Nursing recognition and response to signs of clinical deterioration

Desiree Tait reviews the literature that explores how nurses identify and react to patients who show signs of decline.

**Summary**

The suboptimal assessment of patients for signs of clinical deterioration and the subsequent response has led to the development of national guidelines and tools for tracking and responding to these situations. Such tools can provide guidance but ultimately the clinical skill, decision making and collaboration of professional practitioners determine optimal care. The use of track-and-trigger tools is insufficient to provide optimal care due to the many factors that affect patient journeys. The clinical knowledge and skill of nurses are important to this process and in achieving safe patient care. This article focuses on the clinical implications of the knowledge and experience of nurses, as well as their role in team working when recognising and responding to clinical deterioration.

**Keywords**

Clinical deterioration, optimal care, nurses, track-and-trigger tools

INADEQUATE OR suboptimal care, resulting in the admission of acutely ill patients to critical care units, was identified more than a decade ago as being avoidable in many cases (Audit Commission 1999). The issue of suboptimal care and clinical deterioration has also been recognised as a problem on an international scale since 1995 (McQuillan et al 1998, McGloin et al 1999, Hillman et al 2001).

Solutions, such as the use of physiological track-and-trigger tools to measure patient risk of deterioration, have been implemented as part of a graduated response to changes in clinical condition (Subbe et al 2003). Rapid-response or outreach teams have been set up in the NHS to support this response and care bundles have been implemented as part of a strategy for reducing the incidence of suboptimal care and promoting greater patient safety by, for example, preventing and managing sepsis. Nursing skill mix has been reviewed, and tools to measure patient dependency have been developed.

These interventions have been supported by the National Institute for Health and Clinical Excellence (NICE 2007), National Patient Safety Agency (NPSA 2007a, 2007b) and the Institute for Healthcare Improvement (2010).

The use of physiological track-and-trigger tools and critical care outreach services were recommended by NICE (2007). However, there was insufficient evidence of their sensitivity to changes in clinical condition and therefore their reliability in helping to improve outcome (Esmonde et al 2006, Gao et al 2007, Winters et al 2007).

The outcome measures used to evaluate the effectiveness of such tools include patient mortality and morbidity, length of stay in hospital and admission to intensive care. However, patient outcome depends on a range of biological, psychological and social factors, making it almost impossible to demonstrate any direct link between outcome and the use of track-and-trigger tools.

**Primary professionals**

Research exploring the factors that lead to suboptimal care identifies nurses as the primary professionals involved in the assessment and documentation of deteriorating clinical state and in responding to these changes (Goldhill et al 1999a, 1999b). However, there appears to have been little evaluation of the relationship between nursing activities and clinically effective patient care.

Organisational, professional and interprofessional issues are often cited as factors that influence the process of responding to clinical deterioration, but there has been limited description of the complexity of recognising and responding to clinical deterioration from the nurse perspective (McQuillan et al 1998, Hodgetts et al 2002a, 2002b). Research that has analysed the role of nurses after recognition of suboptimal care has focused on three areas.

**Nurse role** The first area is the role of nurses in the use of physiological track-and-trigger tools (Cioffi 2000a, 2000b, Minick and Harvey 2003). Research
has found that risk-assessment tools leave nurses uncertain about the criteria that would warrant calling medical emergency teams.

Experienced nurses with several years of clinical experience in their specialist field often report feeling concern for patients (Minick and Harvey 2003), but this is not reflected by the numerical scores obtained from the risk-assessment tools. Some junior nurses thought that the tools’ scores gave them reason for calling emergency teams, but were also concerned about appearing foolish if their concerns were unfounded (Cioffi 2000a, 2000b, Andrews and Waterman 2005).


These studies found that nurses in acute wards experienced high levels of stress associated with lack of control, work pressures and difficulties in providing support and follow up for patients and relatives.

Chellel et al (2006) found that 12 per cent of patients on general wards studied were at level 1 and above. Level 1 refers to patients who have been have moved recently from higher levels of care or whose needs can be met on acute wards but with additional support from critical care outreach teams. Level 2 patients are those needing additional support for single-organ failure or who require oxygen therapy of 50 per cent or above or invasive monitoring.

