

Victorian Audit of Surgical Mortality (VASM)

“The death of a patient can be a learning experience.”

Monitoring in-hospital mortality

Centre of Research Excellence in Patient Safety (CREPS) Seminar

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Royal Australasian College of Surgeons



Aims of presentation

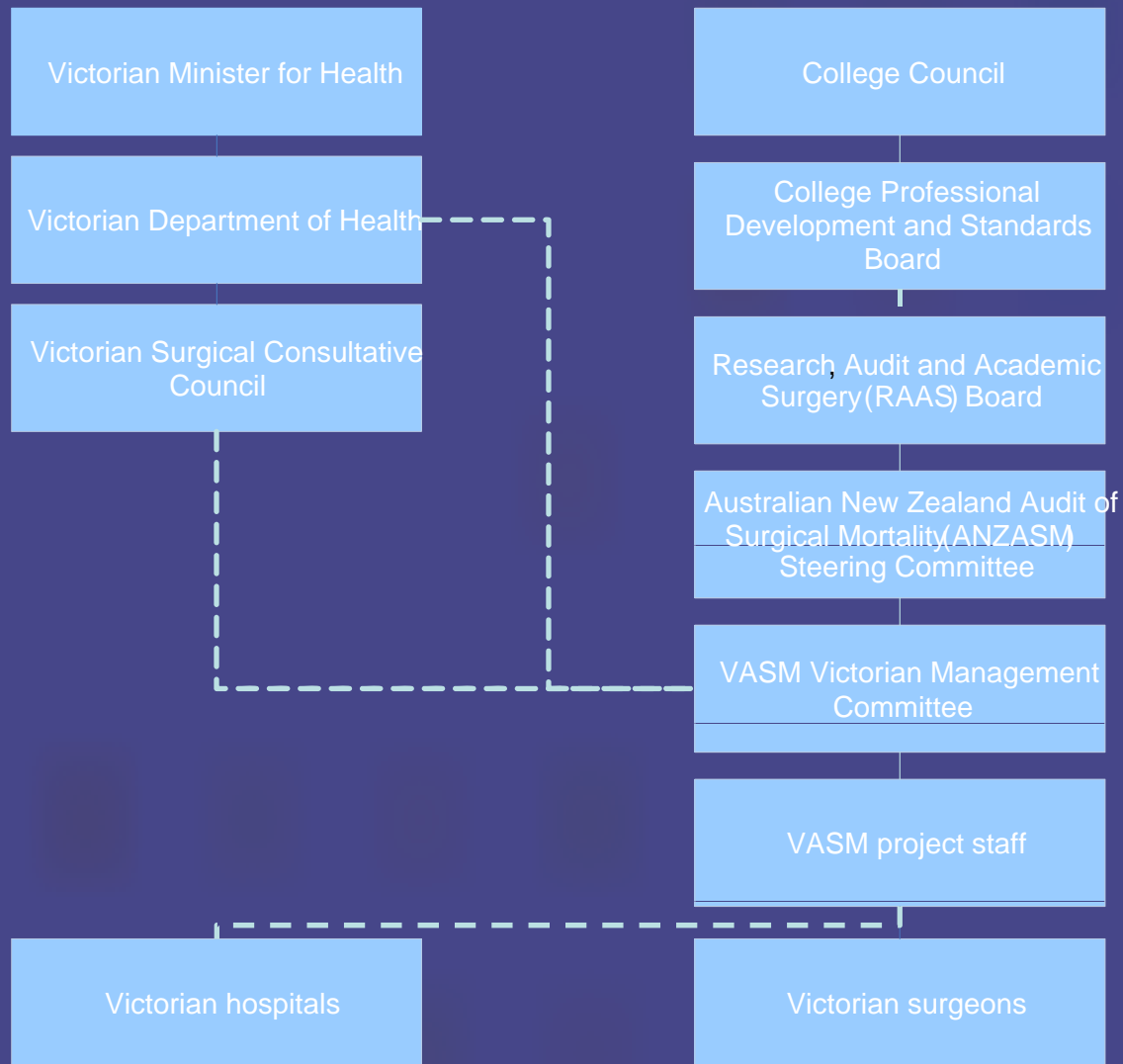
- Overview of VASM
- Governance, process & data collection
- 2008/2009 Audit results
- Educational tools
- Audit Value
- Future directions

Background

- ANZASM is a bi-national network of regional audits of mortality under auspices of Royal Australasian College of Surgeons
- It is based on Western Australian and Scottish Audits of Surgical Mortality
- All states and territories are now participating
- Funded by State and Territory Governments



Governance Structure



VASM overview

- Peer review of deaths that occur under surgical care
- Collaboration between:
 - Victorian Department of Health (DoH)
 - Victorian Surgical Consultative Council (VSCC)
 - Royal Australasian College of Surgeons (RACS)
- Victorian entity of the Australian & New Zealand Audit of Surgical Mortality (ANZASM)
- National Coroners Information System (NCIS)
- Data collection commenced in December 2007



