

# ROYAL AUSTRALASIAN COLLEGE OF SURGEONS

## South Australian Audit of Surgical Mortality

Report 2017



ROYAL AUSTRALASIAN  
COLLEGE OF SURGEONS

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The information contained in this annual report has been prepared by the Royal Australasian College of Surgeons, South Australian Audit of Surgical Mortality Management Committee.

The South Australian Audit of Surgical Mortality is a confidential project with legislative protection at a state level by the *Health Care Act 2008* under Part 7 (Quality improvement and research) (gazetted April 2017).

The Australian and New Zealand Audit of Surgical Mortality, including the South Australian Audit of Surgical Mortality, also has protection under the Commonwealth Qualified Privilege Scheme under Part VC of the *Health Insurance Act 1973* (gazetted 25 July 2016).

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## 4. Chairman's report

This will be my last Chairman's Report for the SAASM Annual Report.

I will be leaving the position of Clinical Director; Tony Pohl will take on that role from 1 July 2018. I have enjoyed the seven years in the position. Looking back over that time, the high points have been the:

1. participation of 100% of hospitals in SA (public and private)
2. commitment of 98% of surgeons to the process
3. engagement with our anaesthetic colleagues in cases where there was an anaesthetic component
4. engagement of our gynaecological colleagues in gynaecological cases
5. increasing involvement of South Australian medical students and new graduates in research studies resulting in published papers using the data from ANZASM
6. role of the audits at Royal Australasian College of Surgeons (RACS) Annual Scientific Congresses with education sessions on audit presented over 2-3 days of the 2017 meeting
7. dedication of SAASM staff to their important role in improving surgical outcomes
8. demonstrated reduction in surgical mortality by approximately 20% nationwide
9. opportunity to serve the surgical community in South Australia.

There have, however, been some low points, the most obvious being the drop in the completion of surgical case forms (SCFs) from 96% to 89% this year. There are several causes for this unfortunate situation:

1. The move to the new RAH (Royal Adelaide Hospital) appears to have provided challenges regarding case note retrieval.
2. Communication issues between IT systems have been a problem this year. Although the audit is now a mandatory component of Continuing Professional Development (CPD) for RACS Fellows, unfortunately there are still a very small number of surgeons who complete their SCFs poorly (with inadequate information), return the forms late or do not return them at all. This highlights the need for improved monitoring of compliance.

I feel that I must stress to all surgeons that as processes within the RACS improve and communications with Australian Health Practitioner Regulation Agency (AHPRA) consolidate there will be consequences of failure to satisfy the CPD requirements. A compulsory part of CPD and medical registration is full participation in the SAASM.

I encourage all to complete their SCFs in a thorough and timely fashion.

Finally, I thank my many colleagues for their first- and second-line assessments.

**Glenn McCulloch FRACS**

**South Australian Audit of Surgical Mortality Clinical Director and Chairman**

## 5. Recommendations

It is recommended that surgeons, hospitals and health departments consider the recommended actions below and establish or review their systems or processes to improve the outcomes and experiences for their patients.

### Patient care

- Surgeons should be expected to undertake comprehensive clinical assessments preoperatively, including clear documentation of risks and patient preferences (particularly in relation to end of life treatment).
- Surgeons and other clinicians should carefully consider whether patients would benefit from admission to a critical care unit.
- The most common postoperative complication was 'significant postoperative bleeding'. Reducing the impact of this complication requires increased vigilance in the postoperative period to ensure early detection.
- The high risk of infection among comorbid surgical patients is an ongoing issue. Adherence to protocols and guidelines, such as the Australian Guidelines for the Prevention and Control of Infection in Healthcare, is essential to ensure best practice.

### Improved leadership and communication

- Communication failures have been identified in association with clinical handover and interhospital transfers, and between junior and senior clinicians. There should be a continued focus on standardisation and systematisation of communication processes to minimise errors.
- Consultation with senior surgeons is essential when dealing with important decisions and unexpected complications.
- Surgeons are encouraged to discuss valuable assessor feedback, audit findings and recommendations with surgical colleagues and at relevant meetings.

### Improving the audit

- Increase the return rate of surgical case forms (SCFs) with the aim of reaching 100% compliance (from 89% in 2017). This requires timely reporting of surgical mortality by hospitals and monitoring of non-compliance by CPD.
- Encourage self-reporting by surgeons either directly or through mortality and morbidity meetings of surgical departments.
- Contribute to educational activities to inform and promote discussion about transfer issues.

## 6. Background

The SAASM is an external, independent, peer-reviewed audit of the process of care associated with surgically-related deaths in South Australia. The SAASM commenced data collection on 1 July 2005 and is funded by SA Health. The SAASM project falls under the governance of the Australian and New Zealand Audit of Surgical Mortality Steering Committee and has protection at a state level under the *Health Care Act 2008* (Part 7: Quality improvement and research) (gazetted 26 April 2017), in addition to federal coverage under the Australian and New Zealand Audit of Surgical Mortality (ANZASM) through the Commonwealth Qualified Privilege Scheme, Part VC of the *Health Insurance Act 1973* (gazetted 25 July 2016).

## 7. Audit process and reporting conventions

The SAASM requests notifications of deaths in all South Australian hospitals when a surgeon was involved in the care of the patient. It should be noted that since the opening of the new Royal Adelaide Hospital in September 2017, SAASM was advised by the hospital that surgical mortality reports were not able to be provided to SAASM until further notice. This report therefore does not include all surgical deaths in South Australian Hospitals in 2017.

Following a surgical death notification, the SAASM team contacts the treating surgeon to request completion of an online SCF to obtain the full clinical picture.

The completed SCF is deidentified and reviewed by another consultant surgeon from the same specialty: this process is referred to as first-line assessment (FLA). The assessor completes an FLA form, providing comments on the case management and level of care provided to the patient. If the first-line assessor considers that there is insufficient information on the SCF to come to a conclusion, or if there are factors that warrant further investigation, a second-line assessment (SLA) is recommended. On completion of the assessment(s) the SAASM team provides the feedback to the treating surgeon.

## 8. Anaesthetic mortality review collaboration

The role of the South Australian Anaesthetic Mortality Committee (SAAMC) is to analyse adverse event information, specifically patient mortality, from health services related to anaesthesia with the objective of recommending quality improvement initiatives. Anaesthetists and other health professionals voluntarily submit reports to the committee for review. The SAASM commenced collaboration with the SAAMC in June 2016, identifying cases in which the patient may have had an anaesthetic issue associated with their death. The identification process is based on information provided by the treating surgeon on the SCF (Question: "*Was there an anaesthetic component to this death?*"). The SAASM refers these cases to SAAMC for a further anaesthetic assessment, in an attempt to achieve more complete capture of anaesthetic-related deaths.

## 9. Reporting period

Data analysed for this report covers cases reported to the SAASM from 1 January 2017 to 31 December 2017\*.

Please note that the denominator may change throughout the report. This is primarily due to unanswered questions, which result in missing data. Since not all reported cases have completed the full audit process, the figures in future reports may differ slightly.

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\* Royal Adelaide Hospital cases were not reported to the SAASM from September 2017 and may be missing from this report. Some Royal Adelaide Hospital deaths after September 2017 may have been identified by SAASM through other sources e.g. surgeons who reported their own cases to the SAASM.

## 10. Audit participation

Most eligible public and private hospitals in South Australia currently participate in the audit (53 hospitals<sup>\*</sup>).

