Implementation of the NSW Health *Between the Flags Program*

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Patient Safety Manager

*the children’s hospital at Westmead*
Commenced working on the “Recognition of the Deteriorating Child” project Dec 2008

What could support and enhance our current system

Data gathering and consultation began
  – Canberra’s Compass program
  – Toronto Sick Children’s
  – QLD’s CEWT program
the children’s hospital at Westmead

• Colour coded charts with a track & trigger system, gaining national and international momentum

• NSW Health with the CEC commenced work on “Between the Flags” for adults in 2007

• Special Commission of Inquiry Acute Care Services in NSW Public Hospitals - Garling Recommendations
Background

• The Between the Flags (BTF) Program is designed to establish a 'safety net' in all NSW public hospitals and healthcare facilities that reduces the risks of patients deteriorating unnoticed and ensures they receive appropriate care in response if they do.
Background

• The BTF Program uses the analogy of Surf Life Saving Australia's Lifeguards and Life Savers who *keep people safe* by ensuring they are under close observation and rapidly rescue them, should something go wrong.
Background

• The BTF program is a State-wide program
• Progressive roll-out across all NSW Health
• The BTF Program has a Five Element Strategy, which is essential to its long-term sustainability – The 5 Pillars
The 5 Pillars

1. Governance - State, Area, Facility and Unit levels
2. Calling Criteria for Clinical Review and Rapid Response incorporated in Standard Observation Charts
3. Clinical Emergency Response System (CERS)
4. Education
5. Evaluation- KPI’s and Data Collection
Paediatric Management Committee

• In June 2009 a Paediatric Between the Flags Management Committee was convened comprising multidisciplinary experts from across NSW.
• This committee is the agreed advisory body responsible for providing expert advice on the development and implementation of initiatives.
• Resources – Limited
• Stakeholders – NSW Health, CEC, AHS’s, Paediatric facilities, Families, Staff
Paediatric Steering Committee

Key Principles
• Consultation (as much as possible – will not be able to please everyone)
• Take into account what is already out there
• Evaluate evidence – but not be crippled by it
• Keeping it simple
• Take into account Adult BTF, National agenda, other state
• State roll out – standards, templates, policies – tight vs loose approach
• Child ≠ Small Adult
Sub Groups Formed

- Observation chart development group
- Clinical Emergency Response Systems (CERS) group
- Education development group
- Evaluation group
Observation Chart

• Standard observation charts- ‘track and trigger’
• Parameters that represent the most sensitive markers for deterioration, listed in order of sensitivity (ABCDE)

• Working on an A3 bi-fold design, that incorporates a 3 tier response

• Development of 5 charts
  – Special Care Nursery’s/ Postnatal Unit
  – Less than12mths
  – 1-4yrs
  – 5-12yrs
  – Greater than 12 years
Calling Criteria

• Standard Criteria for Clinical Review and Rapid Response

• Calling Criteria are represented as colour coded zones (with additional criteria documented on the chart),
  – Blue zone- Increase frequency of observations
  – Yellow zone- Clinical Review by admitting team within 30 minutes
  – Red zone- activate Rapid Response Team
### Other Charts in use

- **Prescribing the Frequency of Observations**
  - i.e. Below the minimum standard of 8th hourly

- **Alterations in calling Criteria**
  - i.e. $\text{SpO}_2$ 70%

- **Intervention**
  - i.e. paracetamol given
Standard Escalation Protocol

Increase Frequency of Observations

Call for a Clinical Review

Call for a Rapid Response

How to Respond
Follow Local Escalation Protocol for who and how to call

Increase Frequency of Observations

**ANY BLUE ZONE Observation**
1. You MUST consult promptly with the Nurse in Charge
2. You MUST initiate appropriate clinical care
3. Increase frequency of observations as clinically appropriate
4. Manage anxiety, pain, and review oxygenation
5. You may call for a Clinical Review at any time if you are worried about the patient

**CONSIDER**
1. Whether abnormal observations reflect deterioration
2. Whether there is an adverse trend in observations
3. What is normal for the patient

Clinical Review

**ANY YELLOW ZONE Criteria**

CALL FOR A CLINICAL REVIEW
1. You MUST initiate appropriate clinical care
2. Increase frequency of observations as indicated by patient condition - but at least within 30 minutes
3. Response to clinical review MUST be within 30 minutes or escalation according to local protocol MUST occur
4. You may call for a Clinical Review at any time if worried about a child or unsure whether to call

**CONSIDER**
1. Whether abnormal observations reflect deterioration
2. Whether there is an adverse trend in observations
3. What is normal for the patient

Rapid Response

**ANY RED ZONE Criteria**

CALL FOR A RAPID RESPONSE
1. You MUST initiate appropriate clinical care
2. Commence Basic/Advanced Life Support if necessary
3. Inform the Nurse in Charge
4. Continuous Monitoring and record observations as indicated by the patient's condition

