PEWS in Practice: A Prospective Evaluation within an Acute Children’s Ward

Linda Ennis, MSc, RGN, RCN,
Clinical Nurse Manager 3, Waterford Regional Hospital

ABSTRACT

TITLE: PEWS in Practice: A Prospective Evaluation within an Acute Children’s Ward.

BACKGROUND: Recurring themes identified in relation to deteriorating hospitalised patients and subsequent adverse patient outcomes include a failure to monitor patient status, a failure to recognise deterioration, a failure to communicate concerns, clinical staff reluctance to respond effectively (NICE 2007; NPSA 2009).

OBJECTIVE: To implement a paediatric early warning score (PEWS) system in an acute children’s ward and evaluate the clinical utility and effectiveness of this system, when incorporated as part of routine nursing observation and multidisciplinary team communication processes.

METHODS: A prospective observational study was undertaken as part of a quality improvement, action research project within an acute children’s ward in a Regional Hospital, in Ireland.

RESULTS: 96% of children had rapid medical review subsequent to a PEWS alert (i.e. PEWS ≥ 3). There were 72 PEWS alerts (i.e. PEWS ≥ 3), the majority of which were for children less than five years of age (93%).

- 97% of children with a PEWS ≥ 3 had a respiratory condition and, with bronchitis being the most common diagnosis.

PEWS SYSTEM KEYS POINTS

- A bedside score generated from 7 routinely recorded clinical observations.
- Quick and easily calculated a set of observations.
- Recorded in New app-specific Paediatric Observation and PEWS Charts.
- Tracks changes in a hospitalised child’s condition – aims to enable earlier recognition of change in physiologic status.
- Aims to prompt immediate action.
- Triggers a rapid response to deterioration, to facilitate appropriate and timely management.
- In a busy acute children’s ward, the PEWS system can empower healthcare staff to anticipate, effectively articulate and pursue concerns when a child’s clinical status is deteriorating.

CONCLUSIONS: In a busy acute children’s ward, the PEWS system evaluated appears to effectively facilitate processes of early detection, prompt referral and timely management of children at potential risk of clinical deterioration.

RESULTS

- 97% (14 of 15) children had an additional medical intervention subsequent to a fast PEWS alert review.
- 82% (9 of 11) of all PEWS alerts resulted in a specific intervention/change to treatment plan.
- 12 of 13 medical responses of “continue to monitor” were on children with an earlier PEWS review and intervention.

PEWS EXCITATION PLAN

A prospective observational study:

- Setting: 50 bed acute inpatient children’s ward
- Children with PEWS ≥ 3 were followed through until discharge
- All existing routinely monitored clinical observations were continued.
- Data Collection: Data collected from patient documentation (i.e. observation charts and nursing medico-record), on all children who obtained a trigger PEWS ≥ 3 or > 18 week period, between 23rd January 2012 and 25th May 2012.
- Data collection was limited to the researcher and one associate, using a specific data collection template.
- Data Analysis: Quantitative analysis was limited to simple descriptive statistics.
- Ethics: Advice sought from HSE Regional Research Ethics Committee and ethical issues and practices considered throughout.

IMPLICATIONS FOR PRACTICE

- This adapted NHSE PEWS is quick and easy to calculate and enables easy visualisation of the child’s status and observed deterioration.
- This PEWS tool and trigger system can support effective processes of monitoring, detecting, reporting and rapid response to a change in a hospitalised child’s clinical status.
- The PEWS system can empower healthcare staff to anticipate, effectively articulate and pursue concerns when a child is not responding to planned treatment or there is a concern that the child’s clinical status is deteriorating.
- Recommendation: This or a similar PEWS system should be incorporated into routine nursing observation processes and communicated in all acute children’s wards.

PEDIATRIC PATIENT SAFETY INITIATIVE 2011/2012: Early Detection and Early Response to Deteriorating Paediatric Patients.

1. Early detection and implementation of a paediatric early warning score (PEWS) and trigger and track system.

2. To create an environment and cultures where safe, effective, child-centred care was embraced collaboratively by the multidisciplinary team.

3. Development and implementation of a paediatric early warning score (PEWS) and trigger and track system.

4. Data Analysis

- APEWS ≥ 3 – indicated need for early response to deteriorating paediatric patients and empower staff to anticipate, effectively articulate and pursue concerns when a child’s clinical status is deteriorating.
- Evaluation of rapid medical review processes.

- 97% of children with a PEWS ≥ 3 (no/54) had a respiratory condition on admission, with bronchitis being the most common diagnosis.

RESULTS

- 97% of children with a PEWS ≥ 3 (no/54) had a respiratory condition on admission, with bronchitis being the most common diagnosis.

CONCLUSIONS:

- For children with a PEWS ≥ 3, the probability of additional medical intervention or change to treatment being required following a PEWS medical review was 97%. This high positive predictive value demonstrates the clinical utility and clinical impact of the PEWS system evaluated, when incorporated as part of routine nursing observation and multidisciplinary team communication processes in this practice setting. However, the two occasions noted, where children with a PEWS ≥ 3 required rapid medical review interventions, serve to highlight the limitations of a specific trigger PEWS.

- The consensus, rapid response to a PEWS alert was considered one of the key benefits of the PEWS system implemented. All nursing referrals or ≥ 6% of all PEWS ≥ 3 triggered medical reviews and subsequent medical management were undertaken within pre-agreed rapid response times, which aimed to support timely communications with senior clinicians, pro-active management and more effective care provision.

REFERENCES:


