Paediatric Deteriorating Patients: Developments in the ACT
Background

• Success of adult MEWS and COMPASS education locally
  - Improved documentation
  - Improved time to review
  - Improved outcomes

• Recommendation from Clinical Review Committee
Prior to Paediatric Pilot

- Staff Survey

- Audit of vital sign measurements  
  *Mitchell Blake, ANU medical student*

- Retrospective look at observations prior to MET calls  
  *Penny Gosling, ANU Medical student*
Staff Survey:
What signs indicate a patient's condition is deteriorating?

- Increased RR
- Increased HR
- Conscious state changing
- Circulatory perfusion
- Increased WOB
- Decreased RR
- Decreased HR
- Altered SpO2
- Blood pressure
Staff Survey:
Have you had difficulty convincing a treating team of your concerns about a patient?

- RMOs(2): 50%
- RN L2(8): 38%
- RN L1(20): 25%
- all staff(41): 24%
- Registrars(6): 20%
- EN(4): 0%
Staff Survey:
Have you had difficulty getting the treating team to attend in a timely manner?

- RN L1 (20): 35%
- Registrars (6): 33%
- All staff (41): 27%
- EN (4): 25%
- RN L2 (8): 13%
- RMOs (2): 0%
Audit objectives:

- Audit vital signs measured in paediatric ward
- Examine factors that affect frequency of observations
- Determine if frequency complied with current guidelines
• 3355 unique vital signs collected on 50 pts

• First 48 hours of admission

• General observation chart examined for completion rate & frequency of observations

Mitchell Blake
Audit

Frequency of BP measurement on admission, pre-operatively & on RTW post-op
Back to the survey!

- Increased RR
- Increased HR
- Conscious state changing
- Increased WOB
- Decreased RR
- Decreased HR
- Altered SpO2
- Blood pressure
Audit

Frequency of measurement between surgical & medical pts
Audit

Vital sign collection in 1st and 2nd day of admission
MET call audit

- Vital signs collected for 24 hours preceding MET call
- 319 vital sign encounters for the 23 included patients

Penny Gosling
Completeness of observations recorded

Frequency of Vital Sign measurement

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (% of encounters)</th>
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</thead>
<tbody>
<tr>
<td>HR</td>
<td>90</td>
</tr>
<tr>
<td>SpO2</td>
<td>90</td>
</tr>
<tr>
<td>Supplemental O2</td>
<td>90</td>
</tr>
<tr>
<td>RR</td>
<td>80</td>
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<tr>
<td>Temp</td>
<td>40</td>
</tr>
<tr>
<td>SBP</td>
<td>10</td>
</tr>
<tr>
<td>Cap Refill</td>
<td>2</td>
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<tr>
<td>Resp Effort</td>
<td>2</td>
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ACT Health
PEWS Applied

In the 24 hours prior to the MET call:

- 87% had a PEWS of ≥ 4
- 70% had a PEWS of ≥ 6
- 35% had a PEWS of ≥ 8
Paediatric Pilot

- Age specific obs charts
- PEWS
- Paediatric COMPASS education:
  - CD
  - COMPASS manual
  - On-line Quiz
  - A 3 hour face-to-face education session
Paeds chart

12-17 yrs
5-11 yrs
1-4 yrs
3-<12mths
0-<3mths
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Weight</th>
<th>Observations</th>
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</thead>
<tbody>
<tr>
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</table>

**Urine Analysis**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Leukocytes</th>
<th>Nitrate</th>
<th>Urobilogen</th>
<th>Protein</th>
<th>pH</th>
<th>Blood</th>
<th>Specific Gravity</th>
<th>Ketones</th>
<th>Urinalysis</th>
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</tbody>
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**Other observations charts in use:**

- CPPCA
- C/D
- Opioid
- Neurological
- Blood Transfusion
- Intubation
- Intraocular
- Psychological
- Fluid Balance
- Bladder Irrigation
- Urinalysis
- Blood Glucose
- FBC
- H+ Electrolyte chart

**FLAT Criteria (ages 1 - 4 years):**

1. Health professional asked about clinical state
2. Anxiety/nausea
3. Hypothermia
   - T < 36°C
4. Bradycardia
   - < 100 beats/min
5. Increased respiratory rate
   - > 40 respirations/min
6. Worsening respiratory distress
   - Worsening respiratory distress
7. Hypotension (Lown sign) < 70 systolic
8. Acute change in neurological status or function
   - Sudden fall in consciousness
   - Numb, unresponsive or prolonged somnolence (>5 mins)

**Assessment of pain intensity (Clinician’s report):**

<table>
<thead>
<tr>
<th>Pain</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>Verbal</td>
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</tr>
<tr>
<td>Vomiting</td>
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<tr>
<td>Response to touch</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Pain</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Screaming</td>
<td></td>
<td></td>
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<tr>
<td>Body Movement</td>
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<td></td>
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<tr>
<td>Head</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Face</td>
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<td></td>
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<tr>
<td>Other indicators of pain intensity</td>
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</tbody>
</table>

**Date/Time | PEWS | Action if PEWS >4 | Signature**

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>PEWS</th>
<th>Action if PEWS &gt;4</th>
<th>Signature</th>
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Timeline

- 4 month pilot will conclude on 12th November
- Post-pilot survey currently underway
- Fine tuning policy
- Fine tuning charts
- Rollout across ACT Health