Clinical trigger questions were successfully introduced by an NHS health board with the aim of improving the detection of patients whose health was deteriorating.

Ward nurses’ perceptions of clinical trigger questions

In this article...

- Explanation of clinical trigger questions
- Nurses’ views on the effectiveness of clinical trigger questions
- Possible uses of trigger questions in healthcare

Authors
Martin Carberry is nurse consultant for critical care; Pauline Clements is hospital emergency care team (HECT) senior charge nurse; Elaine Headley is a HECT senior charge nurse, all at NHS Lanarkshire.

Abstract

Aim This service evaluation was conducted in three acute hospitals to ascertain ward nurses’ thoughts on clinical trigger questions used to identify sick patients.

Method
Trigger questions were added to early warning scoring systems to help nurses identify and hand over sick patients. After the questions were introduced, all nurses (n = 633) working in acute wards of three district general hospitals were sent an anonymous questionnaire. Analysis was completed using descriptive statistics.

Results
The response rate was 61.4% (n = 389). Most (56.9%) respondents thought the questions changed their perception of what makes a patient at risk of deterioration, 85.7% thought they helped identify sick patients and 87.5% thought they improved referral.

Conclusion
Nurses felt clinical trigger questions helped them identify ill patients. Such questions could be used as a clinical framework for escalation and referral, and to support ward staff in identifying patients whose health is deteriorating.

5 key points

1. Clinical trigger questions can help ward-based staff to identify patients who are at risk of deterioration
2. Trigger questions may also improve communication as they give staff evidence they need to escalate concerns
3. There are concerns that the use of specialist nurses may result in ward-based nurses becoming deskilled
4. Further research is needed to see whether trigger questions could be helpful in other acute areas, such as accident and emergency
5. The questions help all staff, from students to experienced nurses, learn what puts patients at risk of deterioration

In an attempt to assist nurses in identifying and handing over sick patients, trigger questions were introduced to NHS Lanarkshire’s three acute hospital sites (683 acute beds) after consultation with clinicians and management. Clinical teaching sessions were held for ward-based staff and support included clinical briefings at senior charge nurse forums and senior nurse and management team meetings.

The trigger questions were tested with a small group of registered nurses in one acute ward on each hospital site before a formal pilot was launched. The nurses were asked if the trigger questions were clear, unambiguous and easy to understand. The final version of the questions was then piloted on one site for two weeks.

The questions were designed to be used with the medical early warning system (MEWS); a positive answer to any question resulted in a review by a hospital emergency care team (HECT) nurse. The HECT nurse would then decide whether the patient needed clinical intervention, further review, referral or adding to the HECT caseload.

The four trigger questions are:

- Do you have any patients with a high or increased frequency of MEWS?
- Are any patients on high-flow oxygen (>40%)?
- Are any of your patients on fast fluids, blood products or continuous drug infusions?
- Have any of your patients required medical review outside of normal ward round review?

Aims
This service evaluation aimed to find out nurses’ views on using clinical trigger questions.
questions to help identify, refer and hand over patients with deteriorating health. This included the following research questions:

» Have the trigger questions changed your perception of what makes a patient at risk of deterioration?
» Do the clinical trigger questions improve referral of deteriorating patients to HECT?
» Do the clinical trigger questions help identify deteriorating patients?
» Are the clinical trigger questions useful in helping student nurses identify sick patients?

Method
We used the opinions of the nurses (n = 633) working on the acute hospital wards in the three hospitals. Participants were sent an anonymous questionnaire followed by a reminder letter (after three weeks); questionnaires were collected at six weeks. As the survey was to evaluate practice, no permission or ethics approval was needed.

Areas not using trigger questions and excluded from the HECT caseload, such as intensive care and accident and emergency, were not included. HECT nurses do not work in these areas as such patients have been deemed sick after assessment and triage. The trigger questions would have to be tested further to discover if they can be used in other acute areas. Nurses on permanent night duty were also excluded as the questions had not been fully extended to nights. Those who had previously commented on the questions during the pilots were excluded to reduce potential bias.

We found no evidence in the literature of current tools or questions used in similar studies. The questions were developed from a pre-pilot questionnaire given to advanced practitioners, a nurse consultant in critical care and a consultant in intensive care medicine. Nurses with high and low levels of experience were asked how appropriate they felt the responses were in relation to length of experience, a process known as group techniques (Polit et al, 2001).

Results
Overall, 61.4% (n = 389) questionnaires were completed. Nearly all (99%) respondents were aware of the trigger-question initiative and 81% could recall all four questions (Table 1).

Discussion
Following this initiative, there has been an increase in the number of referrals and calls to the HECT nurses (Fig 1).