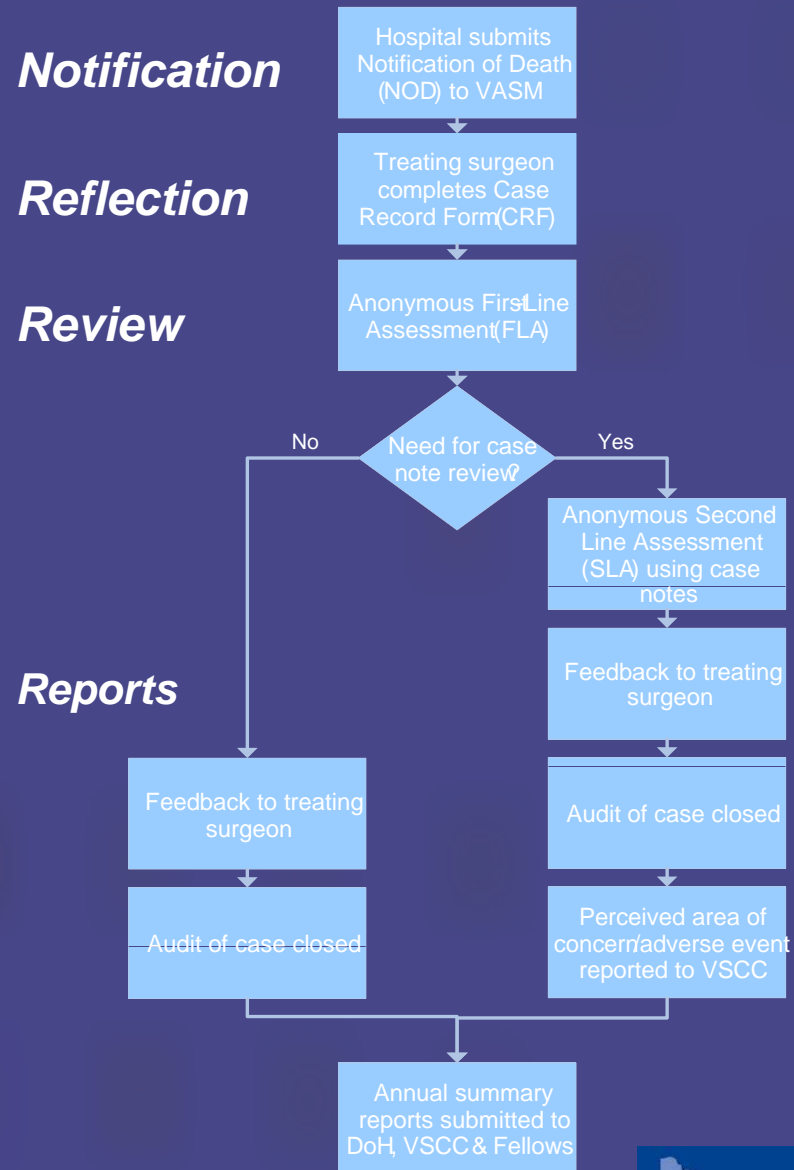
Objectives

- Improve surgical care in Victorian hospitals by;
 - Reviewing all deaths associated with surgical care
 - Identifying developing trends in surgical mortality
 - Focusing on education rather than punishment
 - Encouraging peer review & personal reflection
 - Benchmarking results with other jurisdictions

Protection for Participants

- Classified as a ‘quality assurance’ activity under the “Commonwealth Qualified Privilege” Scheme
 - Safeguards health care professionals engaged in quality assurance activities
 - Protection from civil proceedings
 - Ensures confidentiality of information of stakeholders
- Project adheres to Information Privacy Act 2000 & Health Records Act 2001
 - IPP7, IPP8, IPP9, HPP7, HPP8, HPP9

Audit process



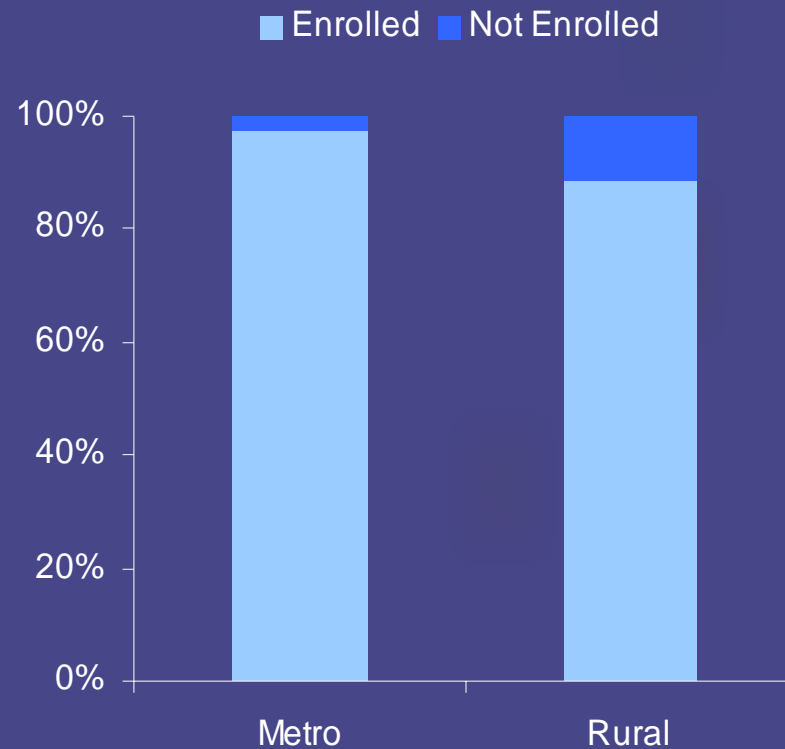
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Hospital participation

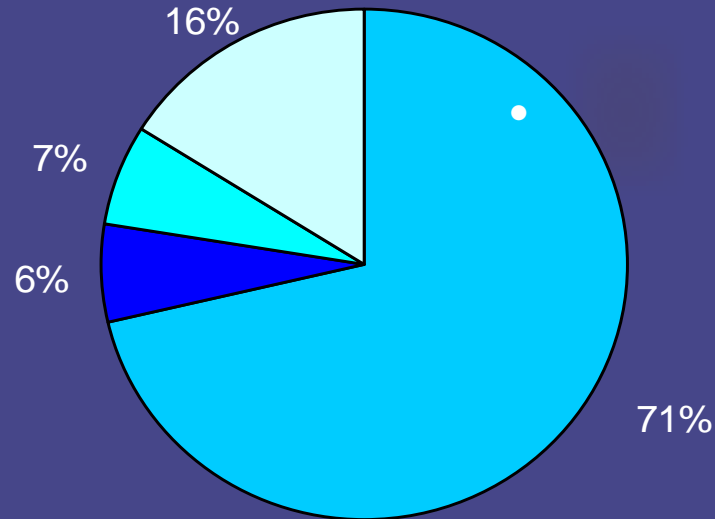


- 90% of public hospitals are reporting to VASM
- 8 rural public hospitals are not participating
- 1 metro public hospital is pending enrolment
- 2010 VASM aim to roll out audit to private sector



Surgeon participation

■ Enrolled ■ Refused ■ Ceased practice ■ No response



- 50% surgeons have agreed to be 1st and 2nd line assessors
- Assessors come from relevant specialty
- Assessors are unaware of patient identity, name of treating surgeon or hospital at which death occurred.

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Data collection

- **Bi-national audit of surgical mortality database (BAS)**
 - National centralised web-based system
 - Collects core minimum dataset
 - Data stored in a Structured Query Language (SQL) database
 - Includes a reporting engine
 - Data encrypted with Secure Sockets Layer (SSL)
 - Ability to pool regional data
- **Fellows interface**
 - Secure web site enabling surgeons to access an interface to BAS via a web browser on their PC
 - Greater efficiency

