recognising and responding to clinical deterioration: solutions for safe care

National Conference Adelaide 2010
Overview
Welcome to the Australian Commission on Safety and Quality in Health Care’s second National Conference as part of its Recognising and Responding to Clinical Deterioration program.

The aim of the conference is to showcase current approaches and practical solutions to the challenge of properly recognising and responding to patients who deteriorate in hospital.

This year’s conference will feature a number of experts from across Australia, New Zealand, America and the UK.

The conference will provide participants with an opportunity to:

- hear from experts about current approaches and directions to recognising and responding to clinical deterioration
- learn about practical solutions for improving the recognition and response to clinical deterioration
- discuss with colleagues the issues, barriers and enablers to implementing systems and programs to improve the recognition and response to clinical deterioration.

Conference themes
The program includes sessions about all of the essential elements for recognising and responding to clinical deterioration, including observations, rapid response systems, education and evaluation. A highlight of the conference will be the workshops that provide practical skills and information for participants to apply in their facility.

Further information
Further information about this conference and the Recognising and Responding to Clinical Deterioration program is available on the Commission’s website www.safetyandquality.gov.au.
**MONDAY 8 NOVEMBER**

<table>
<thead>
<tr>
<th>TIME</th>
<th>Balloon 1 &amp; 2</th>
<th>Balloon 3</th>
<th>Balloon 4 &amp; 5</th>
<th>Mosley Room</th>
<th>Colley Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 - 9:15</td>
<td>Welcome</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alison McMillan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair, ACSQHC Recognising and Responding to Clinical Deterioration Advisory Committee</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:15 - 10:30</td>
<td>Opening plenary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20 years on - How far have we come?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Speakers: Alison McMillan - Chair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Helen Dyriw - Consumer perspective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tracey Stockwell - Nursing perspective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Imogen Mitchell - Medical perspective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30 - 11:00</td>
<td>MORNING TEA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00 - 11:30</td>
<td>1A Measurement &amp; documentation of observations 1: Measurement of observations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Anna Green</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The introduction of a new observation chart and education program is associated with higher rates of respiratory rate and other vital sign assessment in hospital wards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aaron Jones</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Observation frequency: Determined by resources not patient need?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peter Groom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dying to be noticed? A hospital wide point prevalence audit of patient observations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murray Gikes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missed observations within the cancer patient population</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Christine Murphy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30 - 12:00</td>
<td>1B Workshop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TeamSTEPPS™: Improving communication for rapid response teams</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Bradley Casey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mary Salisbury</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilitators: Christy Pirone &amp; Karen Stead</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 - 12:30</td>
<td>1C Workshop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organisational readiness for the implementation of a standard observation chart and escalation process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Cathie West</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bradley Casey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Natalie Grady</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chrissy Ceely</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30 - 13:00</td>
<td>1D Models for rapid response systems 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Development and implementation of CERS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Amanda Yates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Admitting Consultant Emergency (ACE) system is an efficient and effective clinical trigger rapid response system in a tertiary private hospital</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Laven Padayachee</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>An innovative clinical assistance model for the rural and remote deteriorating patient</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mara E Jones</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implementation of rapid response in a regional private hospital</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gary Russell</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refining and redefining medical emergency response (MER) in the private sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sally Evans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:00 - 14:00</td>
<td>LUNCH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00 - 14:30</td>
<td>2A Measurement &amp; documentation of observations 2: Use of observation charts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Murray Gikes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Between the Flags: Standard Adult General Observation Chart (SAOGC): Striking the right balance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collette Duff, Charles Pain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The introduction of an early recognition and response tool across WA Country Health Service</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mary Miller</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Helping emergency nurses to act sooner: Identifying the adult and child patient</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bernie Brady</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Helen Dyriw</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Children swimming away from the rip and between the flag</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chrissy Ceely</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The earliest bird catches the worm: The development of a strategy for the patient at risk in a climate of change</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beverly Evans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:30 - 15:00</td>
<td>2B Workshop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Escalating care in response to clinical deterioration: Systems for enabling patients, families and carers to call for help</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Harry Dow</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mary Wheeler</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilitators: Kerrie O’Leary &amp; Karen Stead</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:00 - 15:30</td>
<td>2C Workshop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The role of simulation in providing education about recognising and responding to clinical deterioration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Andrew Shelton</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Harry Dew</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cyle Spirk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leanne Rogers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:30 - 16:00</td>
<td>2D Models for rapid response systems 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. An ICU liaison nurse service provides a complementary response for deteriorating patients outside the ICU</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Nurse practitioners on patrol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Nurse led medical emergency team</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Sarah Inglesby</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jenny Lumisien</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paul Hodgson, Jodie Ekholt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Debbie Rainesford</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00 - 16:30</td>
<td>LUNCH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:30 - 17:00</td>
<td>3A Measurement &amp; documentation of observations 3: Track and trigger systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Christy Pirone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EWS are incorrectly calculated 30% of the time in acutely ill medical patients on wards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sarah Inglesby</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identification of the deteriorating patient. Do observation tools work?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rachelle Morris</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Analysis of the Children’s Early Warning Tool</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kevin McCaffrey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:00 - 17:30</td>
<td>3B Understanding why problems occur</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Karen Stead</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The human element of the process of recognition and response to clinical deterioration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Imogen Mitchell</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keeping patients safe: A multi focal approach in the acute care setting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Toni Sheppard, John Rihard-Thomas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understanding observations: Responding to the cues</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Katie Dalton, Orinda Jones</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:30 - 18:00</td>
<td>3C State-wide systems for recognising and responding to clinical deterioration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Jo-Anne Stephens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Between the Flags: Drowning not Waving</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Charles Pain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Best Clinical Practice in the management of the acutely ill or deteriorating patient - a pre-hospital care perspective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paul Middleton</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implementation of a state-wide paediatric emergency response system: Between the Flags</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jo Leaver</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jo-Anne Stephens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:00 - 18:30</td>
<td>3D Evaluation audit and feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Sharyn Phillis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The challenges of accurate and useful cardiac arrest audit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>David Drewer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compliance auditing of vital signs and scoring post implementation of modified early warning scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bradley Maunder</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clinical indicators for recognising and responding to clinical deterioration - an Australian initiative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jen Bichel-Findlay</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DRINKS AND NIBBLES**

**TUESDAY 9 NOVEMBER**

**WEDNESDAY 10 NOVEMBER**

**THURSDAY 11 NOVEMBER**

**FRIDAY 12 NOVEMBER**

**SATURDAY 13 NOVEMBER**
<table>
<thead>
<tr>
<th>TIME</th>
<th>Ballroom 1 &amp; 2</th>
<th>Ballroom 3</th>
<th>Ballroom 4 &amp; 5</th>
<th>Moseley Room</th>
<th>Colley Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 - 10:00</td>
<td>Plenary</td>
<td>Ballroom 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A conversation about culture and recognition and response systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Participants:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jeffrey Braitwaite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mary Salisbury</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kevin McCaffrey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vanessa Owen</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00 - 10:30</td>
<td>MORNING TEA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30 - 12:30</td>
<td>4A Workshop</td>
<td>4B Workshop</td>
<td>4C Workshop</td>
<td>4D Workshop</td>
<td>4E Outcomes from responding to clinical deterioration</td>
</tr>
<tr>
<td></td>
<td>COMPASS Workshop: Implementing &amp; sustaining a deteriorating patient program Part 1</td>
<td>Hospital systems for recognising and responding to clinical deterioration Part 1</td>
<td>COMPASS Workshop: Implementing &amp; sustaining a deteriorating patient program Part 2</td>
<td>Implementing and maintaining a rapid response system: Two different models for providing emergency assistance Part 1</td>
<td>Chair: Mary Miller</td>
</tr>
<tr>
<td></td>
<td>Imogen Mitchell, Heather McKay, Sarah Mamootil, Tracy Fletcher</td>
<td>THE POST PROJECT: Andrew Shilton, The POST Investigators</td>
<td>Nigel Chong, Glen Williams, Angela McKay, Anna Green, Kerrie O'Leary</td>
<td>Responding To Medical Emergencies: System Characteristics Under Examination (RESUE): A prospective Multi-Site Point Prevalence Study</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4A Workshop</td>
<td>4B Workshop</td>
<td>4C Workshop</td>
<td>4D Workshop</td>
<td>4E Outcomes from responding to clinical deterioration</td>
</tr>
<tr>
<td></td>
<td>A conversation about culture and recognition and response systems</td>
<td>Building clinical competence through in-situ immersive simulation</td>
<td>A partnership to save lives - Building clinical competence through in-situ immersive simulation</td>
<td>Two different models for providing emergency assistance</td>
<td>Chair: Mary Miller</td>
</tr>
<tr>
<td></td>
<td>Participants:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TUESDAY 9 NOVEMBER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30 - 10:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30 - 12:30</td>
<td>5A Workshop</td>
<td>5B Workshop</td>
<td>5C Workshop</td>
<td>5D Workshop</td>
<td>5E Education</td>
</tr>
<tr>
<td></td>
<td>COMPASS Workshop: Implementing &amp; sustaining a deteriorating patient program Part 2</td>
<td>Hospital systems for recognising and responding to clinical deterioration Part 2</td>
<td>TeamSTEPPS™: Improving communication for rapid response teams</td>
<td>Implementing and maintaining a rapid response system: Two different models for providing emergency assistance Part 2</td>
<td>Chair: Joanne Leaver</td>
</tr>
<tr>
<td></td>
<td>Imogen Mitchell, Heather McKay, Sarah Mamootil, Tracy Fletcher</td>
<td>THE POST PROJECT: Andrew Shilton, The POST Investigators</td>
<td>Nigel Chong, Glen Williams, Angela McKay, Anna Green, Kerrie O'Leary</td>
<td>Responding To Medical Emergencies: System Characteristics Under Examination (RESUE): A prospective Multi-Site Point Prevalence Study</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5A Workshop</td>
<td>5B Workshop</td>
<td>5C Workshop</td>
<td>5D Workshop</td>
<td>5E Education</td>
</tr>
<tr>
<td></td>
<td>A conversation about culture and recognition and response systems</td>
<td>Building clinical competence through in-situ immersive simulation</td>
<td>A partnership to save lives - Building clinical competence through in-situ immersive simulation</td>
<td>Two different models for providing emergency assistance</td>
<td>Chair: Joanne Leaver</td>
</tr>
<tr>
<td></td>
<td>Participants:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low MEWS is good news. Implementing the ACSQHC consensus statement for recognising &amp; responding to clinical deterioration in a surgical division</td>
<td>Crews: Mary Salisbury, Facilitators: Christy Pirone &amp; Karen Stead</td>
<td>Mary Salisbury, Facilitators: Christy Pirone &amp; Karen Stead</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cathy Andrews</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sustaining the Detection of Deteriorating Patients at Small Rural Facilities</td>
<td>Critical Care Outreach Service – Evaluation of Nurses Opinions of Outreach and the EWS Tool at Hutt Valley DHB</td>
<td>APRN/ECRN: Mary Salisbury, Facilitators: Christy Pirone &amp; Karen Stead</td>
<td>Recognising and responding to the deteriorating patient: Bridging the knowledge gap</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Andrew Bailey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Critical Care Outreach Service – Evaluation of Nurses Opinions of Outreach and the EWS Tool at Hutt Valley DHB</td>
<td>Lynn Salt</td>
<td>Lynn Salt</td>
<td>Bronwyn Avard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Andrew Bailey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Reluctant Hospital: How not to Implement a System for Recognising and Responding to Clinical Deterioration</td>
<td>Jennifer Hill</td>
<td>Jennifer Hill</td>
<td>Education - an essential element in the early recognition of deteriorating children</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Critical instability criteria: An early warning system for emergency departments</td>
<td>Critical instability criteria: An early warning system for emergency departments</td>
<td>Critical instability criteria: An early warning system for emergency departments</td>
<td>Shifting sands: Designing and implementing a training and assessment program for a nurse-led medical emergency team (MET) responder service</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Julie Considine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low MEWS is good news. Implementing the ACSQHC consensus statement for recognising &amp; responding to clinical deterioration in a surgical division</td>
<td>Critical instability criteria: An early warning system for emergency departments</td>
<td>Critical instability criteria: An early warning system for emergency departments</td>
<td>Simulation on a shoestring! Making the most of experiential learning through local, low cost, high fidelity medical emergency team (MET) simulation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cathy Andrews</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sustaining the Detection of Deteriorating Patients at Small Rural Facilities</td>
<td>Critical instability criteria: An early warning system for emergency departments</td>
<td>Critical instability criteria: An early warning system for emergency departments</td>
<td>Early recognition and treatment of the deteriorating patient: A hospital wide educational initiative for nurses and midwives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Andrew Bailey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30 - 1:30</td>
<td>LUNCH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:30 - 3:30</td>
<td>6A Workshop</td>
<td>6B Workshop</td>
<td>6C Workshop</td>
<td>6D Workshop</td>
<td>6E Education</td>
</tr>
<tr>
<td></td>
<td>COMPASS Workshop: Implementing &amp; sustaining a deteriorating patient program Part 3</td>
<td>Hospital systems for recognising and responding to clinical deterioration Part 3</td>
<td>TeamSTEPPS™: Improving communication for rapid response teams</td>
<td>Implementing and maintaining a rapid response system: Two different models for providing emergency assistance Part 3</td>
<td>Chair: Joanne Leaver</td>
</tr>
<tr>
<td></td>
<td>Imogen Mitchell, Heather McKay, Sarah Mamootil, Tracy Fletcher</td>
<td>THE POST PROJECT: Andrew Shilton, The POST Investigators</td>
<td>Nigel Chong, Glen Williams, Angela McKay, Anna Green, Kerrie O'Leary</td>
<td>Responding To Medical Emergencies: System Characteristics Under Examination (RESUE): A prospective Multi-Site Point Prevalence Study</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6A Workshop</td>
<td>6B Workshop</td>
<td>6C Workshop</td>
<td>6D Workshop</td>
<td>6E Education</td>
</tr>
<tr>
<td></td>
<td>A conversation about culture and recognition and response systems</td>
<td>Building clinical competence through in-situ immersive simulation</td>
<td>A partnership to save lives - Building clinical competence through in-situ immersive simulation</td>
<td>Two different models for providing emergency assistance</td>
<td>Chair: Joanne Leaver</td>
</tr>
<tr>
<td></td>
<td>Participants:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mary Salisbury</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sustaining the Detection of Deteriorating Patients at Small Rural Facilities</td>
<td>Critical instability criteria: An early warning system for emergency departments</td>
<td>Critical instability criteria: An early warning system for emergency departments</td>
<td>Shifting sands: Designing and implementing a training and assessment program for a nurse-led medical emergency team (MET) responder service</td>
<td></td>
</tr>
<tr>
<td>3:30 - 4:00</td>
<td>AFTERNOON TEA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00 - 5:15</td>
<td>Plenary panel session</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>What is the most important thing you need to do to recognise and respond to clinical deterioration?</td>
<td></td>
<td></td>
<td>Recognising and responding to the deteriorating patient: Bridging the knowledge gap</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Participants:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jillann Farmer - Chair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Caroline Weaver - Have in place a governance structure that enables clinicians to talk in a common language</td>
<td></td>
<td></td>
<td>Bronwyn Avard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Michael Buist - The use of technology and communication systems that avoid the variability in human decision making</td>
<td></td>
<td></td>
<td>Education - an essential element in the early recognition of deteriorating children</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tracy Levett-Jones - Educating undergraduates: Have we overlooked an opportunity for improving patient safety?</td>
<td></td>
<td></td>
<td>Shifting sands: Designing and implementing a training and assessment program for a nurse-led medical emergency team (MET) responder service</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Daryl Jones - Provide appropriate care and treatment when responding to patients whose condition is deteriorating</td>
<td></td>
<td></td>
<td>Elizabeth Gherardin</td>
<td></td>
</tr>
<tr>
<td>5:15</td>
<td>CLOSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Welcome and Opening Plenary

20 years on- How far have we come?

Participants:
- Ms Alison McMillan (Chair)
- Ms Helen Dyriw
- Professor Tracey Bucknall
- Associate Professor Imogen Mitchell

Participant Biographies

Chair:
Ms Alison McMillan
Director of the Quality, Safety and Patient Experience Branch, Department of Health, Victoria

Ms Alison McMillan has more than 25 years experience as both a clinician and an executive in the public healthcare sectors of the United Kingdom and Australia.

Now as the Director of the Quality, Safety and Patient Experience Branch, Department of Health in Victoria, Ms McMillan takes a leadership role in shaping the quality agenda for Victoria and collaborating with other state and territory counterparts on national issues.

Professor Tracey Bucknall
Professor of Nursing, Deakin University Head, Cabrini, Deakin Centre for Nursing Research, Cabrini Health

Professor Tracey Bucknall has held a variety of clinical, educational and research appointments in private and public hospitals, and in the tertiary sector. Her research focuses on understanding how individuals make decisions routinely and in uncertainty, identifying the environmental and social influences upon decisions.

She has successfully obtained nationally competitive research funding; presented nationally and internationally and published in the top ranked critical care and nursing journals. Professor Bucknall is also Associate Editor of Worldviews on Evidence Based Nursing, ranked No. 1 nursing journal internationally.

Associate Professor Imogen Mitchell
Director of Intensive Care, The Canberra Hospital
Associate Dean (Admissions), ANU Medical School

Professor Imogen Mitchell has been instrumental in the development of a number of changes at The Canberra Hospital including the development of the medical emergency team and more recently the clinical lead for ACT Health’s COMPASS program, which facilitates the recognition and response to the deteriorating patient.
## Recognising and Responding to Clinical Deterioration: Solutions for Safe Care Conference, November 8-9 2010

<table>
<thead>
<tr>
<th>Ballroom 1 &amp; 2</th>
<th>Ballroom 3</th>
<th>Ballroom 4 &amp; 5</th>
<th>Moseley Room</th>
<th>Colley Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A Measurement &amp; documentation of observations 1: Measurement of observations</td>
<td>1B Workshop TeamSTEPPS™: Improving communication for rapid response teams</td>
<td>1C Workshop Organisational readiness for the implementation of a standard observation chart and escalation process</td>
<td>1D Models for rapid response systems 1</td>
<td>1E Workshop Recognising and responding to clinical deterioration: The role of peer review and morbidity and mortality meetings in improving individual performance and systems of care</td>
</tr>
<tr>
<td>Chair: Anna Green</td>
<td></td>
<td></td>
<td>Chair: Cathie West</td>
<td>Kerrie O'Leary Charles Pain</td>
</tr>
</tbody>
</table>

### The introduction of a new observation chart and education program is associated with higher rates of respiratory rate and other vital sign ascertainment in hospital wards
- Aaron Jones
- Observation frequency: Determined by resources not patient need?
- Peter Groom
- Dying to be noticed? A hospital wide point prevalence audit of patient observations
- Murray Giles
- Missed observations within the cancer patient population
- Christine Murphy

### Mary Salisbury
- Facilitators: Christy Pirone & Karen Stead

### Bradley Ceely
- Natalie Grady
- Chrissy Ceely

### Development and implementation of CERS
- Amanda Yates
- The Admitting Consultant Emergency (ACE) system is an efficient and effective clinical trigger rapid response system in a tertiary private hospital
- Laven Padayachee
- An innovative clinical assistance model for the rural and remote deteriorating patient
- Marea E Jones
- Implementation of rapid response in a regional private hospital
- Gary Russell
- Refining and redefining medical emergency response (MER) in the private sector
- Sally Evans

### Monday 8 November 2010, Concurrent Session 1 11.00am-1.00pm

Recognising and Responding to Clinical Deterioration: Solutions for Safe Care Conference, November 8-9 2010
The introduction of a new observation chart and education program is associated with higher rates of respiratory rate and other vital sign ascertainment in hospital wards

Presenter
Aaron Jones, Nursing Unit Manager, Royal Prince Alfred Hospital

Abstract

Objective: The aim of this study is to evaluate the impact of the new chart on the completeness of vital sign recording in ward areas.

