An overview of the VASM audit

Can the VASM audit improve patient outcomes? - A regional perspective.

Claudia Retegan
Victorian Audit of Surgical Mortality (VASM)
Wednesday, 5th September 2018
Latrobe Regional Hospital

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Victorian Audit of Surgical Mortality

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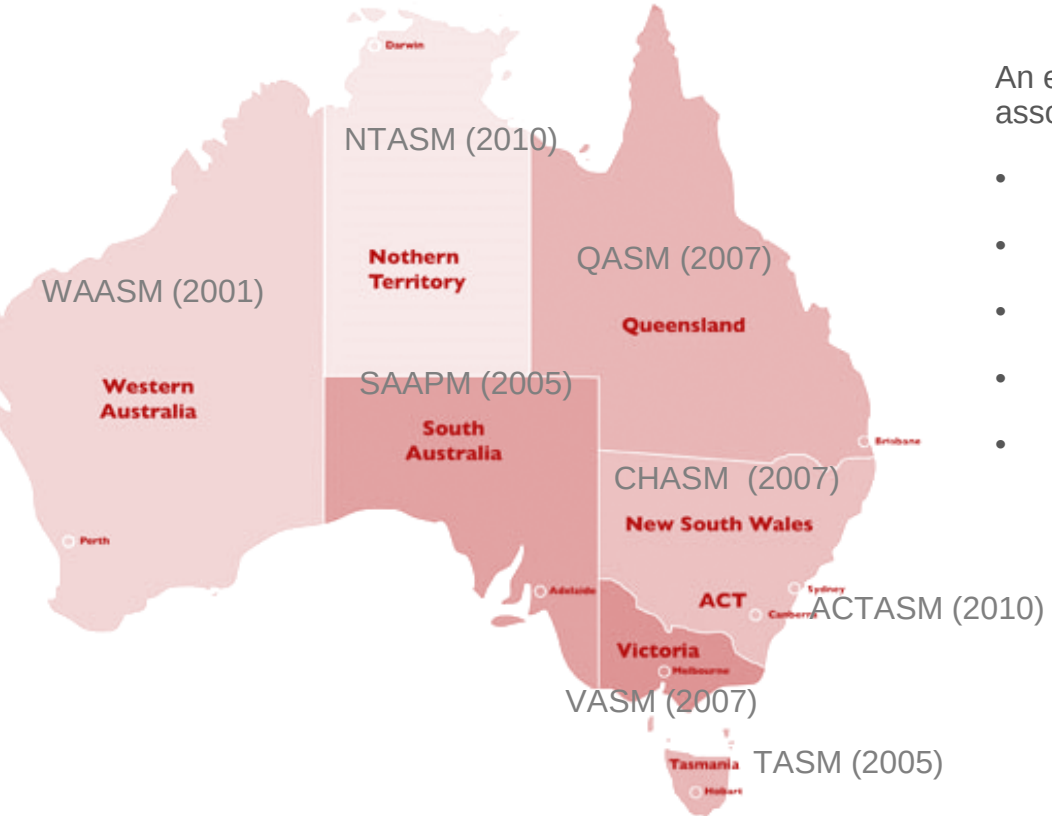
RACS

Presentation outline

- Overview of the VASM audit process,
- Results and benefits from the audit,
- Tools to monitor patient safety,
- Potential impact,
- Recommendations and
- Future directions.

Origins



An external, peer-reviewed audit of the process of care associated with surgically related deaths.

- Modelled on the Scottish Audit of Surgical Mortality (1994).
- Protected by Qualified Privilege.
- National program management transferred to RACS (2005),
- All States and Territories under ANZASM (2010),
- CHASM administered by the Clinical Excellence Commission (CEC).