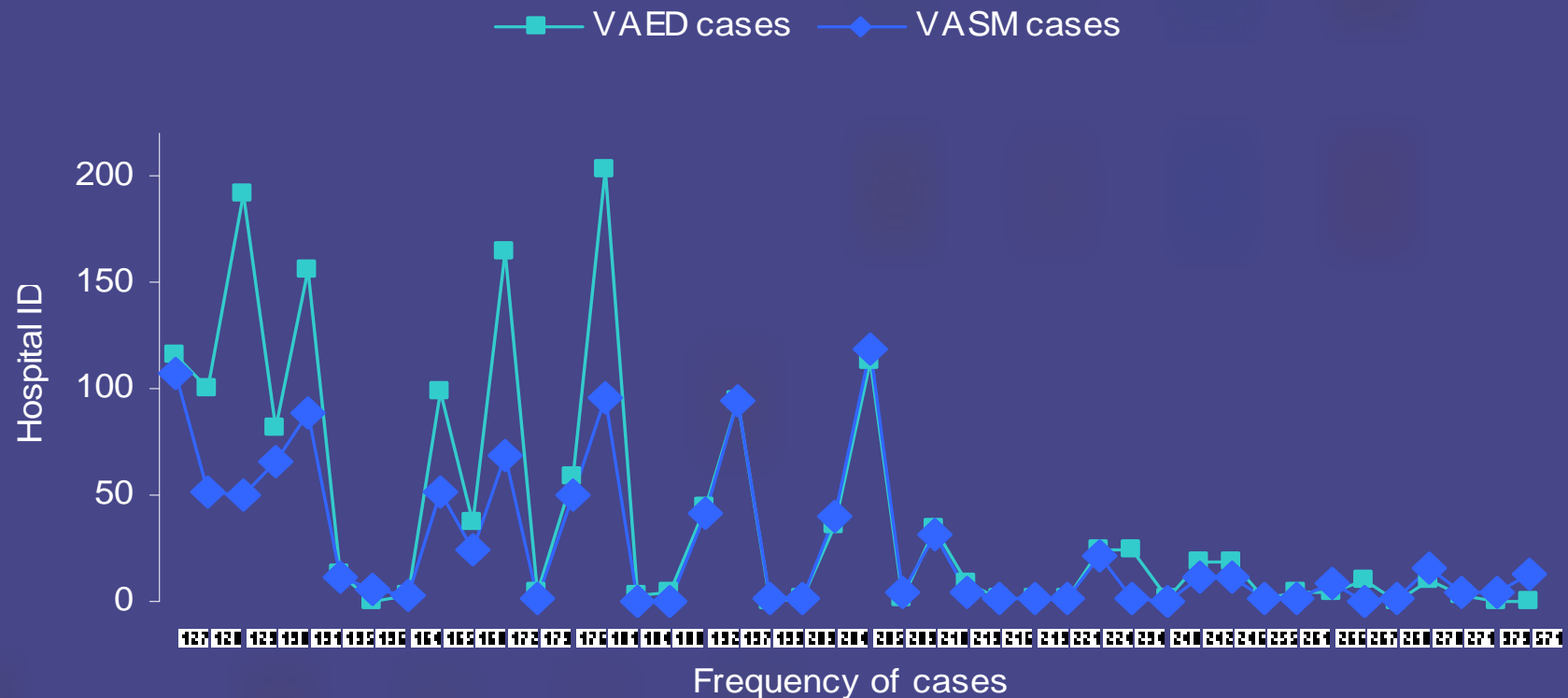


Audit results

Period 2008/09

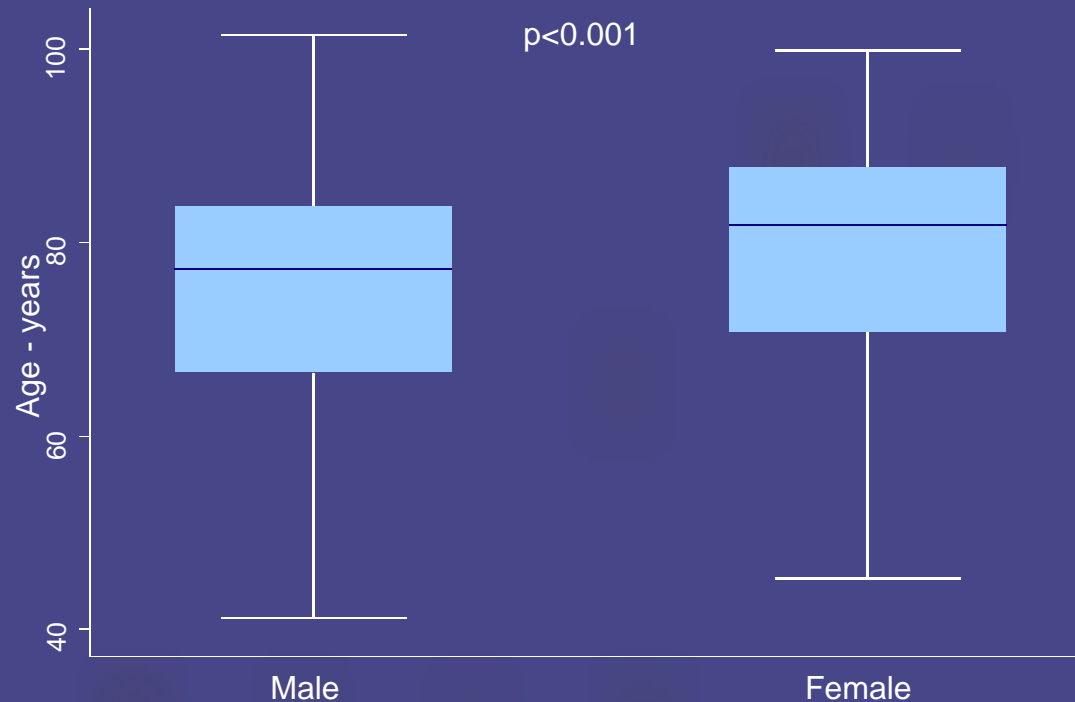
- 1,458 Notification of Deaths
- 76% of CRFs returned to the VASM office
- 50% of cases completed the full audit process
- 11% of cases referred for second line assessment
- Majority of deaths occurred in elderly patients with multiple comorbidities, admitted as an emergency with an acute life threatening condition

Comparison of mortalities reported



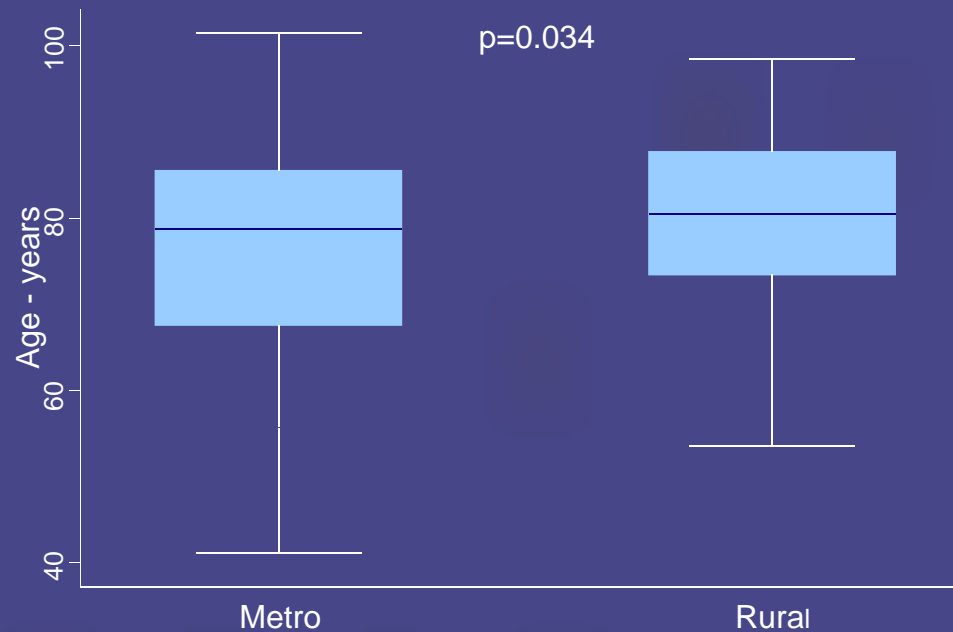
- VAED mortality numbers and hospital notifications of death are complementary
- Notifications to VASM suggested 70% match versus VAED notifications