Methods: The setting is a university affiliated teaching hospital in Sydney, Australia. Three study periods, each lasting 14 days (pre-intervention, 2 weeks post-intervention, 3 months post-intervention) were carried out in three wards. The new observation chart was supported by an education program. The primary outcome measure was the ascertainment rates of individual vital signs as a proportion of total observation sets.

Results: Documentation of respiratory rate more than doubled from 47.8% to 97.8% (p<0.001) and was sustained at 3 months post-intervention (98.5%). Collection of a full set of vital signs also improved by a similar magnitude. Basic neurologic observation for all patients was introduced in the new chart; the uptake of this was very good (93.1%). Ascertainment rates of blood pressure and oxygen saturation also increased by small but significant amounts from good baseline rates of 97% or higher.

Conclusions: The introduction of a new observation chart, and education regarding its use and importance were associated with major improvement in the recording of respiratory rate and other vital signs.
Observation frequency: Determined by resources not patient need?

Presenter
Peter Groom, CNS Critical Care, North Shore Hospital, Waitemata District Health Board, New Zealand

Abstract

Objective: To determine why observation frequency does not match patient’s clinical need in a busy teaching hospital.

Method: One thousand two hundred (N=1200) early warning system (EWS) observation charts were randomly selected and audited by the Critical Care Outreach Team over two years, from autumn 2008 to autumn 2010. Observation frequency was reviewed by shift, ward and EWS total. Wards were cohorted by specialty with caseload reviewed to allow comparison. Patterns of observation frequency and completeness were re-examined. The audit tool identified; patient, EWS, frequency of observation, observation completeness, response to EWS activation and mean ward EWS score. Data was reviewed in relation to staffing levels and shift patterns.

Results: EWS at Waitemata District Health Board (WDHB) has improved the standard of observation taking and frequency since its inception in 2007. However, patients continue to slip through the patient safety net. Observation frequency at WDHB is significantly reduced overnight and when mean ward EWS score is raised. This is most apparent in our acute medical wards. Auditing medical wards between North Shore Hospital and Waitakere Hospital revealed that observation frequency is greater in the lower risk patient group at Waitakere Hospital. Medical wards at Waitakere Hospital have a mean observation frequency of 5.56 hourly while North Shore Hospital with more complex patients have a lower observation frequency of 8.58 hourly. Disparity between matched wards is also apparent; with two matched general surgical wards having mean frequencies of 5.1 and 4.8 hourly; but two matched medical wards had frequencies of 4.9 and 8.8 hourly.

Nurse staffing ratios are shift dependent which reflected observation frequency. Standard patient to nurse ratios are 4/5: 1 on the morning shift, 6: 1 on the afternoon shift and 10: 1 on the night shift. Observation frequency tracks with nurse to patient ratios. Observations are recorded twice as often during the day. Lower overnight staffing equates directly with reduced observation frequency.

Conclusion: Observation frequency is not determined by patient need, presenting condition or potential complications but by staffing level and workload. All wards show a decreased level of observation taking at night and this tracks nursing staff numbers.
Dying to be noticed?: A hospital wide point prevalence audit of patient observations

Presenter
Murray Giles, Acting Medical Emergency Team Educator, Fremantle Hospital and Health Service

Abstract

**Objective:** The purpose of the audit was to establish baseline information about recognition and response to evidence of clinical deterioration in an at risk adult inpatient population.

**Methods:** The audit sought to identify at one point in time whether staff had appropriately responded to patients with documented vital signs that had reached Medical Emergency Team (MET) vital signs criteria and/or evidence of possible clinical deterioration as calculated using a Modified Early Warning Score (MEWS).

A point prevalence audit was conducted within 15 inpatient general medical and surgical wards across two campuses of a Western Australia tertiary hospital. Each ward was assigned two auditors, all registered nurses employed at the hospital, who received training on the day. The auditors checked and recorded the most recent full set of vital signs provided the observations had been entered within the last 4 hours. If more than 4 hours had passed, auditors completed a set of observations on the patient. Patients with MET criterion or MEWS total of 3 or greater had an in-depth clinical review by the Resuscitation Coordinator (RC). Additionally, the auditors were asked to evaluate their audit experience and comment on the current observation charts in use.

**Results:** Of the 294 patients reviewed auditors found only nine (3%) patients had vital signs indicative of actual or possible clinical deterioration, including one (0.3%) patient with both a vital sign meeting a MET criterion and a MEWS of 3. There was clear evidence for eight (89%) of these patients that appropriate responses were in place though not all treatment plans were fully documented. The audit exposed one patient who required both medical intervention and a documented treatment plan to address a fluctuating clinical status.

The auditors’ highly evaluated the experience of using a MEWS system for the first time and all strongly recommended a track and trigger system be incorporated into a new observation chart for general ward areas.

**Conclusions:** The audit achieved it primary objectives and has provided an important insight into the current standards of vital signs recording and how staff respond. The audit has motivated a strong interest and support amongst nurses for the hospital to trial a new observation chart that will assist in timely recognition of clinical deterioration. The results will benchmark and aid in evaluating changes to our hospital’s observation chart, response systems and policies.
Missed observations within the cancer patient population

Presenter
Christine Murphy, Liaison Nurse Consultant, Peter McCallum Cancer Centre

Abstract

**Objective:** To improve the frequency of missed observations, through education on the affect accurate vital sign measurement has on patient outcomes.

**Method:** An initial retrospective audit was undertaken to establish a base line of missed observations within the inpatient population at Peter MacCallum Cancer Centre. All inpatient observation charts were reviewed over a 24hr period. Each set of observations were audited to verify if blood pressure, heart rate, respiratory rate, oxygen saturations and temperature were always measured.

The initial results found that 38% of observations had at least one vital sign missing. The audit was presented to the Nursing Leadership Committee and an aim to reduce the rate of missed observations to less than 20% over the following 6 months was set. To achieve this, education was put in place to educate 50% of nursing staff on the importance of vital signs.

Four generic hospital in-services and one study day were set up for all nursing staff. The audit results were presented and compared to similar studies published in the literature based on missing observations. Real Peter MacCallum case scenarios were used to highlight the issue of missing observations and the adverse affect these can have on patient outcomes.

A follow up audit is planned six months post initial audit to evaluate the effectiveness of the education.

**Results:** A full set of observations was not completed 38% of the time. Of these missed observations, Respiratory rate was missed 44% of the time.

The post education audit will occur in October 2010.

**Conclusion:** From the initial audit, the high incidence of missed observations indicates a lack of understanding of the significance that the regular measurement of vital signs has on patient outcome.

Currently we have educated 54% of staff, this is taken from enrolments of the study day and who has attended the in-services to date.

From education on the importance of vital sign measurement and how subtle variations can indicate patient deterioration we hope that the rate of missed vital signs will decrease significantly with in 6 months.
TeamSTEPPS®: Improving communication for rapid response teams

Presenter
Mary Salisbury, President, The Cedar Institute Inc.

Workshop facilitators:
- Christy Pirone, Principal Consultant, Safety and Quality Clinical Systems, Department of Health South Australia
- Karen Stead, Management Facilitator- Patient Safety Curriculum, Department of Health South Australia

Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS®) is an evidence-based teamwork system aimed at optimising patient outcomes by improving communication and other teamwork skills among healthcare professionals. The program is based on 20 years of research and was developed by the US Department of Defense Patient Safety Program, in collaboration with the Agency for Healthcare Research and Quality.

TeamSTEPPS® provides higher quality, safer patient care by:
- producing highly effective medical teams that optimise the use of information, people, and resources to achieve the best clinical outcomes for patients
- increasing team awareness and clarifying team roles and responsibilities
- resolving conflicts and improving information sharing
- eliminating barriers to quality and safety

Workshop participants will:
- be able to identify the necessary tools and develop skills to optimise the use of available resources
- develop skills to enhance communication and teamwork among individuals
- learn how to improve coordinated interactions between multiple teams operating in a dynamic, complex, and high risk environment.
Organisational readiness for the implementation of a standard observation chart and escalation process

Workshop facilitators:
- Bradley Ceely, Nurse Practitioner, The Children’s Hospital at Westmead
- Natalie Grady, Project officer, The Children’s Hospital at Westmead
- Chrissy Ceely, Patient Safety Manager, The Children’s Hospital at Westmead

Objective: To explore the development of organisational escalation frameworks, team structures and data collection for the implementation of a standardised observation chart.

To share local knowledge and experience in the development of such structures, for the implementation of the Between The Flags project in NSW.

Learning Objectives
1. To understand the need to develop a local escalation frameworks based on local resources.
2. To explore the development of clinical team structures and functions and understand the importance of these structures in responding to deteriorating patients.
3. To explore methods of data collection including the use of the electronic medical record.
Development and Implementation of CERS

Presenter
Amanda Yates, Project Officer, Clinical Excellence Commission NSW

Abstract

Objective: To develop and implement robust and effective Clinical Emergency Response Systems within all acute public hospitals in NSW.

Methods:

- The Between the Flags program includes the systematic development and implementation of Clinical Emergency Response Systems (CERS) in acute public hospitals throughout New South Wales.
- CERS provide clinicians with a mechanism to obtain assistance to assess and treat deteriorating patients.
- The goal of early identification, assessment and appropriate treatment of patients who are deteriorating requires robust and effective CERS to be in place.
- The Standard Adult Observation Chart (SAGO) has been designed to allow clinicians to identify patients who are sick (Yellow zone) and very sick (Red zone). These zones indicate the level of response that may be required for the patient and therefore the two–level response of CERS.
- The Yellow Zone or Clinical Review response is novel and is intended to detect deterioration earlier. The responders to this level are intended to be the home team, which is important to continuity of care.
- A graded response ensures that appropriate resources can be activated to meet the needs of specific patient circumstances.
- With a variety of resources and patient populations CERS are most successful when tailored to meet the needs of facilities.
- The starting point for development of CERS systems is to document the current escalation plans and refine this to optimise delivery of care.
- Executive and clinician engagement to support the process of implementation assists the consultative process of development of CERS.

Results:

- Two-level CERS systems are in place in all NSW facilities with refinement and evaluation to underway.
- Reports of experiences in facilities across NSW are positive with early indications that identification and management of patients prior to deterioration leads to less Cardiac Arrests and improved patient outcome.

Conclusion: The introduction of a state-wide CERS with the addition of a Clinical Review level is novel and preliminary findings suggest that it has led to a reduction in adverse events and reduced calls for rapid response. It will take several years for the systems to fully mature and deliver the expected benefits to patients and changes to culture within the NSW health system.
The admitting consultant emergency (ACE) system is an efficient and effective clinical trigger rapid response system in a tertiary private hospital

Presenter
Laven Padayachee, Senior Intensivist, Epworth Healthcare

Abstract

Objective: To implement a resource-efficient rapid response system in a 485 bed tertiary Private Hospital to achieve comparable or better cardiac arrest rates per 1000 patient bed days compared to a Medical Emergency Team (MET) system.

Methods:
1. 2 tier clinical trigger system - Admitting Consultant Emergency (ACE) system devised.
   a. The first clinical trigger tier activates the primary treating (ACE) team.
   b. ACE team utilises the treating specialist team plus hospital medical fellow, nursing coordinator and ICU liaison nurse.
   c. ICU’s (Code Blue) team activated if second clinical trigger tier transgressed
   d. Resources for proposals estimated.
2. Education campaign and weekly meeting with nursing ward representatives to facilitate implementation of ACE system.

Results:
1. (ACE) calls rapidly increased from 1.97 /1000 patient bed days (20 calls/month) to 11.82/1000 patient bed days (125 calls/month) in 14 months to date.
2. Code Blue rate slowly increased from 0.99/1000 patient bed days (10 calls/month) to 1.89/1000 patient bed days (20 calls/month) in 14 months to date.
3. Cardiac arrest rate remained low decreasing from 0.14/1000 patient bed days in the first 7 months to 0.13/1000 patient bed days in the second 7 months.
4. The ACE system required a one EFT increase in medical personnel staffing for 24 hour coverage versus an estimated four EFT for a traditional MET system.

Conclusions:
1. A rapid response system implementing 1st tier clinical triggers with similar sensitivity for cardiac arrest and unexpected death to a MET system but using the primary treating team ‘penetrates’ a private hospital culture at a rate faster than clinical trigger MET systems that use a non primary unit team.
2. Altering a private hospital Cardiac arrest team practice to incorporate ‘MET like behaviour’ but using 2nd tier clinical triggers that have slightly higher specificity for cardiac arrest and unexpected death than the 1st tier trigger is an efficient use of resources.
3. Cardiac arrest rates using this ACE system is comparable to current MET benchmarks at a greatly reduced cost in a private hospital system.
An innovative clinical assistance model for the rural and remote deteriorating patient

Presenter
Marea E. Jones, Project Coordinator, Between the Flags and Clinical Handover, Ambulance Service of New South Wales

Abstract

Objective: The Clinical Emergency Response System Assistance (CERS Assist) initiative has been developed to enhance existing health care services in the response to rapidly deteriorating patients, through the provision of additional paramedic-based clinical assistance, particularly when there is limited availability of nursing and medical services, and especially in rural and remote locations.

Methods: The CERS Assist initiative came about as a result of the identification of Ambulance as an agency that could have capacity to provide additional assistance in response to clinical emergencies, within health care facilities at rural and remote locations.

Key steps:

- Needs analysis review - AHS were surveyed to identify those health care facilities which could potentially benefit from additional clinical assistance in the management of the rapidly deteriorating patient, and the nature of the assistance that might be required. Rural and remote paramedics identified and quantified the number and nature of informal requests for additional assistance from health care facilities, which were not associated with the transport of a patient to/from the facility.
- Review of the response level capabilities of paramedics in rural and remote locations.

Results:

1. Potential users of the service were identified as predominately Level 1 and Level 2 facilities in rural and remote areas of NSW.
2. Cardio-pulmonary resuscitation, cannulation and advanced life support skills including intubation were the most commonly required skills.
3. An “extra pair of hands” was the next most commonly identified nature of assistance.

Conclusions: Many rural and remote areas are struggling to maintain adequate clinical staffing levels. The CERS Assist initiative is a practical approach, recruiting the skills of local paramedics to augment the care of a rapidly deteriorating patient as and when required, within the constraints of available resources.

The coordination of CERS Assist requests by the Triple Zero (000) network facilitates operational readiness and resource allocation depending on capacity. Whilst a CERS Assist request is not a transport request, the use of the 000 system also facilitates potential transport requests, either by road or via the Aeromedical and Medical Retrieval Service (AMRS).

The provision of paramedics to work within the hospital health-care team during resuscitation, until additional local resources and/or medical retrieval are available, is seen as an innovative enhancement to existing services. It has the potential to improve patient outcomes, and to reduce clinical risks associated with inadequate clinical resources, in the event that an immediate response is required.
Implementation of rapid response in a regional private hospital

Presenter
Gary Russell, Director of Medical Services, St John of God Hospital, Bendigo

Abstract

**Objective:** To assess the establishment of a rapid response system in the setting of a regional private hospital.

**Methods:**

1. The need for rapid response to the deteriorating patient was recognised in 2005 through analysis of adverse events.
2. Nurse-led rapid response team was subsequently instituted, with consideration given to the primacy of the role of the visiting medical officer (VMO) in patient care in the private setting. The protocol was modified in 2009 to include ICU hospital medical officer on establishment of level 2 ICU.
3. Assessment by:
   a. Number of cardiac/respiratory arrests 2005-2007 vs 2009-2010
   b. Evidence of ‘failure to recognise/respond’ on mortality review

**Results:**

1. Number of cardiac/respiratory arrests showed a trend to reduction between the two periods for which data were available (2.5 vs. 1.6 events/10,000 overnight bed days; RR 0.66, NS), despite an increase in patient acuity over that period.
2. Mortality review (30 patients, 6 months to 30/6/2010) showed evidence of ‘failure to recognise/respond’ in 7 cases (23%). Problem analysis of these cases identified continuing potential barriers to escalation of care:
   a. Complexity of assessing patient needs and wishes in the face of advanced illness
   b. Sensitivities in respecting the VMO-patient relationship in the private setting
   c. Impact on workflow and care for other patients

**Conclusions:**

1. A rapid response system is achievable in this practice setting, with a trend to reduction in cardiac/respiratory arrests demonstrated, despite an increase in patient acuity.
2. The primacy of the VMO-patient relationship in this setting needs special consideration; it facilitates escalation to the most senior attending medical officer, but also poses a potential barrier to initiating a rapid response team.
3. ‘Failure to recognise/respond’ remains a relatively common problem when assessed by mortality review.
Refining and redefining Medical Emergency Response (MER) in the private sector

Presenter
Sally Evans, Educator, Content Specialist, LearnPRN Pty Ltd

Abstract

Objective: To describe how a private hospital is using the Consensus Statement to refine and redefine their Medical Emergency Response policy and procedure.

Methods: St John of God Hospital Berwick is a 70 bed private hospital owned and operated by St John of God Health Care. The hospital provides a range of services including day surgery, medical, surgical and obstetrics services. Being a private facility, there is not always a doctor on-site, and any escalation protocol must be tailored to meet demands with available resources.

Analysis of serious adverse events occurring as a result of acute physiological deterioration showed that the hospital’s MER criteria were not sensitive to recognising the deteriorating patient, and were not in accordance with established evidence in this field. The hospital’s vital sign recording chart did not meet basic standards recommended by the Commission.

A working party of senior clinicians (nursing and medical) and executives formed to develop and introduce a new MER policy along with a track and trigger observation chart similar to the Standard Adult General Observation chart from NSW.

All staff are receiving education in recognition and management of the deteriorating patient, with posters, competitions, lanyard cards for calling criteria and a ‘Manual Observation Week’ to help raise awareness and increase ownership and compliance. Clinical champions have been identified, with many undertaking advanced life support accreditation.

A pre and post chart introduction survey will be conducted to ascertain increases in fulfilling required vital sign recording, along with audits of current practice undertaken by Quality and Risk staff. Escalations patient care (known as ‘up-transfers’) over the past 12 months are being analysed to ascertain whether physiological deterioration was delayed due to inadequate vital sign recording and/or patient assessment.

Results: Pending

Conclusions: It is expected that the increased awareness of physiological deterioration, along with more sensitive criteria for MER and the new observation chart, will improve patient outcomes.
Recognising and responding to clinical deterioration: The role of peer review and morbidity and mortality meetings in improving individual performance and systems of care

Workshop facilitators:
- Kerrie O'Leary, Senior Project Officer, Clinical Nurse Consultant, Australian Commission on Safety and Quality in Health Care
- Charles Pain, Director Health Systems Improvement, Clinical Excellence Commission NSW

Objectives: Peer review and mortality and morbidity meetings are essential components of effective clinical governance systems. They play a key role in ensuring lessons are learned from adverse events and that change follows such events to reduce risk of harm and improve patient safety.

The Australian Commission on Safety and Quality in Health Care’s National Consensus Statement: Essential Elements for Recognising and Responding to Clinical Deterioration recommends acute care facilities develop and implement processes for evaluating and improving systems related to clinical deterioration.

Peer review and morbidity and mortality meetings are therefore an essential part of the process of quality improvement in response to adverse events involving patient deterioration. However, these governance methods may have little impact on clinician and system performance if they are not well managed.

This interactive workshop will explore the benefits of undertaking peer review and morbidity and mortality meetings, and provide participants with tips and strategies for successfully undertaking these quality activities.

