Are 95% of hospital-acquired pressure ulcers avoidable?

KEY WORDS
- Avoidable pressure damage
- Pressure ulcer
- Reporting methodology
- Unavoidable pressure damage

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In 1987, 1988, and 1998, Hibbs asserted her hypothesis that 95% of pressure ulcers (PUs) are preventable. But until recently, few UK healthcare organisations have collected data on PU incidence – or the avoidability or otherwise of the damage. In 2012, NHS Midlands and East launched a campaign to eliminate avoidable grade 2–4 PUs by year end. Five hospitals within NHS Midlands and East pooled data collected between April 2012 and March 2013 on hospital-acquired grade 3–4 PUs and found the percentage of avoidable PUs to be less than half Hibbs' figure of 95%.

In 1987, Hibbs produced a report on the prevention of pressure ulcers (PUs) in a UK hospital. This report was disseminated in several different formats (Hibbs, 1987; 1988a; 1988b; 1988c). At a conference, Hibbs (1988a) stated her belief that – with appropriate interventions – 95% of PUs could be prevented. A decade later, she reiterated this belief (Hibbs, 1998). This figure – that 95% of PUs are preventable (and, therefore, avoidable) – has been extensively cited in the literature since (see, for example, Arblaster [1999], Clarkson [2007], and Stephens-Haynes [2010]).

Despite being widely cited, Hibbs had no evidence to support her hypothesis; nor did she ever claim to. Thus, over the course of the past 25 years, this figure has worked its way into discussions about PU prevention as a "fact", rather than an hypothesis.

Anecdotally, a number of tissue viability nurses (TVNs) have expressed concern that Hibbs' figure is both inaccurate and unachievable. However, the collation of evidence to support this position is difficult. In many areas of the UK, there is a lack of uniformity in PU data collection – both within and between healthcare organisations. Perhaps even more importantly, many organisations lack processes for the validation of PU grades, or determining whether the development of a given PU was avoidable or unavoidable (Bolger, 2010).

In 2012, NHS Midlands and East launched an initiative to eliminate avoidable grade 2–4 PUs by year end (Guy et al, 2013a). Five hospitals within the NHS Midlands and East strategic health authority took the opportunity to determine an evidence-based figure for the percentage of avoidable PUs. Here, the authors report data on hospital-acquired grade 3–4 PUs, and the percentage of these PUs classified as avoidable or unavoidable.

METHODS

The five acute hospitals within the NHS Midlands and East strategic health authority that participated in this project comprise three district general hospitals, one large university teaching hospital, and one tertiary acute specialist centre. Collectively, these institutions have 2991–3187 beds (given seasonal fluctuations). Prior to April 2012, various methods of PU data collections were used at these organisations, including point prevalence audits, and electronic or paper reporting.

Staff at these five hospitals reported hospital-acquired grade 3–4 PUs as follows:

- An incident form completed in the ward / unit in which the PU developed.
- A TVN confirmed and validated the PU grading on the incident form.
- Root cause analysis (RCA) commenced by the ward's / unit's senior nurse with multidisciplinary input, including the TVN for final sign-off.
- A decision made regarding the avoidability or unavoidability of the PU by the senior nurse and TVN, with executive sign-off from either the Director of Nursing or Deputy Director of Nursing.
- RCA forwarded to the commissioners for scrutiny; final ruling regarding avoidability made.

- RCA action plan agreed, disseminated, monitored, and evaluated.
- Unclassifiable PUs and suspected deep tissue injuries were recorded as grade 3 PUs, unless proven otherwise using the adapted European Pressure Ulcer Advisory Panel–National Pressure Ulcer Advisory Panel (2009) classification tool (NHS Midlands and East, 2012).

Data analysed here were collected between April 2012 and March 2013.

