IMPLEMENTATION OF A NEW SYSTEM IN HEALTH IS DIFFERENT FROM IMPLEMENTATION OF A NEW DRUG/PROCEDURE
REDEFINING HOSPITALS – PATIENT CENTRED

ICUs
ORs
ERs

RRS

GENERAL
WARDS

according to criteria

ICUs
ORs
ERs

STEP DOWN 1

STEP DOWN 2

STEP DOWN 3

GENERAL
WARDS

Triage defined according to predetermined criteria

Each Unit defined by:

Staff numbers/skills
Monitoring levels
EVALUATING THE SYSTEM

• What is it meant to achieve?
• Is there an evidence base?
SYSTEM AIMS TO IMPROVE PATIENT OUTCOMES

Deaths
Cardiac arrests
Serious adverse events
Other eg LOS
cost
EVALUATION

MET System reduces death rates

EVALUATION

MET system reduces cardiac arrest rates

*Buist et al. BMJ 2002; 324: 387*
EVALUATION

MET system reduces admissions to ICU

MJA 2000;173:236
EVALUATION

Success of implementation process

Number of MET calls/1000 admissions correlates with reduction in deaths and cardiac arrests

EVALUATION – DEATHS/CARDIAC ARRESTS

UNEXPECTED – (all-NFR)

POTENTIALLY PREVENTABLE -
(Urgent criteria within 24 h NOT acted on)
CARDIAC ARRESTS – SENTINAL EVENT

• Many should have been made NFR
• Many (up to 70%) could have been prevented by RRS
KPIs?

• Cheap, easy to collate
• Evidenced-based
• Universally accepted
• Capture the “hearts and minds” of those who operate the system by feeding back relevant data in an aggregated and attractive form
• Enables Hospital, Area, CEC and NSW Health to track the roll-out
HOW WILL THIS BE ACHIEVED?

- Modelled the same as the SWINE flu data collection
- 2 desktop icons
  - Urgent call details
  - Deaths
URGENT CALL DETAILS

- MRN
- Responder status
- Where call to?
- Why call?
- Intervention?
- Outcome?
- NFCPR status
DEATH

- NFCPR: Yes/No
- Criteria within 24 hrs: Yes/No
- Appropriate response: Yes/No
KPIs

- Inexpensive
- Easy to collect
- Meaningful
- Standardised
- Linked to other patient safety activities, eg RCA, SAC, deaths

MUST BE AGGREGATED AND FED DOWN AS WELL AS UP

MOST IMPORTANT DRIVER OF SYSTEM
OUTCOME INDICATORS

• Unexpected deaths
• Unexpected cardiorespiratory arrests
• Unanticipated admissions to ICU

+ PREVENTABILITY

IMPLEMENT CHANGE

Individual clinicians
Ward nurses
Departments
Hospital and Area committees
MET Calls for Liverpool Hospital

The MET is a team trained in advanced resuscitation. It can be activated according to predetermined criteria.

**Table 1**
Number of Hospital Admissions, MET Calls and MET Antecedents

<table>
<thead>
<tr>
<th>Clinical Category</th>
<th>Admissions</th>
<th>MET Calls</th>
<th>MET Criteria present in 24 hrs of event (MET Antecedents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery</td>
<td>964</td>
<td>29</td>
<td>8</td>
</tr>
<tr>
<td>Medicine</td>
<td>2160</td>
<td>60</td>
<td>22</td>
</tr>
<tr>
<td>Womens and Childrens Health</td>
<td>957</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Mental Health</td>
<td>83</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Totals for Liverpool Hospital</td>
<td>4164</td>
<td>92</td>
<td>31</td>
</tr>
</tbody>
</table>

**Table 2**
Number of MET Calls by outcomes

<table>
<thead>
<tr>
<th>Outcome of MET Calls by Clinical Category</th>
<th>Surgery</th>
<th>Medicine</th>
<th>Womens and Childrens Health</th>
<th>Mental Health</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unplanned ICU admission</td>
<td>6</td>
<td>11</td>
<td>1</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Death with no NFR</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Remained on Ward</td>
<td>16</td>
<td>42</td>
<td>1</td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>Remained in Critical Care</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Total MET calls</td>
<td>29</td>
<td>60</td>
<td>2</td>
<td>1</td>
<td>92</td>
</tr>
</tbody>
</table>

Discussion

- May/Jun/Jul’01 and Jul/Aug’00 shows that the winter season results in higher MET Call activity.
- MET Antecedents means that MET Criteria was present within 24 hrs of event, BUT no MET was called or was not called in time.
METs BY TIME PERIOD

- 0:00-7:59: 25%
- 8:00-15:59: 44%
- 16:00-23:59: 31%
AGREED MINIMUM STANDARD KPIs

- Nature of URGENT calls/1000 admissions
- Deaths/1000 admissions
- Unexpected (without NFCRP order), potentially preventable (criteria not responded to) death
- Unexpected (without NFCRP order), potentially preventable (criteria not responded to) cardiac arrests

THERE ARE MANY OTHER KPIs THAT HOSPITALS MAY WANT TO COLLECT