ORGANISATIONAL CULTURAL DIFFERENCES

International Meeting of Rapid Response Systems.
Critical Care Canada Forum.
13th-16th November 2011

Ken Hillman

AIHI
THE UNIVERSITY OF NEW SOUTH WALES
LIVERPOOL HOSPITAL
Intensive Care Unit

The Simpson Centre for Health Services Research
INNOVATION • INTERVENTION • IMPLEMENTATION
MERIT STUDY

23 hospital cluster randomised control study
600,000 patients
15,000 events
Underpowered

VARIABILITY!!!

Lancet 2005;365:2091-2097
VARIABILITY

• Not related to hospital size
• Not related to teaching hospital status
• Not related to geography
• More related to organisational culture and commitment
Unlike drug and simple intervention studies, System implementation requires:

A STRONG HAWTHORN EFFECT
IMPORTANT CULTURAL DRIVER - MARKETING
### Non-Clinical Medical Emergency Team (MET) Calling Criteria

<table>
<thead>
<tr>
<th>Airway Changes In:</th>
<th>Patient Exhibits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breathing</strong></td>
<td>Any difficulty breathing</td>
</tr>
</tbody>
</table>
| **Circulation**    | NO BREATHING  
Breathing less than 5 breaths a minute. Breathing more than 36 breaths a minute |
| **Neurology**      | NO HEARTBEAT  
Heartbeat less than 40 beats a minute. Heartbeat greater than 140 beats a minute  
Low Blood Pressure |
| Other              | Pt will not wake up or is unconscious. Pt becomes drowsy, or is difficult to wake up. Sudden collapse. Any Fitting, or uncontrolled Shaking of arms, legs or body |

Any patient who you are seriously worried about, e.g. pt complaining of chest pain or chest tightness, change in colour, dizziness.
# MEDICAL

## MEDICAL EMERGENCY TEAM CALLING CRITERIA

All cardiac and respiratory arrests and all conditions listed below

<table>
<thead>
<tr>
<th>ACUTE CHANGES IN:</th>
<th>PHYSIOLOGY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIRWAY BREATHING</td>
<td>Threatened</td>
</tr>
<tr>
<td>CIRCULATION</td>
<td>ALL CARDIAC ARRESTS</td>
</tr>
<tr>
<td></td>
<td>Pulse rate &lt;40</td>
</tr>
<tr>
<td></td>
<td>Pulse rate &gt;140</td>
</tr>
<tr>
<td></td>
<td>Systolic blood pressure &lt;90</td>
</tr>
<tr>
<td>NEUROLOGY</td>
<td>Sudden fall in level of consciousness (Fall in GCS of &gt;2 points)</td>
</tr>
<tr>
<td></td>
<td>Repeated or prolonged seizures</td>
</tr>
<tr>
<td>Other</td>
<td>Any patient whom you are seriously worried about who does not fit the above criteria</td>
</tr>
</tbody>
</table>

To call the Medical Emergency Team, phone your emergency number and tell the operator where you are and the location of the patient.
# Clinical Medical Emergency Team Calling Criteria

All Cardiac and Respiratory Arrests and all conditions listed below.

<table>
<thead>
<tr>
<th>Acute Changes in:</th>
<th>Physiology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airway</strong></td>
<td>Threatened</td>
</tr>
<tr>
<td><strong>Breathing</strong></td>
<td>ALL RESPIRATORY ARRESTS</td>
</tr>
<tr>
<td></td>
<td>Respiratory Rate &lt;5</td>
</tr>
<tr>
<td></td>
<td>Respiratory Rate &gt;36</td>
</tr>
<tr>
<td><strong>Circulation</strong></td>
<td>ALL CARDIAC ARRESTS</td>
</tr>
<tr>
<td></td>
<td>Pulse Rate &lt;40</td>
</tr>
<tr>
<td></td>
<td>Pulse Rate &gt;140</td>
</tr>
<tr>
<td></td>
<td>Systolic Blood Pressure &lt;90</td>
</tr>
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<td><strong>Neurology</strong></td>
<td>Sudden fall in level of consciousness</td>
</tr>
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<td></td>
<td>(Fall in GCS of &gt;2 points)</td>
</tr>
<tr>
<td></td>
<td>Repeated or prolonged seizures</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Any patient who you are seriously worried about that does not fit the above criteria</td>
</tr>
</tbody>
</table>