Nurses described feeling that they had let their patients down because they had to divide their time between high-dependency patients and the other, less dependent, patients. Even when nurses had the knowledge and skills to manage high-dependency patients, they felt unable to do so fully. This was because of conflicting demands on their time and sometimes a lack of trust from other professional groups due to the reluctance of some nurses to use medical language and concern about having their clinical credibility undermined (Snelgrove and Hughes 2002).


The research approach in most studies is qualitative, making them difficult to use as a basis for extrapolation. However, a significant finding in all the studies had been that nurses were alerted to deteriorating clinical condition because they perceived that something was wrong. This appeared to be linked to having experience in the specialty and knowing the patients concerned, which enabled nurses to recognise subtle changes in behaviour or clinical signs, and to identify deviations from normal courses of recovery.

This perception is the main reason why nurses report being concerned about patients and is cited as being more important than the measurement of vital signs.

In a study I undertook as part of my thesis (Tait 2009) (see box, page 33), I observed that this ability to detect subtle changes in patients’ condition was part of a nurse’s ‘professional gaze’. The concept of the clinical gaze was first described by Foucault (1973) in his analysis of the clinic and the growth of medicine as an objective observation of the body and disease. My interpretation of the nurse gaze focuses on nurses’
experience of clinical work when assessing and managing patient care.

Knowledge and practice
The clinical implications of the professional gaze are discussed in the context of the knowledge and experience of nurses and team working. The relationship between knowledge and experience of clinical situations and the participants having a sense of control over situations are significant.

In my research, I found that, when nurses have theoretical and experiential knowledge of events similar to current situations they are involved in, they respond intuitively and use pattern recognition to react quickly to dynamic clinical situations. Nurses also told me of their desire to learn and update their practice to maintain control, and recognised when this was lacking in others.

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The findings were interpreted in the context of available evidence and policy up to 2009. I analysed the data guided by Gadamer’s (1989) hermeneutics of question and answer, and identified a cyclical process of scanning, perception, interpretation and action, which I described as ‘the professional gaze and the conditions necessary for optimal practice of engaging in scanning, selective perception, recognition, diagnosis of and response to clinical deterioration’.

From the nursing perspective, the professional gaze involves more than the purely objective measures of recognising and responding to cues. It also includes the processes that nurses use to function in the social and organisational environment of practice to achieve good outcomes for patients.

The ‘professional gaze’

Commencing in 2004, I began a hermeneutic study of nurses’ experiences of caring for patients with clinical deterioration. The data analysed included a historical review of the literature, analysis of my understanding of practice as a nurse and eight interviews with nurses who had cared for patients with clinical deterioration.

The ‘professional gaze’ of the nurses in my study appeared to be a cyclic and continuous process of perceiving and responding to clinical deterioration. The process involved the ‘professional scan’ when nurses would survey their clinical arenas, and to monitor patients for visual signs of change.

Once alerted to change, they observed patients in more detail in a way that I termed ‘focused observation’. Nurses would observe patient situations, assess their reactions to these and interpret events using visual signs, clinical observations, investigations, knowledge of patients and patterns of illness learnt through the experience of applying theory and knowledge in previous situations.

The final element in the process involved ‘waiting and balancing’, with nurses weighing up evidence and deciding when to call for help. This was influenced by nurses’ ability to demonstrate confidence in their knowledge of situations and the strength of evidence of clinical deterioration, balanced with managing situations with the resources available.

The idea of the ‘clinical gaze’ or ‘professional gaze’ is not new and was first described by Foucault (1973) as the process through which doctors demonstrate the diagnosis of disease as an objective, measurable, systematic and scientific process.

‘Clinical gaze’ has been developed as a framework for nursing practice, and in the assessment and observation of acute psychiatric patients (Ellefsen et al 2007, Hamilton and Manias 2007).

For example, the process of scanning and risk assessment suggests that experienced nurses use constant vigilance to monitor clinical situations, as well as undertaking structured assessments of patients’ conditions.

This was first described by Florence Nightingale in her notes on ‘what nursing is and what it is not’ (Nightingale 1860).

She argues that it is nurses’ responsibility to recognise and consider the cause of change in patients’ conditions in order to save life and promote health (Tait 2009).
Experienced nurses often report feeling concern for patients, but this is not reflected by risk-assessment scores

knowledge and nursing experience, appears to fail to predict the onset of clinical deterioration (Gao et al 2007).

