Pressure ulcer prevention: making a difference across a health authority?

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Abstract
Pressure ulcers (PUs), their cause and prevention have been discussed in the literature for many decades. Their prevention and management has been the core of a tissue viability nurse’s daily clinical and strategic workload. The important point to acknowledge is that not all PUs can be prevented but it is believed most of them can and all preventative measures must be implemented and evaluated. Initial efforts focused on establishing a baseline of incidence and prevalence. More recently, the Department of Health has proposed that PUs could be eliminated in 95% of all NHS patients and incentivised the measurement of PUs and other harms by use of the NHS Safety Thermometer through the introduction of a new initiative. A research company was commissioned to explore which communications interventions would be effective in helping health professionals to prevent and treat PUs. A campaign was subsequently set in motion to educate and inform clinical staff on the cause and prevention of PUs.

Key words: Campaign ■ Pressure ulcer ■ Prevention ■ Stop the Pressure ■ Strategic Health Authority ■ Unavoidable

Pressure ulcers (PUs), their cause and prevention have been discussed in the literature for many decades. They have captured the interest of nurses, doctors, biomedical engineers and health economists. Their prevention and management has been the core of a tissue viability nurse’s daily clinical and strategic workload.

In 1988, Hibbs speculated that 95% of PUs were preventable. This estimate has neither been challenged nor confirmed since. To do so would require a full clinical and scientific understanding of the aetiology of PUs as well as an investigation into the care provided to prevent the occurrence. The latter requires evidence through documentation of all medical and nursing interventions.

In 1991, the DH initially proposed an annual reduction of 5–10% in incidence (see Box 1) and suggested that the first task towards achieving this was for health authorities to establish a baseline of incidence and prevalence. Some 21 years later, the DH (2011) has proposed that PUs could be eliminated in 95% of all NHS patients and incentivised the measurement of PUs and other harms by use of the NHS Safety Thermometer (The Health and Social Care Information Centre, 2012) through the introduction of a new Commissioning for Quality and Innovation (CQUIN) initiative goal (DH, 2012).

The Safety Thermometer demonstrated a prevalence rate of patients with category 2–4 PU (see Box 2) of 5.39% in October 2012. This equates to 8833 people in 477 English organisations, both NHS and private, acute and community.

Box 1. Differentiation between incidence and prevalence

Prevalence
- This is the number of people in a given population at a given time who have a pressure ulcer present (Defloor et al, 2005c)
- Period prevalence measures the number of people over a defined period of time
- Point prevalence measures the number of people on a set date, usually one particular day

Incidence
- This is the number of people who develop a new pressure ulcer in a given population over a defined time period. (Defloor et al, 2005c)
- When making comparisons between pressure ulcer rates it is important to ensure that the measuring rate is the same. Incidence might be seen as a means of measuring healthcare standards because it reflects the development of new pressure ulcers, whereas prevalence will take into account those patients who had existing pressure ulcers

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Accepted for publication: April 2013
Risk assessment

Management of incontinence and moist skin. This definition recognises that there are certain circumstances and clinical conditions that may result in the unavoidable development of PU. It also recognises that there are certain accepted preventative strategies that need to be in place to prevent a PU occurring and only if these are all used and re-evaluated for effectiveness can it be clearly shown that any PU that subsequently developed, despite these interventions, is unavoidable. This requires documented evidence of care interventions to include:

- Risk assessment
- Skin inspection
- Pressure reducing/relieving equipment
- Repositioning
- Management of incontinence and moist skin
- Nutritional support.

These care interventions are not new. All of the above have been extensively researched or discussed in the literature over the past few decades.

Preventative interventions

Skin inspection of all bony areas will highlight to nursing staff the early signs of pressure damage. Webster et al (2011) suggest it is more useful than a risk assessment tool. Looking for reddened areas is key. If noted, then care interventions need to be re-evaluated. Skin inspections need to be undertaken as often as possible in relation to the risk of PU development. Since then, many other risk assessment tools have been devised for generalist and specialist areas (Guy, 2012), most notably the Waterlow (2005) and Braden (Bergstrom et al, 1987) scores. Risk assessment is not a new concept and while a numerical tool is not always entirely reliable (Papanikolaou et al, 2007) and whether it is better than clinical judgement has been challenged (Webster et al, 2011), it formalises assessment and is an auditable action. It has long been an accepted precursor to PU prevention.
on alternating pressure-relieving mattresses are less likely to develop a PU than those nursed on standard foam, there is also evidence that patients may still develop PU on alternating mattresses (Nixon et al, 2006). Thus, the mattress (or chair cushion) only forms part of the prevention plan and must sit alongside regular repositioning.

Immobility is thought to be one of the major risk factors for PU development. Barbanel et al (1977) found that PUs were most likely to be found in the more immobile patients. This has been supported by many researchers since (Sharp and McClaws, 2006). If a person can move independently at frequent enough intervals, they are unlikely to develop a PU. Repositioning is probably the oldest form of PU prevention and remains to this day the most important (Norton et al, 1962; DeFloor et al, 2005a; Krapfl and Gray, 2008).

More recently, the confusion between moisture and pressure damage has been recognised (DeFloor et al, 2005b; Downie and Guy, 2012). Perhaps it could be conjectured that the prevalence figures of today cannot be compared to those of decades ago because many category 2 ulcers may have been moisture lesions. Today, these two distinctly separate aetiological lesions are diagnosed differently and moisture lesions are possibly less frequently identified as PUs. However, this risk factor was included in the Norton (1962) risk assessment and others since, as moisture-damaged skin is at increased risk of pressure damage. Hence, interventions must be put in place to protect the skin from body fluids.

Poor nutritional status has long been associated with a higher risk of PU development (Berlowitz and Wilking, 1989; Langer et al, 2003) and Waterlow (2005) was first to include this risk in her assessment tool. The relationship between low serum albumin and PU risk has been debated for many years. Anthony et al (2000) demonstrated that serum albumin may be a useful predictor for PU development but suggested further studies were needed. In 2000, Russell reviewed several papers dating back to the 1980s that demonstrated correlation between low serum albumin, malnutrition and low body mass index (BMI) with PU development. More recently, Kottner et al (2011) found that PUs occurred significantly more often in people with a low BMI.

Over the decades, all of the above have been explored and promoted as key preventative interventions. These elements have been the standard of PU prevention the world over. In recent years they have become the core of PU prevention care bundles (Healthcare Improvement Scotland, 2011). Yet PUs are still occurring. Perhaps these are the 5% that were not preventable, or perhaps elements of the care pathway are not being delivered. What is it that makes the difference in PU prevention? In 2009, Bales and Padwojski successfully eradicated hospital-acquired PUs for 1 month in a 300-bed community hospital after a management priority programme was introduced. A follow-up report demonstrated sustainability for both the programme and near consistent eradication of PUs (Bales and Duvendack, 2011). All of the aforementioned care interventions are included in the programme as well as other educational and motivational drivers and senior management involvement and engagement. So is it these additional factors that matter?

The education about what is needed to be undertaken to prevent PUs has been delivered widely and increasingly now for over five decades. It is well recognised that education can be a poor driver for change (van Gaal, 2010). Clearly, more is needed to ensure the delivery and effectiveness of preventative interventions. Bales and Padwojski (2009) and Bales and Duvendack (2011) have demonstrated that it can be achieved in one hospital organisation but there is little evidence in the literature of a wider attempt to introduce a preventative programme.

This is what is happening in NHS Midlands and East. The care delivery elements of the programme are not new, they constitute all that has been mentioned so far and certainly many if not all organisations were already using these interventions for preventative patient care. What is making the difference now is involvement and engagement from the very highest staff levels within the health authority organisation and multifactorial modes of guideline and educational delivery.

**NHS Midlands and East’s ambition to eliminate all avoidable pressure ulcers**

**Communications**

The work to deliver this ambition has been supported by an integrated communications campaign aimed at frontline staff, based on the findings of unique market research.

Enventure Research, a market research company working with the public sector, were commissioned in January 2012 to explore which communications interventions would be effective in helping health professionals to prevent and treat PUs. Using quantitative (paper and online questionnaires) and qualitative techniques (focus groups), they investigated current knowledge, attitudes and perceptions of frontline staff (Thurman and Robinson, 2012). The response to the quantitative element of this research was good, with nearly 1600/287 000 (+/- 2.5% of the 95% confidence interval) staff sharing their detailed views (Thurman and Robinson, 2012). There was a real passion among staff to prevent PUs, but there was a need to bridge the knowledge and experience gap. Of the respondents, 92% believed a well-researched and planned campaign could be successful if hard hitting, direct, simple and using atypical approaches.
These findings continue to form the basis of all phases of the Stop the Pressure campaign.

A multidisciplinary communications project group was formed and, after looking closely at the findings, decided the following would be instrumental in driving the campaign:

- Key messaging
- A ‘conversion moment’ approach
- A period of sustained reinforcement using a widely integrated campaign around the key messaging
- Empowering staff to communicate more clearly with patients and carers.

The campaign, ‘Stop the Pressure’ (www.stopthepressure.com), launched in April 2012 with a string of phases, each featuring innovative communications channels, all tying in directly with the research conclusions.

One of the first products was a short video animation intended to shock people (the conversion moment) about the impact of developing a PU and outline a refined and graphically enhanced, simple prevention care bundle approach (see Box 4) (Healthcare Improvement Scotland, 2011). It has been a big hit on several internet platforms and on DVD. A powerful film—The Swans’ Story—shows the impact that an avoidable PU can have on a family.

Another key output is a unique online tool that simplifies all the procedures. Staff can scroll and click their way along the ‘Pressure Ulcer Path’, understanding what to do and opening documentation. This has led to all organisations across the Midlands and East regions implementing standardised protocols. Alternative poster and pocket versions of the Path have also been distributed.

The SSKIN care bundle is central to the whole programme. An interactive web page, visual guides, educational slides and 200 000 lanyard cards have made it easy for staff to access and share.

Building on this, a new microsite, ‘Learning to stop the pressure’, has been created to make training and educational resources—which vary according to the users’ role—available together for easy access.

One of the research findings was the importance of educating patients and carers about PU prevention, as their lack of knowledge was seen as a key barrier. Working with Enventure and a patient and carer couple, new research has now been conducted into the most effective ways to communicate with the general public so that they too know what to look for and how to prevent PUs.

Organisations are participating in ongoing change implementation programmes to assist the clinical teams in delivering all aspects of the ambition pathway. Members of these include tissue viability nurse specialists (TVNs), directors and deputy directors of nursing, clinical nursing team staff (registered and unregistered), dieticians and other professionals allied to healthcare.

Ten issues of an email marketing bulletin ‘Under the skin’ have kept senior staff engaged, and more recently an educational ‘Stop the Pressure’ board game has provided learning in a fun way.

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Clinical expert working group

The expert working group (EWG) came into existence in September 2011. This group was made up of TVNs, clinical commissioners and lead nurses based in the East of England (EoE) region of the NHS Midlands and East cluster. The primary goal of the group was to review the available evidence behind PU prevention and, where necessary, the management of PUs. The secondary outcome was to ensure this evidence was relevant, up to date and available as a simple resource toolkit to all multidisciplinary clinical staff wherever they were based to assist in the prevention of PUs. The EWG were all in agreement that this was an essential route to take to progress towards achieving the ambition. With the ultimate aim being all NHS organisations in NHS Midlands and East using the same processes and accompanying tools, ranging from a PU grading tool to PU prevention/management care bundles.

In the reviewing of the available evidence it became clear that some areas that first appeared simple were not always straightforward. For example, in the area of risk assessment timing, what happened to patients who were complex and attending outpatients for several hours or women in maternity units? Using the latter example, the following is an illustration of the process the EWG undertook:

- Review of available literature
- Area discussed within EWG
- Experts in the area consulted, i.e. midwives
- Solution identified (screening tool in this case)
- Local EoE tissue viability network consulted and lobbied for their opinion on the potential solution
- Screening tool adapted or agreed and signed off by EWG.

This process was employed for all aspects of PU prevention/management, including the investigating and reporting of PUs. The processes and guidelines produced by the EWG in this way were made available through the ‘stopthepressure’ webpath, which makes them easily accessible to all clinical staff.

Effectiveness of the strategy

In the Midlands and East, data on PU prevalence is collected on the same day each month via the NHS Safety Thermometer, for some 56,000 to 60,000 patients. The monthly Safety Thermometer census is carried out in all NHS care provided in hospitals, community healthcare, mental-health and learning-disability providers. This ‘point prevalence data’ has been collected across all organisations and therefore the improvement of care can be seen over time.

The NHS Safety Thermometer is a measurement tool used to ‘measure’ the ‘harm-free care’ being delivered to organisations on a monthly basis and gives a snapshot of the four harms for all patients. The four harms are PUs, falls, CAUTIs and venous thromboembolism.

Across the Midlands and East there has been support and commitment to achieve the SHA ambition to ‘eliminate avoidable category 2, 3 and 4 pressure ulcers’ from board level through to clinicians working in practice. The collection of Safety Thermometer data to measure the level of improvement was agreed and piloted across the SHA cluster from November 2011, with one primary care trust (PCT) cluster initially collecting 100% data from their area. This was repeated in December 2011 with an increased number of PCT clusters taking part until all 17 collected the baseline measurement in March 2011. This rollout allowed for the development of processes and sharing of good practice to ensure that the data collection was completely accurate, timely and that organisations learnt from each other. It also ensured executive support and early indications of where improvements needed to be made and helped to shape the work streams (NHS Midlands and East, 2011) that support the delivery of the ambition.

Data collected during the October 2012 monthly census has reported that the prevalence of patients with a category 2, 3 or 4 PU has reduced from 1.7% to 1.09%, a reduction of 36% over 7 months compared to the April 2012 level. The data also demonstrates that the prevalence of the most severe PUs at category 4 has halved in the same period.

Conclusion

There is still some way to go towards eliminating all avoidable PUs in the NHS Midlands and East cluster, but as the latest Safety Thermometer data shows, this multifaceted programme of change delivery is taking effect. The most senior members of the involved organisations are engaged with the ambition and teams delivering care at the patient front have clear and simple processes to follow.

Conflict of interest: none

Acknowledgements

It has been a privilege to be involved in this process and to work alongside the many people who have contributed to this initiative. A huge thank you to all.

References


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British Journal of Nursing, 2013 (Tissue Viability Supplement), Vol 22, No 12
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