All participating hospitals have provided notifications of surgical deaths for 2017<sup>\*</sup>. The majority of the surgical deaths reported occurred in public hospitals (87.4%, 505/578), reflecting the higher number of complex procedures and high-risk patients treated in the public system.

In terms of participation by South Australian surgeons, 95.8% (390/407) of practising Royal Australasian College of Surgeons (RACS) Fellows have provided signed consent to participate in the audit. There were no reported deaths associated with any of the 17 surgeons who have not yet returned a participation form.

In 2012, the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) Board approved a formal collaboration with the SAASM. All gynaecology surgical deaths are now reported to the audit and RANZCOG Fellows are invited to participate voluntarily. As at May 2018, 91.7% (11/12) of gynaecology deaths reported to the SAASM had been closed (audited or excluded). The remaining case has not yet had a form returned by the treating gynaecologist.

A total of 578 deaths were reported in 2017. Due to incomplete data, the SAASM cannot comment on whether the number of surgical deaths has decreased during this reporting period.

As of the census date on 30 April 2018, only 89.3% (516/578) of 2017 SCFs had been returned, a decrease from the 2016 return rate of 94.8% (567/598). It should be noted that the lower return rate has resulted from delays in hospital reporting of surgical mortality cases in 2017 leading to delays in sending and receiving SCFs. Among the cases with an SCF returned, a large proportion were completed by the consultant (78.2%, 330/422), with the remainder completed by a Surgical Education and Training Trainee (10.7%, 45/422), service registrar (6.9%, 29/422) or Fellow (4.3%, 18/422).

## 11. Assessments

During 2017:

- 578 SCFs were sent to surgeons
- of the 516 cases for which the SCF was returned, 18.2% (94/516) were excluded because the patient was admitted for terminal care.
- Among the remaining cases, which were suitable for assessment (422),
  - 14 cases were undergoing FLA
  - 5 cases were undergoing SLA
  - 3 cases were delayed awaiting medical records
  - 1 case was delayed awaiting acceptance by a second-line assessor

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<sup>\*</sup> Royal Adelaide Hospital cases were not reported to the SAASM from September 2017 and may be missing from this report. Some Royal Adelaide Hospital deaths after September 2017 may have been identified by SAASM through other sources e.g. surgeons who reported their own cases to the SAASM.



- 1 case required more information relating to the SCF
- 1 case was delayed awaiting Coroner's findings
- 397 cases had completed the full audit process
- The proportion of cases referred for SLA following completion of the FLA has decreased compared with the previous reporting period, from 11.1% (49/442) in 2016 to 9.6% (39/408) in 2017.

## 12. Cases for analysis

Data from the SLA (rather than the FLA) is used in the analyses for cases that underwent SLA. FLA data was used for cases that did not undergo SLA.

## 13. Patient sample demographics

The majority of patients who died were elderly, had pre-existing health problems and were admitted as emergencies for acute life-threatening conditions. Emergency admissions accounted for 91.4% (384/420, missing data n=2) of all cases for which data were available, the remaining 8.6% (36/420) being elective admissions. The median age at death was 78.1 years (interquartile range, 66.3–86.0) and there were more male patients (55.7%, 322/578) than female patients (44.3%, 256/578).

The number of cases by specialty is not shown due to incomplete 2017 data\*.

Of the cases in which the SCF was returned, 64.2% (246/383, missing data n=39) of patients had an American Society of Anesthesiologists (ASA) grade of 4 or higher (ASA 4 representing a severe systemic disease that is a constant threat to life), while 91.9% (388/422) had at least one significant comorbidity that increased the risk of death. The most frequently occurring comorbidities (shown as proportion of all cases) were cardiovascular problems (62.3%, 263/422), advanced age (55.2%, 233/422) and respiratory disease (30.3%, 128/422). These figures represent the proportion of cases in which the patient was reported as having the comorbidities. Note that each case can list more than one comorbidity. The cause of death frequencies are not shown due to incomplete 2017 data\*.

## 14. Transfers

Treating surgeons reported that preoperative transfer between hospitals occurred in 25.1% (104/414, missing data n=8) of audited cases. Such transfers were in response to the need for higher levels of care or specific expertise. In the majority of transfers, no patient management concerns were identified. In 19.8% (19/96, missing data n=8) of transferred cases, issues relating to patient care were identified. The most frequently reported issue among transferred cases was 'delay in transfer' (12.6%, 12/95, missing data n=1).

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Some cases had more than one transfer issue. The transfer issue frequencies are not shown due to incomplete 2017 data\*.

## 15. Risk management

The audit collects data relating to aspects of patient care that are particularly important for high-risk surgical patients, including deep vein thrombosis (DVT) prophylaxis, fluid balance management, and the utilisation of, and level of satisfaction with, critical care units.

**DVT prophylaxis:** treating surgeons reported that DVT prophylaxis was used in 75.7% (312/412, missing data n=10) of cases. In most of the cases in which DVT prophylaxis was not used, there was an active decision to withhold it or it was not considered appropriate (98.0%, 97/99, missing data n=1). In the remaining 2.0% (2/99) of cases prophylaxis was not considered. In 0.9% (3/327) of audited cases assessors identified that DVT prophylaxis was not used when they considered it should have been. Assessors considered the use of DVT prophylaxis inappropriate in 0.6% (2/327) (missing data n=10, answer 'unknown' n=60) of cases.

**Fluid balance issues:** the treating surgeon reported that fluid balance was an issue in 10.0% (41/408, missing data n=2, answer 'unknown' n=12) of cases. Fluid balance issues occurred with similar frequency among operative and nonoperative cases.

**Utilisation of critical care units:** critical care facilities were utilised in 63.0% (266/422) of cases. In closed cases in which the patient did not receive critical care, the proportion of assessors who considered that the patient would have benefited from critical care has decreased during this reporting period, from 11.7% (14/120, missing data n=4) in 2016 to 5.7% (8/141) in 2017.

## 16. Preoperative diagnostic delays

A preoperative delay in diagnosis was identified by the treating surgeon in 7.3% (31/422) of cases. In 22.6% (7/31) of cases in which there was a preoperative delay in diagnosis, the reporting surgeon felt that the delay was associated with the surgical unit.

The preoperative diagnostic delay frequencies are not shown due to incomplete 2017 data\*.