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VASM Collaboration

195 Victorian surgical sites

2700 Victorian Fellows

ANZASM
Australian and New Zealand Audit of Surgical Mortality

ACTASM
ACT Audit of Surgical Mortality

QASM
Queensland Audit of Surgical Mortality

NTASM
Northern Territory Audit of Surgical Mortality

WAASM
Western Australian Audit of Surgical Mortality

State Government Victoria
Department of Health & Human Services

TASM
Tasmanian Audit of Surgical Mortality

SAAPM
South Australian Audit of Perioperative Mortality

CHASM
Collaborating Hospitals' Audit of Surgical Mortality

AOA
AUSTRALIAN ORTHOPAEDIC ASSOCIATION

SAFER CARE VICTORIA

The Royal Australian and New Zealand College of Obstetricians and Gynaecologists

The Victorian Surgical Consultative Council

The Victorian Consultative Council on Anaesthetic Mortality and Morbidity

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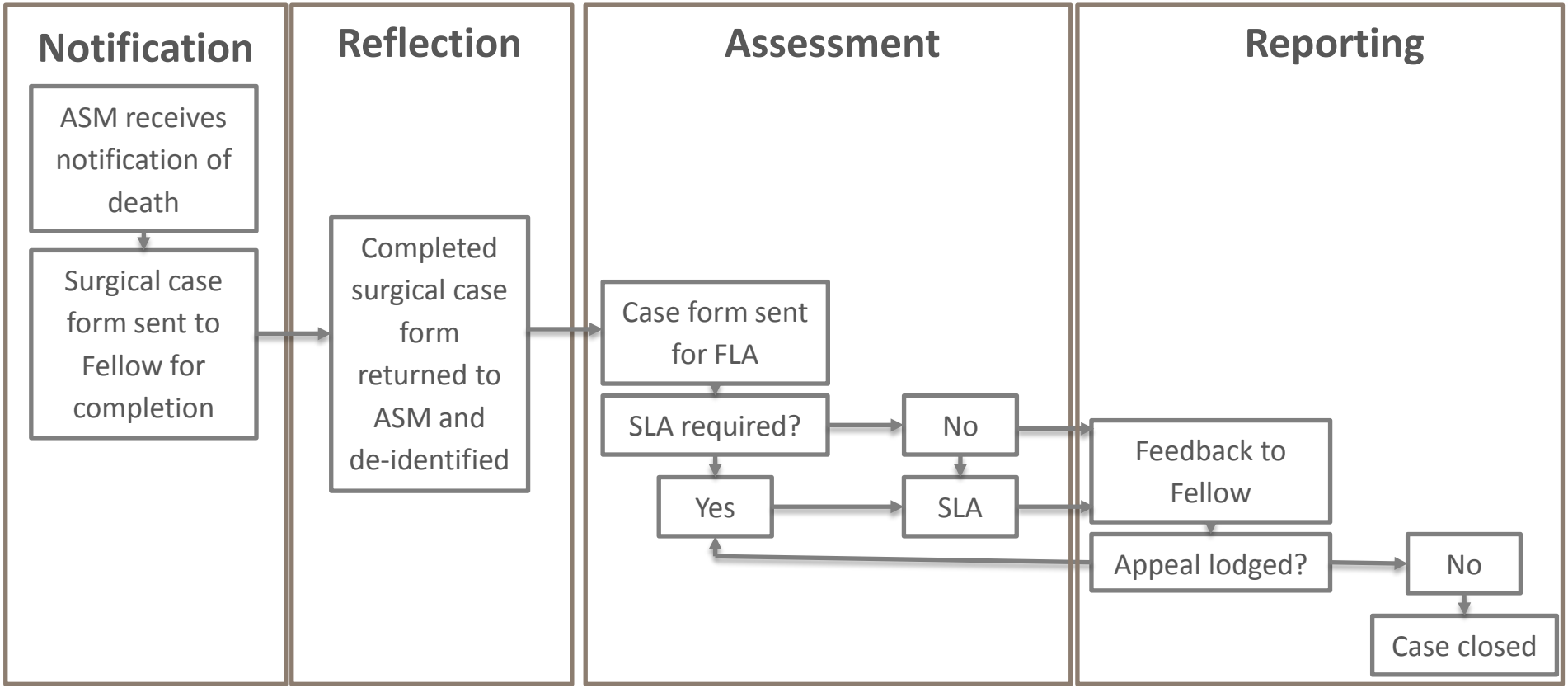
VASM Audit Flow