Gender and age distribution



- The median age for females was 81.8 years compared to 77.2 for males, $p < 0.001$.
- This age profile is consistent with the ageing general population

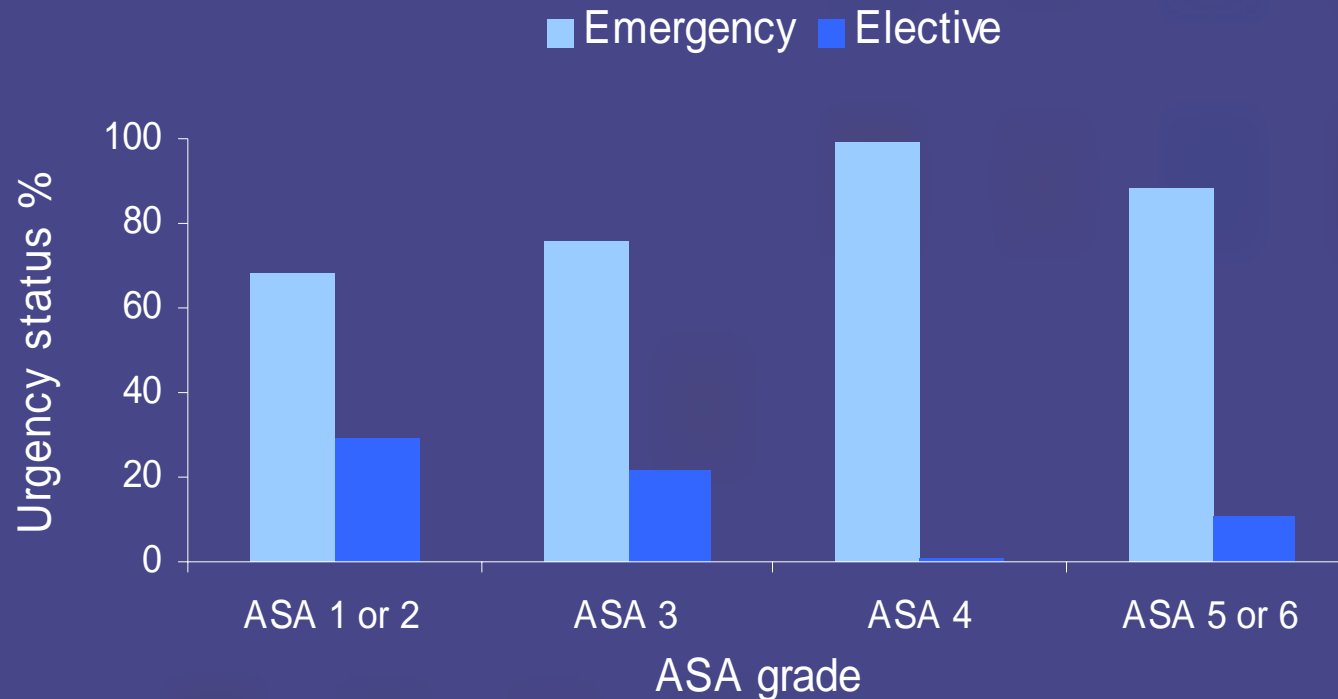
Age distribution of deceased by region



- The median age of patients who died in the rural sector was 80.5 years compared to 78.7 years in the metropolitan sector, $p=0.034$



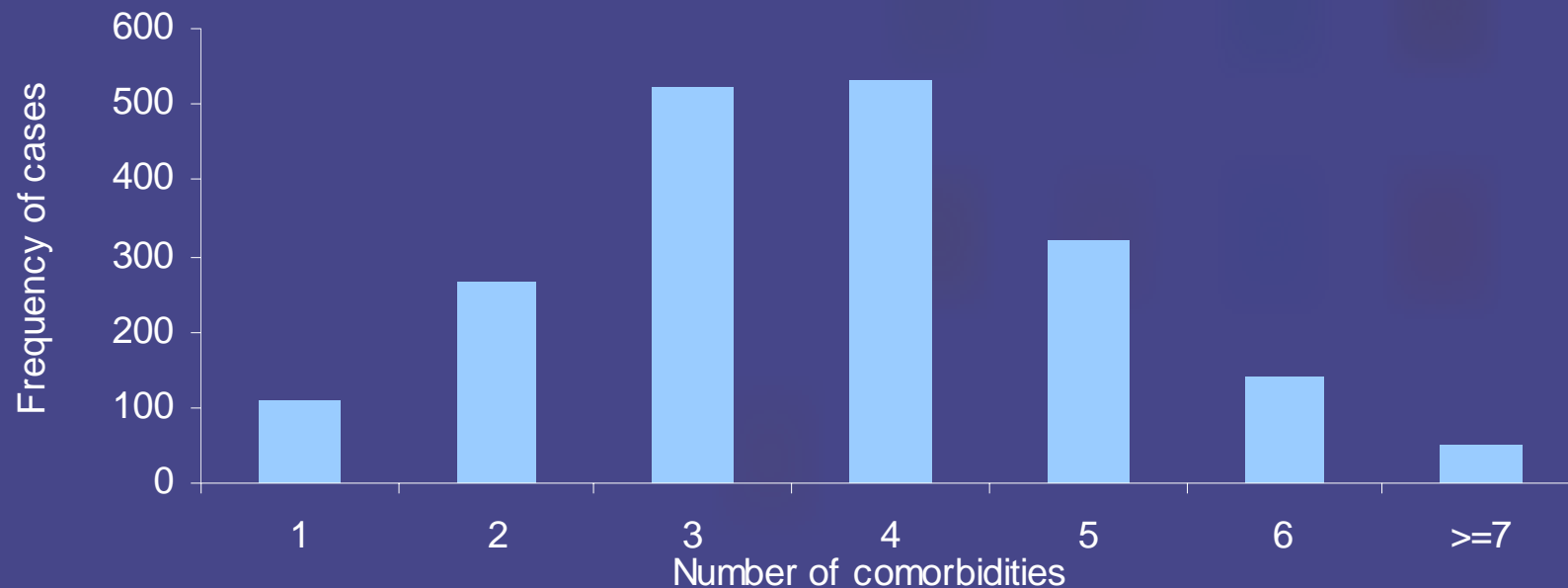
ASA grades of deceased by urgency status