## 17. Operative and nonoperative deaths

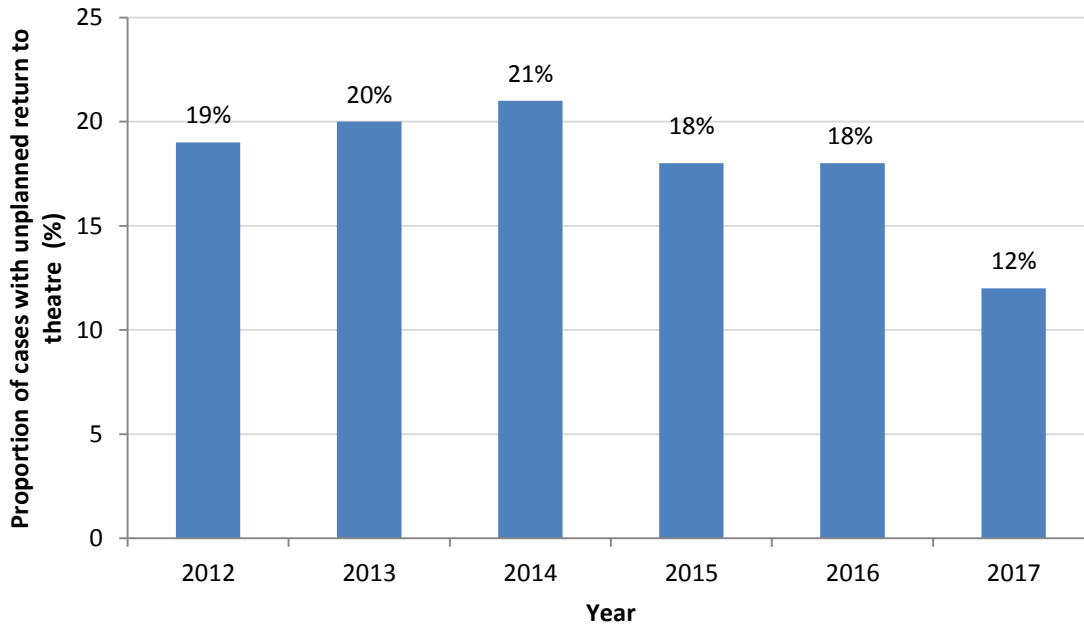
There was no operation performed in 29.1% (123/422) of audited deaths. In 55.7% (64/115, missing data n=8) of those cases this was an active decision made by the surgeon. Other reasons for not operating included: not a surgical problem 35.7% (41/115), rapid death 21.7% (25/115) and refusal of treatment by the patient 17.4% (20/115). In some cases more than one reason was selected for not operating.

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Overall, there were 406 surgical procedures performed on 301 patients (missing data n=2)\*. In 18.9% (57/301) of these cases the patient underwent two or more operations. Cases in which two or more operations were performed were more than twice as likely to have an area of concern or adverse event identified by the assessor (risk ratio [RR] 2.38, 95% confidence interval [CI] 1.25 to 4.51). In 5.8% (17/292, missing data n=19) of operative cases an operation was abandoned because a terminal situation was found, and in 12.0% (36/299, missing data n=2) of operative cases the surgeon reported an unplanned return to theatre (see Figure 1).

Figure 1: Proportion of cases with an unplanned return to theatre, 2012 to 2017\* (n=2,154)



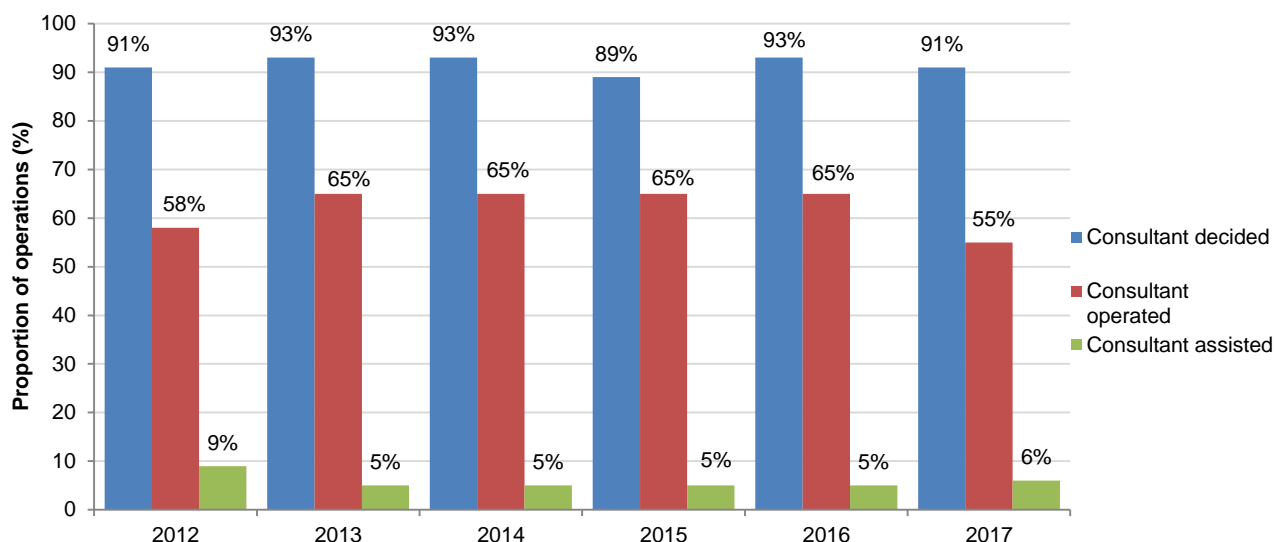
Missing data: n=19

A consultant surgeon operated in 54.9% (218/397, missing data n=9) of the reported procedures and made the decision to proceed to surgery in 90.9% (361/397) of reported procedures (see Figure 2). Among cases with multiple operations, the level of consultant involvement (operating, assisting or in theatre) was higher for the first operation (64.3%, 191/297) compared with subsequent operations (58.0%, 58/100).

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Figure 2: Consultant involvement in operations, 2012 to 2017\*



## 18. Postoperative complications

Postoperative complications are considered a major contributor to mortality in surgical patients. Treating surgeons reported that a postoperative complication occurred in 27.3% (82/300, missing data n=1) of audited operative cases. This comprised a total of 90 complications among 80 patients (missing data n=2). There has been a decrease in the proportion of cases with a postoperative complication compared with 2016 (30.7%, 99/322, missing data n=3). The preoperative diagnostic delay frequencies are not shown due to incomplete 2017 data\*.

The most frequently occurring postoperative complications were tissue ischaemia, procedure-related sepsis and anastomotic leak (data not shown).

Complications in the 'other' category included: respiratory infection, acute cardiac complications, acute abdominal complications, cerebral infarction or stroke, aspiration and respiratory failure, embolism, wound infection, multiple organ failure, delirium, deep vein thrombosis, intracranial haemorrhage and haematoma.