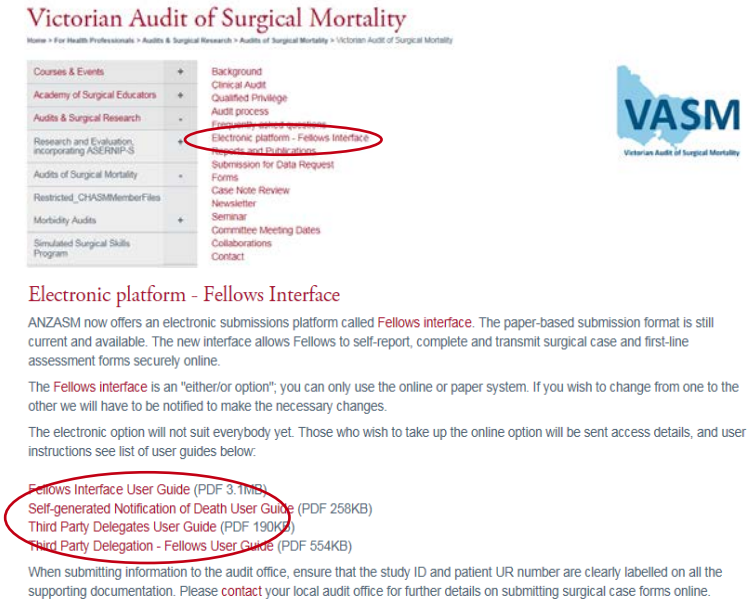


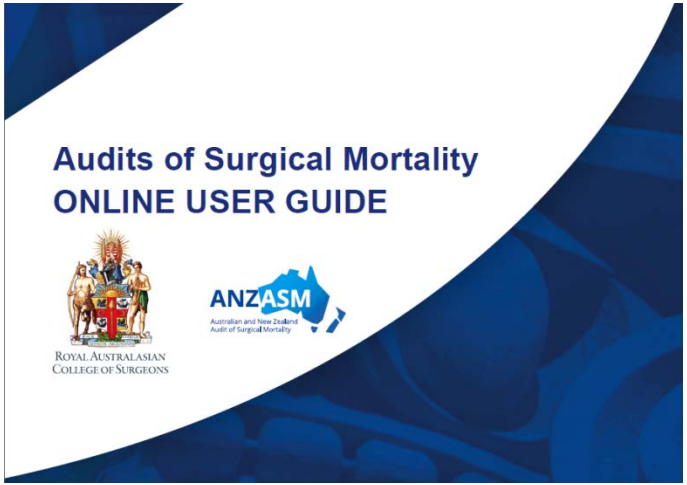
VASM Audit – electronic data collection

RACS

Fellows Interface – User Guide from the web

Type **www.surgeons.org/vasm**





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Management issues classification (ACONS)

- An area for CONSIDERATION is where the clinician believes areas of care COULD have been IMPROVED or DIFFERENT, but recognizes that it may be an area of debate.

- An area of CONCERN is where the clinician believes that areas of care SHOULD have been better.

- An ADVERSE EVENT is an unintended injury caused by medical management rather than by disease process, which is sufficiently serious to lead to prolonged hospitalization or to temporary or permanent impairment or disability of the patient at the time of discharge, or which contributes to or causes death.

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VASM findings

Audited deaths (1 July 2012 to 31 June 2017) n= 5,348

Age
Age: 1 day to 104 years
Mean age: 73 years
Median (IQR): 78 (66-86) years

Gender
Male 55.6% (n=2,973)
Female 44.4% (n=2,374)

Risk
Admission status
Elective 17.8% (n=942)
Emergency 82.2 % (n=4,361)

Comorbidities
Yes 90.7% (n=4,849)
No 9.0% (n=482)
Unknown 0.3% (n=17)
Total comorbid factors identified 14,703

Transfers
20.6% (n=1,104)
Transfer delays 9.4% (n=104)

Preoperative death risk

Minimal	2.6%	(n=138)
Small	9.6%	(n=512)
Moderate	23.1%	(n=1,235)
Considerable	78.8%	(n=43.57)
Expected	11.7%	(n=625)
Unknown	9.5%	(n=508)

Operations

None	8.7%	(n=466)
One	68.8%	(n=3,679)
Two	13.9%	(n=746)
Three or more	8.5%	(n=457)

Most frequent cause of death:
Cardiac
Respiratory
Multiple organ failure
Septicaemia
Cerebrovascular
Trauma

Top 10 surgical procedures

Laparotomy(-oscopy) approach	17.9%	(n=1287)
Orthopaedic	12.1%	(n=867)
Cardiac	9.6%	(n=689)
Wound care	10.5%	(n=756)
Colorectal	7.8%	(n=561)
Neurosurgical trauma	8.3%	(n=594)
Other abdominal and hernia	7.5%	(n=539)
Thoracic and tracheostomy	6.7%	(n=479)
Neurosurgical non-trauma	4.9%	(n=354)
Gastro-intestinal endoscopy	4.4%	(n=317)

Unplanned return to the operating theatre
15.2% (740/4,882)

Postoperative complications
No complications 65.5% (n=3,200)
One operative complication 28.5% (1,390)
Two or more complications 4.7 % (n=230)
Unknown 1.3% (n=62)

VASM outcomes as assessed by assessors

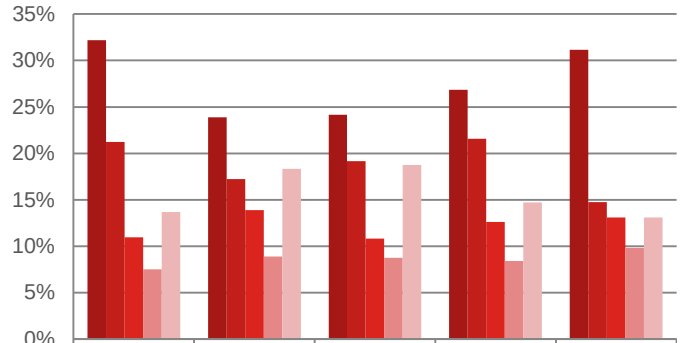
Clinical management issues (CMI)