- Patients with ASA grades 4 and 5 or 6, had a higher proportion of admissions as emergencies, than those with ASA grades 1 or 2 and 3



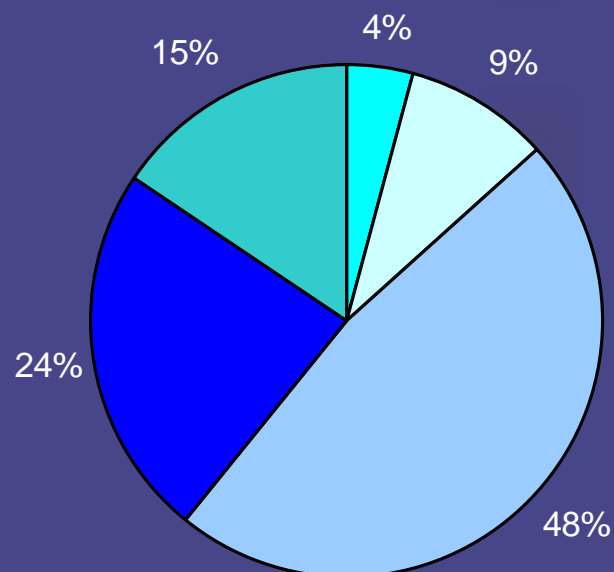
Frequency of multiple comorbidities



- In this audited series 89% cases were reported to have more than one comorbidity
- The comorbidity profile is similar across hospitals with cardiovascular, age and respiratory problems as the most frequent comorbidity reported

Surgeon's perception of risk status

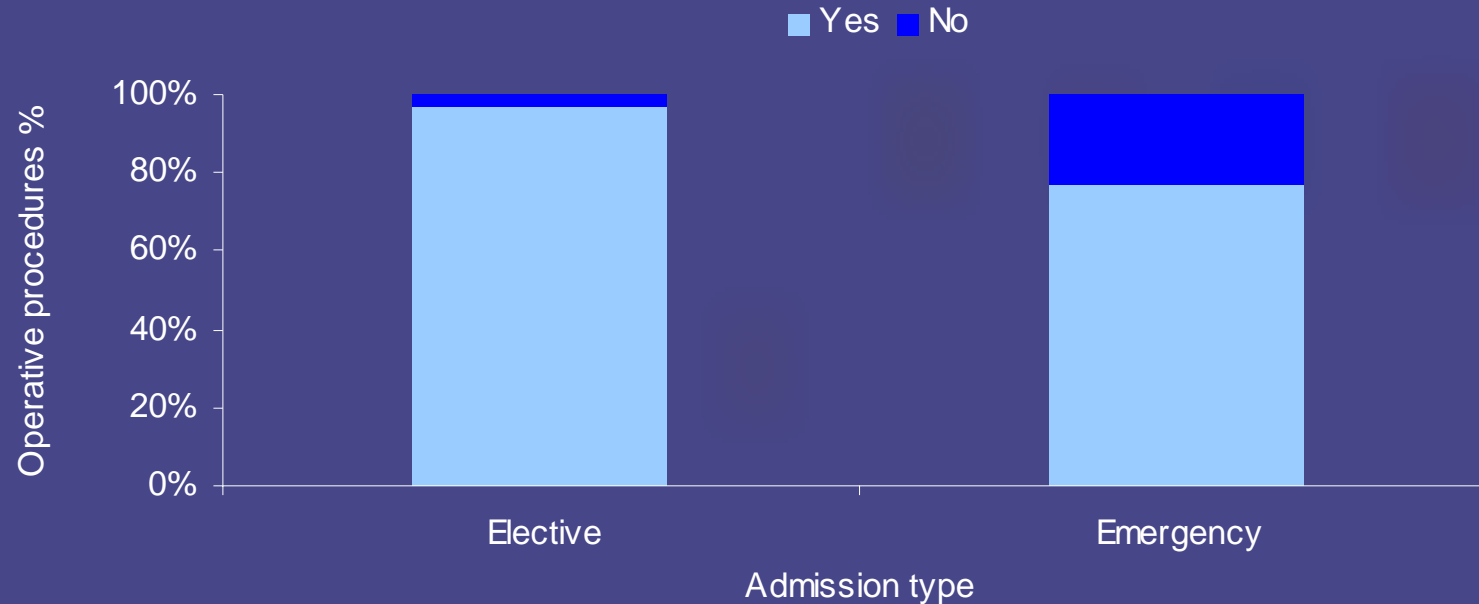
■ Minimal ■ Small ■ Considerable ■ Moderate ■ Expected



- The treating surgeon assessed the risk of death as high in the majority of cases
- The overall perception of risk of death by hospital as identified by surgeons is similar to the aggregate findings and reflective of the risk profile associated with the case mix of the individual hospital
- This supports the high risk profile suggested by the mean age, ASA score and associated comorbidity



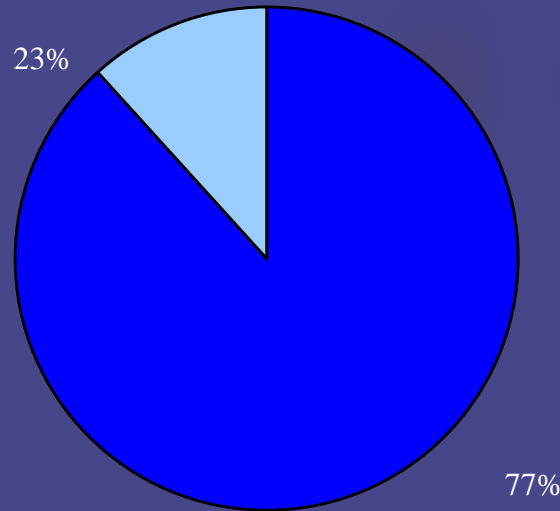
Operative procedures by urgency type



- Not all elective admissions in the series underwent surgery
- The use of conservative (non-operative) approaches to management has been greater in emergency admissions