The objectives of this workshop are to:
- Explore the role of system improvement v’s individual clinician accountability and education
- Improve health professionals (medical, nursing and allied health) understanding of the evidence related to peer review and mortality and morbidity meetings for improving recognition and response to clinical deterioration
- Explore the barriers and enablers towards the development of a supportive culture for conducting peer and morbidity and mortality reviews
- Provide participants with tips, strategies and tools for:
  - identifying cases where clinical deterioration has been missed or delayed
  - Undertaking clinical reviews to identify learning needs and system errors related to recognising and responding to clinical deterioration
  - Conducting peer reviews
  - Conducting successful multidisciplinary morbidity and mortality meetings

On completion of the workshop it is anticipated that participants will:
- Understand the role of peer review and morbidity and mortality processes in improving individual clinician and system performance related to clinical deterioration
- Understand how to undertake peer review and morbidity and mortality meetings to achieve sustainable improvements in recognising and responding to clinical deterioration
- Be able to identify the barriers and enablers for developing a culture supportive of peer and mortality and morbidity review
- Understand how to implement processes to identify episodes of clinical deterioration for inclusion in peer review and morbidity and mortality meetings
- Demonstrate knowledge of the elements that commonly contribute to clinical deterioration not being recognised
<table>
<thead>
<tr>
<th>Ballroom 1 &amp; 2</th>
<th>Ballroom 3</th>
<th>Ballroom 4 &amp; 5</th>
<th>Moseley Room</th>
<th>Colley Room</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2A Measurement &amp; documentation of observations 2:</strong> Use of observation charts</td>
<td><strong>2B Workshop</strong> Escalating care in response to clinical deterioration: Systems for enabling patients, families and carers to call for help</td>
<td><strong>2C Workshop</strong> The role of simulation in providing education about recognising and responding to clinical deterioration</td>
<td><strong>2D Models for rapid response systems 2</strong></td>
<td><strong>2E Workshop</strong> One step further: Using technology to assist in recognition and referral of the acutely ill patient</td>
</tr>
<tr>
<td>Chair: Murray Giles</td>
<td></td>
<td></td>
<td>Chair: Andrew Shelton</td>
<td>Sarah Ingleby</td>
</tr>
<tr>
<td><strong>Between the Flags Standard Adult General Observation Chart (SAGO): Striking the right balance</strong></td>
<td><strong>Heather McKay</strong></td>
<td><strong>Harry Owen</strong></td>
<td><strong>An ICU liaison nurse service provides a complementary response for deteriorating patients outside of the ICU</strong></td>
<td><strong>Sarah Ingleby</strong></td>
</tr>
<tr>
<td>Colette Duff, Charles Pain</td>
<td><strong>Kerrie O’Leary</strong></td>
<td><strong>Cyle Sprick</strong></td>
<td><strong>Jenny Lumsden</strong></td>
<td><strong>Bradley Ceely</strong></td>
</tr>
<tr>
<td>The introduction of an early recognition and response tool across WA Country Health Service</td>
<td><strong>Bernadette Brady</strong></td>
<td><strong>Leanne Rogers</strong></td>
<td>Nurse practitioners on patrol</td>
<td><strong>Julie Wade</strong></td>
</tr>
<tr>
<td>Mary Miller</td>
<td><strong>Helen Dyriw</strong></td>
<td></td>
<td>Engaging staff in the redesign of resuscitation equipment in Cabrini Malvern ward setting</td>
<td>Nurse led medical emergency team</td>
</tr>
<tr>
<td><strong>Helping emergency nurses to act sooner: Identifying the adult and child</strong></td>
<td></td>
<td></td>
<td><strong>Debbie Ransford</strong></td>
<td><strong>Beverly Ewens</strong></td>
</tr>
<tr>
<td>Paul Hudson, Jodie Ekholm</td>
<td></td>
<td></td>
<td></td>
<td>The earliest bird catches the worm: The development of a strategy for the patient at risk in a climate of change</td>
</tr>
<tr>
<td><strong>Children swimming away from the rip and between the flags!</strong></td>
<td></td>
<td></td>
<td></td>
<td>Beverly Ewens</td>
</tr>
</tbody>
</table>
Between the Flags Standard Adult General Observation Chart (SAGO): Striking the right balance

Presenters
Colette Duff, Project Officer, Between the Flags, Clinical Excellence Commission NSW
Charles Pain, Director Health Systems Improvement, Clinical Excellence Commission NSW

Abstract

Objective: Implement a standard adult general observation (SAGO) chart which incorporates the most sensitive indicators of deterioration, in a two-level ‘track and trigger’ format, with clear criteria for escalation of care for patients, in all facilities in NSW where patients are at risk of clinical deterioration.

Methods:

- The Standard Adult General Observation (SAGO) chart was implemented as one element of the comprehensive Between the Flags programme, in all NSW facilities in January 2010.
- A single trigger system was selected to maintain simplicity of the approach and simple alignment with the Clinical Emergency Response System (CERS). The ‘Yellow Zone’ represents patients who are sick and the ‘Red Zone’ those that are very sick. Sick patients are sick patients, wherever they may be. Therefore, the criteria we use to define them should remain constant. However, the response system available will vary, so the CERS is customised to each facility.
- Selection of parameters and thresholds included were based on early and late warning signs of clinical deterioration identified in the SOCCER study.
- The parameters are included in the chart in the order of sensitivity for detecting clinical deterioration.
- Respiratory rate, the most sensitive indicator of deterioration, is often poorly recorded. This observation has been placed in the top left hand of the chart where it is the first observation to be cognitively processed.
- Parameters such as temperature, weight, and pain score were included as they were valued by clinicians for monitoring clinical progress.
- General principles for design included human factors considerations. Earlier versions of the chart were evaluated as part of the ACSQHC heuristic analysis of observation charts.
- Other general observations, which are not sensitive indicators of deterioration but nevertheless are useful to clinicians to place the BTF observations in context were included so that they have a ‘global’ view of the patient
- Clinicians were engaged by Statewide consultation to advise on the practical application of parameters included, thresholds and chart design

Results:

- A standard adult observation chart has been implemented across all NSW health acute facilities
- The SAGO chart has been extremely well received, and is valued by clinical staff as supporting their clinical decisions to call for help.
- Recording of respiratory rate has increased from an average of 10% to greater than 90%
- Area health services are working to refine their CERS policies to ensure that they are practical

Conclusions: The SAGO chart has been successfully implemented and clinicians eagerly await the other Between the Flags charts that are under development (paediatric, maternity and emergency department).
The introduction of an early recognition and response tool across WA Country Health Service

Presenter

Mary Miller, Project Manager, Clinical Deterioration, WA Country Health Service

Abstract

Objective: The purpose of the improvement initiative was to trial an evidence based adult observation chart across seven regions within WA Country Health Service, as part of an overall strategy aimed at reducing the number of adverse outcomes where failure to recognise and respond to clinical deterioration was a contributing factor.

Methods: The method used was to undertake a trial using an evidence based adult observation chart, within seven regional hospitals across WA Country Health Service for an initial period of eight weeks.

The observation chart was part of an overall strategy based on the principles outlined in the National Consensus Statement. The broader strategic intent was to review governance and organisational approaches to embedding Early Recognition and Response to Clinical Deterioration across WA Country Health Service, through ensuring consistent policy, escalation procedures, rapid response and communication strategies to support this approach.

A significant aspect of the work involved engaging staff across all levels of the organisation including clinicians, senior medical officers, Regional Executive Teams. To achieve this level of engagement across a health service comprising 70 hospitals, together with the geographical isolation has required a constant level of communication and reinforcing messages.

Results: The trial has highlighted a number of issues in relation to communication processes, rapid response systems and the need for a consistent approach to early recognition and response across WACHS. Issues such as education and training within a rural setting also require some further development, so that early recognition and response to clinical deterioration is part of orientation processes and the continuing development of rural and remote clinicians. Lessons learned through sharing of ideas among regions have in some instances assisted to spread the messages locally.

Conclusions: The early indicators since commencement of the trial suggest that significant clinical leadership and engagement is required at all levels of the organisation to embed this early recognition and response system across WA Country Health Service.

Full analysis of the audit data undertaken before commencing the trial and during the trial will provide insights into the current challenges and progress towards the overall goal.

The knowledge gained through the trial has implications for the roll out to other rural and remote health sites, and further work is to be undertaken in respect to mental health, maternity and pediatrics.
Helping emergency nurses to act sooner: identifying the deteriorating adult and child

Presenters
Paul Hudson, Clinical Nurse Consultant, Emergency Department, Royal Prince Alfred Hospital
Jodie Ekholm, Nurse Manager, Clinical Workforce and Development, SSWAHS

Abstract

**Objective:** Improve the recognition of the deteriorating adult and paediatric patients within Emergency Departments (ED) through observation chart redesign, and utilisation of a colour coded track and trigger system.

**Method:** An essential role of nurses working in the Emergency Department (ED) is the early identification and management of an unstable or deteriorating patient. Monitoring of the patients’ vital signs forms a pivotal part of the day of an emergency nurse. Much of the research relating to the use of early warning signs, used to identify deterioration in a patient has been based in hospital wards. Very little work has been undertaken in the ED setting. This study describes the implementation and evaluation process of area wide adult and paediatric observation charts within EDs across the Sydney South Western Area Health Service (SSWAHS). SSWAHS has a population of 1.42 million, including the largest paediatric population within New South Wales.

**Quality improvement approach:**

This project outlines the redesign and modification of the existing observation charts within ED to incorporate early warning sign triggers identified by the literature with the use of colours as a visual prompt. The development of the adult and paediatric charts includes unique physiological parameters and signs of deterioration. These tools are envisaged to heighten nurses’ awareness of changes in the patient’s condition and alert them to the need to seek medication assistance. The project is consistent with the Clinical Excellence Commission (CEC) implementation of the “Between the Flags” project.

**Design & setting:**

A retrospective medical record audit is proposed. Within four EDs within SSWAHS Royal Prince Alfred, Liverpool, Campbelltown/Camden and Bowral, an audit of 100 patient records before (Oct – Nov 2008) and after the implementation (Oct – Nov 2009) of the adult and paediatric will be undertaken for patients with a triage category of 1 to 3.

**Conclusion:** Preliminary findings will be presented. The development of this innovation in ED observation charts is a key initiative that is envisaged to prompt emergency nurses to identify and manage the deteriorating patient in shorter times, reduce the time from triage to doctor/nurse assessment, provide preliminary data on which signs and symptoms are acted upon, and enhance documentation of management of the seriously ill child and deteriorating adult.
Children swimming away from the rip and between the flags!

Presenter
Chrissy Ceely, Patient Safety Manager, The Children's Hospital at Westmead

Abstract

Objective: To develop Standardised Paediatric Observation Charts for use in NSW Health care facilities in line with the "Between the Flags" program – The perspective of the Chair of the state-wide 'Observation chart' subgroup.

Method: NSW Health and the Clinical Excellence Commission commenced development of a program to support the early recognition and management of patients who were clinically deteriorating, supported by a Standardised ‘Adult’ Observation chart. The challenging task of developing the paediatric component of the program came much later when it was realised that the little nippers in our health care system also needed support swimming away from the rip and between the flags.

Engaging the ‘right’ key stakeholders
- Formation of a multidisciplinary team at “head quarters”
- Representation from various paediatric levelled facilities

Conducting multiple literature reviews
- Lack of real evidence to support threshold design

Single activation verse aggregated scoring
- Limitations and constraints
- Reinvent the wheel or learn from our peers?

Time, we need more time!
- Working with tight time frames and political pressures
- One chart? No we need 6 charts!

Forming subgroups to develop the charts and education program
- Time and knowledge pressures

Aren’t they just little adults?
- Breaking down the barriers
- Recognising specific paediatric needs and differences
- Acknowledging that one size is never going to fit all

“Musts haves” verses “Wants & needs”
- Chart design
- Branding
- Useability

Engage and engage all
- Lessons learnt when communication breaks down
- Don’t forget ….. Sub groups within the sub groups
- Riding the waves, when a tsunami hits

Results: The paediatric components of the BTF program have caught the fast wave in to the “Intervention phase” of the project and are now only a few wave sets behind the adult program in the “impact phase”.
- 6 paediatric “lifeguard” charts were piloted in rural/metro and tertiary facilities
- Extensive consultation and feedback was able to inform additional modifications to the charts
- 6 “lifeguard” paediatric charts have been finalised and are ready for duty
- Additional “lifeguard” support in the form of paediatric specific educational material is due to come in on the next wave.

Conclusion: The paediatric specific lifeguards are now ready for duty, with charts in hand and escalations sirens ready to sound, should danger lurk. The lifeguards are now rallying on the beach to ensure children are swimming between the flags.
The earliest bird catches the worm: The development of a strategy for the patient at risk in a climate of change.

Presenter
Beverly Ewens, CNM Critical Care, Joondalup Health Campus

Abstract

Objectives: To design, implement and evaluate an adult aggregated early warning system (EWS), to enable the early identification of patients at risk and improve outcomes.

Method: Joondalup Health Campus is a 360 bed acute hospital in Perth’s burgeoning northern suburbs. An ongoing redevelopment programme will result in a twofold increase in beds and the introduction of new services by 2013.

Despite the successful implementation of the Medical Emergency Team (MET) model in 2003, it had been identified that compliance with MET guidelines, recognition of the deteriorating patient and appropriate management were at times suboptimal. It was therefore essential to develop a system which would complement MET and enable the early identification of the deteriorating patient.

The formation of a multi-professional working party enabled the development of an observation chart comprising a colour coded aggregated scoring system, designed to meet the specific needs of the organization. Detailed guidelines for medical and nursing staff to facilitate escalation of care, were also included on the chart.

The chart was piloted for user friendliness in two acute wards and feedback obtained and analysed. The scoring system was further adjusted to reflect this feedback. Construct validity of the scoring system was established by an extensive retrospective audit of patient records and MET calls.

All relevant stakeholders were consulted prior to the implementation process. A hospital wide education programme was conducted and the chart implemented in all adult areas hospital wide (with the exclusion of obstetrics).

Evaluation of this initiative is being undertaken and results will be presented at this conference.

Results: Awaiting

Conclusions: To be identified
Escalating care in response to clinical deterioration: Systems for enabling patients, families and carers to call for help

Workshop facilitators:
- Heather McKay, Program Manager, Early Recognition of the Deteriorating Patient Project, The Canberra Hospital
- Kerrie O’Leary, Senior Project Officer, Clinical Nurse Consultant, Australian Commission on Safety and Quality in Health Care
- Bernadette Brady, Operations Manager, Access Improvement Program, ACT Health
- Helen Dyriw, Consumer Representative

Objectives
Adverse events internationally and in Australia have demonstrated delays in patients receiving appropriate treatment, despite families identifying and reporting concerns of clinical deterioration to members of the health care team.

Families and carers are ideally placed to identify signs of clinical deterioration as:
- the patient is well known to them allowing subtle changes or signs of clinical deterioration to be identified prior to members of the health care team and
- time is spent with the patient providing additional surveillance to the amount already provided by the health care team.

The Australian Commission on Safety and Quality in Health Care’s National Consensus Statement: Essential Elements for Recognising and Responding to Clinical Deterioration recommends acute care facilities develop and implement systems that enable patients, families and carers to escalate care. This concept is relatively new to Australia requiring education and resources to help facilitate development of these systems in acute care facilities.

The objectives of this workshop are to:
- improve participants knowledge and understanding of why systems enabling patients, families and carers to escalate care are needed in Australia
- improve participants knowledge and understanding of the various models used to escalate care by patients, families and carers
- inform participants of the outcomes of systems for escalating care by patients, families and carers
- identify the barriers and enablers for developing and implementing these systems in Australia
- provide health professionals with information and tools for developing, implementing and evaluating patient, family and carer escalation of care systems including:
  - overarching requirements for family and carer escalation
  - key stakeholders and the role of the consumer in the development of escalation protocols
- identify a core group willing to form a support network for developing patient, family and carer escalation of care

On completion of the workshop it is anticipated that participants will:
- understand the importance of developing patient, family and carer escalation of care systems in Australia
- recognise that patients, families and their carers are experts in their field
- be able to identify existing models for patient, family and carer escalation of care
- demonstrate knowledge of the outcomes of these systems
- be able to identify potential barriers and enablers for developing and implementing patient, family and carer escalation of care systems
- have an understanding of the next steps for developing and implementing patient, family and carer escalation of care systems in their local area.
The role of simulation in providing education about recognising and responding to clinical deterioration

Workshop facilitators:

- Harry Owen, Head University Department of Anaesthesia and Pain Medicine and Director Clinical Skills and Simulation Unit, Flinders University
- Cyle Sprick, Clinical Simulation Educator, Flinders University
- Leanne Rogers, Clinical Simulation Educator, Flinders University

The workshop facilitators come from medicine, pre-hospital care and nursing and have published and presented widely on simulation in healthcare education for several years.

Much research suggests that we educate and train for mediocrity in clinical performance and that clinical experience alone improves confidence over competence. Excellent performance requires repeated practice with expert feedback. This workshop will introduce participants to range of new simulation techniques and technologies that have been shown to make a difference. Participants will be invited to take roles in simulations and experience good and bad learning outcomes. A patient simulator and simulated patient will be used to show how simulation can be used for in situ team training at a local level. Use of multi-patient scenarios in simulated ward settings will be demonstrated.

The Flinders University Rural Clinical School mobile simulation facility will be on display at the conference.
An ICU liaison nurse service provides a complementary response for deteriorating patients outside of the ICU

Presenter
Jenny Lumsden, ICU Clinical Nurse Consultant, Royal Melbourne Hospital

Abstract

Objective: To examine the utilisation, outcome and demographics of the ICU Liaison Nurse (ICU LN) service outside of ICU.

Methods: Data was collated from ICU LN referral sheets, MET/Code Blue hospital dataset and ICU admission datasets for the 6 months to 30 Jun 2010.

Results: The ICU LN service was expanded to 22.5 hours per day, 7 days per week following a trial adding an after hours service over the winter periods in 2008-09. In the six months until 30th June 2010, 164 referrals were made to ICU LNs in addition to 407 MET/Code Blue calls and 861 discharged ICU patients followed-up by the ICU LNs.

Of the 164 referrals, 72.5% were made during the night shift and 27.5% were made during the day.

41% of the referrals were made by nursing staff and 35% by medical staff. 24% of referrals were for MET call follow-ups for patients who remained on the ward.

60% of referrals were for patients on surgical wards, 31% for patients on medical wards, with the remainder including patients from ED, recovery or CCU.

There were 229 reasons an ICU LN referral was made (up to 2 reasons per patient) – 27% were because the staff were "worried" about the patient, or for respiratory (22%), cardiac (16%), CNS (8%) or renal (7%) reasons. 54% of patients met MET call criteria within 24 hours prior to the ICU LN referral, but only 24% of these had a MET called.

71% of referred patients were not transferred to ICU during the admission. 14% were transferred to ICU within 24 hours, and 7% within 24-48 hours of a ICU LN referral. The unplanned ward admission rate for ICU was 10.39% of all admissions for this period which was not significantly different compared to the previous 4 years (10.30%).

85% of patients survived to hospital discharge with 63% of these going home and 17% transferred to rehabilitation.

Conclusions: The ICU LN service is well utilised, outside of the MET system and ICU follow-up service, particularly by nurses out of hours on surgical wards. Interestingly the majority of patients met MET call criteria within 24 hours prior to referral and were never admitted to ICU.

Whilst the unplanned ward admission rate to ICU appears unchanged, further examination of the data is required to see whether there is any change to the mortality and morbidity of ward patients admitted to ICU with the introduction of this expanded service and why there appears to be some reluctance to calling a MET call for ward patients who meet calling criteria.

The project has resulted in the after hours position being advertised permanently and a well-utilised support service being provided for other high dependency areas and the wards.

It appears a MET system is not sufficient alone in providing staff the support required for managing deteriorating patients on the ward, and that a nurse led ICU-based system provides valuable additional support to staff.
Nurse practitioners on patrol

Presenter
Bradley Ceely, Nurse Practitioner, The Children’s Hospital at Westmead

Abstract

**Objective:** To implement a Nurse Practitioner led Paediatric Intensive Care Outreach Service (PICOS) to respond to deteriorating children.