Degree of criticism of patient management	Total occurrences (n=7,505 in 5,348 cases)		Patients affected by clinical outcomes (n=5,348)	
No issues identified	3,841	52.0%	3,735	70.6%
Area of consideration	2,100	28.4%	907	17.1%
Area of concern	1,040	14.1%	425	8.0%
Adverse event	401	5.4%	222	4.2%
Total	7,382	100.0%	5,289	100.0%

Association of CMIs

Clinical team responsible for management issues	Total occurrences (n=7,479 in 5,348 cases)		Patients affected by clinical outcomes (n=5,348)	
No issues identified	3,841	51.4%	3,735	72.8%
Surgical team	2,123	28.4%	1,014	19.8%
Other clinical team	1,068	14.3%	274	5.3%
Hospital issue	248	3.3%	61	1.2%
Other factors*	199	2.7%	45	0.9%
Total	7,479	100.0%	5,129	100.0%

Trends in top five preventable CMIs



	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Operative management issues	32.2%	23.9%	24.2%	26.8%	31.1%
Delay issues	21.2%	17.2%	19.2%	21.6%	14.8%
Preoperative care issues	11.0%	13.9%	10.8%	12.6%	13.1%
Protocol issues	7.5%	8.9%	8.8%	8.4%	9.8%
Postoperative care issues	13.7%	18.3%	18.8%	14.7%	13.1%

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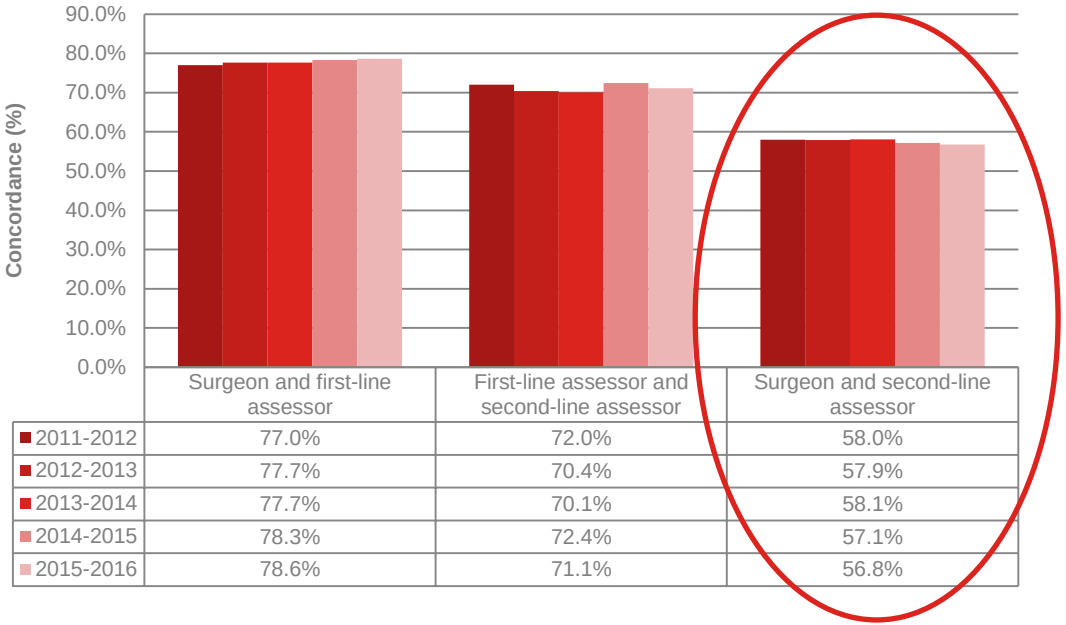
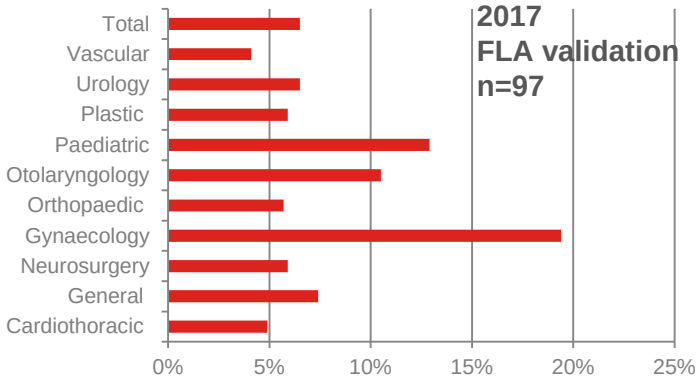
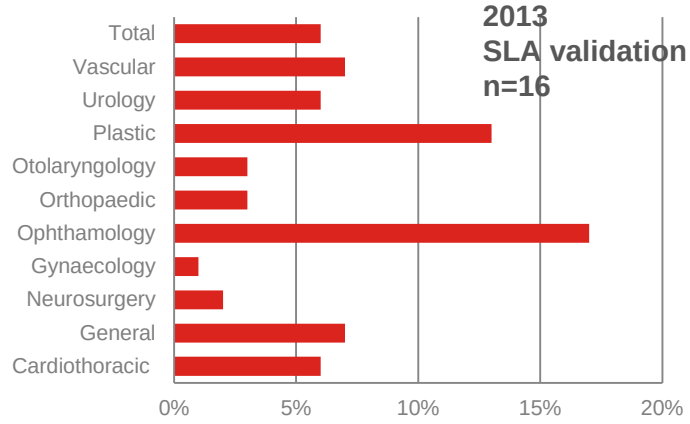
Concordance and Validation