Critical care support

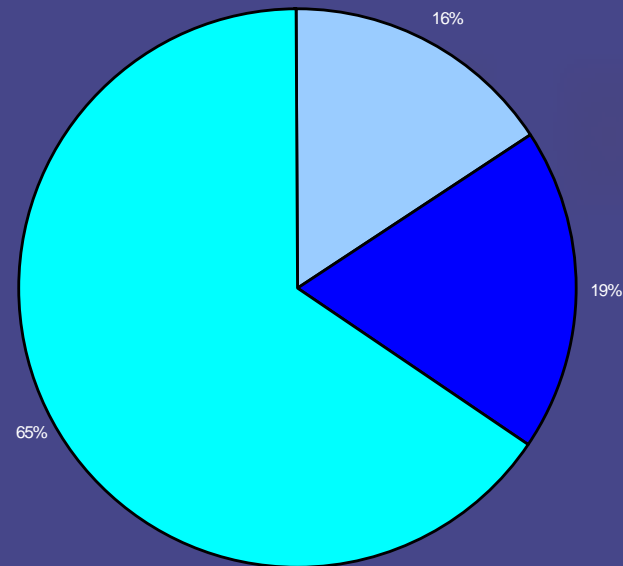
■ Critical care appropriate ■ Critical care inappropriate



- The peer-review process concluded that in 23 % cases the patient would have benefited from critical care support.
- VASM has no information on availability of critical care facilities in these instances reason for case record from question changes for 2010/2011 data collection

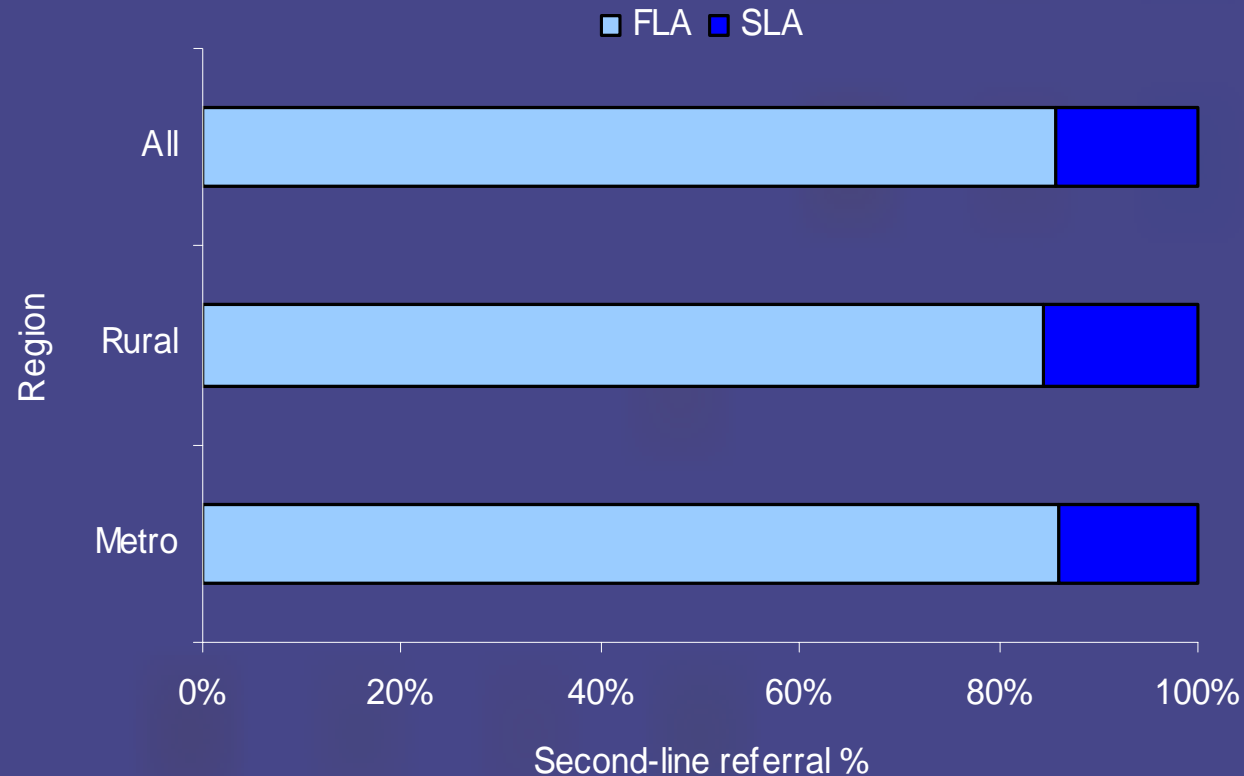
Use DVT

■ Missing data ■ Would have benefited ■ VTE prophylaxis appropriate



- 65% patients received DVT prophylaxis
- Heparin was given 80% of these cases
- TED stockings were provided in 50% of the audited cases
- The decision not to provide VTE prophylaxis was assessed as inappropriate in 19% cases.

Need for second-line assessment



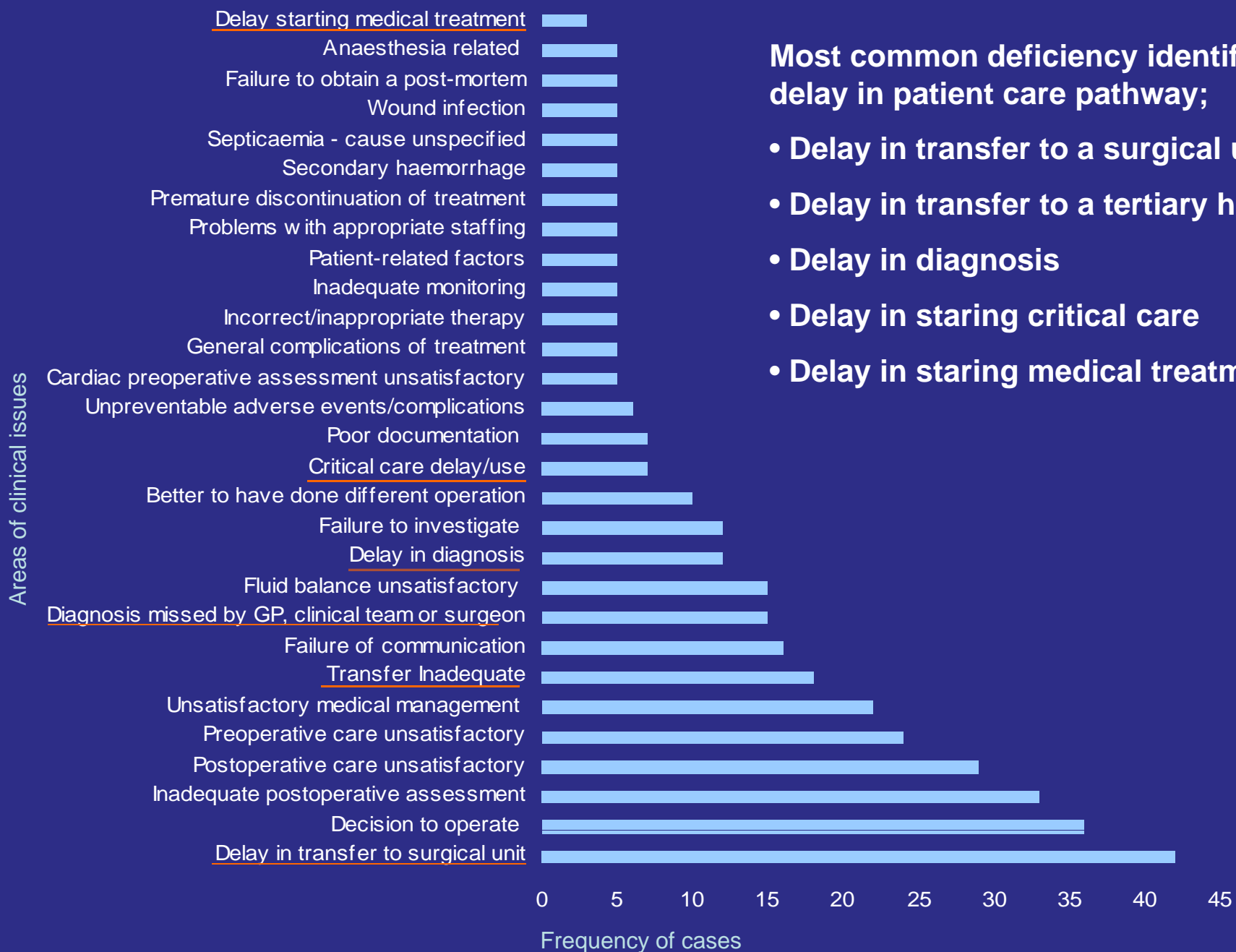
- Second-line assessment was only requested 11% cases
- Lack of information was the trigger 5% cases
- Cases with an ASA >4 were more likely (p-value 0.001) to be referred assessment

