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Basic research

A retrospective analysis of the findings of pressure ulcer investigations in an acute trust in the UK

Clare Greenwood*, **Elizabeth McGinnis**

Tissue Viability Department, 3rd Floor Trust HQ, St James Hospital, Beckett Street, Leeds, LS9 7TF, UK

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Pressure ulcer;
Root cause analysis;
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Abstract The root cause analysis (RCA) process has been applied in this organisation since 2010 to investigate all severe pressure ulcers. A previous analysis of the findings from all RCAs completed during 2011–2013 identified actions for practice improvement. The current study reports the results of a further retrospective analysis following implementation of new evidence based investigation process.
Aim: To analysis the findings from pressure ulcer investigations; compare the results to the previous study and reflect on the new investigation process.
Methods: Analysis was performed on data from completed RCAs during January–October 2014 to identify key themes and learning points.
Results: Thirty two pressure ulcer RCAs were included. Nutrition was the most common contributory factor, highlighting the issue of malnutrition in an acute care setting. The second most common contributory factor was medical conditions that lead to poor tissue perfusion.
Conclusion: Severe pressure ulcers rarely occur due to a single root cause, but often due to a sequence of events. Patients frequently have multiple complex needs that increase their susceptibility, when this is in combination with a failure of care, a severe pressure ulcer can occur. The new investigation process had limited success in identifying organisational factors. Further work is needed to support staff in the investigation process.

1. Introduction

It has long been known that pressure ulcers (PU) cause patients significant pain and distress [1],

* Corresponding author. Tel.: +44 0113 2069207.
E-mail address: clare.greenwood2@nhs.net (C. Greenwood).

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however in recent years PUs have become an indicator of quality care and safety within the NHS [2,3]. Category 2 or above PUs [4] are required to be reported in line with National Institute of Health and Care Excellence Guidelines [5,6] and investigated.

The authors' organisation commenced root cause analyses (RCA) investigations for all severe (category 3 or 4 or non-resolving unstageable/suspected deep tissue injury according to European Pressure Ulcer Panel grading [4]) hospital acquired PUs in 2010 in line with the commissioning for quality and innovation (CQUIN) targets [7]. In 2004 the National Patient Safety Agency had published guidance for RCA investigations [8] but it had not been applied to PU incident investigation in the authors's organisation or any others known to the authors. The RCA process is designed to identify the root causes and contributory factors that lead to a patient safety incident. Key learning points can then be identified to improve practice and patient care. As this process was new for PU incidents, tissue viability staff looked to other established investigation processes (e.g. infections) to adapt documentation and guidance.

In 2013 when the PU RCA process was thoroughly established throughout the trust, an evaluation of all the investigations was performed in order to identify key themes and make improvements to the documentation and process. Details of root causes and contributory factors for all completed RCAs during April 2011—March 2013 were identified and extracted. A thematic analysis was then performed on the extracted data; these were then coded and grouped into themes and subthemes [9]. Four key themes were identified: Individual patient factors, Education and training, Communication and Organisational/Environmental. 'Education and training' was the most frequently occurring theme, identifying that there was a lack of knowledge in PU prevention by nurses. PU competency frameworks were therefore developed which became mandatory for all registered and non-registered nursing staff. The next most frequently occurring theme was 'individual patient factors' e.g. co-morbidities, nutrition and compliance. This was taken into account when developing the competencies to ensure that staff were aware of how individual patient factors could impact upon a patient's susceptibility to developing a PU. 'Communication' identified issues regarding patient transfers between different wards or departments — in particular the patient's level of risk not being communicated at hand over and therefore the receiving area would not be adequately prepared. 'Environmental/organisational' issues included patients being cared for in inappropriate care settings (lodgers or outliers), being transferred to multiple different ward areas during their stay and delays in going to theatre or having a procedure.

One of the problems encountered with the original RCA process was that it could be subjective and lead investigators were searching for 'fixable' outcomes. One example of this was that throughout the 2 year period documentation would be a prominent factor; it was thought that as documentation improved on the ward, so would standards of care; additionally this was something that could be easily audited to demonstrate improvement. It is clear that poor documentation does not cause a PU, however it should reflect the standard of care given so needed to be considered in improvement plans. As a result of this previous analysis the tissue viability team identified that the RCA process needed improving to try and make it less subjective and to identify the true root causes and contributing factors.

In 2009 a National Institute of Heath Research (NIHR) funded programme grant for Applied Research on PUs commenced (RP-PG-0407-10056). A co-author of this paper was an investigator in the study. One of the work streams in this project aimed to understand why patients develop severe PUs. This study used a retrospective case study design method to produce accounts of individual patients who developed severe PUs. An iterative review, involving reviewers (including patients) with different backgrounds, was used to validate and interpret the accounts [10]. An additional output of the study was to develop a methodology for RCA, suitable for use in current NHS practice. Based on the findings of the research study, the new investigation process needed to incorporate organisational themes and the patients' perspective. It needed to include a narrative of events as well as a timeline from the records; identify good practice; considering resource issues and organisational constraints.

A pilot of the new evidence based process was held with Tissue Viability link nurses in October 2013. This identified that staff had reservations about involving patients; they felt that this would not be possible due to capacity issues with many or it would lead to litigation. It was also apparent that staff did not identify the systematic or organisational issues. The template for recording the investigation was therefore amended and some guidance developed to support the process. This was tested with another patient and found to successfully identify contributing factors and issues not revealed through the traditional record review. The new investigation process was implemented in January 2014.