CHECK THE CLINICAL RECORD FOR ADVANCE CARE DIRECTIVES OR ALTERATIONS TO CALLING CRITERIA WHICH MAY AFFECT WHETHER A CLINICAL REVIEW OR RAPID RESPONSE CALL IS INDICATED

DOCUMENTATION
1. Write interventions on the front of the chart under 'interventions'
2. Write treatment, escalation process, and outcome in the clinical record
3. Write date, signature and designation with each entry
### Airway & Breathing
- **Respiratory Rate (breaths/minute):**
  - Normal: 20-60
  - Alert: 20-30
  - Sedated: 20-40
  - Not Breathing: 0

### Circulation
- **Blood Pressure (mmHg):**
  - Normotensive: 90-120/60-80
  - Hypotensive: <90/60
  - Hypertensive: >120/80

### Disability/Exposure
- **Motor Function:**
  - Normal: 5/5
  - Weak: 4/5
  - Paralyzed: 1/5

### Additional Clinical Review Criteria
- **A:** Partially Obstructed Airway or Stridor
- **B:** Moderate Reassess
  - Tracheal Tube
  - Nasal Flaring
  - Grunting
  - Increasing Oxygen Requirement
  - Difficulty talking or feeding
- **C:** Central Capillary Refill 2-3 Seconds
  - Greater than expected fluid loss
  - Poor Peripheral Circulation (e.g., mottled, or pallor)
- **D:** Incapacitated or Comatose
  - Agitated or combative
- **Other:**
  - New onset of fever > 38.5°C
  - BSL < 2.6 mmol/L
  - New, increasing or uncontrolled pain
  - Concern by any staff member

### Additional Rapid Response Criteria
- **A:** Imminent Airway Obstruction
  - New onset of Stridor
- **B:** Apnoeas or Respiratory Arrest
  - Gagging
  - Cyanosis
  - Severe Recession
  - Absent Breath Sounds or Silent Chest
  - Unable to speak or feed
- **C:** Cardiac Arrest or Circulatory Collapse
  - Significant Bleeding
  - D:** Fall in QCs > 2 points
  - New or Prolonged Seizure Activity
  - **Other:**
    - BSL < 2.6 mmol/L
    - Deterioration not reversed within 1 hour of Clinical Review
    - Patient deterioration further during, before or after Clinical Review
    - 3 or more simultaneous “yellow zone” observations
### Additional Criteria for Clinical Review

- Chronic/complex condition
- Post-operative
- Pre-existing cardiac conditions
- Opioid infusions

### Additional Criteria for Rapid Response, not captured within the Chart

- New onset of fever > 38.5°C
- BSL < 2.6 mmol/L
- New, increasing, or uncontrolled pain
- Concern by any staff member

### Key to Chart

- Rapid Response
- Clinical Review
- Increase Frequency of Observations

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**Additional Clinical Review Calling Criteria**

<table>
<thead>
<tr>
<th>A</th>
<th>Partially Obstructed Airway or Stridor</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Moderate Reccessions</td>
</tr>
<tr>
<td></td>
<td>Trachal Tug</td>
</tr>
<tr>
<td></td>
<td>Nasal Flaring</td>
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<td></td>
<td>Difficulty talking or feeding</td>
</tr>
<tr>
<td>C</td>
<td>Central Capillary Refill 3 Seconds</td>
</tr>
<tr>
<td></td>
<td>Greater than expected Fluid Loss</td>
</tr>
<tr>
<td></td>
<td>Reduced Urine Output or Anuria (&lt;1ml/Kg/hr)</td>
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<tr>
<td></td>
<td>Poor Peripheral Circulation (e.g. mottled, or pallor)</td>
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<tr>
<td>D</td>
<td>Inconscionable</td>
</tr>
<tr>
<td></td>
<td>Agitated or combative</td>
</tr>
<tr>
<td>Other</td>
<td>New onset of fever &gt; 38.5°C</td>
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</tbody>
</table>

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**Additional Rapid Response Criteria**

<p>| A | Imminent Airway Obstruction           |
|   | New Onset of Stridor                  |
| B | Apnoea or Respiratory Arrest          |
|   | Gagging                               |
|   | Cyanosis                              |
|   | Severe Reersions                      |
|   | Absent Breath Sounds or Silent Chest |
|   | Unable to speak or feed               |
| C | Cardiac Arrest or Circulatory Collapse|
|   | Significant Slipping                  |
| D | Fall in GCS &gt; 2 points                |
|   | New or Prolonged Seizure Activity     |
| Other | BSL &lt; 5.5 mmol/L                    |
|      | Deterioration not reversed within 1 hour of Clinical Review |
|      | Patient deterioration further during, before or after Clinical Review |
|      | 3 or more simultaneous 'yellow zone' observations |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Respiratory Rate (breaths per minute)</th>
<th>Respiratory Effort</th>
<th>Oxygen (%)</th>
<th>SpO₂</th>
<th>Heart Rate (beats per minute)</th>
<th>Capillary Refill (Seconds)</th>
<th>Blood Pressure (mmHg)</th>
<th>Systolic Blood Pressure is Normal</th>
<th>Level of Consciousness</th>
<th>Colour</th>
<th>Weight Loss %</th>
<th>Blood Glucose Level (mmol/L)</th>
<th>Temperature (°C)</th>
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<tbody>
<tr>
<td>01/01/2023</td>
<td>100</td>
<td>Secure</td>
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<td>95</td>
<td>150</td>
<td>6</td>
<td>100</td>
<td>120</td>
<td>Alert</td>
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<td>70</td>
<td>120</td>
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<td>20%</td>
<td>3.5 - 6.0 mmol/L</td>
<td>36.5</td>
</tr>
</tbody>
</table>