Clinical management issues

Clinical incidents	Patients affected by clinical management (n)
No clinical management issues perceived	518 (71%)
Degree of criticism expressed	Patients affected by clinical management (n)
Area of consideration	117 (16%)
Area of concern	50 (7%)
Area of adverse event	33 (5%)
Missing data	1 (0%)



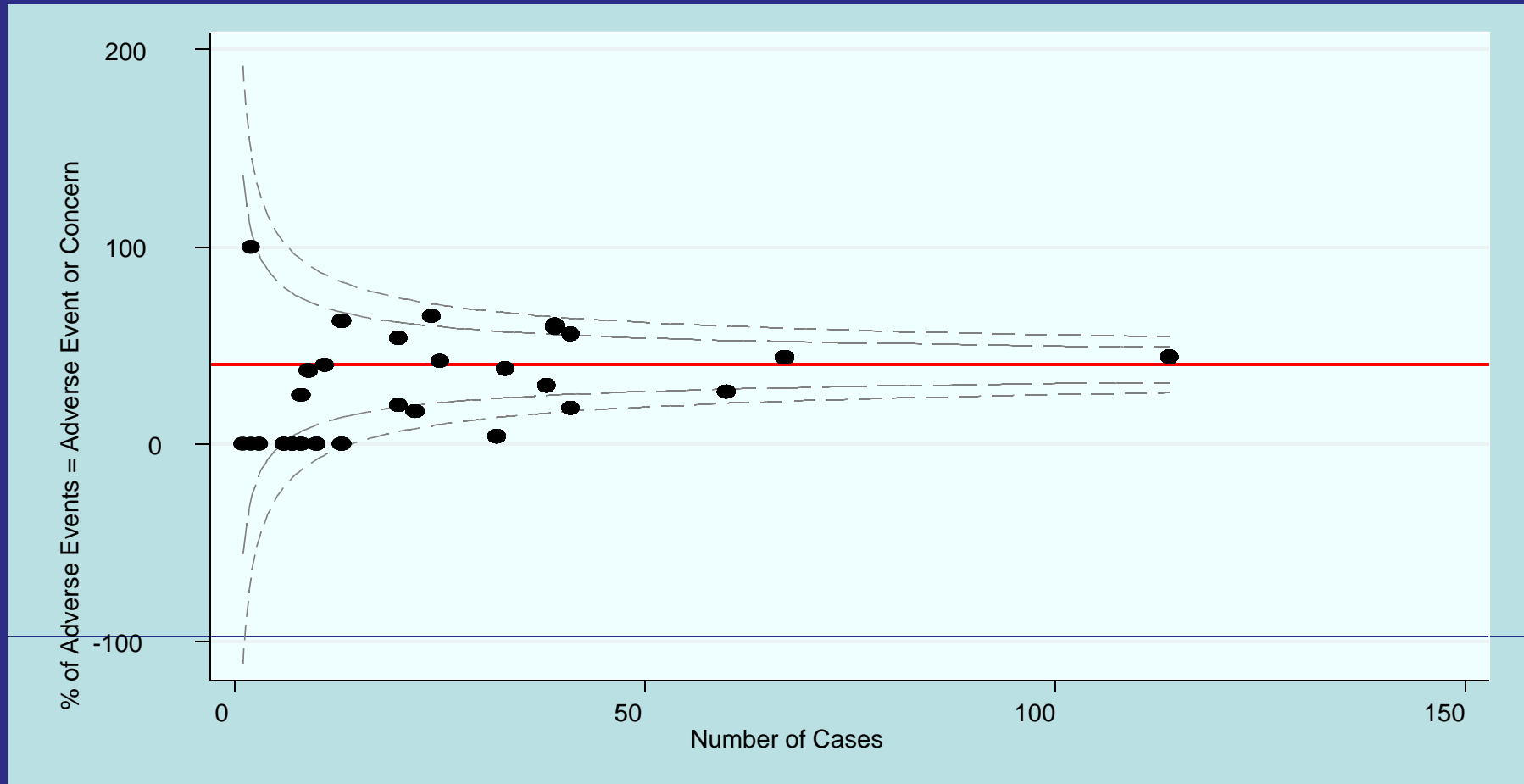
Clinical management issues



Most common deficiency identified is delay in patient care pathway;

- Delay in transfer to a surgical unit
- Delay in transfer to a tertiary hospital
- Delay in diagnosis
- Delay in starting critical care
- Delay in starting medical treatment

Areas of Concern and Adverse Events



- The hospitals are below the lower 2, 3 Standard Deviation (SD) limit are indicating good performance.
- If an assessor flags an area of concern or adverse event this implies significant criticism.

