What matters to me...

1. I like having my bed in hospital because I can't get out of bed.
2. It matters that I need some help to do the toilet.
3. When I am tired I play with my toys.
4. But I have my daily meal which I enjoy.
5. I don't want to be here.
Why children die: avoidable factors associated with child deaths

G A Pearson,1 M Ward-Platt,2 A Harnden,3 D Kelly1

The most significant recurrent avoidable factor between cases was a failure to recognise severe illness in children.
They reported identifiable failures in a child’s direct care in just over a quarter of deaths, and potentially avoidable factors in a further 43% of deaths\textsuperscript{14}. 
CHILDREN UNDER FIVE ARE TWICE AS LIKELY TO DIE IN THE UK THAN IN SWEDEN
Why do young children die in the UK? A comparison with Sweden

Parag Tambe, Helen M Sammons, Imti Choonara

What is already known

- The UK has a high child mortality rate, whereas Sweden has a low child mortality rate.
- Prematurity is the major cause of death in children aged <5 years.
- Socioeconomic inequalities contribute to child mortality and prematurity.
Why do young children die in the UK? A comparison with Sweden

Parag Tambe, Helen M Sammons, Imti Choonara

What this study adds

► The mortality rates for infections in children aged <5 years were significantly higher in the UK than in Sweden.
► The majority of these infections are treatable.
► Research should focus on service delivery and access rather than new medicines.
Improving Situation Awareness to Reduce Unrecognized Clinical Deterioration and Serious Safety Events
Pediatrics 2013;131;e298; originally published online December 10, 2012;
DOI: 10.1542/peds.2012-1364

http://www.scottishpatientsafetyprogramme.scot.nhs.uk/programmes/mcqic/pediatric-care
“Patients don’t suddenly deteriorate, healthcare staff suddenly notice”
in each case: (1) family concern about patient safety, (2) high-risk therapies including unfamiliar therapies on the unit (e.g., insulin use outside of the diabetes unit), (3) elevated PEWS of ≥5, (4) watcher or a patient where a clinician had a “gut feeling” that the patient was at risk for deterioration or “close to the edge,” and (5) communication concern that may impact patient safety.
“...as the hardware and software have become increasingly reliable, the human contribution to accidents has become ever more apparent”
“...as the hardware and software have become increasingly reliable, the human contribution to accidents has become ever more apparent”

Improve situational awareness:

‘What?’
‘So what?’
‘Now what?’
<table>
<thead>
<tr>
<th>Identify</th>
<th>Ward Bedside huddles</th>
<th>Nurse  Doctor Parent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigate</td>
<td>Ward Safety Huddle</td>
<td>Nurses, Doctors, Allied professionals PEWS, Watchers, family or communication concern</td>
</tr>
<tr>
<td>Escalate</td>
<td>Leaders Daily Safety Brief</td>
<td>Overview of events of harm and risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
‘The Score Matters’: wide variations in predictive performance of 18 paediatric track and trigger systems

Susan M Chapman,¹,²,³ Jo Wray,²,⁴ Kate Oulton,²,⁴ Christina Pagel,⁵,⁶ Samiran Ray,⁶,⁷ Mark J Peters⁶,⁷

At the optimal score, scoring systems demonstrated poorer sensitivity, but superior specificity than trigger systems, which may reduce false alerts and build clinician confidence. Lowering the scoring thresholds improves sensitivity, creating additional opportunities to intervene and potentially improve outcome.³⁴
### PEWS and Level of Escalation

<table>
<thead>
<tr>
<th>PEWS</th>
<th>Level of Escalation</th>
<th>Action to be Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>Do not decrease frequency until at least 3 consecutive scores of 0. Children can score 0 even when sick. Escalate to Level 2 response if concerned despite a low score.</td>
</tr>
<tr>
<td>1-2</td>
<td>1</td>
<td>Treat as prescribed. Repeat observations in 60 mins. Escalate to level 2 if not responding.</td>
</tr>
<tr>
<td>3-5 or any in red zone</td>
<td>2</td>
<td>Review within 15 mins. Treat as prescribed. Repeat Observations in 30 mins or continuous monitoring. If not responding level 3 escalation.</td>
</tr>
<tr>
<td>6 or more</td>
<td>3</td>
<td>Level 3 review immediately. Consider 2222 if unable to review immediately.</td>
</tr>
</tbody>
</table>