Concordance
(1 July 2012 to 31 June 2017)
n= 5,348



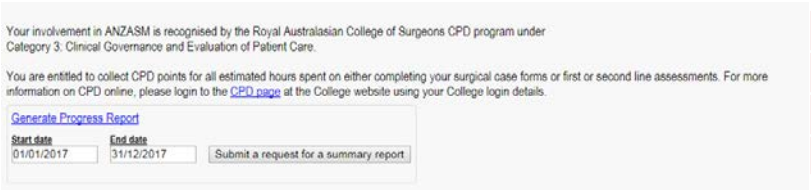
	Surgeon and first-line assessor	First-line assessor and second-line assessor	Surgeon and second-line assessor
2011-2012	77.0%	72.0%	58.0%
2012-2013	77.7%	70.4%	57.9%
2013-2014	77.7%	70.1%	58.1%
2014-2015	78.3%	72.4%	57.1%
2015-2016	78.6%	71.1%	56.8%





Individual Surgeon's Report

Deficiencies of care identified by the peer review assessors


Your involvement in ANZASM is recognised by the Royal Australasian College of Surgeons CPD program under Category 3: Clinical Governance and Evaluation of Patient Care.

You are entitled to collect CPD points for all estimated hours spent on either completing your surgical case forms or first or second line assessments. For more information on CPD online, please login to the CPD page at the College website using your College login details.

Generate Progress Report

Start date 01/01/2017 End date 31/12/2017 Submit a request for a summary report

Clinical management issues	Your cases %	Cases in VIC %	Cases nationally %
Yes	**50% (1/2)**	**43% (29/68)**	**40% (65/161)**
No	0% (0/2)	41% (28/68)	47% (76/161)
Data not provided	50% (1/2)	16% (11/68)	12% (20/161)

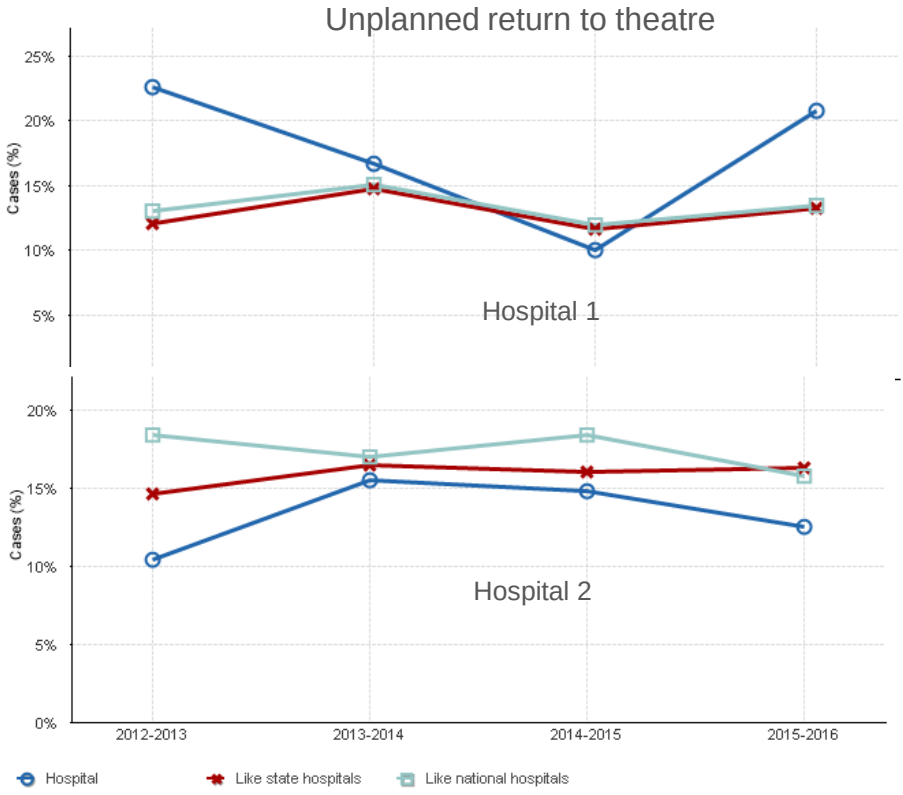
Area	Events % of your patients	Events in VIC % of patients	Events nationally % of patients
Consideration	0% (0/2)	40% (27/68)	37% (59/161)
Concern	0% (0/2)	13% (9/68)	13% (21/161)
Adverse event	**0% (0/2)**	**6% (4/68)**	**6% (9/161)**
Data not provided	0% (0/2)	0% (0/68)	2% (3/161)