To call the Medical Emergency Team, phone your Hospital Emergency number and tell the operator where you are and the location of the patient.
Emergency hospital teams halve heart deaths

But changing culture is hard

Buist MD. BMJ 2002; 324: 1-6
MET FIRST ESTABLISHED AT LIVERPOOL HOSPITAL IN 1990
IMPORTANT CULTURAL DRIVER - DATA
MET AUDIT
22 – 28 JAN 2007

Jayne Stevenson
MET Co-ordinator
Resuscitation Officer
27 METS

- 26 Inpatients
- 1 Outpatient
- 2 Visitors
27 METS

- 20 Remained on Ward
- 6 Transferred to ICU
- 1 Transferred to ED
- 1 Went home
- 2 Cardiac Arrests
- 1 Death
- 1 Unknown
Reason for MET Call (- 1 Unknown)

- **GCS ↓ > 2**: 9
- **Worried**: 9
- **BP < 90**: 4
- **PR > 140**: 3
- **PR < 40**: 2
- **Threatened Airway**: 1
- **RR > 36**: 1
WORRIED CALLS = 9

1. Desaturation 81%
2. Desaturation, SOB
3. SOB
4. Cardiac Arrest !
5. Patient collapsed in toilet, felt unwell – outpatient due IHD – T/f ICU
6. Collapse : Visitor, T/f ED
7. Collapse : Visitor, went home
8. Found on floor, ? TIA
9. Haematemesis
<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>METs</th>
</tr>
</thead>
<tbody>
<tr>
<td>78</td>
<td>M</td>
<td>2</td>
</tr>
<tr>
<td>62</td>
<td>M</td>
<td>3</td>
</tr>
<tr>
<td>61</td>
<td>M</td>
<td>2</td>
</tr>
<tr>
<td>80</td>
<td>M</td>
<td>2</td>
</tr>
<tr>
<td>74</td>
<td>M</td>
<td>2</td>
</tr>
<tr>
<td>92</td>
<td>F</td>
<td>2</td>
</tr>
</tbody>
</table>
**Dear Dr Brown**

Please find the attached Patient Care Profile for XXX Hospital for the period of MMM YYYY

<table>
<thead>
<tr>
<th>Event Date / Time</th>
<th>Patient Record Number</th>
<th>Admission Date</th>
<th>Event(s)</th>
<th>Ward</th>
<th>&quot;24hr Retrospective Review&quot;</th>
<th>Evidence of Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ddd 2&lt;sup&gt;nd&lt;/sup&gt; mm-yy 8:50</td>
<td>xxxxxxxxx</td>
<td>22-Dec-00</td>
<td>MET Call</td>
<td>Ward X</td>
<td>Appropriate Action Taken</td>
<td>Emergency</td>
</tr>
<tr>
<td>Ddd 6&lt;sup&gt;th&lt;/sup&gt; mm-yy 19:14</td>
<td>xxxxxxxxx</td>
<td>01-Dec-00</td>
<td>Cardiac Arrest, MET Call</td>
<td>Ward X</td>
<td>Systolic Pressure &lt; 90 within 24 hours. BUT MET NOT ACTIVATED</td>
<td></td>
</tr>
<tr>
<td>Ddd 22&lt;sup&gt;nd&lt;/sup&gt; mm-yy 20:20</td>
<td>xxxxxxxxx</td>
<td>11-Jan-01</td>
<td>MET Call</td>
<td>Ward Y</td>
<td>Appropriate Action Taken</td>
<td>Intensive Care Unit</td>
</tr>
<tr>
<td>Ddd 28&lt;sup&gt;th&lt;/sup&gt; mm-01 02:30</td>
<td>xxxxxxxxx</td>
<td>29-Jan-01</td>
<td>Cardiac Arrest, Death with NO NFR, MET Call</td>
<td>Ward X</td>
<td>Worry within 8 Hours – Worry: Decrease Oxygen Saturation (80%), Pulmonary Oedema. Chest Pain. BUT MET NOT ACTIVATED</td>
<td>Emergency</td>
</tr>
</tbody>
</table>
# MET OUTCOMES REPORT FOR X HOSPITAL

**FOR THE MONTH OF MMM YYYY**

## DATA DEFINITIONS

**MET CALLS:** Where the MET team is activated by the presence of predefined MET Calling Criteria.

**CARDIAC ARRESTS:** Cardio Respiratory Arrest is defined as a patient who is unconscious requiring CPR or Defibrillation.