The scores can, however, alert nurses to signs that there is already clinical deterioration, but this depends on the validity and sensitivity of the risk-assessment tools used (Gao et al 2007).

The clinical implications of this should inform how nurses are educated and prepared for their clinical roles, taking into account the theoretical and practice-based knowledge necessary for effective practice.

Pre- and post-registration education should focus on helping students to develop core skills in clinical decision making, prioritising and communicating information clearly and efficiently (Nursing and Midwifery Council 2009). This should go beyond simple assessment skills and, in addition, focus on the knowledge, skills and experience required to perform in-depth clinical assessment and diagnosis of problems, effective communication about the issues and subsequent evaluation of outcome (Scholes 2006).

Practice areas The question of whether or not nurses should be moved outside their areas of specialty is an issue that requires further consideration. Two questions need to be considered:

- Are the specialist skills and knowledge of nurses in one field transferable to another area, in that they will enable nurses to recognise and respond to clinical deterioration outside their specialism?
- Will specialist skill and knowledge be relevant to the care of patients who are being nursed in areas in which staff do not have the specialist skills relevant to their presenting conditions? For example, is it safe practice to place a patient with an acute episode of a chronic respiratory problem on a specialist eye ward?

McGlin et al (1999), in a study of 139 cardiac arrests, found that patients’ chances of having an avoidable cardiac arrest increased by a factor of 12 when they were nursed outside the areas specialising in their conditions.

Teamwork In the context of team working, my study found evidence to suggest that, when nurses have relevant knowledge and experience, they feel in control of clinical situations and demonstrate compassion, competence, confidence and commitment to patients.

When nurses are involved in situations where patients have deteriorated, these aspects of their role enable them to assess patients’ conditions and communicate effectively with other professional groups to achieve the desired goals (Manse 2007). Their ability to demonstrate knowledge and

References


Goldhill D, White S, Summer A (1999a) Physiological values and procedures in the 24h before ICU admission from the ward. Anaesthesia. 54, 6, 529-534.


competence also improves both teamwork and patient outcome (Makowsky et al 2009, Manser 2009).

A failure by doctors to perceive, understand or accept the source of nurses’ clinical and professional knowledge impedes the process of assisting patients. Such failure may involve situations when nurses are not believed or their concerns are not accepted as valid reasons to visit patients. Such situations can result in conflict between professional groups as they attempt to work towards positive outcomes. It highlights that traditional barriers associated with gender, hierarchy and the balance of power between doctors and nurses continue to influence communication and teamwork (Snelgrove and Hughes 2002, Stein-Parbury and Liaschenko 2007).

The key to obtaining successful outcomes for patients in such situations is to foster good working relations between nurses and medical teams. This includes encouraging the development of mutual trust, empathy and professional accountability by offering opportunities for interprofessional education before and after registration.

Conclusion

There is evidence that the use of physiological track-and-trigger tools offer opportunities to standardise practice in acute care, with the potential to improve patient outcome. However, the efficiency of these tools has yet to be demonstrated with consistency, and this may be because of the complexity of the factors involved.

Several studies have found that experienced nurses use track and trigger as a secondary tool, putting their primary focus on scanning, recognising and responding to patients’ clinical conditions and how concerned they are.

The process of recognising and responding to clinical deterioration is complex, and involves many factors. Recording and responding to physiological data is one. This needs to be viewed in context and, in particular, take account of the knowledge, experience and skill of both nurses and medical teams.

The advantages of nurses having advanced knowledge and skills when caring for patients may be lost if the continued development of collegiate relationships is not fostered through interprofessional working and learning, and by breaking down professional barriers to interprofessional teamwork.

Implications for practice

- The use of physiological track-and-trigger tools, without the input of clinical knowledge and nursing experience, may fail to predict the onset of clinical deterioration.
- Nurses should be encouraged to develop advanced clinical assessment skills, communication skills and related experience as part of their pre- and postgraduate education.
- Opportunities for interprofessional education and training can enhance multidisciplinary team working.


Nursing and Midwifery Council (2009) Standards for Pre-registration Nursing Education: Draft for Consultation, NMC, London.