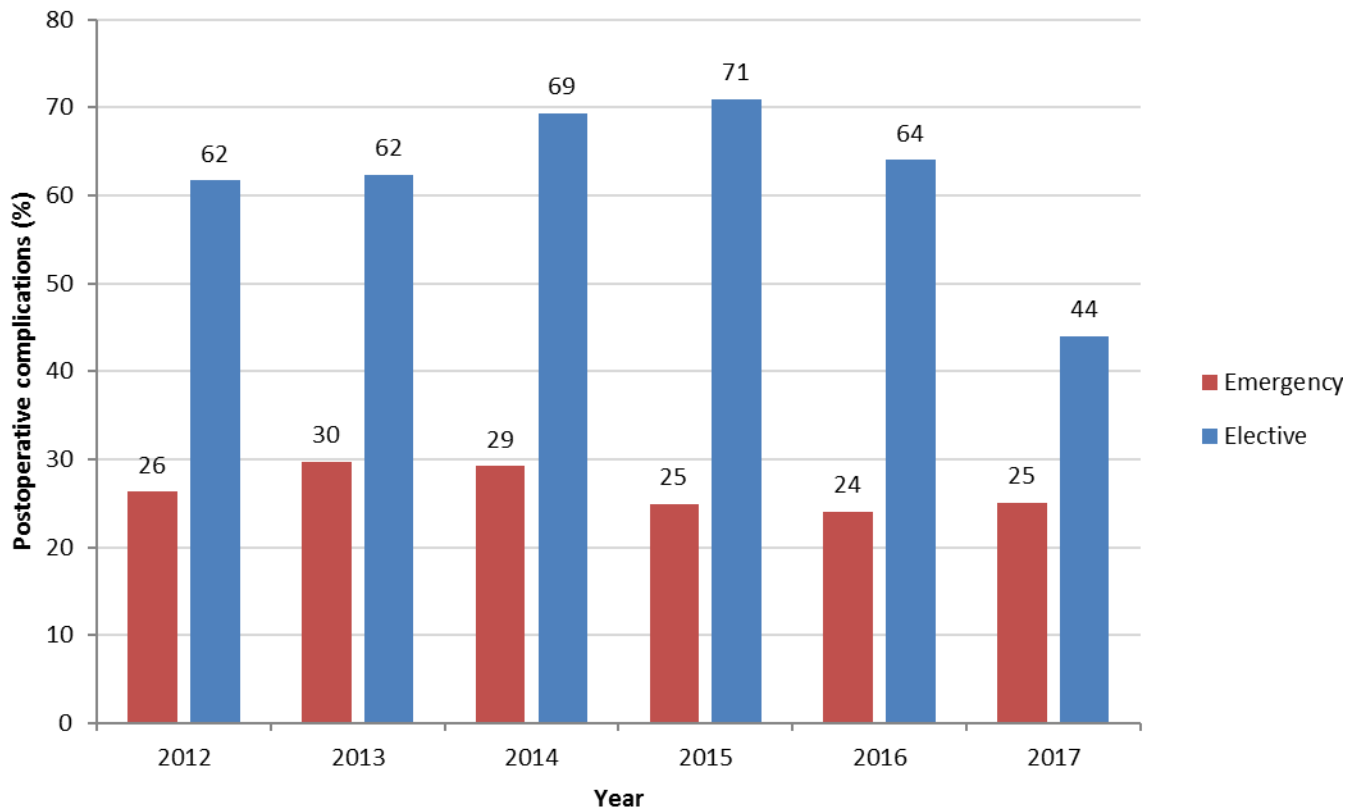
The postoperative complication section of the SCF will be revised to ensure clearer categorisation of complications and reduce the number of complications recorded as 'other'.

Postoperative complications were identified almost twice as frequently for elective admissions compared with emergency admissions (44.1%; 15/34 vs. 25.0%; 66/264. RR 1.76; 95% CI 1.15 to 2.72). This is consistent with previous years (see Figure 3) although the rate of postoperative complications among elective patients is decreasing. The lower rate of postoperative complications among emergency patients may be related to their poorer state of health on admission. The proportion of emergency patients who had an ASA score of 4 or 5 was 67.6% (234/346), compared with 31.4% (11/35) for elective patients (missing data n=41). This suggests that emergency patients were already at higher risk of rapid deterioration because of their comorbidities. In contrast, elective patients were healthier and had more time in hospital during the

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last admission (median stay of 10 days compared with 8 days for emergency patients). Elective patients were more likely to die as a consequence of a new event, which shows in the data as a specific postoperative complication.

Figure 3: Postoperative complications by admission status and audit period, 2012 to 2017 (n=2,129)



Missing data: n=32

## 19. Infections

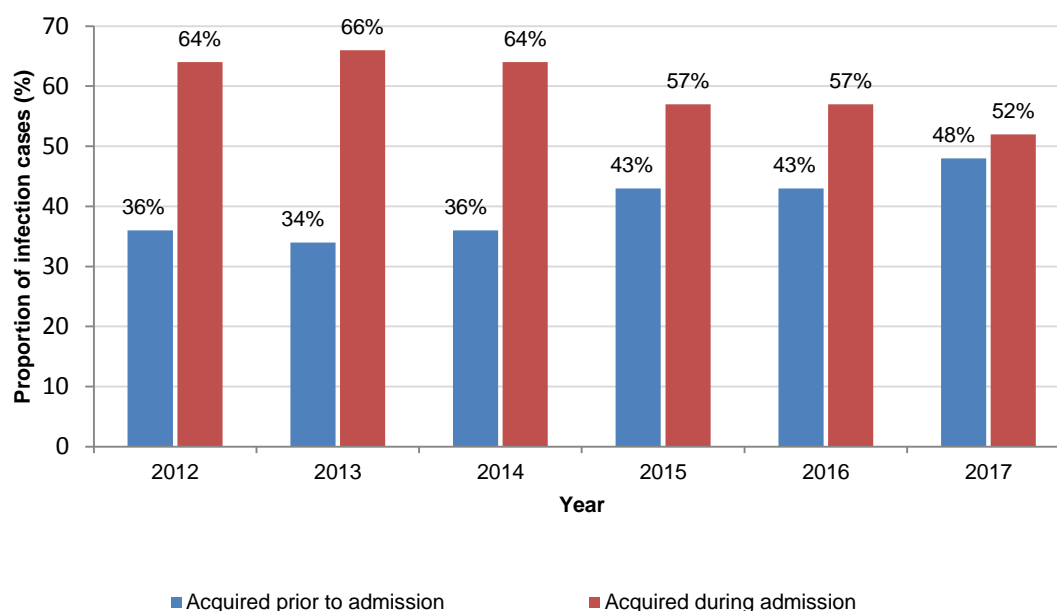
The audit began collecting data on clinically significant infections in 2012. There was an increase in the proportion of patients who died with a clinically significant infection in 2017 (40.6%, 170/419, missing data n=3), compared with 2016 (35.0%, 157/448, missing data n=2).

In order of prevalence the three most common types of infections were:

- Pneumonia
- Intra-abdominal sepsis
- Septicaemia.

There has been a decrease in the proportion of infections acquired during admission, with almost half of the infections now having been acquired prior to admission (Figure 4).

Figure 4: Proportion of infections acquired prior to or during admission (2012 to 2017)



Infections acquired during admission were most often acquired postoperatively. Surgical site infections comprised 4.6% (4/87) of infections acquired during admission in 2017, identical to the proportion reported in 2016. In cases in which there was an infection, the treating surgeon reported that the antibiotic regime was appropriate in 99.4% (168/169, unknown=1, missing data=1) of cases.

## 20. Clinical management issues identified by assessors

Due to the small number of clinical management issues, this section reports both numbers and frequencies. It is important to note that this report contains incomplete surgical mortality data, therefore these figures may not be comparable with other reporting periods. For each case reported to the SAASM, the first-line assessor was asked to identify and describe any clinical management issues. In 7.8% (31/397) of audited cases a more comprehensive assessment (case note review) was completed by a second-line assessor. An SLA occurs when the first-line assessor considers that insufficient information was provided on the SCF, or there were factors that warranted further investigation. The SLA is used in this analysis for cases that underwent both FLA and SLA.

