

Deaths under the care of a surgeon: Outcomes of Surgical Mortality Audit in NSW, Australia

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Background

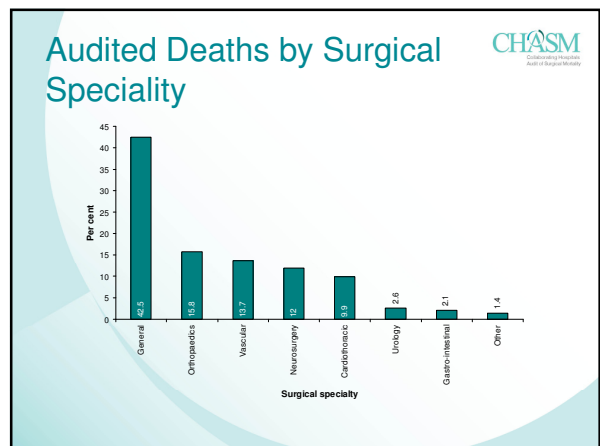
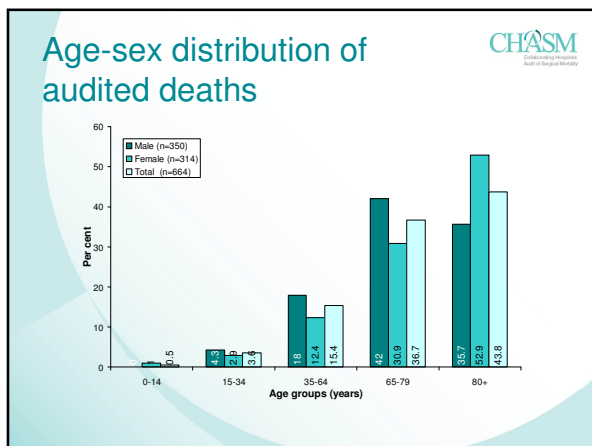
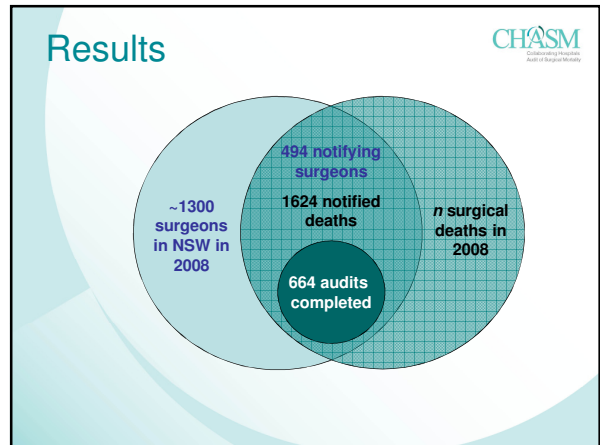
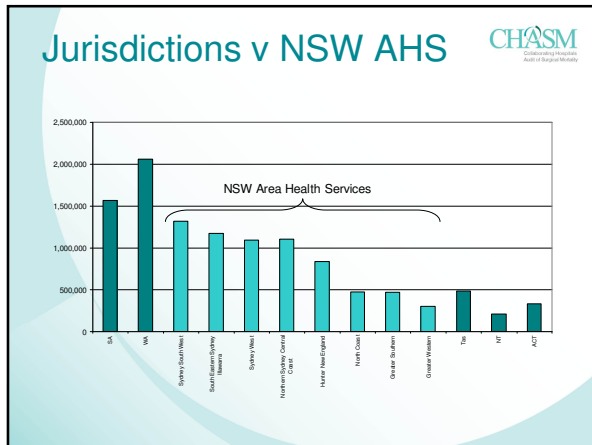
- The Collaborating Hospitals' Audit of Surgical Mortality (CHASM) is a prospective audit of patients who died while under the care of a surgeon
 - within 30 days of an operation
 - during the last admission, with or without operation performed
- CHASM includes all surgical specialties except paediatric, gynaecological and obstetric deaths
- Similar to audits in Scotland (SASM), and WA (WAASM)
- CHASM is managed by surgeons for surgeons!