Preventable	Events % of your patients	Events in VIC % of patients	Events nationally % of patients
Definitely	**0% (0/2)**	**6% (4/68)**	**5% (8/161)**
Probably	0% (0/2)	28% (19/68)	29% (46/161)
Probably not	0% (0/2)	15% (10/68)	12% (20/161)
Definitely not	0% (0/2)	0% (0/68)	1% (2/161)
Data not provided	0% (0/2)	10% (7/68)	10% (16/161)

Hospital Clinical Governance Reports

Potentially preventable deficiencies of care identified at your site

Deficiency of care	2012-2014	2014-2015	2015-2016	Total
Pre-operative assessment inadequate	0	2	0	2
ADVERSE FACTORS IN MANAGEMENT	0	2	0	2
Decision to operate	0	0	1	1
Drug interaction	0	1	0	1
Treatment did not conform to guidelines/protocols	0	0	1	1
Unsatisfactory medical management	0	1	0	1
Delay to surgery (ie earlier operation desirable)	0	0	1	1
Total	**0**	**6**	**3**	**9**



Peer Group - Code

- Principal referral
- Public acute group A hospitals
- Public acute group B hospitals
- Public acute group C hospitals
- Public acute group D hospitals
- Very small hospitals
- Children’s hospitals
- Women’s hospitals
- Women’s and children’s hospitals
- Early parenting centres
- Drug and alcohol hospitals

- Psychiatric hospitals
- Psychogeriatric hospitals
- Child, adolescent and young adult psychiatric hospitals
- General acute psychiatric hospitals
- General non-acute psychiatric hospitals
- Forensic psychiatric hospitals
- Same day hospitals
- Other day procedure hospitals
- Other acute specialised hospitals
- Rehabilitation and geriatric evaluation and management hospitals
- Mixed subacute and non-acute hospitals
- Outpatient hospitals

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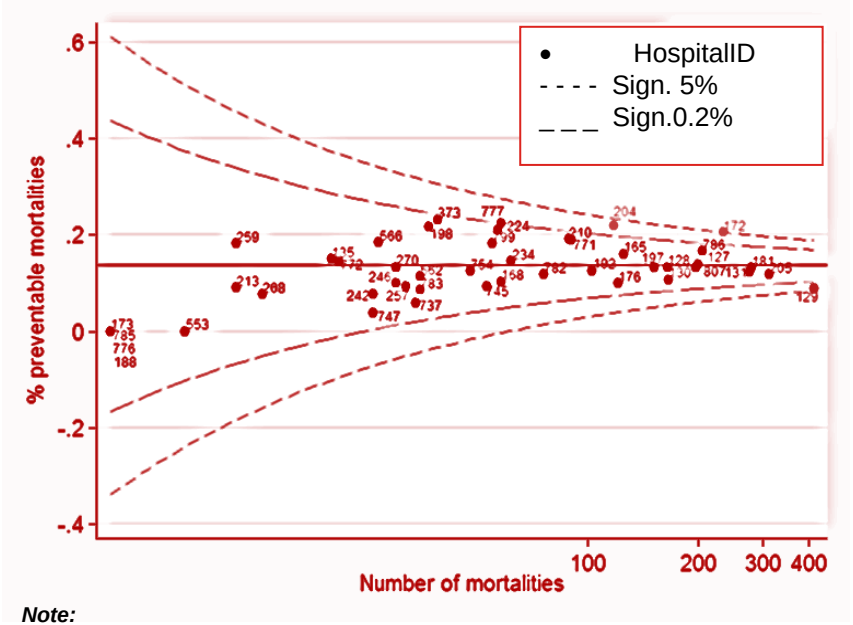
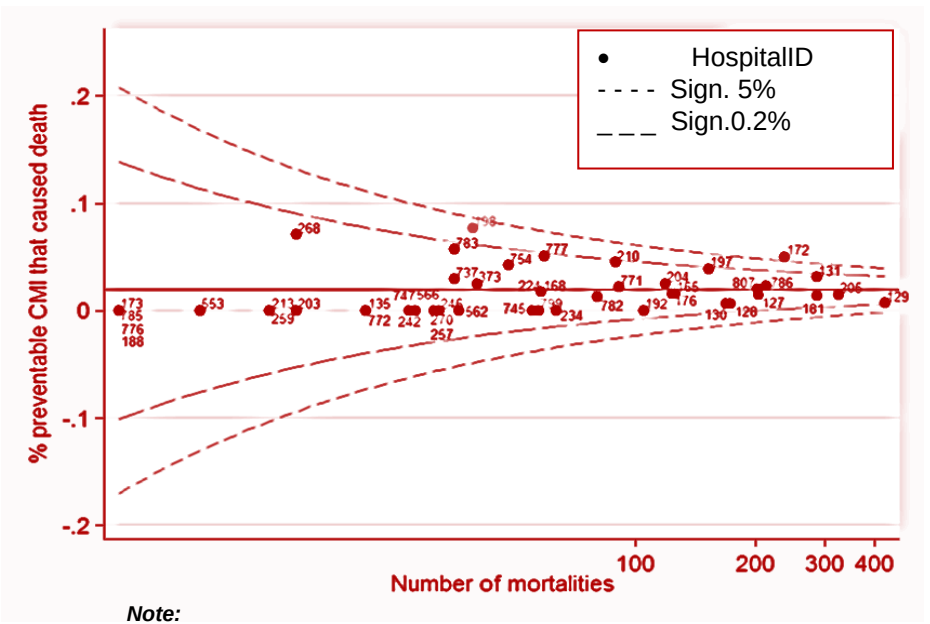
Hospital Surgical Performance Reports