**Method:** At time of implementation there was evolving evidence to support the effectiveness (or otherwise) of Rapid Response Teams (RRT) into clinical practice, however there was little evidence to support the routine implementation of RRT into paediatric practice. In view of the lack of a clear consensus regarding the effectiveness of these teams, and with a view to broadening the role of the PICOS, a Nurse Practitioner led Outreach Team was introduced at The Children’s Hospital at Westmead.

Clinical criteria were developed that included both qualitative signs of deterioration and quantitative abnormalities in vital signs. The more general criterion of “any staff member is worried about the child’s clinical state” was included.

The aims of the service were developed to:

- Offer a timely and supportive service for all staff in the assessment and management of acutely ill children in ward areas
- Share critical care skills to increase ward staff confidence and competence in caring for acutely ill patients
- Allow early identification of patients at risk and either prevent, or facilitate, their transfer to Paediatric Intensive Care (PICU).
- Facilitate early transfer of patients to PICU as a High Dependency (HDU) patient rather than a PICU patient.
- Decrease the number of unplanned admissions from wards to PICU
- Decrease the number of cardiorespiratory arrests in ward areas

**Results:** The service has been running for five years.

Total Number of Referrals per year:

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Referrals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>114</td>
</tr>
<tr>
<td>2006</td>
<td>114</td>
</tr>
<tr>
<td>2007</td>
<td>124</td>
</tr>
<tr>
<td>2008</td>
<td>967</td>
</tr>
<tr>
<td>2009</td>
<td>205</td>
</tr>
</tbody>
</table>

The referral outcomes for five years:

<table>
<thead>
<tr>
<th>Year</th>
<th>Remain on Ward (ROW)</th>
<th>Followed Up HDU</th>
<th>ICU</th>
<th>Transfer to Another Ward</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>28</td>
<td>38</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>2006</td>
<td>21</td>
<td>23</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>2007</td>
<td>24</td>
<td>24</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>2008</td>
<td>26</td>
<td>27</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>2009</td>
<td>1.5</td>
<td>1.5</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>
Engaging staff in the redesign of resuscitation equipment in Cabrini Malvern ward setting

Presenter
Julie Wade, Resuscitation and Cannulation Clinical Nurse Consultant, Cabrini Health

Abstract

Objective: To ensure a safe resuscitation process for the patient and staff of Cabrini Malvern with the lowest risk possible by ensuring equipment and medication kept in the resuscitation trolley are in date, appropriate and available at the time of the MET/Code in a twenty-four hour ward.

Methods: An audit was completed of the resuscitation trolleys and then the cycle of quality of plan, do, check, act with the outcome of 100% right patient care and 100% staff engagement in MET/Resuscitation setting was implemented.

The audit results indicated that there was no uniformity in the resuscitation trolley, equipment, medications, checking process or staff accountability. The shift check sheet audit indicated a 30% completed check rate for three consecutive months.

The expired medication and equipment from the resuscitation trolley averaged $500 to $3545 per ward trolley. The trolley restock took staff 1 to 2 hours to complete and was left unchecked and disregarded by the ward staff. The check list was 12 A4 pages and confusing for ward staff. A survey of staff indicated that the “trolley was not their problem and belonged to CCU”. 5 Riskman had been completed over a 2 month period indicating equipment was expired or unavailable at the time of a MET/Code. Wards shared resuscitation trolleys which staff did not want to restock after use at a MET/Code. Audit on the times the home ward where the resuscitation trolley was kept restocked the trolley indicated 90%.

Results: Resuscitation Trolleys have been redesigned to offer staff visual layouts, A4 tick list with color coordination to each drawer that creates the simplest approach to resuscitation trolley ownership, accountability and responsibility of ward staff. Medications are replaced a month before the expiry date, equipment is limited amount required for MET/Code.

Every 24/7 ward has a resuscitation trolley and the first person on the ward responsible for the trolley is the Nurse Manager or their delegate after hours. Resuscitation trolley checking is a key performance indicator and only 100% compliance is acceptable and reportable to the Director of Nursing.

There was a cost for equipment purchase but the outcome of spending has lowered the Riskman to none.

Conclusions: Patient safety and nursing engagement and satisfaction have improved dramatically with staff requesting education sessions on the resuscitation trolley. Compliance to daily checking of the trolley is at 90% to 100%. The model for the resuscitation is simple and has been rolled out throughout Cabrini Malvern.
Nurse led medical emergency team

Presenter
Debbie Rainsford, CSC CCU, Modbury Hospital

Abstract

**Objective:** Implementing a Nurse Led Medical Emergency Team utilising a Medical Early Warning Scoring Observation Chart

Modbury Hospital, Adelaide, South Australia is a 164 bed acute metropolitan public hospital located in the north eastern suburbs, services include 24hr, Emergency Department, General Medicine & General Surgery, Orthopaedics, Palliative Care, Critical Care Unit, Geriatric Evaluation Management Unit and Paediatric short stay.

**Aim:** To implement a Nurse led Medical Emergency Team response system

**Background:** Historically Modbury Hospital has responded to the deteriorating patient with a 'Code Blue' system calling on the attendance of medical, anaesthetic and nursing staff. There were no systems in place to recognise or treat deteriorating patients in a timely manner. Statistics collected from 2000-2008 indicate that 70% of Code Blue calls would meet the proposed criteria of a Medical Emergency Team call.

Following the attendance of the Deteriorating Patient Conference Sydney, March 2010, inspiration and ideas flowed and a model was adapted that would meet the specific needs and resources of Modbury Hospital.

**Implementation:** A Nurse led Medical Emergency Team was initiated on July 1\textsuperscript{st}, 2010 coinciding with the commencement of a hospital wide Medical Early Warning Score Observation Charts

**Discussion:** This paper discusses the initiative of the Critical Care Unit and the Safety, Quality & Risk Department in the development of this process. This includes a comprehensive criteria supporting documentation and a dynamic implementation process. The evaluation examines not only the effectiveness of the Nurse led MET but the complete process of consultation, design formats, auditing and education methods and where to from here.
One step further: Using technology to assist in recognition and referral of the acutely ill patient

Workshop facilitator:

- Sarah Ingleby, Lead Nurse Acute Care Team, Central Manchester University, NHS Foundation Trust

Objectives: Objectives of the workshop will be to give an overview of the initiatives that were undertaken within our Trust to ensure patient safety. The initiatives included:

- Setting standards for observations, acute care skills and a system to ensure competency is maintained
- Ensuring the track and trigger system is implemented and complied with
- Introducing an IT system that captures observations and automatically alerts the correct personnel as per the track and system policy
- The review of all emergency bleep calls and high level incidents related to delayed recognition and response; developing actions and improving processes from each incident

Learning Outcomes

1) To learn how to ensure standards for observations and acute care skills
   a. To Measure, achieve and maintain competency of observation taking and acute care skills
   b. To set standards for observations and skill sets
2) To learn how to establish and maintain an effective track and trigger system
3) To drive patient safety using technology enhancing systems in place
4) To implement an IT system into a hospital
   a. Making the change
   b. The barriers that were overcome
5) To ensure an interactive aspect to the workshop
6) Utilise real reviewed cases to address issues, outcomes and potential process changes
<table>
<thead>
<tr>
<th>Ballroom 1 &amp; 2</th>
<th>Ballroom 3</th>
<th>Ballroom 4 &amp; 5</th>
<th>Moseley Room</th>
<th>Colley Room</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3A Measurement &amp; documentation of observations 3:</strong> Track and trigger systems</td>
<td><strong>3B Understanding why problems occur</strong></td>
<td><strong>3C State-wide systems for recognising and responding to clinical deterioration</strong></td>
<td><strong>3D Evaluation audit and feedback</strong></td>
<td></td>
</tr>
<tr>
<td>Chair: Christy Pirone</td>
<td>Chair: Karen Stead</td>
<td>Chair: Jo-Anne Stephens</td>
<td>Chair: Sharyn Phillis</td>
<td></td>
</tr>
<tr>
<td>EWS are incorrectly calculated 20% of the time in acutely ill medical patients on wards</td>
<td>The human element of the process of recognition and response to clinical deterioration</td>
<td>Between the Flags: Drowning not Waving</td>
<td>Recognising and responding to clinical deterioration: The challenges of accurate and useful cardiac arrest audit</td>
<td></td>
</tr>
<tr>
<td>Sarah Ingleby</td>
<td>Imogen Mitchell</td>
<td>Charles Pain</td>
<td>David Drower</td>
<td></td>
</tr>
<tr>
<td>Identification of the deteriorating patient. Do observation tools work?</td>
<td>Keeping patients safe: A multi focal approach in the acute care setting</td>
<td>Best clinical practice in the management of the acutely ill or deteriorating patient – A pre-hospital care perspective</td>
<td>Compliance auditing of vital signs and scoring post implementation of modified early warning scores</td>
<td></td>
</tr>
<tr>
<td>Rachelle Morris</td>
<td>Toni Sheridan, John Rihari-Thomas</td>
<td>Paul Middleton, Graeme Malone</td>
<td>Bradley Maunder</td>
<td></td>
</tr>
<tr>
<td>Analysis of the Children's Early Warning Tool</td>
<td>Understanding observations: Responding to the cues</td>
<td>Implementation of a state-wide paediatric emergency response system: Between the Flags</td>
<td>Clinical indicators for recognising and responding to clinical deterioration - an Australian initiative</td>
<td></td>
</tr>
<tr>
<td>Kevin McCaffrey</td>
<td>Katie Dalton, Orlinda Jones</td>
<td>Jo Leaver</td>
<td>Jen Bichel-Findlay</td>
<td></td>
</tr>
</tbody>
</table>
EWS are incorrectly calculated 20% of the time in acutely ill medical patients on wards

Presenter
Sarah Ingleby, Lead Nurse Acute Care Team, Central Manchester University, NHS Foundation Trust

Abstract

Objective: As part of an ongoing study into the use of “track and trigger” systems in the acutely ill medical patient we asked whether a difference existed between nursing staff and software in EWS calculation.

Method: The study was undertaken at the Manchester Royal Infirmary. Over 2 months consecutive patients admitted to either the MAU or Acute Medical Ward 1 were recruited. Nurses performed patient observations according to Trust policy including recording data on observation charts and calculating an EWS (the charts contained an EWS table). The paper observation charts of all patients were reviewed daily. Patients with an EWS of ≥3 had their observations recorded onto a study data collection sheet; this was transcribed into a spreadsheet where the EWS was calculated electronically. A second person checked 10% of this data for transcription errors.

Results: During the study period 741 patients were admitted to the study wards. Of these 115 (15%) had an EWS of ≥3. These 115 patients produced 567 EWS of ≥3. The overall accuracy of the nurse calculations compared to the electronic calculation was 80%. Of the 113 (20%) incorrect scores 59 (10.4%) were overscored and 54 (9.6%) were underscored.

Conclusions: Human error is an important factor in the miscalculation of EWS. If EWS thresholds form part of a track and trigger policy, routine electronic calculation should be considered as a method to improve patient safety and resource use. This was part of a larger study which has lead to the present trust wide implementation of the electronic bedside recording and response system.
Identification of the deteriorating patient. Do observation tools work?

Presenter
Rachelle Morris, Project Manager, Caboolture Hospital

Abstract

Objective: Identify the most appropriate clinical tool for recognition of the deteriorating patient within Caboolture Hospital, by comparing three established clinical tools against current practice.

Methods: 12 month retrospective clinical audit of a convenience sample of patient charts where a Medical Emergency Team (MET) call was activated during 2009. Statistical significance:

- Minimum 148 MET calls mapped over three tools
- 215 MET calls reviewed (58 exclusions)
- All available observations 72 hours pre/post a MET call were transcribed on three defined observation tools (Compass, NSW Health, ADDS (Adult Deterioration Detection System))

Ethics approval gained for the study.

Times and dates patient observations initiated a MET call were identified, then compared with when observations initially breeched current facility MET criteria, versus breeching defined criteria on the three tools.

Defined as:
- MEWS ≥ 4 (Compass)
- MEWS MET (Compass)
- ADDS clinical review (ADDS score 4-5)
- ADDS rapid response (ADDS score 6-7)
- ADDS MET (ADDS score ≥ 8 or breeching MET criteria)
- NSW Health clinical review
- NSW rapid response

Results: 65% (n=102) flagged an earlier opportunity for patient review (clinical review/rapid response).

All three observation tools were as/more sensitive as the currently used system, as all triggered a response prior to or earlier.

The clinical audit highlighted common themes within the undertaking/documentation of observations. Recognition and action on observations outside acceptable parameters was not consistent, nor a clear understanding of patient acuity versus timing of observations.

Conclusions: All three observation tools’ sensitivity matched or bettered the current flagging of observations meeting the MET criteria. All of these tools will give earlier opportunities to recognise the deteriorating patient and provide opportunity to review and act.

Based on sensitivity, ease of use and culture of accountability, the ADDS tool is the preference.

The clinical audit also highlighted numerous facility based activities for improvement relating to the undertaking of clinical observations.

The facility will implement the ADDS tool hospital wide by January 2011, including education programs targeting all clinical staff to improve the principles of observations in relation to patient acuity.
Analysis of the Children’s Early Warning Tool (CEWT)

Presenter
Kevin McCaffery, Staff Specialist in Paediatric Intensive Care, Senior Medical Advisor, Queensland Health Patient Safety and Quality Improvement Service

Abstract
Paediatric alert criteria are becoming widespread but supporting evidence for their efficacy remains weak. This presentation acknowledges the difficulties inherent in validating tools of this type, while discussing what has been learned from the extensive validation process of the Children’s Early Warning Tool (CEWT). Data from the following studies will be presented

- Retrospective chart review
- Prospective multi-centre trial
- Targeted populations:
  - Root Cause Analysis
  - Retrieval population
- Comparative between-tool performance
- Single trigger vs. cumulative score performance
The human element of the process of recognition and response to clinical deterioration

Presenter
Imogen Mitchell, Director of Intensive Care, The Canberra Hospital

Abstract

Objective: To provide a fuller understanding of why healthcare workers struggle to recognise and respond to patients at risk of critical illness.

Methods: Three groups of tertiary health care workers were brought together independently (specialists, junior medical officers and bedside nursing staff) over a story of patient who deteriorated on the ward. This story was used as a trigger for discussion and reflection in an effort to try and develop ideas and determine why or why not intervention occurred as a means of understanding why the story unfolded as it did.

A single case was developed reflecting the views, experiences and comments of all three groups and further assistance was sought from six volunteers (2 from each group) to work with the researcher to identify the major themes and concepts using the grounded theory approach.

Results: A total of 54 raw codes were identified as important for the timely recognition and response to clinical deterioration by the mixed group of healthcare workers following analysis of the document of combined views, comments and experiences. These 54 raw codes were then grouped loosely into ten clusters by the group. These ten clusters identified that there were major human barriers to the response and recognition of the patient at risk of critical illness. Recurring barriers included inability to challenge the medical hierarchy, inexperience of caring for the acutely unwell patient, historical and traditional expectation of doctors, limitations of the current process of care and the boundary of care of a patient.

Conclusions: Ten themes were identified as relevant to the timely recognition and response to clinical deterioration including major human barriers preventing timely recognition and response to clinical deterioration. The installation of any system to improve the recognition and response to clinical deterioration needs to address these human barriers, some of which have been in place for over a century.
Keeping patients safe: a multi focal approach in the acute care setting

Presenters
Toni Sheridan, Acting After Hours Clinical Nurse Educator, St Vincent’s Hospital
John Rihari-Thomas, Clinical Emergency Response Clinical Nurse Consultant, St Vincent’s Hospital

Abstract

Objective: To support a newly introduced clinical emergency response system by providing clinical supervision for nursing staff and to identify factors which influence the ability of ward staff to identify and manage patients at risk of deterioration particularly after hours and on weekends.

Method: An ICU Outreach Project was conducted over a 12-week period and covered Friday evenings and Saturday and Sunday day shifts. The outreach nurse reviewed all patients recently discharged from ICU and received referrals from nursing staff and After Hours Managers to review patients identified as at risk of deterioration. A data collection form was developed and data were collected at time of review. This identified referral source, type of Outreach intervention, outcome of review and issues associated with the patient’s clinical management.

This project coincided with the implementation of PACE, a Clinical Rapid Response System across the Area Health Service. PACE is a two-tier system which is most clearly delineated from other clinical emergency response systems, eg the Medical Emergency Team (MET) by requiring that the primary care team respond in the first instance. This ensures that the medical staff utilise and improve their skills in the assessment and management of the patient at risk of deterioration.

Results: 287 patient reviews took place. The main interventions by the ICU Outreach Nurse were clarification and or guidance with clinical policy, assistance with clinical assessment of patients (and education resulting from assessment) and review of blood results. Documentation and communication, particularly incomplete documentation of vital signs and unclear medical treatment plans were identified as significant issues impacting on patient care. In addition other factors such as quality of clinical handover, staffing levels, skill mix, availability of senior resource staff and patient acuity influence how patients are managed after hours and on weekends.

Conclusions: The issues affecting patient safety in general wards after hours and weekends are multi focal and require the integration of multiple systems in order to achieve improvement. PACE remains ongoing and continues to identify and monitor issues relating to recognition and management of deteriorating patients. The hospital has recently launched two initiatives aimed at improving communication practices. ‘Clinical Handover’ which includes the use of the communication tool ISBAR (Introduction Situation, Background, Assessment, Recommendation) in multiple handover situations and ‘Write Now’ improving documentation at an multidisciplinary level. Both initiatives are closely linked to the PACE system and the further development of education programs through the Patient Safety and Simulation Centre to ensure effective integration and implementation.

While the project period was limited and therefore unable to determine a tangible/significant impact on the early identification and management of deteriorating patients, the project did provide a unique snapshot of clinical practice in ward areas after hours and on weekends.
Understanding observations: responding to the cues

Presenters
Katie Dalton, Education Manager, Fig Tree Private Hospital
Orinda Jones Clinical Services Manager, Fig Tree Private Hospital

Abstract

Objective: To improve the early recognition and appropriate management of patients when their condition either progressively or suddenly deteriorates.

Methods: A medical record review was undertaken on all patients who had received an emergency call response in the period January – June 2010. The purpose of the review was to determine if there was any evidence of clinical antecedents in those patients whose condition deteriorated to the point where an emergency call and response was required. Fourteen emergency calls were initiated during the time period under study. Four of these were listed as false alarms and so were eliminated. Of the ten cases remaining, seven were randomly selected for review.

Results: Two distinctive issues emerged; the presence of clinical observations that were indicative of a deteriorating trend which were either not identified or did not spark concern and; a clinically significant event occurring during an episode of care which does not result in more frequent observations being initiated. A literature review was undertaken and most authors found that the factors underpinning the non-recognition of patient deterioration were complex. There was agreement that a reliable yet often undervalued indicator was clinical observation analysis. An audit was then undertaken to determine staff’s perception of the value of undertaking clinical observations. Staff were cognizant that regular measurement and recording of physiological observations is an essential requirement for recognising clinical deterioration yet responses did highlight a need for improvement. Research findings included that the act of taking observations can often become one of the many “tasks” to be completed which subsequently limits thorough analysis. These findings were consistent with the audit results measured in our facility. Recommendations from the literature included the need for health care facilities to adopt robust systems to address such factors.

Conclusions: It was acknowledged that considerable work has been undertaken over the last two decades in the development of patient safety systems specifically aimed at the early recognition of deterioration. Several of these systems were reviewed by our team. The Between the Flags programme, an initiative from the Clinical Excellence Commission in NSW, is a system that most closely addressed the needs of our facility. It included a process for tracking changes in physiological parameters over time, and triggered the frequency of observations to be increased in the presence of abnormal physiological measurements. The staff education programme included has inherent flexibility which would allow for facility specific educational needs to be addressed. This system was standardised across the NSW public hospital system in 2010 and early anecdotal evidence has highlighted success in raising awareness through staff education on the importance of clinical observation recording and interpretation which has resulted in improvement in patient outcomes. The planning phase for the roll out of this programme within our facility is now underway.
Between the Flags: Drowning not waving

Presenter
Charles Pain, Director Health Systems Improvement, Clinical Excellence Commission NSW

Abstract

Objectives: To improve early recognition and management of clinical deterioration and thereby reduce potentially preventable deaths and serious adverse events in patients who receive care in NSW hospitals.

