Should the National Early Warning Score be adopted throughout the NHS?

Clinical Guideline 50: 'Acutely ill patients in hospital' (National Institute for Health and Clinical Excellence, 2007) recommended that an early warning system be used to monitor all adult patients in the acute hospital setting. A variety of early warning systems have been used within hospitals to identify patients at risk of deterioration and facilitate timely involvement of appropriately trained staff. Reviews by the National Confidential Enquiry into Patient Outcome and Death (2012) and National Patient Safety Agency (2007) identified ongoing failures of early identification of the deteriorating patient. This was partly attributed to the varying types of early warning system used by hospitals. Furthermore, a systematic review (Gao et al, 2007) looking at 25 distinct early warning systems found little evidence of reliability, validity or utility and the available data were insufficient to identify the best early warning system.

The National Early Warning Score

In 2012 a task force set up by the Royal College of Physicians (2012) introduced the National Early Warning Score in an attempt to standardize the detection and early escalation of the deteriorating adult patient throughout the NHS. The National Early Warning Score is a patient track and trigger system with six physiological parameters each allocated a score. The aggregate score classifies patients according to their risk of deterioration (low, medium or high) and guides appropriate clinical response.

Advantages

The main advantage of the National Early Warning Score is its ability to provide a standard early warning system throughout the NHS. The benefits would be increased staff familiarity with the system regardless of their base hospital, easier staff education and training, improved auditing of performance and the opportunity for further research into early warning systems. The advantages of score simplicity and familiarity with the scoring system (facilitated by a national standard) cannot be overemphasized. Simple scores are more reliable, less prone to human calculation errors and have increased reproducibility. In view of these advantages, introduction of a standardized early warning system will ultimately improve patient safety.

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Disadvantages

In addition to the minimum standard for physiological monitoring (National Institute for Health and Clinical Excellence, 2007), the National Early Warning Score allocates two additional points for supplemental oxygen. Thus routine prescription of oxygen for postoperative patients could potentially trigger the system inappropriately, wasting valuable time and resources.

Alternative trigger thresholds for specific patients (variance forms) have been introduced in some hospitals to address this issue. Unfortunately the National Early Warning Score does not differentiate between patients needing 24% or 98% oxygen. Perhaps a surrogate for the fraction of inspired oxygen (FiO_2):partial pressure oxygen (PaO_2) ratio would be more appropriate? This has been incorporated into a newly designed obstetric early warning system (Carle et al, 2013) using the parameter 'FiO_2 required to maintain oxygen saturations ≥96%'.

The National Early Warning Score has also been criticized for not including urine output as a parameter. However, after reviewing the literature, the National Institute for Health and Clinical Excellence (2007) did not include urine output as a core parameter for an early warning score as urine output is so often poorly recorded.

The design of the National Early Warning Score chart has been criticized – while it is easy to ascertain which trigger threshold a parameter is in, the actual value is sometimes difficult to establish.

Conclusions

The main threat to the Royal College of Physicians' attempt to standardize an early warning system within the NHS will be if hospitals do not overcome their individual concerns and do not adopt the National Early Warning Score. Without widespread adoption of the National Early Warning Score, the 'greater good' effects will not be realized. The authors feel that the potential benefits of a national system greatly outweigh the relatively minor and easily overcome disadvantages and urge all hospitals to embrace the National Early Warning Score. Ultimately patient safety will be improved by widespread adoption of the National Early Warning Score. BJHM

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