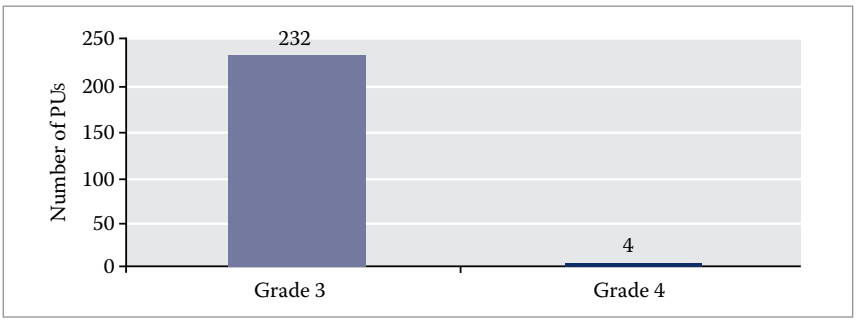

Figure 1. Number of grade 3–4 hospital-acquired pressure ulcers (PUs) reported at five NHS Midlands and East hospitals between April 2012 and March 2013.

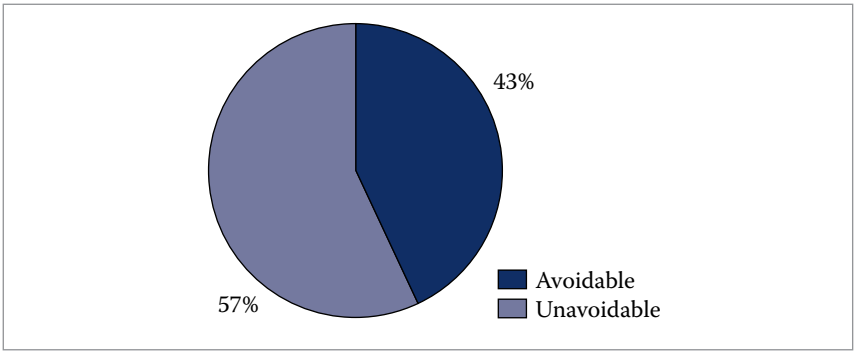

Figure 2. Percentage of grade 3–4 hospital-acquired pressure ulcers deemed avoidable or unavoidable following root cause analysis and the process of scrutiny outlined here.

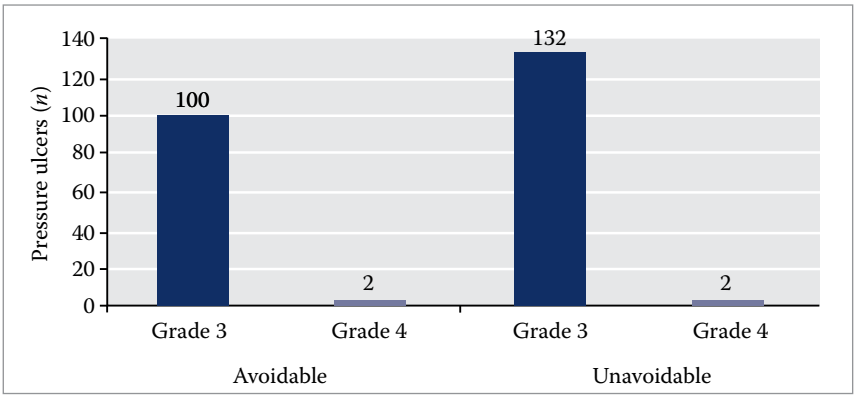

Figure 3. Avoidability of hospital-acquired pressure ulcers analysed by ulcer grade.

RESULTS

During the data collection period, a total of 236 grade 3 or 4 hospital-acquired pressure ulcers were reported in the five hospitals. Of these, 232 (98%) were grade 3 PUs; the remaining 4 (2%) were grade 4 (*Figure 1*).

Following RCA and the process of scrutiny outlined above, 57% of all grade 3–4 hospital-acquired PUs were deemed to be unavoidable (*Figure 2*). Avoidability was further analysed by ulcer grade (*Figure 3*), with 100 of the 232 grade 3 PUs (43%), and two of the four grade 4 PUs (50%), being avoidable.

DISCUSSION

The clinical and political drivers for reducing avoidable pressure damage are clear and well established (NHS Institution for Innovation and Improvement, 2009; Dowsett, 2010; Stephen-Haynes, 2011). Yet, while the prevention of pressure ulceration is a core quality indicator for patient safety, questions around the "avoidability" versus "unavoidability" of pressure damage remain controversial.