**Additional Clinical Review Calling Criteria**

A. Partially Obstructed Airway or Stridor
B. Grunting, Reccesions, Tachypnoea, Nasal Flaring
C. Increasing Oxygen requirement, Difficulty Feeding
D. Inconsolable, Aiptated or Comatose

**Additional Rapid Response Calling Criteria**

A. Threatened Airway Obstruction, Newborn or Stridor
B. Apnea, Gasping (pre-terminal), Cyanosis, Severe Recessions
C. Cardiac Arrest or Circulatory Collapse, Significant Bleeding
D. Fall in GCS of ≥2 points, New or protracted seizure activity

**Special Care Nursery’s / Postnatal Units**
Pilot Sites

• Pilot undertaken across NSW
  ➢ Sydney Children’s
  ➢ St George
  ➢ Shoalhaven
  ➢ Children’s Hospital at Westmead
  ➢ Murwillumbah
  ➢ Wagga Wagga
Pilot

- Charts used for 1 week period
- Pilot lead in each site
- Focus groups
- Questionnaire
- Data collated and themed (Pilot Group)
- Recommendations made to observation group
Aims of the pilot

- Identify any serious issues in relation to under or oversensitivity of calling criteria.
- Identify usefulness of the parameters included.
- Identify any problems with the clarity of instructions provided on the observation charts.
- Identify issues with the design of the observation chart, including the ability to easily identify the correct chart for the age of the child.
Clinical Emergency Response System – Draft Policy

- All Areas have CERS committee
- Clinical Review
- Rapid Response
- Transfer & Retrieval Network
- Minimum requirements for equipment & support
Rapid Response

• All facilities must have a Rapid Response Protocol
• Rapid Response tailored to local circumstances but must meet minimum standards.
• Rapid Response Teams will be implemented in larger facilities but MPS may develop formal liaison with NSW Ambulance Service.
• Minimum equipment/ skills / competencies for the designated Rapid Response Officer (RRO)
• One RRO per shift, 24 hours per day, 7 days per week
• Clinical Review within 30 minutes
Rapid Response (Paediatrics)

- All of the previous requirements and
- Will incorporate role of NETs
- Working party to modify existing draft policy to meet Paediatric focus
- Development of the standards for who should respond and when.
Education

• Tiered education program
  – Tier 1 **All Clinical Staff** – Awareness of BTF, Calling Criteria, and Escalation protocols, What to do while waiting for help.
  – Tier 2 **All First Line responders** – Home team and ward nurses who will initiate first line treatment and management of deteriorating patients.
  – Tier 3 **Rapid Response Team (RRT) members**, Rapid Response Officer (RRO)- Advanced Life Support and Resuscitation skills.
## Tier 2 – Adult Learning manual

### CHAPERS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
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<tbody>
<tr>
<td>Chapter One</td>
<td>“When to Worry”</td>
</tr>
<tr>
<td>Chapter Two</td>
<td>“I Can’t Breathe”</td>
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<tr>
<td>Chapter Three</td>
<td>“Warm Hands Warm Feet”</td>
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<td>Chapter Four</td>
<td>The Five Causes of Anuria</td>
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<td>Chapter Five</td>
<td>The Confused Patient</td>
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<td>Chapter Six</td>
<td>Communication and Record Keeping</td>
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<tr>
<td>Chapter Seven</td>
<td>Decisions at End of Life &amp; How to Break Bad News</td>
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<tr>
<td>Chapter Eight</td>
<td>Everybody’s Angry &amp; Say Sorry Mate (Open Disclosure)</td>
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<td>Chapter Nine</td>
<td>Airway Resuscitation</td>
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<td>Chapter Ten</td>
<td>Models of Clinical Emergency Response Systems</td>
</tr>
<tr>
<td>Chapter Eleven</td>
<td>Safe Patient Transfer &amp; Intrahospital Transport</td>
</tr>
</tbody>
</table>
Evaluation

• Minimum Standards for data collection
• Key program performance indicators:
  – Process indicators that measure activity
  – Outcomes indicators for effectiveness including Unexpected Deaths and Potentially Preventable Deaths
• Working party – looking at modifying for Paediatrics
• Database (SESIAHS) to be used to collect data
What now???

• Possible launch in June 2010
• Continue developing educational material
• Continue to liaise with Area Health Services
• Keep advocating for Paediatrics at a State and National level