Clinical management issues are identified by assessors in two ways:

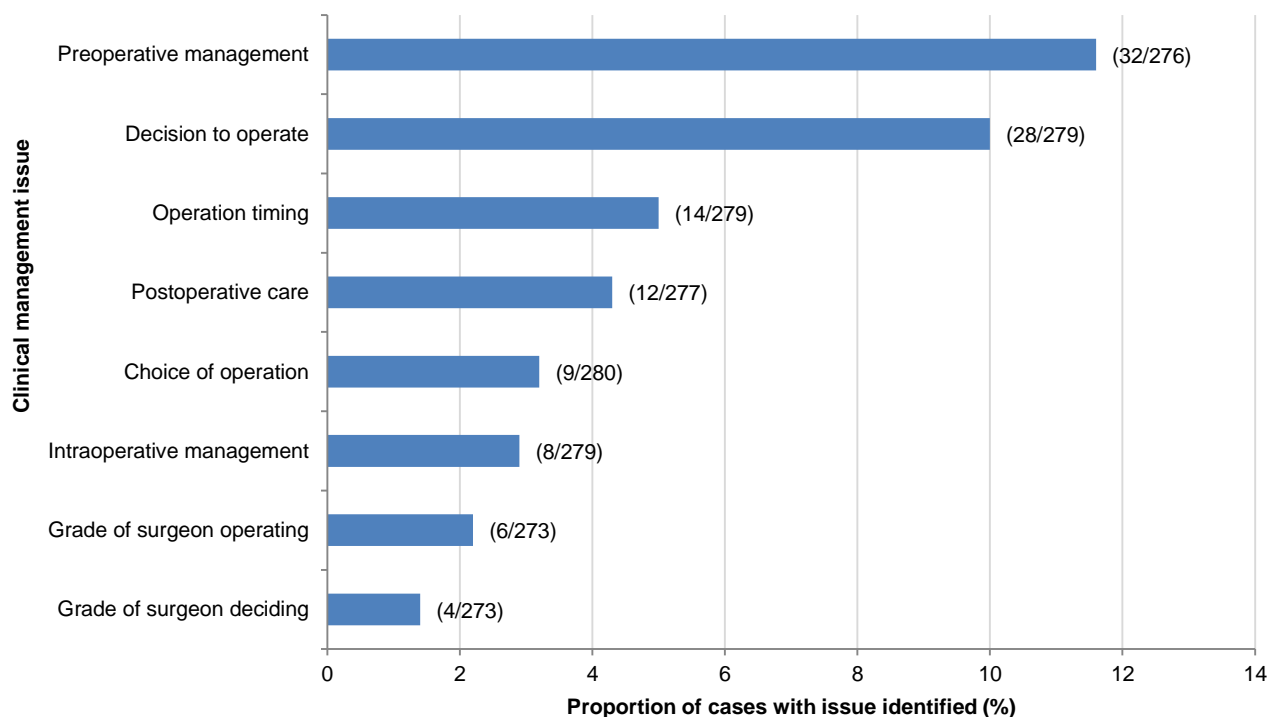
1. by indicating (yes or no) whether there were any concerns about specific categories of patient management (operative cases only)
2. by identifying and describing any perceived deficiencies of care in the management of the patient (both operative and nonoperative cases).

### Clinical management issues associated with operative cases

'Preoperative management' was the clinical management issue most frequently identified by assessors. This issue was identified more frequently among operative cases in 2017 (11.6%, 32/276, missing data n=3, answer 'not applicable [N/A]' n=4) compared with 2016 (10.0%, 34/341, missing data n=1, answer 'N/A' n=4). The next most frequently identified issue among operative cases was 'decision to operate', identified in

10.0% (28/279, missing data n=1, answer 'N/A' n=3) of cases in 2017 compared with 12.0% (41/342, answer 'N/A' n=4) in 2016. Figure 5 shows the frequency of each of the different issues.

Figure 5: Clinical management issues identified by assessors in operative cases 2017



Note: where the assessor noted that an issue was 'not applicable', this has been excluded from analysis. Missing data has also been excluded.

### Clinical management issues associated with all cases

Assessors are asked to identify any areas of care that could have been improved. Complications can occur with all treatments, but only those that are due to some aspect of patient management (rather than the disease process) are considered to be clinical management issues. It should also be noted that the SAASM records all clinical management issues relating to the final admission, not only those relating to the surgical care/admission. Assessors are asked to assign responsibility, e.g. the audited surgical team or another clinical team.

Surgeons are asked to report clinical management issues against the following criteria:

- **area of consideration:** where care could have been improved or different, but may be an area of debate
- **area of concern:** where care should have been better managed
- **adverse event:** an unintended injury, caused by medical management rather than by disease, which is sufficiently serious to lead to prolonged hospitalisation or to temporary or permanent impairment or disability of the patient, which contributes to, or causes, death.

There were no serious clinical management issues (adverse events or areas of concern) identified in 92.7% (368/397) of cases that completed the audit cycle in 2017. For these patients, death was due either to the disease process or to complications that were unavoidable given the presence of serious comorbidities.

The proportion of cases in which areas of concern or adverse events were identified in 2017 was 7.3% (29/397). Table 1 shows the number of clinical management issues identified in 2017.

Table 1: Total number of clinical management issues 2017 (n=99)

Clinical management issue	Number of issues
Area of consideration	66
Area of concern	28
Adverse event	5
<b>Total</b>	<b>99</b>

Note: some cases had more than one issue.

The audited surgical team was considered responsible, either solely or partially, for 64.8% (61/94, missing data n=5) of the clinical management issues (some issues were associated with more than one team). An overview of the attribution of responsibility for clinical management issues is provided in Table 2.

Table 2: Responsible unit associated with areas of consideration, concern and adverse events 2017

CLINICAL MANAGEMENT ISSUE	ASSOCIATION*			
	Surgical unit	Another clinical unit	Hospital	Other
Area of consideration	48	15	4	3
Area of concern	11	19	4	3
Adverse event	2	2	0	2
<b>Total</b>	<b>61</b>	<b>36</b>	<b>8</b>	<b>8</b>

Missing data: n= 5 incidents

\*Some clinical management issues were associated with more than one team.

### **Areas of consideration**

The majority of areas of consideration were in the preoperative period. The most frequently identified areas were:

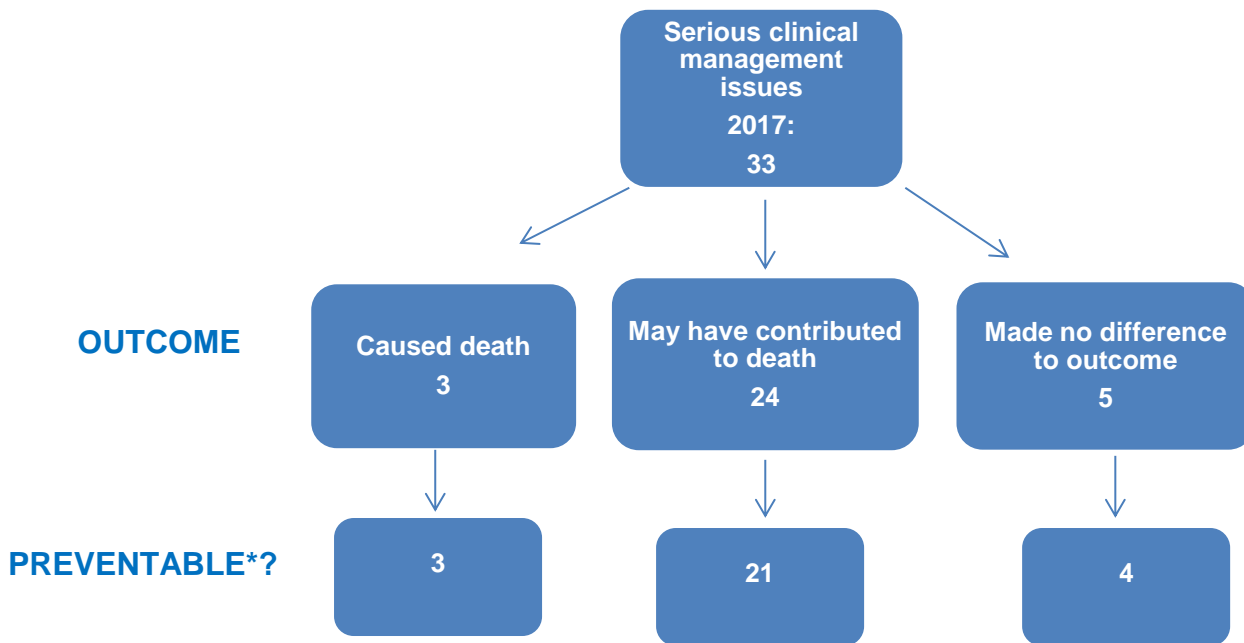
- decision to operate (n=17)
- inadequate assessment / diagnosis (n=12)
- different operation desirable (n=11)
- unsatisfactory postoperative care - other (n=8)
- delay to surgery (n=6).