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes % (n)</th>
<th>No % (n)</th>
<th>Not stated % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you aware of the HECT trigger questions?</td>
<td>99.0 (385)</td>
<td>1.0 (4)</td>
<td>0.0 (0)</td>
</tr>
<tr>
<td>Can you recall all four trigger questions?</td>
<td>81.0 (315)</td>
<td>15.4 (60)</td>
<td>2.6 (10)</td>
</tr>
<tr>
<td>Did the trigger questions change your perception of what makes a patient at risk of deterioration?</td>
<td>56.3 (219)</td>
<td>41.6 (162)</td>
<td>1.0 (4)</td>
</tr>
<tr>
<td>Do you think the trigger questions improve the identification of sick patients?</td>
<td>84.8 (330)</td>
<td>13.4 (52)</td>
<td>0.8 (3)</td>
</tr>
<tr>
<td>Do you think the trigger questions improve referral of sick patients to HECT?</td>
<td>86.6 (337)</td>
<td>11.8 (46)</td>
<td>0.5 (3)</td>
</tr>
<tr>
<td>Are trigger questions useful in helping student nurses recognise sick patients?</td>
<td>95.1 (370)</td>
<td>3.3 (13)</td>
<td>0.5 (2)</td>
</tr>
</tbody>
</table>

Fig 1. Assessments by HECT nurses in hospital 3

Have the trigger questions changed your perception of what makes a patient at risk of deterioration?
More than half (56.3%, n = 219) of respondents said the trigger questions changed their perception of what makes a patient at risk of deterioration. Most (69.7%) had more than six years’ experience, with only 6.9% having two years or less; less-experienced staff said the trigger questions changed their perception of what makes a patient at risk, as did 53.7% of those with more than six years’ experience.
More experience and exposure to sick patients could increase nurses’ awareness and perception of what makes their patients at risk of deterioration. However, this does not appear to be the case as experienced nurses in our evaluation found the trigger questions to be a valuable tool to identify patients at risk (Fig 2). More importantly, despite their experience, staff may have used the questions to analyse the rationale for patients deteriorating.

There could be several reasons for this unexpected change in perception among experienced staff. It could be due, in part, to increasing demands on nurses’ time and potentially fewer staff in acute ward areas (Gravlin and Bittner, 2010). The pressure of meeting targets – for example, waiting time initiatives (The Scottish Government, 2003) and the Scottish Patient Safety Programme – may result in less clinical time...
being spent providing hands-on care and less exposure to sick patients. The introduction of outreach services (Department of Health, 2000), such as the HECT nurses, may also have deskilled ward-based nursing staff by dealing with acute patient deterioration.

Thompson et al (2001) argued that introducing specialist nursing roles would “inevitably” result in ward staff being deskilled. However, Endacott et al (2009) put forward a counterargument that, within the context of critical-care outreach, the educational component of the role improves confidence and critical-care skills. Support workers carrying out patient observations may also contribute to nurses becoming deskilled. There needs to be a close working team with clear lines of communication, especially for staff members carrying out patient observations (National Institute for Health and Clinical Excellence, 2007).

With this in mind and following the findings of this evaluation, the HECT developed a Clinical Support Workers Recognition Assessment Support and Help (CRASH) course. This was introduced to support those doing patient observations, specifically improving skills in identifying sick patients and escalating concerns.

Do the clinical trigger questions improve referral of deteriorating patients to HECT?

Most respondents (86.6%) said the trigger questions improved referral of sick patients (Table 1). This may be because the questions act as a structured communication tool, for example by giving specific clinical rationale for escalating to HECT, such as increasing oxygen requirements, fluid boluses and unplanned medical review.

Breakdowns in communication and failure to escalate patients with deteriorating health has been highlighted in the literature as concerning (National Confidential Enquiry into Patient Outcome and Death, 2012; NICE, 2007; National Patient Safety Agency, 2007). The findings of this evaluation suggest trigger questions provide a vehicle for staff to escalate deterioration by empowering ward-based nurses to do so.

Do the clinical trigger questions help identify deteriorating patients?

Most respondents (84.6%) reported that the trigger questions improved identification of sick patients. The vast majority of experienced nurses (83.4%) also said the questions helped them identify sick patients (Fig 3). This may be due in part to having a clinical “checklist”, which helps staff to see patient interventions as risk factors that contribute to the physiological reasons for deterioration, such as increasing oxygen requirements, fluid boluses and increasing MEWS scores.

Do the trigger questions help student nurses identify sick patients?

It is noted from the responses that 95.1% of nurses thought student nurses would benefit from using the trigger questions (Table 1), possibly supporting the use of the trigger questions for bedside teaching. The questions should provide opportunities for staff training, specifically assessing and communicating the clinical signs of deterioration. This may also help address the potential for nurses to become deskilled.

Conclusion

This was a small-scale service evaluation conducted in one health board, so the generalisability of the findings is limited. It was also conducted by the HECT nurses who introduced the concept of the trigger questions, giving potential for bias.

Issues surrounding failure to recognise and fail to rescue patients with deteriorating health have been well publicised (NPSA, 2007; NCEPOD, 2005). This service evaluation reported on the perceptions of nurses across three district general hospitals on using clinical trigger questions to help identify and hand over ward-based patients with deteriorating health. Overall, 84.8% (330) of respondents said trigger questions improved identification of sick patients, and 86.6% (337) reported an improvement in the referral process to the HECT.

It is noteworthy that 53.5% (n = 145) of experienced nurses who responded to the questionnaire said their perceptions of what constitutes a patient at risk of deterioration changed with the use of the clinical trigger questions. Although a number of potential variables may have influenced this perception, this change may have been due, in part, to trigger questions acting as a clinical checklist.

The trigger questions could also be used as a teaching resource for less experienced nurses, and 95.1% of respondents felt they could be useful in helping student nurses recognise sick patients.

These findings could be used to support ongoing investigation into the use of clinical triggers to help with identification and handover of deteriorating patients.

References