UNIVERSAL IMPLEMENTATION OF A RAPID RESPONSE SYSTEM ACROSS 250 HOSPITALS

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HISTORY

- First conceived at Charing X hospital in London 1983
- Implemented in Liverpool, Australia 1989
- First publication 1995
- Sporadic uptake in Australia over 15 years
- Various uptake in North America and Europe since late 1990’s
ROLL OUT ACROSS THE STATE OF NEW SOUTH WALES (NSW)

- Population 4.5 million
- Hospitals > 250
- Range 10 bed remote hospital
  1200 bed city teaching hospital
BETWEEN THE FLAGS
Clinical Excellence Commission (CEC)
BASED ON 5 PILLARS

Minimum Standards
IMPLEMENTATION OF THE MET SYSTEM

- Agreed calling criteria
- Agreed rapid response
- Administrative buy-in across whole hospital
- Education
- Outcome indicators
MINIMUM STANDARDS

1. CALLING CRITERIA
MINIMUM STANDARDS

2. RESPONSE

- 24/7 presence of at least one person with all advanced resuscitation skills/knowledge (defined)
- Use what is available and train
MINIMUM STANDARDS

3. ADMINISTRATIVE STRUCTURE

- CEO organisation ultimately responsible for implementation
- Senior clinicians engaged
- Separate committee
- Administrative support
MINIMUM STANDARDS

4. EDUCATION

Level 1 – All aspects of advanced resuscitation eg about paramedic

Level 2 - Basic recognition and response standards

Level 3 – Awareness across hospitals
MINIMUM STANDARDS

5. OUTCOME INDICATORS
IMPORTANT CULTURAL DRIVER - DATA
MINIMUM STANDARDS

5. OUTCOME INDICATORS

• Is it being successfully implemented and sustained?
  Number of MET calls/1000 admissions

• Strong statistical association between number of calls (DOSE) reduction in deaths and cardiac arrests (RESPONSE)
KEY TO EVALUATION – STANDARDISED DATA COLLECTION

KPIs one of 5 essential pillars necessary to successfully implement the BTF

CEC implementation committees have agreed on minimum data collection

Guaranteed de-identified aggregated data distributed to all levels of the organisation

Same data distributed to Area NSW Health and CEC
OUTCOME INDICATORS

Unexpected potentially preventable deaths
Unexpected potentially preventable cardiac arrests
Crude death rates
Crude cardiac arrest rates
Calls /1000 admissions
OUTCOME INDICATORS -

5. OUTCOME INDICATORS

Is the system working?

UNEXPECTED DEATHS
\((Deaths – DNR)\)

UNEXPECTED CARDIO-RESPIRATORYARRESTS
\((Arrests – DNR)\)

UNANTICIPATED ICU ADMISSIONS
\((Mainly general wards)\)

POTENTIALLY PREVENTABLE

- MET CRITERIA WITHIN 24 HOURS OF EVENT – NOT ACTED ON
REAL TIME RRS CALL DATA ENTRY DROP DOWN BOX

- Demographics
- Reason for call
- Interventions
- NFR
- Outcome
- Previous ‘yellow zone’ alert
REAL TIME ‘YELLOW ZONE’ DROP DOWN BOX

- Demographics
- Reason for call
- Action taken
- NFR
- Changed calling criteria Y/N
EVALUATION

Does the system improve patient outcomes?

What are the factors influencing the effectiveness of implementation?
EVALUATION CURRENT NHMRC GRANT

• Crude death rates.
• Cardiac arrest rates.
• Calls/1000 admissions
• All expressed in events/1000 admissions
• Cluster of low DRGs which shouldn’t result in death but did
• Post-operative respiratory failure and ‘failure to rescue’

DATA LINKAGE HOSPITAL AND POST HOSPITAL DISCHARGE
EVALUATION CURRENT NHMRC GRANT

• Before/After BTF implementation
• Progressive effect of the BTF program over 5 years
• Difference between MET hospitals (single tier) before and after BTF
WHAT ARE THE FACTORS FACILITATING AND INHIBITING EFFECTIVE BTF IMPLEMENTATION?
ORGANISATIONAL AND CULTURAL CHARACTERISTICS
CORRELATING INFORMATION FROM THE AUSTRALIAN ACCREDITATION DATA
EXAMPLE - WORKING CONDITIONS

• This health service does a good job of training new personnel
• All the necessary information for diagnostic and therapeutic decisions is routinely available to me
• My health service constructively deals with problem professional staff and employees
• Trainees in my discipline are adequately supervised
• The RRT prevents unwell patients from having cardiac respiratory arrests
• The RRT allows me to seek help for my patients when I’m worried about them
• The RRS is not helpful in managing sick patients in the unit
• I am reluctant to activate a RRT call on my patients because I will be criticised if they are not that unwell
• I would make a RRT call on a patient I am worried about even if their vital signs are normal
• I think that the RRT is overused in the management of hospital patients
• I don’t like to call a RRT because I will be criticised for not looking after my patients well enough
• Using the RRS increases my workload when caring for a sick patient
• The RRT call can be used to prevent a minor problem from becoming a major problem
IF EVALUATION IS ACCURATE AND RELEVANT IT CAN BE RESEARCH