Methods:

1. Establish a governance structure, in partnership with the Department of Health and area health services, for the development and implementation of the BTF programme and develop a NSW Policy to support the programme.
2. Implement a standard adult general observation (SAGO) chart which incorporates the most sensitive indicators of deterioration, in a two-level ‘track and trigger’ format, with clear criteria for escalation of care for patients, in all facilities in NSW where patients are at risk of clinical deterioration.
3. Implement a two-level clinical emergency response system in all facilities where the SAGO Chart is used, which meets minimum standards and is designed to accommodate the availability of local resources.
4. Implement a three-tiered education programme (including DETECT*) specifically designed to enhance the knowledge and skills of front-line nurses and doctors in recognition and response to deteriorating patients.
5. Design and evaluation for the BTF Programme.

Results:

- The SAGO Chart is in universal use in NSW facilities apart from in two designated research sites.
- Chart audits demonstrate high completion rates and significant improvements in the taking of respiratory rate observations.
- Although there was some initial resistance to the introduction of a standard chart, nurses general express support for the chart and feel that it empowers them to call for help when their patients need it.
- Two-level clinical emergency response systems are in place in all NSW facilities but some further development of these systems needs to occur.
- DETECT Education is being rolled out to 65,000 eligible staff.
- Sites with effective implementation are reporting major improvements in the recognition and response to deteriorating patients with a reduction in unexpected cardiac arrests.

Conclusion: NSW has implemented a state-wide programme for recognising and responding to patients who deteriorate while in the care of health services. The development and implementation of the programme has required an enormous effort by the key partners and has resulted in major improvements in the recognition and response to deteriorating patients, with consequent reductions in adverse events. Between the Flags provides many lessons that will be of use to those planning the implementation of such programmes in Australia and in other countries.
Best clinical practice in the management of the acutely ill or deteriorating patient – A pre-hospital care perspective

Presenters
Paul Middleton, Medical Director, Ambulance Service of New South Wales
Graeme Malone, Manager Clinical Professional Development, Ambulance Service of New South Wales

Abstract

Objective: To design and embed a sensitive, specific and discriminating system of best clinical practice, which ensures that Ambulance paramedics recognise both the actual and potential critically ill or injured patient. The system would also be required to allow paramedics to be alert to subtle deterioration in clinical condition in order to enact prompt and appropriate interventions, and to deliver the findings of both their examination and the observations of the patient journey in a well-structured clinical handover to other health professionals.

Methods: Fundamental to high-quality health care, particularly in the acutely ill or injured patient, is a systematic and focused history and examination, which ensures that highly discriminating signs and symptoms, such as respiratory and pulse rate are not missed. This approach also allows accurate risk stratification and is embodied in the ABCDE primary survey. Once this has been performed, the ideal continuation of care is then described by the Between the Flags (BTF) track and trigger methodology, which ensures that serial physiological observations are repeated and that appropriate actions ensue by the use of decision support tools. Finally, the national clinical handover initiative promotes the development of a minimum data set encapsulated in a flexibly interpreted mnemonic that is appropriate to the work environment. In Ambulance this has led to the development of the I MIST AMBO mnemonic as described elsewhere.

To encourage and facilitate ideal prehospital clinical care, these components were combined in a single overarching program entitled the Ambulance Best Clinical Practice Program (ABCPP), which is in the process of incrementally staged implementation throughout our service. It has involved the collaborative endeavours of various departments including clinical services, education and operations to embed this program within a service comprising 3500 paramedics.

Results: Early results suggest that the initial stage of implementation of the primary survey methodology has resulted in marked improvements in the systemisation of care, and the identification of acutely ill patients. The Between the Flags and the Clinical Handover aspects of ABCPP are currently in the implementation phase, and a stringent analysis is planned to investigate ABCPP structure, process and patient outcomes.

Conclusions: The drawing together of what intuitively appeared to be logical linked elements of a single suite of clinical and system level interventions, has allowed the implementation of a seamless and innovative improvement program within prehospital care, which we believe will have profound impact on patient care and outcomes.
Implementation of a state-wide paediatric emergency response system: Between The Flags

Presenter
Joanne Leaver, Project Officer, Sydney Children’s Hospital

Abstract

**Objective:** To implement a paediatric state-wide Clinical Emergency Response System (CERS) in order to provide a standardised framework that ensures early recognition and timely intervention for paediatric patients who show signs of deterioration.

**Methods:** The Clinical Excellence Commission (CEC) developed and implemented Between the Flags (BTF) for adult inpatients across NSW in January of this year.

In July 2009, the CEC established a paediatric committee to develop and roll out Paediatric BTF. The project has involved the development of 5 age-appropriate, colour-coded observation charts, an online education package and a CERS template. Clinical leads across the State were recruited and trained and, through the efforts of these change champions, the education of all front line staff is being undertaken.

In October of this year, paediatric BTF shall be rolled out state-wide, becoming the single largest paediatric CERS to be implemented.

**Results:** Although paediatric BTF has not yet been implemented, it’s replacing a CERS called Paediatric PACE (Patient with Acute Condition for Escalation) that has been successfully running throughout South Eastern Sydney and Illawara Area Health Service for a year now. It too is a two-tiered trigger response system with calling criteria that reflects that of Paediatric BTF.

Data has been collected on the number of calls, triggers, response times, interventions, unplanned CICU admissions and cardiorespiratory arrests. The data shows that 100% of responses occur within the mandatory 30 minutes, primary responders are registrars in 73% of cases, and interventions have been required 86% of the time.

Although multiple studies have shown a reduction in hospital mortality from the introduction of rapid response teams, due to the low incidents of cardiac arrests and deaths in paediatrics, a longer period of evaluation is required to determine a decreasing trend in these kpi’s.

Feedback from questionnaires shows that the system is well received and a source of empowerment for staff, particularly junior staff.

**Conclusions:** Both Paediatric PACE and Paediatric BTF address the recommendations that were made by the Special Commission of Inquiry.

CERS improve patient safety by ensuring early recognition and timely intervention of deteriorating patients. Its two-tiered trigger response system and mandatory paediatric calling criteria provides a standardised framework and information technology that aims to reduce adverse events.

Its clinical framework not only engages staff in patient safety through education but it also empowers them. It highlights roles and responsibilities, thus improving co-ordination, communication and documentation.

The observation charts, that are the cornerstone of paediatric BTF, can be used to enhance the recognition of any deteriorating child in any setting, from rural to metropolitan, from the ward to ED, from ambulance services to general practices, across all child health networks, across all states. In addition to its transferability, the 5 elements of BTF: governance, observation charts, a CERS, education and evaluation, will ensure sustainability for the future.
Recognising and responding to clinical deterioration: The challenges of accurate and useful cardiac arrest audit

Presenter
David Drower, Directorate of Nursing and Midwifery, Waikato District Health Board, New Zealand

Abstract

Objective: Quantify cardiac arrest calls, identify signs of deterioration and instability prior to arrest call, and provide baseline data prior to trial and introduction of an adult deterioration detection system.

Methods: A retrospective case note audit covered all patients for whom an arrest call was made from August 2008 to July 2009. The New Zealand Resuscitation Council (NZRC) National C.P.R Registry was accessed for arrest call data. This provided NHI details, dates and locations of arrests at Waikato Hospital campus (a 600 bed tertiary teaching facility). A cardiac arrest team responds to arrest calls via hospital paging system.

Case notes were accessed over 5 month period. Hospital telecommunications provided arrest call sheets from March 2009. Intensive care unit (ICU) data was accessed via AORTIC database. Data was analysed using Statistica v9 (Statsoft, Tulsa USA, 2009) software. A specifically designed Excel spreadsheet was main audit collection tool.

Clinical instability was defined by early and late signs criteria from SOCCER study (Harrison, Jacques, Kilborn, & McLaws, 2005) and modified using definition from study by Buist and colleagues (Buist et al., 1999). We created two time points: Time 1 equalled time of first documented sign of clinical instability prior to cardiac arrest call, and Time 2 equalled cardiac arrest call (critical event).

Results: There were 224 arrest calls during study period. The national registry had captured 175 of these. Of 175, only 79 were actual cardiac arrests. There were 20887 hospital admissions, giving a rate for actual arrest per 1000 admissions of 3.78 (79/20887 x 1000). The audit analysed case notes from 126 cardiac arrests calls. At time of arrest call 17 patients had an existing DNAR (do-not attempt resuscitation) order.

Mean times prior to arrest call elicited from instability data:
1. Early signs, 12.189 hours
2. Late signs, 6.406 hours
3. Early and late signs combined, 17.946 hours

There were on average 1.96 early signs and 1.80 late signs evident per patient.

Twenty-one patients were transferred to ICU post arrest. The mean ICU admission APACHE II score for these patients was 33.38. Half of patients transferred to ICU following arrest died, the majority within 24 hours of admission.

Conclusions: NZRC C.P.R Registry is not capturing all arrests. One reason is staff not completing arrest audit form at time of arrest. Prior to March 2009, telecommunications arrest forms were not being retained. These are now being correlated with arrest audit forms and should ensure greater accuracy of registry data. It is a concern patients with documented DNAR order were still experiencing arrest team activation. Results of this audit have been reported to hospital’s resuscitation committee.

Documented evidence of early and late signs of instability aligns with data reported in published studies regarding clinical antecedents to cardiac arrest. Rate of actual arrest per 1000 admissions gives a baseline for monitoring and measuring impact of future developments.
Compliance auditing of vital signs and scoring post implementation of modified early warning score (MEWS) observation chart

Presenter
Bradley Maunder, Nursing Education, The Prince Charles Hospital

Abstract

**Objective:** To improve compliance with recording of vital signs and MEWS scores through use of a simple auditing tool in combination with feedback and ward education.

**Methods:** An Observation Chart incorporating a MEWS scoring system and human factors principles was adapted from the COMPASS chart (ACT Health). Following training of 60% of nursing staff and >90% medical staff a combined system incorporating MEWS escalation processes and a Medical Emergency Team was introduced in December 2009. Agreed minimum standards were identified for frequency of vital signs in all clinical areas.

In order to monitor compliance, a simple audit tool was devised requiring the audit of a minimum of 10 observation charts. Each chart is audited for compliance (Yes/No) with appropriate frequency of observations over the previous 24 hours as well as completeness of vital signs and MEWS scoring in one randomly selected column of observations. Each chart takes 1 minute or less to audit. The audit tool has been progressively introduced to 7 medical and surgical wards from 1 week to 5 months after initiation of the MEWS observation chart. In each ward, junior nurses are encouraged to undertake the audits to enhance learning and understanding and encourage "ownership" of identified issues. Data is entered into an Excel spread sheet linked to a P chart (www.qimacros.com) which automatically graphs the data and calculates process control limits. This is used at ward level to indicate progress. The data is collated monthly and presented to the Safety and Quality Committee and Hospital Executive.

**Results:** The frequency of vital signs was 92% (mean) at baseline and improved to 99% after auditing and education commenced. However, completeness of vital signs and scoring was 55% (mean) at baseline, but rose to 83% for the best audit. Unless auditing and education were maintained, the completeness declined. In each ward area, different reasons were identified for non compliance, the most frequent one being target BP not recorded (therefore BP score not able to be calculated).

**Conclusions:** Auditing has identified that whilst observations are performed at an appropriate frequency, the completeness of observations, especially of scoring, is variable. Areas for improvement in each ward have been identified and are being addressed through ward education. Compliance (target > 90%) requires ongoing auditing and feedback to embed the process and change the culture of vital signs documentation and scoring.
Clinical indicators for recognising and responding to clinical deterioration - An Australian initiative

Presenter
Jen Bichel-Findlay, Coordinator, Performance and Outcomes Services, The Australian Council on Healthcare Standards

Abstract

Objective: To describe the newly developed recognising and responding to clinical deterioration indicators for health care organisations to report on from 1 January 2011.

Methods: The Australian Council on Healthcare Standards (ACHS), in collaboration with colleges, associations, societies, and other relevant stakeholders, has been developing clinical indicator sets for health care organisations in Australasia since 1989. ACHS reports aggregated data for over 360 rate-based indicators to the 730 participating health care organisations on a six monthly basis to assist them to review their performance, benchmark against others, and identify areas for potential improvement. Regular review of the 23 indicator sets is necessary to ensure not only currency and validity of the content, but also to reflect contemporaneous practice issues.

The Intensive Care indicator set, introduced into the collection in 1998, recently completed its review and incorporated six new indicators addressing the recognition and response to clinical deterioration. In collaboration with the Australian Commission on Safety and Quality in Health Care (ACSQHC), a working party comprising practising intensive care clinicians, healthcare executives, a consumer representative, a statistician, and project staff from both the ACHS and the ACSQHC developed the indicators using local, national, and international evidence. The working party acknowledged that failure to respond to the deteriorating patient is a significant issue, and that early recognition of clinical deterioration, followed by prompt and effective action, can avert or minimise the probability of a poor clinical outcome for at-risk patients, and may mean that a lower level of intervention is required to stabilise a patient. A set of indicators was subsequently developed that will allow all types of hospitals and systems, irrespective of geographic location and service type, to measure the outcomes of their rapid response systems. Five indicators address relevant hospital metrics in relation to rapid response system activity, whilst the sixth indicator focuses on the health care organisation responding to the clinical deterioration of the vulnerable patient discharged less than 72 hours prior from an intensive care unit.

Results: These new indicators will be available for health care organisations to report on from 1 January 2011, and will be closely monitored for validity and reliability during the initial 12 months of data collection.
Plenary Session:

A conversation about culture and recognition and response systems

Participants:
- Professor Jeffery Braithwaite (Chair)
- Ms Mary Salisbury
- Dr Kevin McCaffery
- Ms Vanessa Owen

Participant biographies:

Professor Jeffrey Braithwaite
Foundation Professor and Director, Australian Institute of Health Innovation
Professor and Director, Centre for Clinical Governance Research, Faculty of Medicine, University of New South Wales.

Professor Jeffery Braithwaite researches the changing nature of health systems, particularly patient safety, and the structures, networks and cultures of health care settings, attracting career funding of $36 million, chiefly NHMRC and ARC grants. He has published widely (more than 400 publications and 400 presentations) and received numerous national and international awards for both teaching and research. He has an international reputation for his work, and publishes in many leading journals including The Lancet, BMJ, Quality and Safety in Health Care, Social Science & Medicine and International Journal for Quality in Health Care.

Ms Mary Salisbury
President, The Cedar Institute Inc.

Ms Mary Salisbury is a member of the original team working to translate the principles of crew resource management into healthcare. Ms. Salisbury remains a participating author and designer of the TeamSTEPPS® (Team Strategies and Tools to Enhance Performance and Patient Safety) training and evaluation methodologies.

Ms. Salisbury continues to conduct applied research initiatives guiding the development of military and civilian academic and healthcare delivery organizations as they work to address their problems and to develop and meet their specific goals necessary to achieve safe and just cultures of professional development and healthcare accountability. As founder and president of The Cedar Institute, Inc., Ms. Salisbury provides services to both military and civilian healthcare organizations specific to: 1) the translation of research into practice - leader and team training, implementation, sustainment and performance coaching; and 2) focused work on the facilitating elements of team-driven safety - simulation, evaluation and disrupting behaviors.

Dr Kevin McCaffery
Staff Specialist in Paediatric Intensive Care, Queensland Health
Senior Medical Advisor, Patient Safety and Quality Improvement Service, Queensland Health

Dr Kevin McCaffery trained as a paediatrician with subspecialty accreditation in paediatric intensive care medicine in the United Kingdom. His final year of training was undertaken in the Royal Children’s Hospital, Melbourne and included working as part of the medical emergency team. Subsequently he spent two years as a locum consultant in a large Paediatric Intensive Care Unit in the United Kingdom before taking up a substantive post as a staff paediatric intensivist in Queensland.

Dr McCaffery’s professional interests include extracorporeal life support, teaching advanced paediatric life support and the development and modification of healthcare systems to minimise adverse events in children. The first stage in this process has been the development and validation of the Children’s Early Warning Tool (CEWT).
Ms Vanessa Owen
Director of Nursing, Midwifery and Patient Care Services, Lyell McEwin Hospital (LMH).

Ms Vanessa Owen has a history of involvement with safety and quality including leading organisations during ACHS accreditations in a number of jurisdictions. She has a particular interest in quality use of medicines, early recognition of the deteriorating patient, patient falls in health care organisations, pressure injury prevention, consent and open disclosure.

In July / August 2009 Ms Owen received a scholarship to the Wharton Fellows Program in Management for Nurse Executives at the University of Pennsylvania in the Unit States. Vanessa is only one of 20 Australian nurses to have received the scholarship.

Ms Owen has experience in both regulation and legislation previously sitting on both the ACT Nursing and Midwifery Board and the Australian Nursing and Midwifery Council – the then peak body for regulation and registration in Australia. She has also been an executive and board member of not for profit organisations including community health services.
Recognising and Responding to Clinical Deterioration: Solutions for Safe Care Conference, November 8-9 2010

**Tuesday 9 November 2010, Concurrent Session 4 10.30am – 12.30pm**

<table>
<thead>
<tr>
<th>Ballroom 1 &amp; 2</th>
<th>Ballroom 3</th>
<th>Ballroom 4 &amp; 5</th>
<th>Moseley Room</th>
<th>Colley Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>4A Workshop</td>
<td>4B Workshop</td>
<td>4C Workshop</td>
<td>4D Workshop</td>
<td>4E Outcomes from responding to clinical deterioration</td>
</tr>
<tr>
<td>COMPASS Workshop: Implementing &amp; sustaining a deteriorating patient program Part 1</td>
<td>A partnership to save lives - Building clinical competence through in-situ immersive simulation</td>
<td>Implementing and maintaining a rapid response system: Two different models for providing emergency assistance Part 1</td>
<td>THE POST PROJECT The POST Investigators Andrew Shelton</td>
<td></td>
</tr>
</tbody>
</table>
COMPASS Workshop: Implementing & sustaining a deteriorating patient program Part 1

Workshop facilitators:

- Imogen Mitchell, Director of Intensive Care, Canberra Hospital
- Heather McKay, Program Manager, Early Recognition of the Deteriorating Patient Project, ACT Health
- Sarah Mamootil, Project Officer, Canberra Hospital
- Tracy Fletcher, Learning & Development Unit, Calvary Hospital

Objectives: The COMPASS program workshop is aimed at providing the building blocks for the early recognition and response to patients at risk of critical illness namely:

- The purpose of delivering an “deteriorating patient” education program
- The tools required to recognise and respond to the “deteriorating patient”
- The governance to sustain a deteriorating patient program

The workshop will provide participants an opportunity to undertake the “deteriorating patient” training and appreciate the flexibility of the COMPASS program. This flexibility allows different facilities to conform to the National Consensus Statement by adapting the training and tools to recognise and respond to patients at risk of critical illness. The case study component will be facilitated by COMPASS trainers from three different states and territories in a collaborative approach.

On completion of the workshop it is anticipated that participants will:

- understand the importance of education in recognising deteriorating patients
- understand the governance needed to ensure sustainability of the program
- have examples of tools that can be adapted and implemented locally
- have an understanding of the next steps for developing and implementing a deteriorating patient program in their local facility
The POST Project

Presenter
Andrew Shelton, Project Coordinator - POST Project, Austin Health

Abstract

Objective: Improve the post-surgical management of the medical condition (including medical co-morbidities) of ‘high-risk’ surgical patients and early identification and management of post-surgical deterioration.

