Nurse-led rapid response program for a metropolitan hospital

Western Health

Anna Green
Western Health

• 3 acute hospitals within a 10km radius
  – Total of 710 beds
• Separations for 2008 = 88,215
  – Same day 46,161
  – Multi day 42,054
• 1 intensive care unit for the whole network
  – 10 funded ICU equivalent beds
  – 800-900 ICU admissions / year
ICU Hospital Medical Staff

- Assess post op patients in recovery
- Assess patients in emergency department
- Attend code blue medical emergency calls
- Provide after-hours rapid response service
- Escort service for ventilated patients
- Telephone support service for Williamstown/Sunshine
- Hospital wide CVC service
- Hospital wide TPN service

- And every now and again they find their way back home to ICU
Two Tier Service

• Escalation response using single reportable parameters

• Code blue medical emergencies- for urgent medical attention within 5 mins
Number of ICU follow up visits vs clinical marker visits
Deteriorating Patient Referral

Clinical Marker Referrals

- Clinical Marker Referrals

- Year: 1999 to 2008

- Y-axis: 0 to 500

- Data points showing an increase in referrals from 2002 to 2006, with a peak in 2006 and a decline in 2007 and 2008.
Reason for Deteriorating Patient Referral

- Abdominal
- Cardiac/Haemodynamic
- CNS
- Equipment Troubleshooting
- Fluid and Electrolytes
- Medication Issues
- Pain Management
- Renal
- Respiratory
- Sepsis
Diagnostic Tests Ordered

- FBE
- U&L
- Wound MC&S
- Urine MC&S
- Urinary electrolytes
- Sputum MC&S
- LFTs
- Lactate
- Diastolic level
- CRP
- Cross match
- Clotting profiles
- Cardiac enzymes / Troponin
- Ca/Phos/Mg
- C Diff Toxin
- BSL
- Blood MC&S
- Arterial blood gas
Clinical Markers
ICU Liaison Nurse
Western - #433 Ext: 56588
Sunshine - #501 Ext: 50039

Actions to be considered whilst waiting for assistance

Nurse to consider:
- Give 02
- Sit patient upright
- Assess level of consciousness
- Ascertain BSL
- 12 lead ECG
- Give saline nebs
- Review analgesia
- Review drug charts
- Calculate fluid balance

Doctor to consider:
- Review all observation trends
- CPR status
- IV access
- Fluids
- CXR
- ABG
- Full bloods
- Electrolyte replacement
Percentage of code blue vs medical emergency

- Cardiac arrest
- Medical emergency
Code Blue Medical Emergency Call Outcomes

Percentage of non-survivors

- 2002: 62%
- 2003: 39.5%
- 2004: 48.5%
- 2005: 43.2%
- 2006: 44%
- 2007: 48.8%
- 2008: 42.5%
Summary of Unplanned ICU Admissions
# Retrieval service from ward care to intensive care

<table>
<thead>
<tr>
<th>Ward</th>
<th>Transition</th>
<th>ICU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient not improving</td>
<td>X amount of time</td>
<td>Within 1 hour</td>
</tr>
<tr>
<td>ICU transfer required</td>
<td>Within 1 hour</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Transfer complete</td>
<td>LN service unavailable for referrals</td>
<td>30 minutes</td>
</tr>
</tbody>
</table>

- **Patient not improving:** X amount of time
- **ICU transfer required:** Within 1 hour
- **Transfer complete:** LN service unavailable for referrals
- **ICU:** 30 minutes
Conclusion

• Continue to add improvement to your rapid response system
• “Steal with Pride”
• Use clinical leaders to drive the change
• Feedback loop
• Results occur over time
• Don’t wait, just start with one small initiative