**UNPLANNED ICU ADMISSIONS:** Unplanned Admissions to ICU are those that are not booked and occur in patients who deteriorate within the hospital and are subsequently transferred to ICU.

**NON-NFR DEATHS:** Are all Deaths that occur within the Hospital without a documented ‘Not For Resuscitation’ order.

**MET NOT CALLED IN TIME:** MET criteria documented within 24 hours prior to event. MET team not activated at this time in view of documented presence of calling criteria.

## MET CRITERIA

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airway Breathing</td>
<td>Threatened&lt;br&gt;<strong>All Respiratory Arrests</strong>&lt;br&gt;Respiratory Rate &lt;5&lt;br&gt;Respiratory Rate &gt; 36</td>
</tr>
<tr>
<td>Circulation</td>
<td><strong>All Cardiac Arrests</strong>&lt;br&gt;Pulse Rate &lt; 40&lt;br&gt;Pulse Rate &gt; 140</td>
</tr>
<tr>
<td>Neurology</td>
<td>Systolic Blood Pressure &lt; 90&lt;br&gt;Sudden fall in level of consciousness (Fall in GCS of &gt; 2 points)&lt;br&gt;Repeated or prolonged seizures</td>
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<tr>
<td>Other</td>
<td>Any patient whom you are seriously worried about that does not fit the above criteria</td>
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## ENQUIRIES:

Steve Frost  
**MET Research and Training Unit**

**PHONE:** (02) 98286104

**FAX:** (02) 98286111

**EMAIL:** steve.frost@swsahs.nsw.gov.au
Examples of Hospital Safety Culture

- Rate pressure areas
- Rate of falls
- Rate unplanned hospital readmissions
- Rate medication errors
Examples of Intensive Care Safety Culture

- Rate completed ANZICS database
- Rate delayed discharge >12 hrs
- Rate readmissions <72 hrs
- Rate of thrombo-embolism prophylaxis
BAYESIAN NETWORK MODEL

Hospital-wide attitudes to patient safety

Hospital demographics

Accreditation performance

Staff attitudes to RRS implementation

RRS OUTCOMES

• Mortality rate
• Cardiac arrest rate
• Calls/1000 adm
CLINICAL EXCELLENCE COMMISSION

Teamwork Culture (Scale 1-5)

• Clinical input is well received in my area
• In my clinical area, it is difficult to speak up if I perceive a problem with patient/client care
• Disagreements in my clinical area are appropriately resolved (ie not who is right but what is best for the patient/client)
• I have the support I need from other personnel to care for patients/clients
• It is easy for personnel in my clinical area to ask questions when there is something they do not understand
• The clinicians in my area work together as a well co-ordinated team
Staff Attitudes Towards the RRS Implementation

- 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 the RRS 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.
Perceptions of Management (Scale 1-5)

- My administration supports my daily efforts
- My health service’s management does not knowingly compromise the safety of patients/clients
- The levels of staffing in my clinical area are sufficient to handle the number of patients/clients
- I am provided with adequate, timely information about events in my health service that might affect my work
IMPLEMENTATION OF ORGANISATIONAL-WIDE PATIENT-CENTRED SYSTEMS
EVIDENCE

Simple inventions
(eg new drug, procedure)
vs
Complex system intervention
OBSTACLES

• We don’t have a problem in our hospital
• Entrenched hospital silos
• Challenges doctor:patient relationship
• Doctor:patient training
• Lack of overarching body (only administrative)
• Hierarchy of care
OBSTACLES

• Easier to blame individuals
• Requires resources without an empire or budget
• Playing by the “rules” trumps patient safety
• Medicine inherently conservative, hierarchial and reactionary
• No evidence
• Surrogate dying team
OTHER MODELS FOR SYSTEM IMPLEMENTATION

• Defence
• McDonalds
• Aircraft industry

Team functions together for common goal
DRIVERS - GENERAL

- Societal expectations
- Scale of errors
- Government policy, eg JCAHO
- Competition
DRIVERS - HOSPITAL

- “Champions”
- Empowering nurses – “worried criteria”
- Committed senior administration
- “Stories” and a forum for presentations
- Data fed back to all levels of the organisation
DRIVERS - HOSPITAL

- RRSs are there to help your patient - carrot
- Otherwise you should come in personally 24/7 - stick
- Resuscitate then inform clinician in charge
- MET call is a consultation
- Education
- Marketing
- Rewarding “calling for help”