Methods:
- Funded by Victorian Department of Health for the surgical clinical services unit.
- The home surgical unit retained primary responsibility for patient care in this service model.
- Overseen by steering and management committees for the processes and project resources required.
- Literature review and analysis of hospital health information system guided the development of the patient inclusion criteria.
- The proposed service model was piloted within a limited group of surgical wards.
- POST comprised a clinical nurse consultant and Intensive Care registrar and operated 7 days per week
- Patients were reviewed by POST for maximum of post-operative 5 days (or if deemed appropriate for discharge earlier) with an emphasis on stabilisation of medical condition (including management of co-morbidities) and early identification of deterioration
- Incorporation of Information Technology to provide access to multiple hospital results at the bedside and enable the contemporaneous capture of patient data.
- POST worked in partnership with the surgical home unit, to:
  - Guide junior surgical staff and ward nursing staff, in appropriate surveillance and response measures for the POST patient group;
  - Update the home surgical unit (and associated medical unit where appropriate) about surveillance activities;
  - Where appropriate, suggested or initiated patient care strategies including analgesia, oxygen therapy, fluid and electrolyte management, patient education, and staff education;
  - Provide immediate notification of care strategies implemented;
- POST provided clear care treatment plans for the periods of time POST staff were not available.

Results: We will present findings on case load, patient assessment, interventions and patient outcome.

Conclusions:
- We successfully developed a model for the co-management of high risk surgical patients that focused on the management of post-operative medical co-morbidity and prevention of patient deterioration.
- The model was accepted and supported by the ward surgical.
- Reservations of consultant and senior surgical staff abated as POST consistently reproduced a standard of clinical practice with communication.
Balloons or bicycle - A clinical practice improvement project on recognition of paediatric deteriorating patient

Presenters
Nicole Page, Clinical Nurse Specialist, Hornsby Ku-ring-gai Health Service
Michael Peregrina, Divisional Manager, Hornsby Ku-ring-gai Health Service

Abstract

Objective: The aim of the project was within 12 months Paediatric Ward would improve the recognition and management of deteriorating paediatric patients and have zero adverse events relating to failure to recognise or respond to deterioration in our paediatric patients.

Methods: A small working party was formed to develop strategies to improve the recognition and management of deteriorating paediatric patients at Hornsby Hospital. CPI Methodology, Cause and Effect Diagram and Pareto chart were used. There were two identified interventions identified which were: (a) education of staff and (b) clinical handover. Planning for the project included regular meeting with working party development of a template for telephone handover of patients transferring to paediatric unit form ED and Highlight normal vital sign parameters on paediatric observation charts.

Results: Prior to implementation of our first intervention, we identified 12 cases of patients within a three month period, which had experienced undetected clinical deterioration. After implementation, there were only three further such cases – two after 7 months, and one after 12 months. We successfully implemented a change to Clinical Handover at the bedside, to highlighting the CERT parameters on observation charts (a temporary measure implemented whilst the NSW State Government implements the Paediatric “Between the Flags” strategy), and medical compliance with documentation of Altered CERT Criteria forms when relevant.

Conclusions: From the results we concluded that the project had been largely successful in achieving its aim of improving the recognition of the deteriorating paediatric patient. Along the way we learnt many things, such as the importance of making nursing more “hands on” – the implementation of the bedside Clinical Handover not only allowed staff to give a more thorough and relevant handover, it emphasised the staff’s responsibilities being handed over at shift change. We also learnt that having years of experience does not make one immune to complacency, and that you can teach old nurses new tricks! We look forward to the continuing implementation of the NSW Health Paediatric “Between the Flags” at Hornsby Hospital.
Early recognition, rapid response. Good outcome (ERRRGO)

Presenters
Sharyn Phillis, After Hours Coordinator, Noarlunga Hospital
Cathie West, After Hours Coordinator, Noarlunga Hospital

Abstract

**Objective:** To adapt and implement a program that will assist in early recognition and response to deteriorating patients at Noarlunga Hospital.

**Methods:** Project management methodology was used to develop a project plan and timeframe. Key steps included:

- Engaging Executive members and developing a business plan
- Retrospective auditing of patients who had deteriorated at Noarlunga Hospital (evidence to support the proposal)
- Formation of both a steering committee and interest group and establishing project governance
- Developing the “whole package” from education to observation chart; policy to escalation flowchart – Many tools were adapted from the ACT “COMPASS” Program.
- Developing communication pathways with ward staff, medical staff and Hospital Executive
- Utilising any and all resources available to help get the project implemented – this included utilising IT department to copy Education CD’s and Volunteers to copy and collate the Education manuals.

As we were unsuccessful in securing funding through our business proposal, it took approximately 18 months to get the project to “Rollout”.

**Results:** Staff knowledge was shown to improve through the use of a “pre” and “post” implementation survey designed around recognition of clinical deterioration. Pre-implementation correct responses averaged 44% with an improvement to 79% post education and implementation of the pilot.

Documentation of patient observations was also vastly improved post education and project commencement. The average documentation rate was 76% (range 35 – 92%), with respirations being documented only 56% of the time. After the education and implementation of the new charts, this figure increased to 100% compliance within 1 month and has been maintained in the high 90’s since.

**Conclusions:** It is evident that at Noarlunga Hospital the introduction of the ERRRGO Program has increased staff awareness and knowledge in the area of recognising and responding to clinical deterioration as well as improving documentation of vital signs.

During auditing, it was observed that many of our patients reached a MEWS score of 3 prior to being transferred out of our facility for higher care. As a result, we have adapted our escalation flowchart to include patient assessment by the RN coordinating the ward area, and/or the After Hours Coordinator if they score between 1 and 3. This may potentially lead to an earlier intervention and negate the need for transfer.

The other important consideration is ownership. Although well supported by Hospital Executive, there is no dedicated project officer to steer the project, nor any dedicated time allocated for crucial ongoing work. This has an impact on timelines, education and data collection and places an additional workload on those who originally proposed the project.
Recognising and Responding to Clinical Deterioration: Solutions for Safe Care Conference, November 8-9 2010

“To achieve great things, two things are needed; a plan, and not quite enough time”

Presenter
Natalie Grady, Project Officer, The Children’s Hospital at Westmead

Abstract

Objective: Develop and implement a new process for escalation of care of deteriorating paediatric patients, consistent with the Between the Flags framework.

Methods: In July 2009 a multidisciplinary ‘Recognition of the Deteriorating Child’ Project Team was convened to develop local processes in line with state wide initiatives as part of the Between the Flags (BTF) program. The team was supported by the Clinical Executive and Chief Executive Officer. Over the ensuing 12 months the team prepared for implementation of this new system by:

- Reviewing current practises and processes for escalation of care.
- Raising awareness of the project through various mediums.
- Forming subgroups to concentrate on specific elements of the project including a new escalation process, Rapid Response Team membership, data collection and an education plan.
- Recruiting multidisciplinary Clinical Champions to facilitate and support implementation.

Results: The Project Team developed a local escalation plan for responding to deteriorating paediatric patients in line with the BTF program. As part of the development of this new escalation plan the Project Team achieved a number of initiatives including:

- Development of an escalation process for responding to Clinical Review and Rapid Response calls, appropriate to the organisations patient case mix and resources.
- Identification of clear team structures and roles for responding to a Clinical Review and Rapid Response
- Recruitment and education of 80 Clinical Champions to support implementation.
- Development of a clear governance structure including formation of a multidisciplinary Clinical Emergency Response Systems Committee to support successful implementation and sustainability of the BTF program and escalation process.

Conclusions: Developing a new system and processes for escalation of care, that is conducive to state wide initiatives and local resources, is a challenging task. The impact is greater still when this requires a change in traditional, organisational wide structures and processes. With a fluid yet imminent implementation date for the state wide program, trepidation fuelled a well devised plan which resulted in the achievement of our objective. Crucial to the outcome was a plan that placed consistent and measured engagement of key stakeholders at the top of the agenda. The formation of a Project Team, clear governance structure and clinical champions afforded us the capacity to achieve this.
DANGERS – Doctors and Nurses General Emergency Response System
‘DANGERS an escalation system for small rural hospitals’

Presenters
Sophie Legge, Primary Health Coordinator North Esk, Department of Health & Human Services, Tasmania
Dr George Cerchez, Director Medical Integration Primary & Rural Health, Department of Health & Human Services, Tasmania

Objective: DANGERS was implemented to improve the early identification of the deteriorating patient in Tasmania’s small rural hospitals; so that action is taken to notify the doctor to ensure appropriate intervention at the earliest opportunity.

Methods: DANGERS refers to the ‘Doctors and Nurses General Emergency Response System’. This ‘observe and respond’ protocol was originally devised by Dr Martin Hutchinson at Shellharbour Hospital in NSW in 2005, and then adapted for use in rural Tasmania in May 2008.

The key components of the program were to:
• introduce and embed into practice, observation parameters to guide nursing staff decision making, to trigger urgent medical review and possible earlier transfer of patients to a larger base hospital,
• improve communication between doctors and nurses regarding the management of patients at risk of deterioration, and
• improve documented evidence of assessment and management of patients at risk of deterioration.

The implementation was led by the Department of Health - Primary Health Services Safety and Quality Unit. Review of the current status of DANGERS was conducted July – August 2010. Data collections methods included surveys of doctors and senior nurses, documentation audits and focused discussions.

Results: Survey findings indicate doctors and senior nurses in the rural hospitals are aware of, and accept DANGERS, and they are satisfied with the timeliness and quality of communication regarding patients at risk of deterioration. However evidence for utilisation of DANGERS is variable across the rural hospitals and the findings indicate further work is required to support ongoing orientation and training to embed DANGERS into clinical practice.

Conclusions: Overall, we found that DANGERS has been well received and has lead to an overall improvement in clinical practice and communication with doctors in response to breeches in patients’ observation parameters. As with any implementation to change practice ongoing work is constantly required to sustain and embed. To enhance DANGERS the introduction of ISOBAR communication tools and the adoption of a colour coded observation chart; with expansion of the DANGERS protocol to include a pain rating are planned for at the end of the year and into 2011. Review of the DANGERS policy was also recommended to clarify how DANGERS applies to all patient groups.

Full implementation of the DANGERS program would place Tasmanian rural hospitals in a strong position to meet the requirements of the National Consensus Statement.
A partnership to save lives - building clinical competence through in-situ immersive simulation

Workshop Facilitators:

- Nigel Chong, Manager of Simulation Operations & Development, University of Tasmania
- Glen Williams, Training and Development Coordinator, Calvary Health Care Tasmania – Launceston
- Angela McKay, Teaching Fellow, Simulation Based Education, University of Tasmania

Objectives: As highlighted by the nation consensus statement ‘Essential elements for recognising and responding to clinical deterioration 2010’, the education and training of clinical staff in recognising and managing deterioration is essential. This consensus combined with the Australian Council of Healthcare Standards recommendation to develop simulation based learning environments to support health professionals’ educational needs has highlighted the need for in-situ simulation within the healthcare setting.

In-situ simulation extends clinical education in recognising and responding to patient deterioration. This education enables health professionals to safely develop clinical skills whilst remaining in their own workplace. Participates can immerse in sophisticated simulation-based learning opportunities using their own resources and processes, providing the health professional with an accessible, relevant and highly focused education which is customised to their practice conditions.

The aim of our workshop is to stimulate discussion and an exchange of ideas around the possibility of implementing this type of simulation in the participants’ individual environments. Workshop participants will gain an appreciation of how to develop in-situ simulation capability which is outside the normal simulation laboratory. During this workshop we will demonstrate the participant buy in and the fidelity of in-situ simulation.

The session is an interactive 120 minute workshop using the latest Laerdal mannequin technology which will engage participants in the concept, development and delivery of this new and innovative approach to simulation based clinical education. Participants shall be shown an example of interprofessional footage of an in-situ simulation at a local hospital, which will be complimented by interacting directly with the latest human patient simulator Laerdal (3G). The workshop will highlight the possibilities for developing this type of simulation through sharing our own experience using in-situ simulation.
Implementing and maintaining a rapid response system: two different models for providing emergency assistance - Workshop 1

Workshop Facilitators:

- Anna Green, Manager – ICU Liaison Department, Western Health
- Daryl Jones, Consultant Intensive Care Specialist, Austin Health
- Kerrie O’Leary, Senior Project Officer, Clinical Nurse Consultant, Australian Commission on Safety and Quality in Health Care

Objectives: A narrow window of opportunity exists to provide the treatments necessary to reverse or reduce the amount of physiological damage associated with clinical deterioration. Rapid response systems have been designed to provide rapid emergency assistance in response to clinical deterioration, and have been shown to reduce in hospital cardiac arrests; unplanned ICU admissions and morbidity and mortality.

The Australian Commission on Safety and Quality in Health Care’s National Consensus Statement: Essential Elements for Recognising and Responding to Clinical Deterioration recommends acute care facilities develop and implement rapid response systems to provide emergency assistance to patients who are deteriorating. Different models have been used to provide this emergency assistance including medical emergency teams (MET), critical care outreach and intensive care liaison nurses.

This two part workshop will explore the role of medical emergency teams, intensive care liaison and nurse practitioner critical care in providing emergency assistance to patients who have deteriorated. Workshop participants will have an opportunity to engage with experts who have developed and worked in these models. Participants will be provided with tips and strategies for developing, implementing and maintaining each of these rapid response system models.

On completion of workshop one, Developing and Implementing a Rapid Response System, it is anticipated that participants will:

- be able to identify how each model operates
- understand each models benefits and limitations
- be able to identify potential barriers and enablers for developing and implementing each model
- have an understanding of the steps for introducing and tailoring these models to suite the patient case-mix and resources of their local facility
Responding to medical emergencies: system characteristics under examination (RESCUE): a prospective multi-side point prevalence study.

Presenter
Tracey Bucknall, Professor, Deakin University; Head, Cabrini-Deakin Centre for Nursing Research, Cabrini Health

Abstract

Objective: To determine the prevalence and outcomes of patients who fulfill hospital-specific MET criteria in 10 acute care hospitals and relate this to the actual rate of MET activation.

Methods: Acute inpatients (N=1688) from 4 private and 6 public hospitals were recruited for a prospective, point prevalence study. Inpatients located in intensive care units (ICU) or psychiatric wards, and those who refused observations or were unavailable during the data collection period were excluded. Data were collected at each hospital on a single day. Data collectors reviewed observation charts for the 24 hour period prior to the survey, and then gathered one standard set of observations. Mortality data was obtained from the National Death Index. All data was collated onto a Case Report Form, electronically scanned and checked for accuracy. Descriptive and inferential statistics were derived from the data analysis.

Results: The point prevalence for patients fulfilling MET criteria in the 24hrs prior to data collection was 5.33% (n=90) and on the day of observation was 3.31% (n=56). The 30 and 60 day mortality was significantly higher for patients fulfilling MET criteria both 24 hrs prior to and on day of observation (p<0.05). Of 56 patients reported as fulfilling MET activation criteria at the time of data collection, only 3 patients had MET calls activated within 24 hours.

Conclusions: Our study revealed that between 1/30 and 1/20 hospitalised patients fulfilled MET criteria in a 24 hour period. Despite notification to ward managers, subsequent activation of the MET occurred in only 1/20 patients that fulfilled MET criteria. The presence of MET criteria was associated with a marked increase in 30 day mortality. This study supports previous observations that patients fulfilling MET criteria are at increased risk of death. It also provides the potential caseload for managing medical emergencies. Further research is needed to focus on the pre-MET call decision making process, and the influences impacting on MET call decisions.

Acknowledgements: We would like to acknowledge: *RESCUE Study Investigators, our biostatistician Dr Margaret Staples, Monash University; and funding support for the study from the Australian Commission on Safety and Quality in Health Care.

*RESCUE Study Investigators
Tracey Bucknall, Daryl Jones, Jonathon Barrett, Rinaldo Bellomo, Rasa Ruseckaite, Mari Botti, Julie Considine, Judy Currey, Trisha Dunning, David Green, Michele Levinson, Trish Livingston, Bev O’Connell.
Implications for misses METs: Afferent limb breakdown

Presenter
Jessica Guinane, Clinical Nurse Specialist, Emergency Department, Cabrini-Deakin Centre for Nursing Research

Abstract

Objective: The aim of this study was to determine the incidence of patients with vital signs fulfilling MET call criteria in their entire admission, and the proportion who subsequently received a MET review.

Method: Following ethics approval, a retrospective chart audit was conducted in a 450 bed private hospital in Melbourne, Victoria. All patients hospitalised for ≥ 24 hours in the general ward areas, and who were discharged from the hospital during the seven day study period were included in the study. Vital signs including, blood pressure, heart rate, respiratory rate and oxygen saturation for the patients’ entire admission were reviewed. A standardised case report form was used to document any vital signs fulfilling MET criteria. Descriptive and inferential statistical analyses were conducted.

Results: Of 568 patient records reviewed, 82 (14.4%) had documented vital signs fulfilling MET calling criteria during their admission. Of these, 69 (84.1%) were ward patients and 13 (15.8%) were in Post Anaesthetic Care Unit (PACU). Only 2 ward patients (2.9%) with MET criteria received a MET review, 1 transferred to ICU and the other remained in the ward; 1 patient (7.7%) from PACU who received a MET call was stabilised and then transferred to a ward. Although medical patients were more likely to develop MET criteria than surgical patients (p = 0.030), elective or emergency admissions were not significantly different. Notably, the length of stay for patients who fulfilled MET call criteria was double that of those who did not; 8.61 days versus 4.31 respectively. The most frequent vital signs fulfilling MET criteria were blood pressure (n=160), heart rate (n=50), and oxygen saturation (n=50); respiratory rate had only 3 abnormal recordings.

Conclusions: This retrospective review highlighted the frequency of failed MET activation in a hospital with an established MET. Yet it appears that those patients slowly recovered regardless of the missed MET call. It remains unknown what model of care was instituted to address patient deterioration at the time instead of using the MET system and whether it work with more, less, or the same efficiency. Further analysis tracking patient management and response will be conducted to determine if patient recovery was spontaneous without intervention or interventions other than MET were activated.
Impacts of clinical emergency response system (CERS) on medical workforce

Presenter
Tanya Halbert, CPR Coordinator - Clinical Nurse Consultant, Royal Prince Alfred Hospital

Abstract

Objective: This study aims to document the medical workforce implications of the implementation of a Clinical Emergency Response System (CERS) at a Major Teaching Hospital.

Methods: Royal Prince Alfred Hospital implemented a multi-tiered CERS during 2008, the design of which emphasised the desirability of leaving the responsibility for the care of a deteriorating patient with the patient’s primary care team, while enhancing the support available to the treating team. Thus when a deteriorating patient is identified the patient’s registrar is expected to respond initially unless the patient is pre-arrest. Data on CERS calls was analysed to document the workload placed on registrars and ensure there was appropriate distribution of medical staff to treat patients.

Results: After initial bedding down the RPA CERS system is generating between 10 and 12 calls each day. The medical registrars respond to 70% of calls, with surgical registrars handling 28% and other registrars 2%. Overall 98% of calls are responded within the required 30 minutes. Each call takes an average of 40 minutes for the registrars to resolve the issues. Only 9% of non-pre-arrest CERS calls require assistance from ICU registrars. In 2009-10 financial year calls were made using CERS at the rate on 74 calls /1000 patient admissions.

The data has demonstrated a large demand for CERS calls outside ‘normal’ hours, with 74.9% of calls occurring on weekdays after 6pm and before 7am or on weekends. During these times RPA, like most Teaching Hospital is staffed minimally, especially at a registrar level. Registrars who previously spent time helping access patients in ED and within the Medical Admissions Unit are now busy with sick inpatients elsewhere.

Conclusions: Implementation of a CERS within a large hospital will significantly alter the workflow of responders, and will uncover areas of relative workforce deficiency. Changing workforce distribution, particularly at registrar level, from business hours to give appropriate cover at nights and weekends will be necessary, with important implications for specialist training.
The impact of a three-tiered clinical emergency response system on cardiac arrest rates: the experience of Royal Prince Alfred (RPAH)

Presenter
Anne Stirling, Clinical Emergency Response System Coordinator, Royal Prince Alfred Hospital

Abstract

Objective: To identify the effect on cardiac arrest rates following the implementation of a new Clinical Emergency Response System (CERS) enabling early identification and rapid response to deteriorating patients.