Preventable mortalities



Note:
Sign: significant contour overlay
> 0.2% Sig = 204, 172 (negative outlier)
< -0.2 % Sig = 129 (positive outlier)

Preventable clinical management issues



Note:
Sign: significant contour overlay
> 5% Sig. = 172 (negative outlier)
> 0.2% Sig.= 198 (negative outlier)

Recommendations for clinical stakeholders

- Improved leadership in patient care,
- Improved perioperative management,
- Improved protocol compliance,
- Action on evidence of clinical deterioration,
- Futile surgery and end of life care,
- Improved awareness of surgical emergencies, transfers and sharing of care,
- Infection control,
- In-hospital fall prevention and
- Improved communication.

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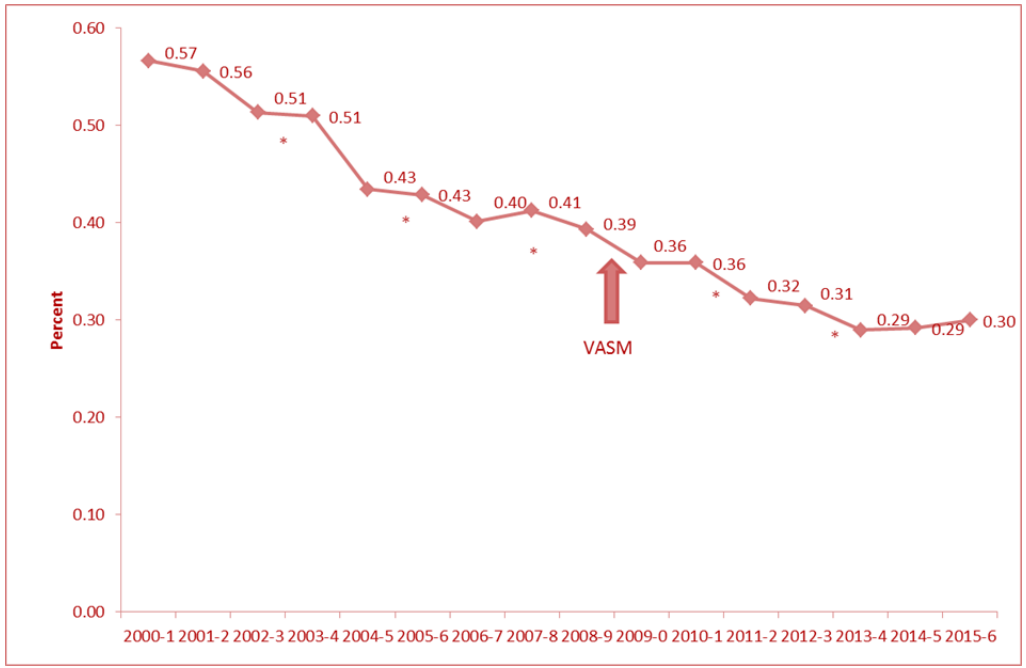
Mortality rate

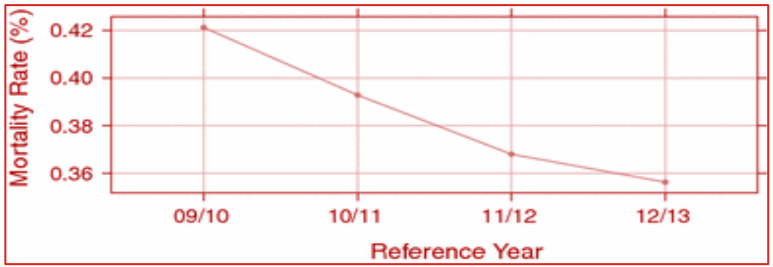


Victoria

Mortalities identified by VAED and VASM

Audit period	Total interventional procedures	VAED reported interventional procedural mortalities	VASM reported surgical mortalities
2012–2013	634,609	1,997	1,558
2013–2014	663,768	1,924	1,613
2014–2015	672,957	1,966	1,700
2015–2016	679,676	2,009	1,720
2016–2017	632,716	1,945	1,764
Total	3,283,726	9,841	8,355