Education & Feedback

VASM publishes a variety of information:

- Annual Report
- Individual Surgeon Reports
- Hospital Guidelines
- Assessors Guidelines
- Case Note Review Booklet
- Validation audits
- VASM web page: <http://www.surgeons.org/>
- Media Release

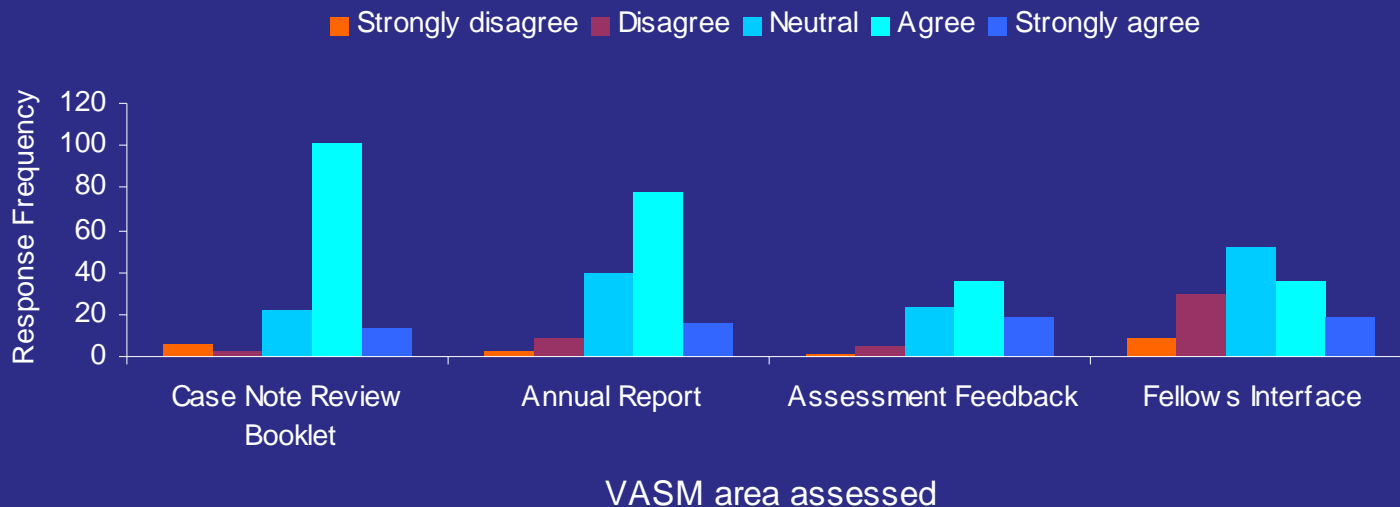
Close links with Victorian Surgical Consultative Council

- To enhance feedback to surgeons
- Develop surgical guidelines

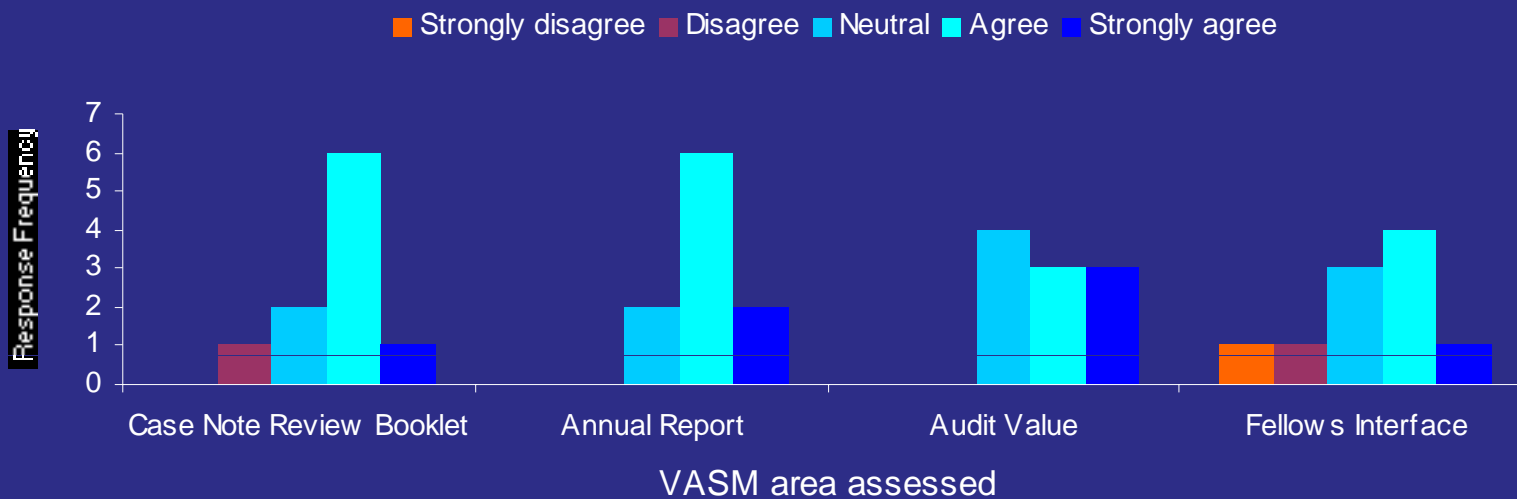


VASM Audit Value

VASM Activity - Fellow's Evaluation Survey (n=150 of 1150)



VASM Activity - Hospital Evaluation Survey (n=10 of 93)



Future directions

- Continue to evaluate processes & outcomes
- Continue to provide innovative & relevant feedback
- Develop an internal audit cycle for outliers to further educate & increase scrutiny



Summary

VASM

- is a quality assurance project, designed to highlight system and process errors associated with surgical mortality at a state and national level
- Audit process
 - Notification
 - Reflection
 - Review
 - Reports
 - Education
- 2008/09 Audit results
 - 1458 notifications of death
 - Over 90% cases were referred only for a first line assessment
 - Majority of deaths in elderly patients with multiple comorbidities
- Education
 - Highlights particular clinical management issues
- Future directions
 - Support continuous improvement of surgical care

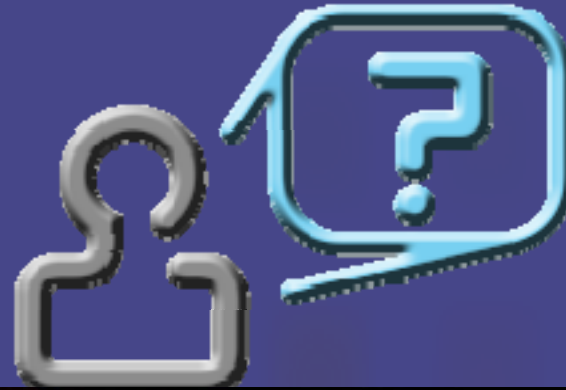


Acknowledgements

- Australian and New Zealand Audit of Surgical Mortality
- Royal Australasian College of Surgeons
- Victorian Department of Health
- Victorian Surgical Consultative Council
- Victorian Hospitals and Victorian Surgeons
- National Coroners Information System
- Centre of Research Excellence in Patient Safety
- Victorian Audit of Surgical Mortality Staff



Questions



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