Methods: A single tertiary referral hospital (Royal Prince Alfred Hospital, Sydney) implemented the CERS. The system involved:
1. Activation criteria based on physiological derangements were defined and refined for medical specialty.
2. An observation chart was designed to enable easy identification of patients breaching CERS activation criteria.
3. The tiered response system was designed and gradually implemented throughout the organization over a 14-month period.
4. Systematic education of nursing and medical staff focusing on clinical assessment.

The three tiers of the system include:
- A Clinical Emergency call to the primary care team registrar (30 minutes response time.)
- An urgent intensive care review (ICU Assist) if the primary care team registrar was unable to attend, the patient is not responding adequately to initial care, or the staff are worried. (10 minute response time.)
- The Arrest Team response remained unchanged for all cardiac arrests, rapidly deteriorating patients, or inability for all other levels to attend (3 minute response.)

Data relating to cardiac arrests per 1000 admissions (raw rate) was collected, entered on a database and compared before, during and after the implementation of the system.

Results:

<table>
<thead>
<tr>
<th></th>
<th>2007-8</th>
<th>2008-9</th>
<th>2009-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac arrests</td>
<td>98</td>
<td>82</td>
<td>69</td>
</tr>
<tr>
<td>Admissions</td>
<td>27,419</td>
<td>28,784</td>
<td>29,136</td>
</tr>
<tr>
<td>Cardiac arrest rate / 1000 admissions</td>
<td>3.57 / 1000 admissions</td>
<td>2.8 / 1000 Admissions</td>
<td>2.3 / 1000 admissions</td>
</tr>
<tr>
<td>In hospital deaths following cardiac arrest</td>
<td>69</td>
<td>61</td>
<td>44</td>
</tr>
<tr>
<td>Death rate following Cardiac Arrest / 1000 admissions</td>
<td>2.52 / 1000 admissions</td>
<td>2.1 / 1000 admissions</td>
<td>1.5 / 1000 admissions</td>
</tr>
</tbody>
</table>

The number of Clinical emergency (first level) calls in 2009/2010 year was 74/1000 admissions and the number of ICU lead/ based team calls was 16/1000 admissions in the same period.

Conclusion: The CERS at RPAH has decreased cardiac arrest calls and subsequent deaths. CERS differs from traditional "MET" by maintaining involvement by the primary care team. The majority of deteriorating patients are managed on the wards by the admitting team, and this data demonstrates a fall in cardiac arrests within the hospital.
Impact of modified early warning scores on the medical emergency team response

Presenter
Nicole Slater, CNC Resuscitation Coordinator, The Canberra Hospital

Abstract

Objective: To review the impact of the introduction of a Modified Early Warning Scoring (MEWS) system in a hospital with a pre-existing Medical Emergency Team (MET) response.

Methods: In 2004 The Canberra Hospital (TCH) introduced a MET response and participated in the Medical Early Response Intervention and Therapy (MERIT) study. Evidence collected following the introduction of MET at our institution suggested poor compliance of activation of MET criteria and ongoing failure to recognise and respond to deteriorating patients. In 2007 the Early Recognition of the Deteriorating Patient (ERDP) program was introduced to the hospital, which included an education package “COMPASS©” and the introduction of a new colour coded observation chart that incorporated a track and trigger system using a modified early warning score (MEWS).

Since the introduction of the program, data have been collected including the number of MET calls, location, and the reason for triggering the MET. In addition, observations recorded and episodes of communication occurring 24 hours prior to the MET being called are collected and analysed to determine any delay with MET activation and failure to comply with the track and trigger system.

Results: Since the introduction of the ERDP program there has been a significant increase in the number of MET calls per year with 739 in 2006 and 1034 in 2009. There has been an increased compliance in monitoring of vital signs in the 24hrs prior to MET (mean frequency of Respiratory Rate has increased from 2.61 to 8.90, Blood Pressure from 4.3 to 8.97 and Heart Rate from 4.12 to 9.27. In addition there has been improved communication of patient deterioration (62% of METS would had a missed communication of MEWS of > 4 reducing to 15% of METS post rollout). It has also been demonstrated that if a patient has had a delayed MET or a non – communicated high MEWS in the 24hours before a MET, then their mortality rate increases from 23% mortality if no delayed communication compared to 43% mortality if there was a delay in communication.

Conclusions: The ERDP program has provided an improvement in the frequency of vital sign monitoring and subsequent communication of patient deterioration, including the triggering of a MET call. This in turn, provides improved care of the deteriorating patient but also adds burden to the resourcing of the MET.
**Recognising and Responding to Clinical Deterioration: Solutions for Safe Care Conference, November 8-9 2010**

**Ballroom 1 & 2**

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Title</th>
<th>Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>5A</td>
<td>COMPASS Workshop: Implementing &amp; sustaining a deteriorating patient program Part 2</td>
<td>Imogen Mitchell, Heather McKay, Sarah Mamootil, Tracy Fletcher</td>
</tr>
<tr>
<td>5B</td>
<td>Hospital systems for recognising and responding to clinical deterioration 2</td>
<td>Chair: Paul Hudson</td>
</tr>
<tr>
<td>5C</td>
<td>STEPPS™: Improving communication for rapid response teams</td>
<td>Mary Salisbury, Facilitators: Christy Pirone &amp; Karen Stead</td>
</tr>
<tr>
<td>5D</td>
<td>Implementing and maintaining a rapid response system: Two different models for providing emergency assistance Part 2</td>
<td>Anna Green, Daryl Jones, Kerrie O’Leary</td>
</tr>
</tbody>
</table>

**Ballroom 3**

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Title</th>
<th>Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>5E</td>
<td>Low MEWS is good news: Implementing the ACSQHC consensus statement for recognising &amp; responding to clinical deterioration in a surgical division</td>
<td>Cathy Andrews</td>
</tr>
<tr>
<td></td>
<td>Sustaining the Detection of Deteriorating Patients At Small Rural Facilities</td>
<td>Andrew Bailey</td>
</tr>
<tr>
<td></td>
<td>Critical Care Outreach Service – Evaluation of Nurses Opinions of Outreach and the EWS Tool at Hutt Valley DHB</td>
<td>Lynn Salt</td>
</tr>
<tr>
<td></td>
<td>The Reluctant Hospital: How not to Implement a System for Recognising and Responding to Clinical Deterioration</td>
<td>Jennifer Hill</td>
</tr>
<tr>
<td></td>
<td>Clinical instability criteria: An early warning system for emergency departments</td>
<td>Julie Considine</td>
</tr>
</tbody>
</table>

**Ballroom 4 & 5**

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Title</th>
<th>Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>5F</td>
<td>Recognising and responding to clinical deterioration: Bridging the knowledge gap</td>
<td>Bronwyn Avard</td>
</tr>
<tr>
<td></td>
<td>Education - An essential element in the early recognition of deteriorating children</td>
<td>Heather Mugridge</td>
</tr>
<tr>
<td></td>
<td>Shifting sands: Designing and implementing a training and assessment program for a nurse-led medical emergency team (MET) responder service</td>
<td>Elizabeth Gherardin</td>
</tr>
<tr>
<td></td>
<td>Simulation on a shoestring! Making the most of experiential learning through local, low cost, high fidelity medical emergency team (MET) simulation</td>
<td>Elizabeth Gherardin</td>
</tr>
<tr>
<td></td>
<td>Early recognition and treatment of the deteriorating patient: A hospital wide educative initiative for nurses and midwives</td>
<td>Jayne Harris, Wendy Hall</td>
</tr>
</tbody>
</table>

**Moseley Room**

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Title</th>
<th>Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>5G</td>
<td>Implementing &amp; sustaining a deteriorating patient program Part 2</td>
<td>Imogen Mitchell, Heather McKay, Sarah Mamootil, Tracy Fletcher</td>
</tr>
<tr>
<td>5H</td>
<td>Hospital systems for recognising and responding to clinical deterioration 2</td>
<td>Chair: Paul Hudson</td>
</tr>
<tr>
<td>5I</td>
<td>STEPPS™: Improving communication for rapid response teams</td>
<td>Mary Salisbury, Facilitators: Christy Pirone &amp; Karen Stead</td>
</tr>
<tr>
<td>5J</td>
<td>Implementing and maintaining a rapid response system: Two different models for providing emergency assistance Part 2</td>
<td>Anna Green, Daryl Jones, Kerrie O’Leary</td>
</tr>
</tbody>
</table>

**Golley Room**

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Title</th>
<th>Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>5K</td>
<td>Low MEWS is good news: Implementing the ACSQHC consensus statement for recognising &amp; responding to clinical deterioration in a surgical division</td>
<td>Cathy Andrews</td>
</tr>
<tr>
<td></td>
<td>Sustaining the Detection of Deteriorating Patients At Small Rural Facilities</td>
<td>Andrew Bailey</td>
</tr>
<tr>
<td></td>
<td>Critical Care Outreach Service – Evaluation of Nurses Opinions of Outreach and the EWS Tool at Hutt Valley DHB</td>
<td>Lynn Salt</td>
</tr>
<tr>
<td></td>
<td>The Reluctant Hospital: How not to Implement a System for Recognising and Responding to Clinical Deterioration</td>
<td>Jennifer Hill</td>
</tr>
<tr>
<td></td>
<td>Clinical instability criteria: An early warning system for emergency departments</td>
<td>Julie Considine</td>
</tr>
<tr>
<td>5L</td>
<td>Recognising and responding to clinical deterioration: Bridging the knowledge gap</td>
<td>Bronwyn Avard</td>
</tr>
<tr>
<td></td>
<td>Education - An essential element in the early recognition of deteriorating children</td>
<td>Heather Mugridge</td>
</tr>
<tr>
<td></td>
<td>Shifting sands: Designing and implementing a training and assessment program for a nurse-led medical emergency team (MET) responder service</td>
<td>Elizabeth Gherardin</td>
</tr>
<tr>
<td></td>
<td>Simulation on a shoestring! Making the most of experiential learning through local, low cost, high fidelity medical emergency team (MET) simulation</td>
<td>Elizabeth Gherardin</td>
</tr>
<tr>
<td></td>
<td>Early recognition and treatment of the deteriorating patient: A hospital wide educative initiative for nurses and midwives</td>
<td>Jayne Harris, Wendy Hall</td>
</tr>
</tbody>
</table>
COMPASS workshop: implementing and sustaining a deteriorating patient program Part 2

Workshop facilitators:

- Imogen Mitchell, Director of Intensive Care, Canberra Hospital
- Heather McKay, Program Manager, Early Recognition of the Deteriorating Patient Project, ACT Health
- Sarah Mamootil, Project Officer, Canberra Hospital
- Tracy Fletcher, Learning & development Unit, Calvary Hospital

Objectives: The COMPASS program workshop is aimed at providing the building blocks for the early recognition and response to patients at risk of critical illness namely:

- The purpose of delivering an “deteriorating patient” education program
- The tools required to recognise and respond to the “deteriorating patient”
- The governance to sustain a “deteriorating patient” program

The workshop will provide participants an opportunity to undertake the “deteriorating patient” training and appreciate the flexibility of the COMPASS program. This flexibility allows different facilities to conform to the National Consensus Statement by adapting the training and tools to recognise and respond to patients at risk of critical illness. The case study component will be facilitated by COMPASS trainers from three different states and territories in a collaborative approach. On completion of the workshop it is anticipated that participants will:

- Understand the importance of education in recognising deteriorating patients
- understand the governance needed to ensure sustainability of the program
- have examples of tools that can be adapted and implemented locally
- have an understanding of the next steps for developing and implementing a deteriorating patient program in their local facility
Low MEWS is good news: implementing the ACSQHC consensus statement for recognising and responding to clinical deterioration in a surgical division

Presenter
Cathy Andrews, Clinical Services Coordinator, The Queen Elizabeth Hospital

Abstract

Objective: To implement the ACSQHC ‘National Consensus Statement: Essential elements for recognising and responding to clinical deterioration’ within The Queen Elizabeth Hospital (TQEH) Surgical Division and evaluate its impact on patient safety.

Methods: The implementation of the ACSQHC, ‘National Consensus Statement within the surgical division involved 5 stages:

1. Review the current situation within division
2. Development of a Recognising and Responding to Clinical Deterioration Toolkit including:
   • Standard for vital sign observations
   • Modified Early Warning Scoring System (MEWS)
   • Escalation process
   • Development of a new observation chart
   • Adoption of appropriate communication tool
   • Staff Education Package (presentations, workbook)
3. Engagement / education of clinicians
   • Nursing & medical
4. Implementation of new processes
5. Evaluate / modify program

The process of reviewing the current TQEH Surgical Division situation, developing the Recognising and Responding to Clinical Deterioration Toolkit and educating clinicians took approximately 6 months. The program has recently been implemented in all wards within TQEH Surgical Division.

Evaluation focuses on the causes of ‘failure to rescue’ and included the following pre and post-intervention measures:

• Performing accurate, timely and appropriate vital signs
• Staff recognition of signs of deterioration
• Acting upon concerns appropriately
• Communicating concerns accurately and appropriately
• Escalating concerns to more experienced staff appropriately

Results: A pre-intervention observation audit identified an average compliance rate of 53% when taking patient observations. Nurses scored as low as 4/10 in a pre-intervention nursing survey relating to the physiology of deterioration. Follow up of patients requiring an unplanned ICU/HDU admission from wards suggested a delay of up to eight hours in the recognition of the signs of deterioration. Given the very recent program implementation, post-implementation evaluation data is at this time not available.

Conclusions: The implementation of the Recognising and Responding to Clinical Deterioration Surgical Division Project has been well received by medical and nursing clinicians. Despite not having completed the full evaluation of the project, it has brought the issue of Recognising and Responding to Clinical Deterioration to the attention of the Division of Surgery staff, enabled us to review our practices and begin to develop a sustainable and workable program.
Sustaining the detection of deteriorating patients at small rural facilities

Presenter
Andrew Bailey, Nurse Manager, North Coast Area Health Service

Abstract

Objective: To reduce all deteriorating patient SAC 1s and SAC 2s by 100% at Macksville Health Campus’ General Floor within 12 months and sustain this outcome in the future, through:

- Recording all observations on the MEWS chart
- Referring all patients for medical review if the observations demonstrate a MEWS score of 4 or above
- Medical reviews occurring within the escalation protocol time frames
- The escalation policy being followed after-hours and signed by the treating doctor within 24 hours of the review.

Method: A local implementation team was formed, which consisted of medical, nursing, allied health and management, to take ownership of the implementation of the pilot program.

A suite of solutions was developed to recognise and manage the deteriorating patient which included, but was not limited to:

- Introduction of the MEWS (Medical Early Warning Score) chart – a track and trigger tool to support the recognition of the deteriorating patient
- Staff education on the use of the MEWS chart
- Staff education using COMPASS on the recognition and management of the deteriorating patient
- Development of a local escalation protocol in collaboration with local General Practitioners (GPs) for patients who were identified as at risk of deterioration using MEWS
- Commitment from GPs for medical reviews to occur within the escalation protocol time frames and for completion of medical review documentation within 24 hours of clinical review
- Implementation of a communication tool to aid transfer of patient information between members of the nursing staff and the medical team, i.e., Identification, Situation, Background, Assessment, Recommendations (ISBAR)
- Implementation of a clinical handover checklist to support nurse-to-nurse handover.

Results: Since the implementation of the program in 2008, there has been zero SAC 1 and/or 2 incidents associated with the recognition and management of the deteriorating patient. This has been sustained through the transition to the five components of the State BTF program.

Conclusion: The transition from being a pilot site to being part of normal practice has been supported through the statewide rollout of the Between the Flags program. The transition from using the MEWS chart to the implementation of the State Adult General Observation (SAGO) Chart has been well-handled by staff. The observation chart audit tool has been established and commenced. Training in the DETECT program for 100% of staff is to be completed by July 2010. The escalation protocol has been aligned with the SAGO chart, including the ISBAR communication tool. An audit process for Rapid Response has been established. The new escalation process has now been modified and adopted for other hospital within the North Coast Area Health Service.

The project has achieved its core objective with no patients deteriorating without detection; however this is a perpetually changing concept with new initiatives reviewed and amalgamated into the current program.
Critical care outreach service - evaluation of nurses opinions of outreach and the EWS tool at Hutt Valley DHB

Presenter
Lynn Salt, Clinical Nurse Specialist. Critical Care Outreach (CCO), Hutt Valley District Health Board, New Zealand

Abstract

Objective: To ascertain ward Nurses opinions of CCO/EWS tool and their ability to care for deteriorating ward patients as well as identifying improvements that could be made to enhance the operational aspect of this service

Method: An eighteen-item audit questionnaire was devised to gain opinions of three aspects of the service.

- Nurses awareness of CCO
- The usability of the EWS tool and the escalation protocol
- The role and usefulness of the CCO Nurse (CCON)

Distributed to the adult general wards where the CCONs routinely visit. There was a three-week time.

Results:

Awareness - 100% awareness.

EWS (percentage indicates when nurses strongly agree i.e 5/5 on the continuum)
- 54% identified the EWS was useful.
- 45% identified EWS useful in identifying deteriorating pts.
- 58% identified EWS easy to use.
- 82% EWS helped them prioritise workloads.

Role and usefulness of CCON
- 65% said CCON useful to their practice
- 41% said post ICU review helpful
- 65% said CCON were approachable
- 71% stated shift time 3pm – 11pm useful
- 69% stated CCON demonstrated sound clinical knowledge
- 54% felt CCON teach sufficiently
- 48% felt patients got quicker medical reviews when CCON involved

Conclusion: Two recent reviews of Outreach, (Richardson et al, 2004 and Valentine & Skirton 2006), looked at utilisation of CCO and whether it enhanced Nurses’ clinical practice. Both reported that CCONs were a source of advice and support through modelling of clinical skills and educational delivery. Our results are comparable and indicate Nurses believe CCO to be instrumental in increasing critical care skills in the clinical ward area.

Concerns regarding the EWS were identified i.e. Nurses identifying that a patient may not trigger on the EWS but still be deteriorating. Education is needed into how the EWS is an accompaniment to CCO, not a prescriptive dictatorship with Nurses encouraged to apply critical thinking.
The reluctant hospital: how not to implement a system for recognising and responding to clinical deterioration

Presenter
Jennifer Hill, Clinical Nurse Specialist, Capital and Coast District Health Board, New Zealand

Abstract

Objective: Capital and Coast District Health Board (CCDHB) was instructed to implement early warning scores and an Intensive Care outreach service by the Health and Disability Commissioner after his investigation into the death of a patient in a medical ward at Wellington Hospital.

Method: Funding for a nurse led Patient at Risk (PAR) service was approved in 2007. At that time Intensive Care medical staffing was inadequate to support the service in a meaningful way thus the PAR nurses worked as an independent team nominally managed by the Intensive Care service. The PAR nurse role was to support the early recognition of the deteriorating patient through implementation of the early warning scoring system, and to assist in the rapid escalation of care (via the primary teams) for those patients who were identified as at risk. A nurse consultant was employed to manage the initial set up of the service and a staged roll out of the adult early warning score began in April 2008. The PAR service was launched in the context of a DHB with massive debt, an organisational culture where restructuring was the norm, and media stories that were consistently negative. Implementing a new service in that environment was a difficult task.

Results: Audit demonstrated significant improvements in vital sign observation compliance but there were ongoing problems with ward staff appropriately escalating care and making referrals to the PAR service. ‘Failure to rescue’ incidents were highlighted through audit of unplanned ICU admissions and the reportable event process was utilised to highlight these cases. Variable levels of staff acceptance of the necessity for early warning scores and the PAR service led to ongoing difficulties in making real improvements to patient safety.

