efficiencies for health services. The program aims to improve patient care experiences by identifying the issues resulting in unwanted variation. For instance, in the UK, the GIRFT program showed a 500% variation in the length of stay for a primary hip replacement, which ranged from 1.4 to 8.5 days, between 2 providers for the same procedure.

As we move forward after a challenging COVID-19 pandemic, the combination of a critical analysis of the data, shared learning and a reconceptualisation of how planned health care is delivered will help Victoria meet its planned surgical commitment.

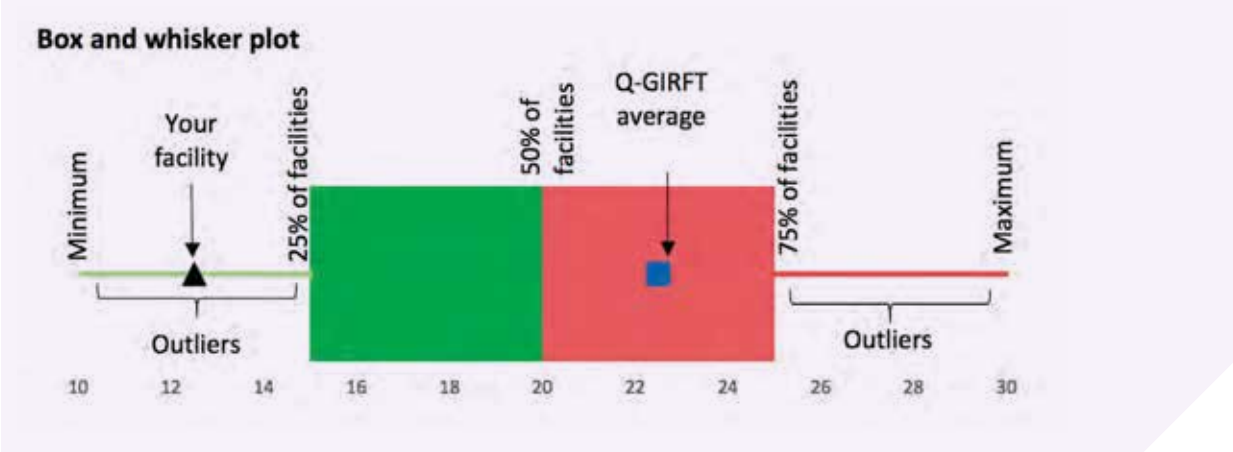
The pilot program, which will be funded by the Victorian Managed Insurance Agency with support from SCV and the Department of Health, will start in 4 hospitals. Data requests have been submitted to the clinical registries and the Victorian Agency for Health Information. The registries will include the ANZHFR and the Australian Orthopaedic Association National Joint Replacement Registry. The metrics will address best practice checkpoints, complication rates and administrative and patient-reported data.

GIRFT was successfully implemented in Queensland Health in 2019, with the data helping clinicians measure variations practice, of which they were generally aware, and also helping them identify quality assurance issues of which they were unaware. In Queensland, data are presented to the sector using a horizontal 'box and whisker' plot (Figure 5) to effectively present the variability between overall state behaviour and individual facility data.

More information is in the state report, **Getting it Right First Time Queensland (Orthopaedics, October 2020).**

Projects with the Victorian Managed Insurance Authority continued

Figure 5: Sample box and whisker plot from the Queensland GIRFT program



Data during the site visits were presented in numerical and graphical form. Example above:

The data presented in the pack identified the facility (triangle), Queensland average (square) and the range. Facilities that fell within the box were considered inliers, while those that fell outside the box were considered outliers. For indicators where there was a desirable outcome, for example, infection rate or hospital-acquired complication, the data were represented in colour (ie; green = positive). For all other indicators, for example, volume or population-based indicators, the data were represented in a grey scale.

For instance, GIRFT Queensland determines a variation in alignment across the procedures measured despite clear guidance through the *National elective surgery urgency guidelines, April 2015* – work is being done to address this issue.

Projects with the Victorian Managed Insurance Authority continued

Figure 6: An example comparing alignment, measured and discussed during the GIRFT Queensland site visits, with the National Elective Surgery Urgency Categorisation Guideline.

