Trauma Service Perspective of Performance Assessment

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The Royal Melbourne Hospital
Where it all began.....

- History of RMH
  - One of Australia's oldest
  - 1830 doors opened
    Temporary cottage
      - Initially with 10 beds
        - 1st year admitted 89 patients & 24 died
  - 1846 the foundation stone for new hospital was laid
    - corner of Lonsdale & Swanston Streets
History

• 1915 there was 320 beds
  – So decide to rebuild again
• 1935 hospital officially named
  – The Royal Melbourne Hospital
• 1948 new hospital opened (Grattan Street)
• 1950- 1975
  – addition of north & south wings, plus clinical science building (now the RWH)
• 1990’s
  • Car parking
  • New emergency dept and radiology
• 1999 Designated at major trauma service
• 2011 Helipad opens
• 2014 saw the completion of the VCCC and the Peter Mac
• 2015 the opening of combined RMH and Peter Mac ICU
Mortality

- Majority of trauma deaths occur in elderly
  - 66% > 75 years
- Median death age
  - Male 78.4 years
  - Females 84.6 years

Source: ABS 2014 (Table S1).
Are Major Trauma Deaths Preventable?

- 1992 Consultative Committee on Road Traffic Fatalities (CCRTF)
  - Multidisciplinary committee to identify problems in management of road traffic fatalities that contribute to death.
  - 30-40% deaths potentially preventable


Evaluation of the medical management and preventability of death in 137 road traffic fatalities in Victoria, Australia: an overview. Consultative Committee on Road Traffic Fatalities in Victoria.

McDermott FT, Cordner SM, Tremayne AB.
Are Major Trauma Deaths Preventable?

• 1998 (Danne et al)
  – Major Trauma Management Study
    • 40% of survivors to hospital had potentially preventable death, complications or disability
What to do about it!!!!

1998

Establishment of the Ministerial Taskforce on Trauma and Emergency Services to advise the Government on a best practice model
Review Of Trauma and Emergency Services

• Rotes report published 1999
  – Pre-hosp guidelines (bypass)
  – Transfer guidelines
  – Role delineation
    • Essential, desirable, not applicable
  – Designation of health services to fulfill specific roles
  – Recommendations aimed at achieving optimal outcomes through coordinated trauma care
  – Need for monitoring and evaluation of system performance and outcomes from trauma care
The Victoria State Trauma System

An integrated system of trauma care designed to achieve optimal outcomes for trauma patients in this state.
Victoria, geographically ideal for a Trauma System

98% live < 150 km from CBD
• To deliver ‘the right patient to the right hospital in the shortest time.’

• ‘To match a facilities resources with a patient’s medical needs so that optimal and cost effective care is achieved.’
Victorian State Trauma System (VSTS)

- Staged introduction began in 2000
- Regionalised, inclusive trauma system
- Every health service has a VSTS designation
- Pre-hospital triage guidelines
- Minimisation of time to definitive treatment
- Major trauma services (MTS) have highest level of designation
Trauma Triage Guidelines

- Allow identification of potentially major trauma patients
- Transfer to highest designated
- Prevent secondary transfers
Performance Assessment

1. Locally at hospital Level
   – Weekly General Surgical Audit
     • Presenting, long stayers, complications & deaths
   – Bi-Monthly Advisory Committee on Trauma
     • Address any trends identified in data, case reviews, trauma guideline development
   – Quarterly Trauma Audit Meeting
     • Presenting all trauma activity, complications and deaths + case presentations
   – Annually: depart of surgery annual audit
     • Presenting all activity, complications and deaths
   – Feedback to all referral hospitals
Performance Assessment

2. At a state level
   - Victorian State Trauma Registry
     - Data sent quarterly
     - All trauma patients in Victoria
     - Benchmarked
       - Quality group
       - Case review group Report to the DHHS
       - Back to local sites
       - Data published on Internet
       - Long term patient follow up
Performance Assessment

3. Australasia

– AusTQIP + Australian Trauma Registry

– Established 2011
  • First report 2012

– Data sent quarterly

– Periodical reviews allow benchmarking
Performance Assessment

4. Australasia

- Trauma Verification
  - Quality assurance activity, Benchmarking
  - Australian and New Zealand
    - Collaboration of Colleges of surgeons/Anaesthetist and Intensive Care
  - RMH 2012 Designated as a level 1
  - Only Victorian MTS with Level 1 status to this day
- Plan 2018 October to be re-verified
Performance Assessment

• How?
  – KPI’s used to benchmark care
    • Scene time > 20 mins
    • GCS<6 and not intubated
    • Time to operation for life threatening injuries < 4 hours
      – Laparotomy
      – Thoracotomy
      – Craniotomy
      – Pelvic ORIF
      – Angiography
    • Time to open long bone fractures < 6hrs
    • Evaluate all major trauma deaths < 6 hours
And it works
Challenges

• Increasing patient volume
  – Increasing resources and time required to care for and assess performance
    • Hard to conduct independent case reviews on 84 deaths a year

• Evolving evidence & practice changes
  – Makes some KPI’s not relevant; ie scene times
    • AV now doing RSI, FAST, Finger thoracostomy