Conclusions: Development of a robust system for recognition and response to clinical deterioration is virtually impossible without vigorous organisational support. New Zealand is a late bloomer in terms of the development of systems for recognising and responding to clinical deterioration and it has been very useful to learn from the Australian experience. The PAR service is now evolving toward an interdisciplinary MET model for Intensive Care Outreach.
Clinical instability criteria: an early warning system for emergency departments

Presenter
Julie Considine, Senior Research Fellow, Deakin University - Northern Health Clinical Partnership

Abstract

Objective: The aim of this study was to evaluate changes to the Clinical Instability Criteria (CIC) in the Emergency Department (ED) at The Northern Hospital (TNH), Northern Health, Victoria, Australia

Methods: TNH has used CIC since 2006 as an ED specific early warning system. If a patient meets ED CIC, the nurse in-charge of the shift and coordinating Emergency Physician are notified. The patient must be reviewed by an Emergency Physician within 5 minutes of notification. During 2009, there were a number of cases where clear evidence of clinical deterioration was not reported or reported but under managed and a lack of audit and ongoing evaluation of clinical utility of ED CIC. From January to April 2009 there was one CIC activation logged. In May 2009, in response to poor reporting of clinical instability, the CIC criteria were revised and their implementation supported by decision support prompts, educational preparation, and audit and feedback.

Results: There were 429 CIC activations from May to December 2009: a random sample of 10% per month was selected for this audit (n = 44). The median age of patients requiring CIC activation was 70 years, 66% presented by ambulance, 50% were triaged to a maximum waiting time of 10 minutes and 43% were triaged to a maximum waiting time of 30 minutes. Only 4.5% patients went home and the remainder required hospital admission including 2 Intensive Care Unit admissions and 2 Coronary Care Unit admissions. Nurses activated 70% of CIC calls and the median time to CIC activation after documented abnormalities was 2 minutes. The most common reasons for CIC activation were hypotension (36%), tachycardia (27.3%) and hypoxaemia (16%). The most common interventions were IV fluids (43%), supplemental oxygen (36.4%) and antibiotic administration (16%). Clinical instability was resolved in 88% of patients however the median duration of clinical instability was 101 minutes and 7% of patients required recurrent CIC activations.

Conclusions: Structured implementation of revised ED CIC criteria has increased reporting of clinical deterioration in ED patients. The ongoing evaluation of ED CIC activations has enabled objective data about the most common reasons for CIC activation and the most common interventions required. The major causes of clinical deterioration were hypotension, tachycardia and hypoxaemia. A greater understanding the most common reasons for clinical deterioration in ED patients enables an objective and evidence-based approach to clinical risk management and physiological surveillance in EDs.
TeamSTEPPS®: Improving communication for rapid response teams

**Presenter**
Mary Salisbury, President, The Cedar Institute Inc.

**Workshop facilitators:**
- Christy Pirone, Principal Consultant, Safety and Quality Clinical Systems, Department of Health South Australia
- Karen Stead, Management Facilitator- Patient Safety Curriculum, Department of Health South Australia

Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS®) is an evidence-based teamwork system aimed at optimising patient outcomes by improving communication and other teamwork skills among healthcare professionals. The program is based on 20 years of research and was developed by the US Department of Defense Patient Safety Program, in collaboration with the Agency for Healthcare Research and Quality.

TeamSTEPPS® provides higher quality, safer patient care by:
- producing highly effective medical teams that optimise the use of information, people, and resources to achieve the best clinical outcomes for patients
- increasing team awareness and clarifying team roles and responsibilities
- resolving conflicts and improving information sharing
- eliminating barriers to quality and safety

Workshop participants will: be able to identify the necessary tools and develop skills to optimise the use of available resources develop skills to enhance communication and teamwork among individuals learn how to improve coordinated interactions between multiple teams operating in a dynamic, complex, and high risk environment.
Implementing and maintaining a rapid response system: Two different models for providing emergency assistance

Workshop facilitators:

- Anna Green, Manager – ICU Liaison Department, Western Health
- Dr Daryl Jones, Consultant Intensive Care Specialist, Austin Health
- Kerrie O’Leary, Senior Project Officer, Clinical Nurse Consultant, Australian Commission on Safety and Quality in Health Care

Objectives

A narrow window of opportunity exists to provide the treatments necessary to reverse or reduce the amount of physiological damage associated with clinical deterioration. Rapid response systems have been designed to provide rapid emergency assistance in response to clinical deterioration, and have been shown to reduce in hospital cardiac arrests; unplanned ICU admissions and morbidity and mortality.

The Australian Commission on Safety and Quality in Health Care’s National Consensus Statement: Essential Elements for Recognising and Responding to Clinical Deterioration recommends acute care facilities develop and implement rapid response systems to provide emergency assistance to patients who are deteriorating. Different models have been used to provide this emergency assistance including medical emergency teams (MET), critical care outreach and intensive care liaison nurses.

This two part workshop will explore the role of medical emergency teams, intensive care liaison and nurse practitioner critical care in providing emergency assistance to patients who have deteriorated. Workshop participants will have an opportunity to engage with experts who have developed and worked in these models. Participants will be provided with tips and strategies for developing, implementing and maintaining each of these rapid response system models.

On completion of workshop two, Advanced Systems: Ensuring the Continued Success of Rapid Response Models, it is anticipated that participants will:

- understand how and why the operation of rapid response systems can fail
- understand the critical aspects for maintaining successful operation of each rapid response model
- have an understanding of the different evaluation requirements, benefits and long-term use of evaluation outcomes
- be able to implement strategies to ensure continued optimal operation of rapid response systems
Recognising and responding to the deteriorating patient: bridging the knowledge gap

Presenter
Bronwyn Avard, Staff Specialist ICU, The Canberra Hospital

Abstract

Objective: We aimed to develop a learning package that would bridge the gap in knowledge to enable early recognition and response to the deteriorating patient.

Methods: It is now widely known that clinicians of all disciplines at all levels fail to recognise and appropriately respond to the deteriorating patient in the general hospital ward. On investigating underlying reasons for this failure, we realised there was an inability to link the pathophysiology learned in lectures, often as an undergraduate, to the vital signs being measured on inpatients multiple times a day.

We set out to develop a learning package to bridge this gap in knowledge across the continuum of undergraduate to postgraduate clinical practice.

This program – ‘COMPASS’ - was divided into three components: an interactive DVD, a didactic 60 minute lecture, and then a low-fidelity simulation of four clinical scenarios to enable participants to apply the theoretical knowledge and reinforce learning. An assessment was conducted at the end of the DVD program to ensure participants had completed this before moving onto the face-to-face components. The education program was delivered to all levels of clinicians – undergraduate nursing and medical students in their final year and all ACT Health clinical staff including allied health. The curriculum was designed to have clinical cases changed annually to encourage participants to undertake a refresher course regularly.

Results: To date 2369 healthcare workers (2124 nurses, 216 doctors and 29 physiotherapists) and 173 medical students have been trained in COMPASS. Overwhelmingly positive feedback has been received from participants with regard to session content, delivery, and their perception of how this program had a positive influence on their professional development and clinical work. This education program, with other simple interventions (redesigned observation chart and installation of a track and trigger system) has resulted in increased frequency of vital sign measurement, especially respiratory rate (mean 2.4 to 4.7, < 0.001) , and a significant increase in the number of medical reviews following communication (58/133 vs. 55/79, p < 0.001). Unexpected patient deaths fell from 1.9% pre-implementation to 0.8% (p=0.03) post implementation.

Conclusions: This program has been successful in improving the process of recognition and response to the deteriorating patient. The design of the curriculum, allowing repeated exposure to the same concepts through undergraduate and postgraduate levels, and the simulation-based practice of applying the concepts to clinical scenarios has been pivotal in the success of the program.
Education - An essential element in the early recognition of deteriorating children.

Presenter
Heather Mugridge, Clinical Development Nurse, The Canberra Hospital

Abstract

**Objective:** The objectives of the Paediatric COMPASS education are for participants:
- To understand the importance and relevance of observations and the underlying physiology
- To be able to recognise and interpret abnormal observations
- To be able to communicate effectively to the right people and at the right time
- To feel confident in recognising and managing deteriorating patients
- To facilitate teamwork within the multidisciplinary team

**Method:** The National Consensus Statement: Recognising and responding to clinical deterioration outlines the importance that education plays in recognising deteriorating patients.

ACT Health previously completed the Early Recognition of the Deteriorating Patient Project for adult inpatient areas. The potential benefits of a similar program specific to paediatric areas were identified and a working group was established in 2008 to examine paediatric clients. It was essential that staff had the appropriate knowledge behind the importance of vital signs.

The Paediatric COMPASS Education Package includes a CD, manual, online quiz, lecture and four case studies supported by a Paediatric Early Warning Score (PEWS) and age specific observation charts.

A train the trainer was initially conducted with 12 medical and nursing staff attending. Followed by 11 sessions attended by 103 staff members.

**Results:**
- 95% of clinical staff completed the training prior to the start of the pilot.
- Feedback from the COMPASS education sessions was overwhelmingly positive:
  - 100% of respondents said it was useful for their professional development
  - 97% of respondents said they would approach their work differently
  - 95% of respondents said the education was flexible for clinicians

Following the education and implementation of the new observation charts there was:
Improved review of children who demonstrated physiological deterioration (63% earlier post education) and improved monitoring of vital signs:

<table>
<thead>
<tr>
<th>Frequency of vital signs in 24 hours</th>
<th>2008</th>
<th>2008</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVPU</td>
<td>0.155</td>
<td>9.706</td>
<td>p=&lt;0.0001</td>
</tr>
<tr>
<td>Effort of breathing</td>
<td>0.521</td>
<td>9.864</td>
<td>p=&lt;0.0001</td>
</tr>
<tr>
<td>Capillary Refill</td>
<td>0.188</td>
<td>2.341</td>
<td>p=&lt;0.0001</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>0.895</td>
<td>1.389</td>
<td>p=&lt;0.007</td>
</tr>
</tbody>
</table>

**Conclusion:** Plans are underway for the programs introduction into other departments that care for children including the emergency department and recovery. The program is easily adapted to facilities based on their available resources and escalation protocols, and is able to be used without early warning scores. Tools have been made available to other facilities outside the ACT (www.compass.act.gov.au) with one facility already adapting and implementing the education program. The COMPASS program is easily accessible, cost efficient, adaptable and has proven itself with these positive results.
Shifting sands: Designing and implementing a training and assessment program for a nurse-led medical emergency team (MET) responder service

Presenter
Elizabeth Gherardin, Critical Care Educator, Cabrini Health

Abstract

**Objective:** The purpose of the project was to develop a suitable education, training and assessment program for Division 1 nurses, who are, or intend to become part of the Nurse-led MET responder team.

**Methods:** A nurse-led MET responder service commenced in August 2009 at the 141-bed campus of the Catholic, private, not-for-profit, health care organisation in Melbourne. The hospital had undergone redevelopment, increasing its medical/surgical patient acuity, and is currently experiencing an average of 5 MET calls a month. The service provides for suitably skilled nursing staff to administer emergency medical therapy for a range of acute clinical conditions. The service roll-out required the development of an education and assessment program that supported the use of the fluid and medication Standing Orders.

The 3-phase program is designed to meet the educational standards required for a workforce able to manage the acute care patient population, as outlined by the Australian Commission on Safety and Quality in Healthcare (ACSQH, 2010). Based on adult learning principles, it consists of:

- a comprehensive self-directed learning package, which covered the background to MET, clinical assessment skills, the recognition and emergency management of clinical deterioration and the approved Standing Orders;
- a 4-hr workshop for assessment skills practice and problem identification through scenario training;
- an oral competency-based assessment overseen by the program coordinator and the ICU Deputy Director and with annual reassessment.

8 senior nurses committed to the initial program, over a 4-month timeframe.

**Results:** At the time of abstract submission, the participants have reached the assessment phase of the program. The first 2 phases highlighted a number of gaps in the participants’ pre-program knowledge and skills. Participants have expressed, via discussion during the workshop and direct feedback, that there has been significant improvements to their clinical assessment skills and their confidence in responding to the acutely ill patient.

**Conclusions:** The program appears to have had a positive impact on the confidence levels of staff involved, though its impact on the outcomes of the MET response are, as yet, unknown. The self-directed learning package has been recognized across the organization as a useful educational tool for all acute care nursing staff.
Simulation on a shoestring! Making the most of experiential learning through local, low cost, high fidelity medication emergency team (MET) simulation

Presenter
Elizabeth Gherardin, Critical Care Educator, Cabrini Health

Abstract

Objective: The project’s purpose is to improve acute care clinical staff’s awareness of and participation in responding to patient deterioration through an in-situ, scenario-based, inter-professional mock MET/Code Blue training program.

Methods: The impetus for the program at the 508-bed acute care campus of the Catholic, private, not-for-profit, health care organisation in Melbourne was:

- A recommendation from the Cabrini 2009 MET activity review to consider the human factors and decision-making processes that can lead to delayed or missed MET calls;
- Direct observation of nurses’ current assessment skills and variable clinician responses to acute changes in patients’ conditions.

Using action learning methodology, 3 wards were selected to participate based on the frequency of MET / Code Blue calls. ICU and CCU nursing and medical staff were invited to participate, as they are the MET/Code Blue responder team.

Program planning and implementation has been achieved within existing time and resource constraints. Sessions have been conducted monthly on each ward over a 6 month period within the half-hour available during double-staff time. Resources include a simulation training doll and a mock crash trolley stocked with expired or reusable equipment. A 10 minute scenario is followed by 20 minutes of formal debrief.

Results: As session results are regularly reported to the hospital’s resuscitation committee they have provided opportunities for continuous improvement, through testing the organisation’s MET / Code Blue protocols and equipment and aiding team role definition. There has been a refocus on team-based training and assessment for the MET/ALS responder staff, whilst specific knowledge and skill deficits have been identified and addressed with targeted in-service education. Participant evaluation indicates that it is highly valued as a learning opportunity and that it has had a positive impact on clinical practice.

Conclusions: The training program continues to evolve, as there is great support and an increasing demand for it. It does require considerable time commitment for facilitation. However, significant tangible benefits to MET /Code Blue recognition and response can be achieved without a major financial investment through the provision of a high quality local training experience and clinician endorsement.
Early recognition and treatment of the deteriorating patient: A hospital wide educative initiative for nurses and midwives

Presenters

Jayne Harris, Education Facilitator, Flinders Medical Centre
Wendy Hall, Education Facilitator, Flinders Medical Centre

Abstract

Objective: To increase clinical expertise and confidence of nursing / midwifery staff in recognizing early indicators of clinical deterioration and improving patient outcomes by ensuring appropriate and timely care is provided.

Methods: Organisational key performance indicators identified concerns related to the recognition of the clinical deterioration of patients. This was inline with ACSQHC findings that highlights a significant problem in the ability of nurses and midwives to identify deterioration early and commence appropriate treatment.

Establishment of a regional wide educative intervention was introduced to increase patient assessment skills of nursing / midwifery staff to assist in the early recognition and contemporary treatment of the deteriorating patient.

Within FMC /SAHS a working party was established and a review of literature and hospital Medical Emergency Team (MET) data identified critical areas which focused further educational outcomes.

Promotion of the seminar resulted in an over-whelming response and participants’ attended either the half day program (theory only) or full day (clinical workshops). The seminar was well supported with industry and regional sponsorship.

Results: The effectiveness of this seminar was evaluated using:

- pre and post tests to establish registrants baseline knowledge and subsequent acquisition of new knowledge.
- survey to investigate relevance of information to clinical practice and the likelihood of incorporating contemporary knowledge to improve patient outcomes.
- post-tests demonstrated a clear increase in knowledge
- survey feedback was overwhelmingly positive on all parameters

Future plans include developing the seminar content and accessibility for all health care staff with consideration to opening registration to a wider audience.

Conclusions: Based on the evaluations, the program addressed the needs of nursing / midwifery staff. The project achieved set objectives. Recommendations from feedback have been implemented.

An ongoing need for education of core assessment skills for all nurses and midwives was clearly identified based on the initial data assessed and the report from the seminar. The ongoing evaluation of clinical practice improvement is the goal to ensure contemporary practice knowledge is implemented effectively.
**Plenary Panel Session**

What is the most important thing you need to recognise and respond to clinical deterioration?

Participants:
- Dr Jillann Farmer (Chair)
- Adjunct Professor Caroline Weaver PSM
- Associate Professor Michael Buist
- Associate Professor Tracy Levett-Jones
- Dr Daryl Jones

**Participant biographies:**

Dr Jillann Farmer
Medical Director, Patient Safety and Quality Improvement Service, Queensland Health.

Dr Jillann Farmer graduated from the University of Queensland and worked for Queensland Health for four years before working in general practice.

In 2001, Dr Farmer moved to the Health Insurance Commission where she was initially a medical adviser, and then managed a suite of projects for reforming business practices in the Program Review Branch. In 2005 she became Director of Medical Services of Caboolture Hospital, and managed that facility through the emergency department closure and subsequent recovery. Dr Farmer joined the Patient Safety Centre in 2007, as the inaugural Director of the Clinician Performance Support Service (ClIPSS). Dr Farmer has oversight of the Safety Systems Team, which encompasses Open Disclosure, Safety Curriculum, Informed Consent, Patient Identification, Clinical Handover, Recognition and Management of the Deteriorating Patient, Device management and Safety Alert.

Dr Farmer is currently the Director of Clinical Safety Directorate and Medical Director of the Patient Safety and Quality Improvement Service (PSQ).

Adjunct Professor Caroline Weaver
Executive Director, Caboolture & Kilcoy Hospitals
Director of Nursing & Midwifery

Professor Caroline Weaver has worked in the public health sector for more than 30 years. As a Nurse and Midwife Caroline has held roles in clinical practice/education and administration. As a professional leader in Midwifery both Nationally & Internationally, she has had the opportunity to experience many different approaches in public health care delivery.

In recent years as an administrator Professor Weaver has developed and actively pursued a focus on cultural development in an acute hospital setting. With a philosophy of “people who work together should learn together” she believes effective communication is at the heart of patient safety.

Caboolture Hospital has recently been working with the QLD Health Patient Safety and Quality Improvement Service in trialing a range of forms used to assess patient deterioration and is currently implementing the ADDS form across the facility.

Associate Professor Michael Buist
Director of Medicine, North West Region Tasmania
Associate Professor, The University of Tasmania Rural Clinical School

Professor Michael Buist has held staff specialist intensive care positions at Liverpool Hospital (NSW), Careflight (NSW) and the Royal Adelaide Hospital before becoming Intensive Care Unit Director at Dandenong Hospital in 1997.

Professor Buists’ research interests include all areas of patient safety but in particular the prevention of avoidable hospital deaths. Current research directions are the development of clinical guidance and communication software for bedside clinicians and the development of undergraduate and post graduate curriculum in patient safety.
Associate Professor Tracy Levett-Jones
Deputy Head, School of Teaching and Learning, School of Nursing and Midwifery, University of Newcastle.

Professor Tracy Levett-Jones’s research interests include: patient safety, clinical education, information and communicating technology, clinical reasoning and simulation. Her doctoral research explored the clinical learning experiences of students in Australia and the United Kingdom. She has a broad clinical background and prior to her academic career worked as a nurse educator and nurse manager. Professor Levett-Jones has authored three books on clinical learning, seven book chapters and more than 50 peer reviewed journal publications.

Dr Daryl Jones
ICU Specialist, Austin Health.
Head of Critical Care Outreach, Austin Health.

Dr Daryl Jones has completed an MD in the role a the MET at Austin Health. Dr Jones is currently the principal investigator of two multi-centre studies investigating the role of rapid response teams in care of acutely unwell ward patients. The first of these assessed the role of the MET in end of life care planning in seven hospitals. The second was sponsored by the ACQSHC and will assess the association between RRT dose and patient outcome in 40 Australian hospitals.
Recognising and Responding to Clinical Deterioration: Solutions for Safe Care Conference, November 8-9 2010

The Stamford Grand Adelaide
Moseley Square, Glenelg
Phone 8376 1222  Fax 8375 0699