### **Serious clinical management issues**

Assessors were asked whether the identified issue caused or contributed to the patient's death and whether it could have been prevented. Of the 33 most serious issues (those categorised as areas of concern or adverse events), 81.8% (27/33) were assessed as having caused or potentially contributed to the death of the patient, and of those issues, 88.9% (24/27) were considered preventable. An overview of the outcome and preventability of serious clinical management issues is provided in Figure 6.



Figure 6: Outcome and preventability of serious clinical management issues (as viewed by assessor) 2017

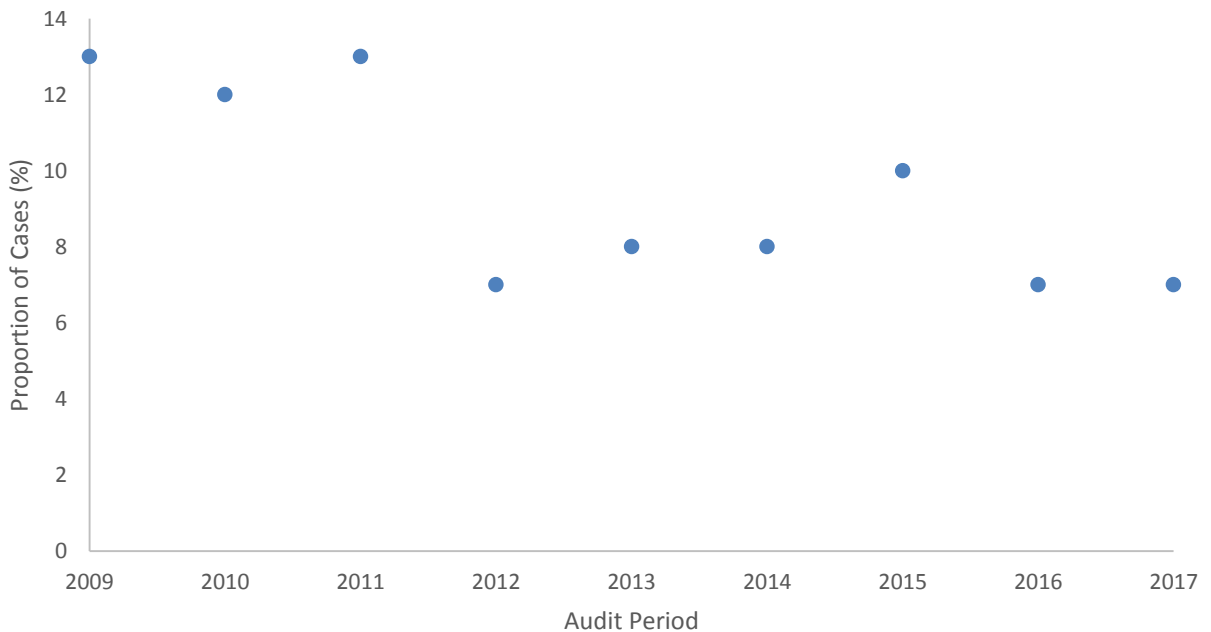


Missing data: n= 5 incidents

\*Categorised by assessor as probably or definitely preventable

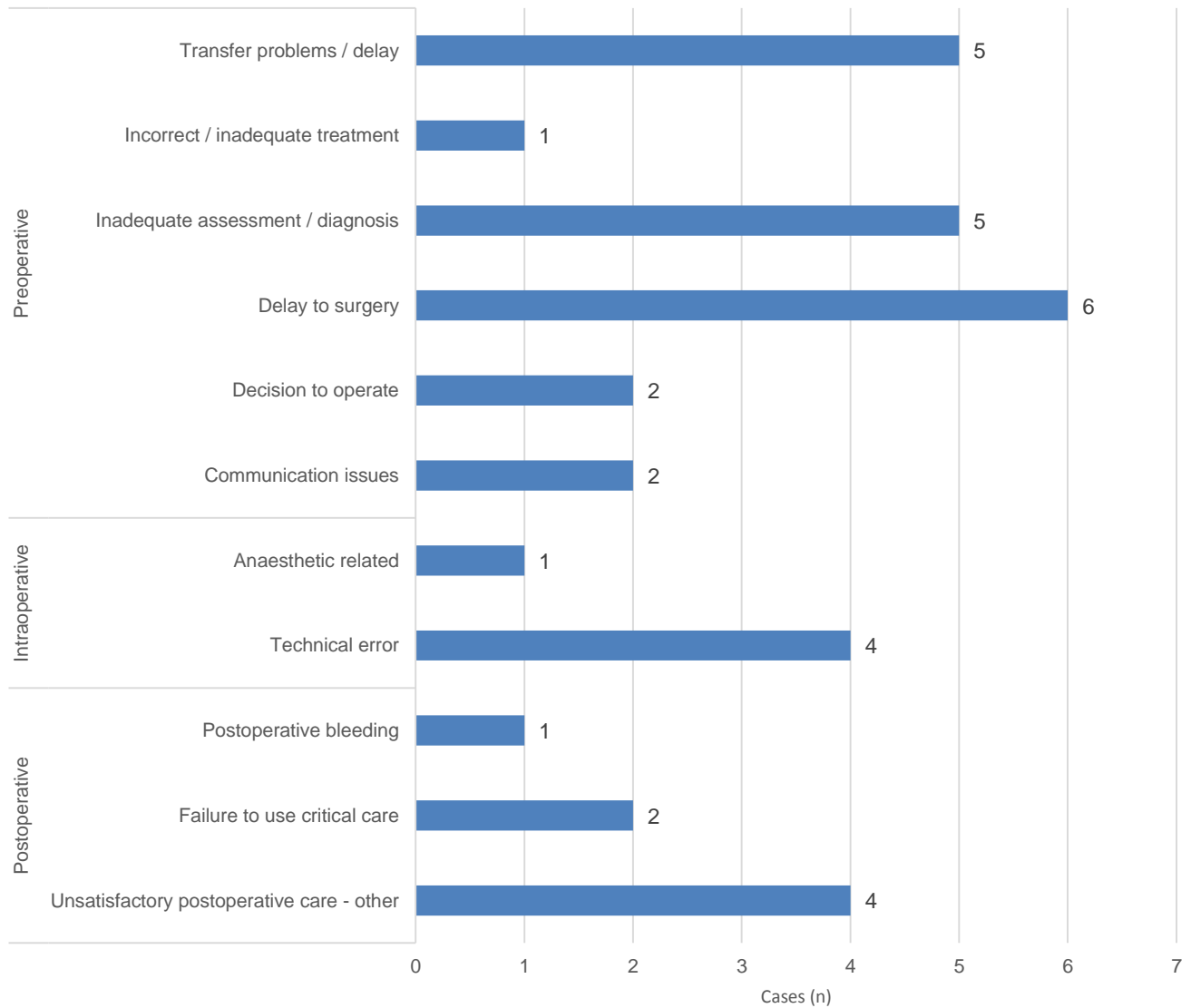
Since the audit commenced there has been a reduction in the proportion of cases with serious clinical management issues. Figure 7 shows a weak decreasing trend over time.