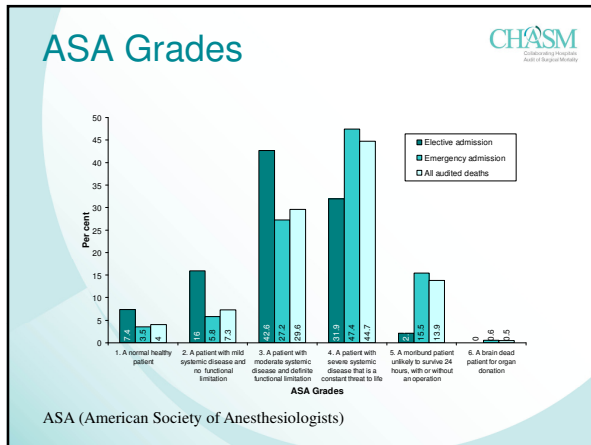
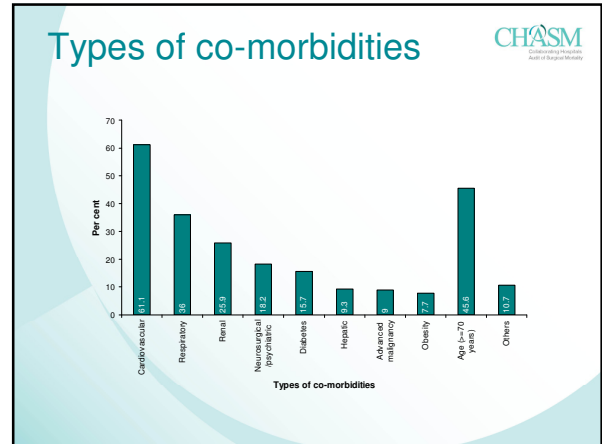
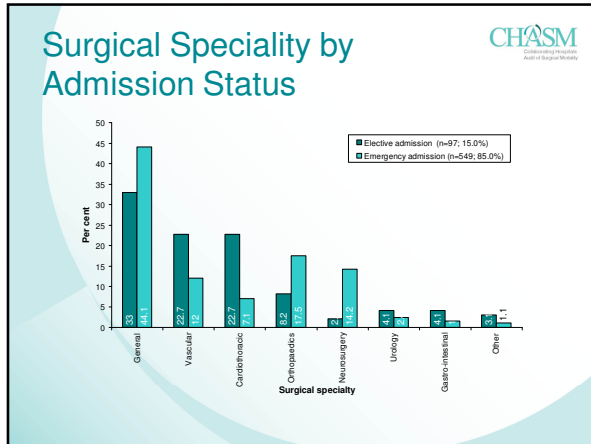
The Clinical Excellence Commission
the
NSW State Committee of the
Royal Australasian
College of Surgeons
and the
NSW Department of Health

Invite surgeons to participate in

CHASM
Collaborating Hospitals
Audit of Surgical Mortality

 NSW HEALTH



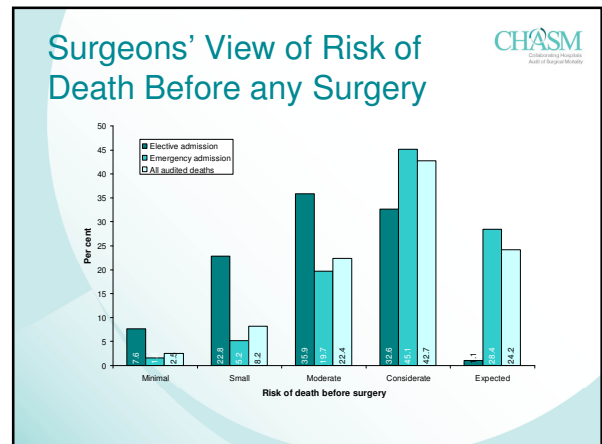


Transfer and Delay

- Pre-operative Transfer**
 - 27.8% (177 out of 636) were recorded as being transfers
 - 97.7% reported level of care during transfer was appropriate
 - 98.3% had sufficient clinical information available at the time of transfer
- Pre-operative Delay**
 - Pre-operative delay or errors occurred in 10.0% cases
 - Delays/errors were associated with medical unit, surgical unit and General Practitioner
 - Delays were mainly due to **misinterpretation of results, failure to do correct test** and then unavoidable factors

ICU, HDU and Post-mortem

- Use of Intensive care unit (ICU)/High dependency units (HDU)**
 - ICU was used for 57.5% of the perioperative patients
 - HDU was used for 21.5% of the perioperative patients
- Where ICU/HDU has not been used in those cases**
 - 9.3% cases the patient would have benefited from the ICU care.
 - 9.2% cases the patient would have benefited from the HDU care
- Post-mortem examinations**
 - postmortem performed for 20.1% deaths (12 in hospital and 115 coronial)
 - Surgeons responded "yes" to the question "Would you have preferred a postmortem" in 37 (5.9%) audited death cases



Operations

Operative procedures

- 76.0% had an operation 30 days prior to deaths/during last admission.
- 24.3% (36 out of 148) non-operative cases an active decision was made by surgeon/consultants not to operate to limit the treatment