The figure of 95% of PUs being preventable or avoidable (a figure attributable to an hypothesis put forward by Hibbs [1987; 1988a; 1988b; 1988c]) has been widely cited and accepted, and can be seen to have influenced policy and practice over the past 25 years. By contrast, data presented here reveal that, during a 1-year period in five acute NHS hospitals in the east of England, only 43% of grade 3–4 hospital-acquired PUs sustained were avoidable. This figure is less than half of the figure posited by Hibbs (1987; 1988a; 1988b; 1988c). Data presented here suggest that the figure of 95% of PUs being avoidable is inaccurate, at least with regard to full-thickness, hospital-acquired pressure damage.

Limitations

It is acknowledged that, with the successful implementation of organisation-wide PU prevention strategies (Guy et al, 2013a), there has been an overall reduction in the number of patients developing hospital-acquired PUs in the authors' organisations. Such interventions impact the statistics of avoidability; while the number of unavoidable PUs are likely to remain static over time,

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the percentage of unavoidable PUs will increase as the number of avoidable PUs falls following the implementation of effective preventative strategies, or with the increasing acuity of patients in hospital (Harrison, 2004; Smith et al, 2009). Thus, the authors hypothesise that there will be an increasing trend towards unavoidable pressure damage.

Since the implementation of the rigorous PU reporting and validation in the authors' organisations, there have been some PU cases in which there has been a lack of care delivery documentation. In these cases, the RCA investigation team categorised the PU as avoidable, when arguably it may have been unavoidable. Thus, the reported figure (43% avoidable) is possibly higher than the actual true percentage, due to a small number of avoidable PUs being deemed unavoidable due to a lack of care delivery documentation.

Data presented here are limited to full-thickness, hospital-acquired pressure damage (i.e. PUs of grade 3 or 4). Data relating to grade 2 PUs in the authors' organisations suggest a similar breakdown of avoidability versus unavoidability as presented here for grades 3 and 4 PUs. However, due to variations in the processes to determine avoidability for grade 2 PUs, these data did not reach a level of reliability that would allow their inclusion in this article. Anecdotally, were these data on grade 2 PUs to have been included, they would have added further weight against the hypothesis that 95% of PUs are preventable.

Considerations for future research

As collection techniques become increasingly sophisticated, it will be possible to further analyse PU data in relation to a range of variables. Of interest will be analysis to determine the number of injuries initially categorised as suspected deep tissue injury (EPUAP–NPUAP, 2009) that ultimately manifest as grade 3–4 PUs. The true incidence of pressure damage from medical devices will also be of great interest (Guy et al, 2013b). If a single, nation-wide approach to PU data collection can be implemented, definitions and processes can be standardised, valid comparisons and benchmarking between regions, organisations, and wards/units can be undertaken, and quality indicators for patient safety can then be carefully and effectively monitored.

TVNs and healthcare organisations should be encouraged to publish data relating to avoidable and unavoidable PUs acquired by patients under their care. The data presented here refute the hypothesis of 95% of PUs being preventable, but further research is required to validate the data presented here. We urge colleagues from hospitals, nursing homes, supported accommodation, and in the community to evaluate the avoidability status of the PUs acquired in their areas. Perhaps we can then, unequivocally, demonstrate to Commissioners and policymakers the true percentage of avoidable PUs.

CONCLUSION

Improvements in the reporting, documentation, and investigation of pressure damage reported here has made the process of determining PU avoidability within these five hospitals more accurate. Data presented here suggest that the percentage of avoidable hospital-acquired, grade 3–4 PUs is less than half of the 95% often cited in the literature. While the figure of 95% avoidability has long been treated with scepticism by TVNs, until now there has been no evidence to demonstrate that the figure is inaccurate and unachievable in today's healthcare environment.

Though perhaps predicated on an erroneous figure, the political drive to drastically reduce avoidable pressure ulceration has provided the impetus for achieving uniformity in data collection, ensuring external reviews of practice and outcomes, and encouraged clinicians to investigate the root cause of pressure damage and whether it could have been avoided. This massive leap forward has made it possible to assess the incidence of avoidable ulceration in a large inpatient population, with illuminating results. WUK

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