Figure 7: Cases with a serious clinical management issue by audit period (2009 to 2017)



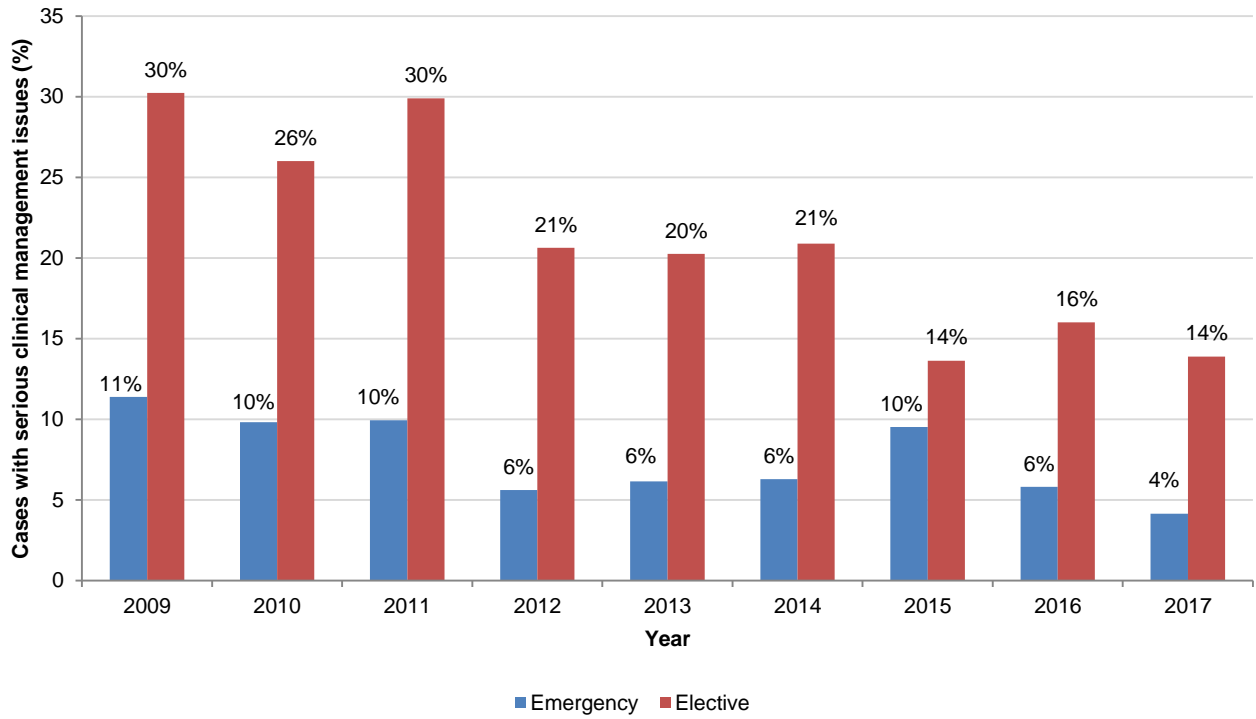
The type and frequency of serious clinical management issues are shown in Figure 8. Issues at the preoperative stage were most commonly reported.

Figure 8: Serious clinical management issues (areas of concern and adverse events) identified by assessors, 2017 cases (n=33)



Serious clinical management issues were identified more than three times as frequently in elective admissions compared with emergency admissions (13.9%, 5/36 vs. 4.1%, 16/386, missing data n=4), and this is consistent with previous years (see Figure 9). As described in section 18, this apparent paradox may be related to emergency patients being in poorer health and having a slightly shorter admission prior to death, reducing the possibility for the occurrence of a serious clinical management issue.

Figure 9: Serious clinical management issues by admission status and year (2009 to 2017)



## 21. Progress update

A number of recommendations were contained in the 2015/2016 report and a summary of the progress in implementing those recommendations is provided in Table 3.

Table 3: Implementation of 2015/2016 report recommendations: progress update

Recommendations	Progress
<b>PATIENT CARE</b>	
Surgeons should be expected to undertake comprehensive clinical assessments preoperatively, including clear documentation of risks and patient preferences (particularly in relation to end of life treatment).	In progress.
Surgeons and other clinicians should carefully consider whether patients would benefit from admission to a critical care unit.	In progress.
The most common postoperative complication was 'significant postoperative bleeding'. Reducing the impact of this complication requires increased vigilance in the postoperative period to ensure early detection.	In progress.
The high risk of infection among comorbid surgical patients is an ongoing issue. Adherence to protocols and guidelines, such as the Australian Guidelines for the Prevention and Control of Infection in Healthcare, is essential to ensure best practice.	In progress.
<b>IMPROVED LEADERSHIP AND COMMUNICATION</b>	
Communication failures have been identified in association with clinical handover and interhospital transfers, and between junior and senior clinicians. There should be a continued focus on standardisation and systematisation of communication processes to minimise errors.	In progress.
Consultation with senior surgeons is essential when dealing with important decisions and unexpected complications.	In progress.
Surgeons are encouraged to discuss valuable assessor feedback, audit findings and recommendations with surgical colleagues and at relevant meetings.	In progress.
<b>IMPROVING THE AUDIT</b>	
Maintain the high return rate of surgical case forms (SCFs) with the aim of reaching 100% compliance (from 97% in 2015 to 2016).	A higher return rate was not achieved due to factors outside of SAASM's control, namely (1) delays in hospital reporting of surgical mortality cases in 2017 leading to delays in sending and receiving SCFs, and (2) technical difficulties with RACS CPD meaning that some non-compliant surgeons were not able to be identified and targeted for return of overdue cases. Despite ongoing efforts by SAASM, these issues were unable to be resolved by the reporting deadline.

<p>Identify opportunities to share assessor feedback with other (non-surgical) members of the treating surgical team, following the approved expansion of Qualified Privilege (QP) protection.</p>	<p>According to legal advice obtained by the SAASM, current provisions do not allow feedback to be shared with non-surgeons. The assessor feedback is, however, now being shared with members of the treating surgical team (rather than the nominated treating surgeon only) based on expanded QP protection. This sharing of feedback has been well-received by treating surgical teams and assessors.</p>
<p>Contribute to educational activities to inform and promote discussion about communication issues.</p>	<p>In April 2018, the SAASM presented a seminar on the topic of communication. The event attracted almost 100 attendees and was very well received (based on a post-seminar evaluation survey). In addition, the SAASM's 2018 Individual Surgeons' Report included an educational article drawing attention to the potential consequences of communication failures (with learnings from audited cases) and highlighting the importance of effective communication.</p>

## 22. SAASM seminar: Nobody told me: Poor communication kills

Among cases audited by the SAASM, we commonly see communication failures that have a negative impact on patient safety. This was demonstrated in a recent journal article published by SAASM, which found that poor communication was the second most common area for improvement identified by assessors.

Issues of poor communication are reported across the entire spectrum of care, by all specialties, and are attributed to both surgeons and non-surgeons. In the worst instances these failures directly contribute to morbidity and mortality

To inform and promote discussion about this issue, on 12 April, the SAASM presented a case series and panel discussion highlighting the importance of effective communication. A diverse range of speakers discussed examples of communication challenges and strategies for improvement.