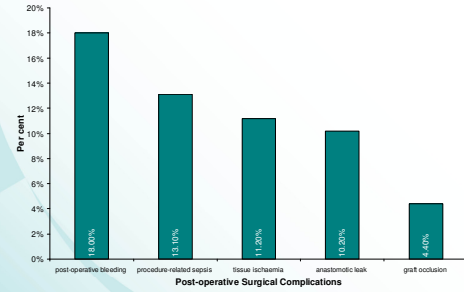
Timing

- 20.7% were elective operations
- 20.4% were immediate (<2 hours after admission)
- 28.4% were emergency (<24 hours after admission)
- 30.5% were scheduled emergency (≥24 hours after admission)

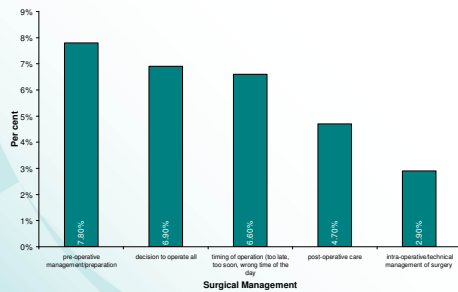
Other Factors

- 95.4% operations were performed in presence of anaesthetist
- 6.6% of procedures were abandoned on finding a terminal situation

Complications



Management



DVT Prophylaxes

Use of deep vein thrombosis (DVT) prophylaxes

- 77.2% cases surgeons used at least one or more of the DVT prophylaxes

The most common DVT prophylaxes were (one or more):

- Heparin 59.7%
- TED stockings 46.5%
- Compression 32.2%
- Aspirin 4.8%
- Warfarin 3.3%

In the 133 cases surgeons did not use DVT prophylaxis, the reasons given were because:

- In 68.9% was not appropriate
- In 30.3% cases active decision was made to withhold treatment (usually to do with bleeding-related conditions)

Perceived Deficiency of Care

Type	Total audited deaths	perceived deficiency of care	
		% area of concern and number	% adverse events and number
All audited deaths	664	13.3 (88)	5.6 (37)
Number of operative procedures			
None	158	5.7 (9)	2.5 (4)
One	366	12.6 (46)	4.1 (15)
Two	90	23.3 (21)	8.9 (8)
Three	50	24 (12)	20.0 (10)
Admission types			
Elective	97	23.7 (23)	13.4 (13)
Emergency	549	11.8 (65)	4.4 (24)

Other Areas of Concern or Consideration

- 13.6% had an unplanned return to theatre
- 17.5% had unplanned admission to ICU
- 3.3% re-admitted to the hospital as unplanned within 30 days of surgery
- in 7.7% cases there was an issue of fluid balance
- In 2.7% cases patient would have been beneficial if it gone through the RCA (root cause analysis)

Hospital Infection



- In 20.2% (134 out 664) cases hospital infection contributed to or caused death. Of those:
- 6.8% cases patients acquired infection before transfer
- 6.9% cases patient acquired infection after transfer
- 5.4% cases there was a surgical site infection
- 4.7% cases there was hospital acquired infection Methicillin-Resistant Staphylococcus Aureus (MRSA).

Summary Findings



- Of those who died
- Many were elderly, had complex co-morbidities and were treated appropriately.
 - The key factors to emerge were the presence of significant co-morbidities and that most cases were emergency admissions
 - 85% emergency & 15% elective admissions
 - 87% of cases had at least one significant co-morbidity (58% ASA grade of =>4).
 - 76% had an operation within 30 days prior to death.
 - Pre-operative delay associated with 10% of cases
 - Post-operative complications were reported for 39.8% cases
 - 77% cases surgeons used deep vein thrombolysis (DVT)
 - In 13.3% cases perceived deficiency of care reported
 - 4% (27) deaths associated with an adverse event
 - 2.6% (17) deaths were considered by assessors to be preventable
 - ICU used for 57.5% and HDU for 21.5% of the preoperative patients
 - 9.3%/9.2% cases would have been benefited from ICU/HDU care
 - 20.2% (134) cases hospital infection contributed to or caused death

Conclusion



- In NSW:
- The great majority of patients received high quality surgical care.
 - The CHASM program is independent, external, peer reviewed quality assurance process
 - CHASM complements local quality improvement activities
 - Key issue for CHASM for future years will be comparing trends.
 - In the first year we can only present
 - baseline data; and
 - data from those AHSs/surgeons participating at present (~45%).
 - Participation is incomplete at present for two reasons:
 - A surgeon may not have had a death
 - A surgeon may have chosen to not report it.
 - 2008 represents a great start, but we still have a long way to go!

Conclusion



BUT!!

14% of reporting Surgeons indicated that they would have acted differently

Imagine the learnings!

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