**Bradycardia, cardiac or respiratory arrest**

Call 2222. Paediatric Emergency

---

**Concerns include, but are not restricted to:**
- gut feeling
- looks unwell
- apnoea
- airway threat
- increased work of breathing,
- significant ↑ in O2 requirement
- Poor perfusion / blue / mottled / cool peripheries
- seizures
- confusion / irritability / altered behaviour
- hypoglycaemia
- high pain score despite appropriate analgesia
If observations are as expected for patient’s clinical condition, please note below accepted parameters for future calls

<table>
<thead>
<tr>
<th>Acceptable parameters</th>
<th>RR</th>
<th>O₂ saturation</th>
<th>HR</th>
<th>BP</th>
<th>Temperature °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper acceptable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal range</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower acceptable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctor’s signature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Date &amp; Time</td>
</tr>
<tr>
<td>Staff or Carer Concerns</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Staff = S, Carer = C, None = N)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEWS</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initials</td>
<td>ABC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time of medical review if score elevated</td>
<td>08.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Regular in-situ simulation training of paediatric Medical Emergency Team leads to sustained improvements in hospital response to deteriorating patients, improved outcomes in intensive care and financial savings

Ulf Theilen a,b,*, Laura Fraser a, Patricia Jones b, Paul Leonard a, Dave Simpson a

a Royal Hospital for Sick Children, Edinburgh, 1 Sciennes Road, EH9 1LF, United Kingdom
b University of Edinburgh, Child Life and Health, Edinburgh, 20 Sylvan Place, EH9 1UW, United Kingdom
Interestingly, “subjective” staff concerns were, in contrast to “objective” physiological breach criteria, significantly more often the trigger for escalation in the third year. This suggests that lessons learnt by more senior staff during team training were increasingly adopted by more junior ward staff, following observed positive responses to earlier advanced escalation, reinforcing this shifting culture within our institution.
What can PEWS do?
PEWS action

- Monitoring
- Inform nurse in charge
- Inform nurse in charge & Doctor
- Inform nurse in charge & Senior Doctor
- Consider 2222 (crash call)

NHS Scotland
Healthcare Improvement Scotland
Watchers

Think About Your Watchers...

Cause you concern:
- Elevated PEWS, gut feeling, social concerns, child protection.

Are at risk of rapid deterioration:
- Apnoeas, compromised airway, not usual pattern of illness.

Receiving complex treatment:
- High risk infusions, treatment not usually done in your area.

Elevated risk to self or others:
- Reduced CNS, absconder risk, challenging behaviour.

..take them to the Huddle

NHS Grampian

NHS Scotland

Healthcare Improvement Scotland
SBAR

Safety Briefs & Hospital Huddles
Questions?

- Ask Neil if you wish an erudite, flowery answer
  - neil.spenceley@nhs.net

- Ask Lesley if you wish a sensible, more accurate answer
  - lesley.macfarlane@nhs.net
The Huddle

- Bed state & prediction
- Staff state & prediction
- Organisation safety threats
- High PEWS/watchers; child protection, CAMHS absconsion
- Mitigation plan in place?

NHS SCOTLAND  Healthcare Improvement Scotland
Why children die: avoidable factors associated with child deaths

G A Pearson,¹ M Ward-Platt,² A Harnden,³ D Kelly¹

The most significant recurrent avoidable factor between cases was a failure to recognise severe illness in children. This most often occurred at the point of first contact between the sick (and often febrile) child and the healthcare services. In some instances, there was a failure to understand the importance of the history, in others a failure to examine the patient or interpret physical signs correctly. There were also failures in anticipating or recognising complications of illness and failures in clinical supervision. In some cases, the impact was immediate, in others there resulted a critical delay in referral or treatment.
Why children die: death in infants, children and young people in the UK
Part A
May 2014
2000 excess deaths <19yo per year in UK compared with Sweden
The first method has been done to notable effect by the Confidential Enquiry into Maternal and Child Health in England, which conducted a meticulous audit into the deaths of a representative sample of children. They reported identifiable failures in a child’s direct care in just over a quarter of deaths, and potentially avoidable factors in a further 43% of deaths\(^\text{14}\). An audit of asthma deaths is due to report soon. From an epidemiological perspective, this type of evidence does not demonstrate causality. However, from a clinical perspective it provides useful information, pointing out where to investigate further in our attempts to improve care. From a parental perspective, it is alarming and demands attention and indeed in the past decade, and especially since the Bristol Royal Infirmary Enquiry in 2001, there has been a welcome degree of scrutiny into the quality of care for children\(^\text{23}\). There is now a systematic multiagency process for gathering data after every childhood death, known as a Child Death Review (CDR), which attempts comprehensively to gather information on potentially avoidable factors in order to make recommendations on changes in practice.