The event was very well received with almost one hundred attendees including surgeons, medical officers, medical students, anaesthetists, nurses, and hospital and research staff.

Post-seminar evaluation surveys were completed by 75% of attendees. 91% reported that they found the program to be very informative and valuable, and 90% felt that the seminar increased their awareness of the potential impact of poor communication.

Comments included:

*“Really fantastic opportunity and lots of things to incorporate into clinical practice.”*

*“...it is great to see it acknowledged by medical personnel and willingness to address and see that not challenging authority causes mistakes and encouraging conversation may reduce errors and often catastrophic events. Patient-centred holistic care being recognised by the entire team.”*

*“Case studies [were] informative. Wonderful way of sharing information discussing improvement for patients and their care/outcome.”*

The SAASM team wishes to thank presenters, staff and attendees for contributing to the success of this event. Further information on this and other SAASM events can be found on the [SAASM webpage](#).

## 23. A closer look: Delays

One of the most common clinical management issues that have been revealed in this annual report is delay. Delays have been reported at both preoperative and postoperative stages and across different specialties.

In this annual report there were six cases with 'areas of concern' and seven cases with 'areas of consideration' where delay was identified as an issue. It is pleasing to note that there were no 'adverse events' in the delay category (an adverse event is defined as a complication of treatment where the care should have been better – it is the most serious category of clinical management issue).

The most common delay is delay in diagnosis, examples of which have occurred at both pre- and postoperative stages. At the postoperative stage, this is usually a delay in recognition of a complication of the surgical procedure. In this year's report there was only one case in which a delay in transport was identified. Delays in transfer between hospitals are reported rarely but have a significant impact on patient outcomes. Behind these delays are clinical management issues which are often seen within the audit and can negatively affect the care a patient receives in many different ways.

Examples of cases with areas of concern relating to delay are described briefly below. These cases demonstrate some of the key clinical management issues which lead to delays and how they affect patient outcomes.

### Case 1

A middle-aged man had an aortic valve replacement due to severe stenosis. On the second postoperative day, his oxygen saturation levels began to deteriorate; this was initially put down to hypoventilation secondary to pain and a history of asbestosis. Perhaps this was an early indication that not all was well and close observation was necessary. On the fourth postoperative day, after two MET (medical emergency team) calls for tachypnoea, he was transferred to the ICU (intensive care unit). At this time, his abdomen had become distended and the general surgical team was called. The possibility of ischaemic bowel was raised; however no immediate action was taken. Over the next 48 hours, there was a steady but definite decline. He was assessed by the surgical team on a number of occasions but was not considered in need of intervention. A CT(Computed Tomography) scan was initially thought to show ileus only, although a subsequent report mentions pneumatosis coli – a sign of ischaemic colitis.

By the fifth postoperative day, the patient was tachycardic, febrile, on a low dose of noradrenaline to maintain blood pressure, worsening respiratory failure and evidence of acute kidney injury. Laparotomy was still not considered to be indicated. On the sixth postoperative day, he underwent a laparotomy – the findings were underwhelming (no evidence of full thickness infarction). The assessor thought that this was because he had either colonic mucosal ischaemia or venous ischaemia of the small and large bowel (or both). He underwent a right hemicolectomy and ileostomy, a procedure described by the assessor as "too little too late".

Following this procedure, the patient deteriorated rapidly, requiring increased inotropes and dialysis. He died of multi-organ failure the following day, seven days after his aortic valve replacement. Ischaemic bowel can be notoriously difficult to diagnose, particularly in a postoperative patient when the main symptom (pain) can be masked by analgesia. This case demonstrates the importance of keeping in mind the possibility of multiple ailments to avoid delays in diagnosis. Many patients require care from numerous specialities and often symptoms of one condition can be masked by the symptoms or treatment of another. This patient may well have died even in the best of clinical circumstances, but there is a lot to learn from this case. Above all, it strongly reinforces the message that surgical decision-making in the deteriorating patient is about intervention – at the right time and with the right procedure.

### Case 2

An elderly man with renal failure on haemodialysis, type 2 diabetes, peripheral neuropathy, peripheral arterial disease, heart failure, non-alcoholic fatty liver cirrhosis, anaemia and depression was admitted under the care of the renal physician at a metropolitan hospital and was found to have wet gangrene. Upon surgical consult the intention was that a transfer be made to a second metropolitan hospital for definitive treatment of the wet gangrene. Surgical consults were performed by surgeons at the presenting hospital and by phone by

the receiving hospital, with large differences in opinions on the urgency of this transfer. After multiple requests for transfer of the patient by the presenting hospital, the patient was transferred on the third day after admission. When the patient arrived at the receiving hospital he was scheduled for surgery the next day, however this surgery was subsequently postponed for another two days. There were multiple communication failures throughout this admission that resulted in a delay of five days before the planned BKA (below knee amputation) took place. The wound did not heal well and an AKA (above knee amputation) was discussed by multiple members of the surgical team six days post BKA, however this operation was not performed until two weeks post BKA due to further communication failures. Further wound healing problems occurred and general deterioration ensued. While there were other clinical management issues, the assessor thought that the transfer delay prior to the original BKA was the most concerning factor in the care this patient received.

### **Case 3**

The patient was a middle-aged man from a regional centre, who presented in extremis after being found collapsed outside his house. He had apparently been unwell for several days and had had little to eat or drink. He was somewhat delirious and complained of severe generalised abdominal pain. When seen by paramedics, his pulse was 110 and thready, his BP (blood pressure) unrecordable. He was transferred to the regional hospital where resuscitation was commenced. He required inotropes within two hours of arrival and was intubated shortly afterwards.

The case notes indicate that the surgical team was contacted to review the patient, but it is unclear whether this review occurred as there is no surgical note in the case notes whatsoever. Instead, there is evidence that the medical and resuscitation teams tried to involve the surgical registrar who did not want to be involved in the care until there was more 'evidence' of a surgical problem. A transfer to the metropolitan hospital ICU was arranged by the medical team as well as a CT (computed tomography) scan of the abdomen. The CT showed widespread free gas and fluid in keeping with a perforated viscus. By the time the patient had returned to the ED (emergency department), the retrieval team had arrived, and a decision was made to transfer the patient to the metropolitan hospital under the surgeons for probable laparotomy. This was undertaken and revealed a perforated duodenal ulcer and widespread peritonitis. He died of multi-organ failure the next day.

Both the receiving surgeon and assessor were concerned with the delay in surgical care for this patient. The assessor attributes the delay in diagnosis for this patient at the regional centre to either a lack of experience of the registrar diagnosing the patient or an unwillingness to provide surgical care. The lack of documentation from the surgeon (if they were involved in the care of this patient) would have also contributed to communication issues between staff causing delays both at the regional centre and during the transfer process. Overall, a number of factors contributed to a delayed diagnosis for this patient who should have been treated as soon as possible on admission to the regional centre.



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Surgical Representative (to June 2018)
  - Associate Professor Tony Pohl            Clinical Director, SAASM Chair and  
Surgical Representative (from June 2018)
  - Dr Dayan De Fontgalland                Surgical Representative
  - Mr Benjamin Teague                      Surgical Representative
  - Associate Professor Graham Mercer      Surgical Representative
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- SAASM staff:
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  - Northern Territory Audit of Surgical Mortality
  - Queensland Audit of Surgical Mortality
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  - Victorian Audit of Surgical Mortality
  - Western Australian Audit of Surgical Mortality.