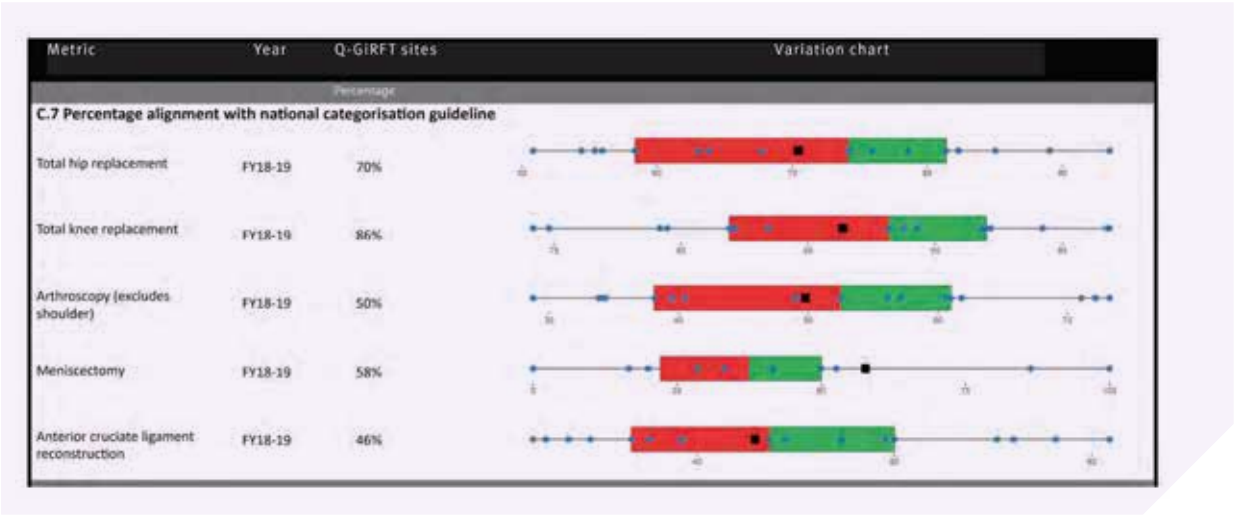


Figure 6 demonstrates variation in alignment across all procedures measured despite clear guidance and this showing room for improvement. This information can be found on page 28 of the **GIRFT Queensland - Orthopaedic State Report.**

GIRFT is currently in the process of engaging the relevant Victorian clinicians and key support personnel to start the program. This data-driven program, combined with sound clinical leadership and the efficient use of resources, will improve the quality of care and patient safety for our diverse Victorian community, while maximising productivity.

Appendix

APPENDIX 1

VPCC and subcommittee members

VPCC members

- David Watters (Chair to June 2022)
- Phillipa Hore (Chair: August–October 2022; Deputy Chair: November–ongoing)
- David A Scott (Chair from November 2022)
- Allison Evans
- Andrea Kattula (member to June 2022)
- Andrew Jeffreys
- David Story (member to June 2022)
- Denice Spence (consumer representative)
- Fiona Brew
- Graeme Campbell
- Hans de Boer (Invited guest)
- Heinrich Bouwer (member to June 2022)
- Liat Watson (consumer representative)
- Marinis Pirpiris
- Paula Foran
- Philip McCahy
- Rebecca Donald
- Wendy Brown

Anaesthetic Subcommittee members

- Andrea Kattula (Chair to June 2022)
- Phillipa Hore (Chair from July–September 2022)
- Ben Slater (Chair from September 2022)
- Nam Le (ex officio – ANZCA VRC)
- Andrew Jeffreys
- Annette Hollian
- Annie McPherson
- Craig Ironfield
- David Beilby
- David Watters
- Graeme Campbell
- Hans de Boer
- Heinrich Bouwer
- Justin Nazareth
- Nam Le
- Paula Foran
- Philip McCahy
- Pierre Bradley
- Sharryn McKinley
- Tim Coulson

Surgical Subcommittee members

- Wendy Brown (Chair)
- Alison Evans
- Claudia Retegan
- David Watters
- Denice Spence (consumer representative)
- Jennifer Reilly
- Julian Smith
- Liat Watson (consumer representative)
- Marinis Pirpiris
- Margot Lodge
- Matthew Hadfield (ex officio – VSC RACS)
- Michael Homewood
- Patrick Lo
- Phillipa Hore
- Rebecca Donald
- Susan Shedda
- Tony Gray
- Wanda Stelmach

SCV support

- Erin Smith
- Gemma Wills
- Joanna Gaston
- Maryjane Tattersall
- Shirin Anil

APPENDIX 2

Acknowledgements

VPCC proudly acknowledges Australia's Aboriginal and Torres Strait Islander peoples as the Traditional Owners and custodians of the land on which we work and live. We acknowledge and pay respect to their history, culture and Elders past and present.

The work of VPCC would not be possible without the generous assistance of many people and organisations. Important information relating to perioperative care is received from:

- health services
- individual practitioners
- VASM
- Coroners Court of Victoria
- VIFM
- SCV
- Victorian Agency for Health Information
- Department of Health
- Victorian State Committee, Royal Australasian College of Surgeons
- Victorian Regional Committee, Australian and New Zealand College of Anaesthetists.

We thank them for their continued support and diligence in providing us with information to improve perioperative care for all Victorians. This report was developed by the VPCC with support from the following SCV staff:

- Joanna Gaston
- Erin Smith.

Victorian Perioperative
Consultative Council

Safer Care
Victoria