National



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Educational impact

Peer review papers selection

Evaluating the value and impact of the Victorian Audit of Surgical Mortality (VASM)	Barry Beiles, Colin Russell, Claudia Retegan. Nick Andropoulos	ANZ Journal of Surgery	Published
The Australian and New Zealand Audit of Surgical Mortality (ANZASM) – Birth, Deaths and Carriage	Ravish Raju, Gordon Guy, Wendy Babidge, Guy Maddern	Annals of Surgery	Published
Inter-assessor variation concordance analysis, in the area of delays in surgical mortality in Australia	Ravish Raju, Gordon Guy, John Field, Wendy Babidge, Guy Maddern	ANZ Journal of Surgery	Published
Mortality audit of octogenarians with acute cholecystitis.	Jennifer Allen,John B North, Peter Wysocki, Therese Rey-Conde	Journal of the Society of Laparoendoscopic Surgeons	Accepted for publication
Lessons from the Northern Territory Audit of Surgical Mortality	John Treacy, John North, Therese Rey-Conde, Jenny Allen	ANZ Journal of Surgery	Published
Increasing number of comorbidities is related to delay to surgical management of a perforated peptic ulcer in patients who died.	Peter Wysocki, Peita M. Webb, Jennifer Allen, Therese Rey-Conde and John B. North	British Journal of Medicine & Medical Research	Published
Surgical care for the aged: a retrospective cross-sectional study of a national surgical mortality audit	Jennifer Allen,John B North, Rob Ware, Peter Wysocki, Therese Rey-Conde	BMJ Open	Accepted
The Western Australian Audit of Surgical Mortality – a 30% reduction in observed deaths over ten years.	James Aitken, Diana Azzam, Adeline Neo, Franca Itotoh	Medical Journal of Australia	Published

Educational tools via ANZASM App

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NATIONAL CASE NOTE REVIEWS

Free App launched February ‘15 – deidentified case notes loaded onto app. Cases, where relevant, will have appropriate Hospital Standard applied (e.g. Standard 9 - Recognising and Responding to Clinical Deterioration).

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Feedback from Fellows

1. *"More awareness of events leading to poor outcome."*
2. *"Enabled surgeons to have a common platform on which to discuss difficult cases."*
3. *"My Fellow colleagues and I learn from the adverse events in these critical situations and make every effort to avoid the complications encountered by others."*
4. *"Lead us to question why we are doing operations."*
5. *"Has promoted discussion between surgical staff and anaesthetic staff as to how to reduce unnecessary delays in surgery."*
6. *"Delays are what caused a lot of these problems. This is at all levels. The solution is not to audit but to act."*
7. *"It definitely makes us sit back and look at what we are doing, and ways to improve."*
8. *"Has provided a focus, in particular regarding appropriate types of surgery to be done at this hospital."*
9. *"Has contributed to better quality surgical audits in our health service."*
10. *"Has good ideas for improved care and outcomes."*
11. *"Tabled and discussed at medical advisory committee."*
12. *"…Reviewed by a committee which make appropriate adjustments to current policies and procedures to minimise mortality risks."*

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Independent review of VASM

Target Zero

- VASM has credible processes and can provide conclusive evidence of preventable harm.

Aspex

- Streamlined operational processes suggest the program has reached a degree of maturity,
- Secure processes are in place,
- Inter-assessor reliability demonstrates agreement in relation to clinical management issues identified,
- Surgeon and hospital participation in the audit is strong,
- Timely and good quality feedback and
- Hospital reports generated for internal quality improvement initiatives.

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Future directions

- Enhance current audit processes in collaboration with SCV, VSCC, VCCAMM and surgical sites,
- Maintain surgical trust and commitment in the audit,
- Continue to evaluate processes & outcomes,
- Develop active educational strategies, seminars and publications,
- Continue to identify innovative methods of analysis,
- Continue to provide relevant feedback to VASM stakeholders,
- Enhance current processes and
- Monitor the audit quality loop.

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Acknowledgments

- Collaborators,
- Participating Victorian hospitals,
- Participating Victorian Fellows and IMGs,
- Participating Victorian hospital stakeholders,
- Management committee,
- Safer Care Victoria (SCV),
- Victorian Surgical Consultative Council (VSCC),
- Victorian Consultative Council on Anaesthetic Mortality and Morbidity (VCCAMM) ,
- Australian Orthopaedic Association (AOA),
- The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG),
- Royal Australasian College of Surgeons (RACS),
- VASM and ANZASM staff.

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