The Static-Led Approach - A Three Year Evaluation

Jane James

Background

Selecting equipment for pressure damage prevention is complex and challenging. Despite recent recommendations from the National Institute for Clinical Governance relating to pressure relieving equipment (NICE, 2003), there still appears to be little evidence to support individual pieces of equipment.

Three years ago in an Acute General Hospital, effective co-ordination and management of pressure damage prevention was not evident. This resulted in pressure relieving equipment being procured at ward level with decisions being based on financial and individual preferences. The equipment was not standardised, and remained at ward level with no rationale for their use, often being stored in bathrooms or under patients who were mobile and independent. Servicing of the equipment was reactionary and often led to equipment failure in periods of high demand. As a result escalating rental costs of over £200,000 per year and a prevalence rate of 30% became a driving force to co-ordinate and rationalise the management of pressure relieving equipment.

In response to this, a project team of clinical, managerial, procurement and finance representatives was set up to establish the resource requirements of the hospital by evaluating the equipment need in clinical practice. A pre-requisite was to establish a programme of care within the constraints of current expenditure. The group decided to adopt a static-led approach (Thomas, 2002)

The Static-Led Approach

The fundamental principle of a static-led approach is to provide an environment in which pressure ulcers do not develop or existing pressure sores improve. However, ensuring that the patient is being nursed on an appropriate mattress for their need was not always being achieved. It has been suggested (Maylor, 2001) that the problem of pressure ulcer development could potentially be resolved through the provision of appropriate pressure reducing equipment to those individuals at risk.

In order to improve appropriate use of equipment, the static-led approach ensured simplicity in equipment choice. All patients would be nursed on a standardised pressure redistributing foam
mattress (MSS Softform) except those that were assessed through the combined use of a risk assessment tool and clinical judgement to be at very high risk of developing pressure damage. These patients would be nursed on an alternating pressure relieving mattress (Pegasus Cairwave). It was recognised that pressure surfaces (if required) should be used 24 hours a day, and an important part of the approach was ensuring that appropriate cushions were allocated to patients at any level of risk of developing pressure damage.

It is accepted that there appears to be a lot of negativity when writing about risk assessment tools. However, some positive attributes are that by standardising the assessment process of the patients and prompting the nurses by highlighting the risk factors they can create a framework on which appropriate care is provided. It has been said that the introduction of risk assessment tools in conjunction with the establishment of education programmes and protocols may reduce the incidence of pressure ulcers (McGough, 2001), and it is generally accepted that they will help to identify the next care intervention (Collier, 2001). The use of scales alone to assess patient risk cannot be supported on the basis of current evidence, and whilst a risk assessment tool can be an important part in an overall pressure ulcer prevention strategy, it should be an aid to clinical judgement and not a substitute for it (Scott, 2000).

As part of a seven-year managed programme, all foam mattresses were replaced, gel cushions were procured and dynamic mattresses were leased, in which a servicing and repair contract was also included. The benefits of the static-led approach were that:

- Effective equipment selection from a two-system approach increased appropriate usage
- A high level of protection was given to all patients admitted to hospital
- Significant reduction in the number of dynamic mattresses
- Reduced costs
- Positive staff satisfaction survey
- Equipment available at point of need
- Reduced prevalence rate

The dynamic systems are on a seven-year leasing contract and all static systems were purchased with a rolling replacement programme set up. To fully implement, manage and develop the programme a Tissue Viability Nurse was appointed. The equipment not in use was located in a centralised store and allocated to wards as per individual patient need. A support worker was appointed to facilitate the process. This resulted
in a more manageable and cost effective system. In line with NICE Guidelines (2001), initial risk assessment was within six hours of admission, and a core care plan was introduced to facilitate ongoing assessment of patient risk status, promote the appropriate allocation of systems and provide an audit trail. This seven-year programme of care, inclusive of the appointment of the TVN and support worker, was achieved within current expenditure and included significant cost savings.

**Three years later**
The initial benefits of the managed system were evident, however, could these benefits be maintained three years after the introduction of the static-led approach? The amalgamation with a neighbouring hospital has seen an increase of beds to near 700, and it was decided to standardise the approach across the Trust. All dynamic mattresses, apart from those that offered a very high level of support, were removed from the second hospital and a variety of foam mattresses were replaced with Mss Softform. Cushions were replaced and documentation was standardised. Training and education is ongoing throughout the whole Trust in all the clinical and operational aspects of pressure damage prevention.

**Documentation**
Assessment of the patients’ risk status using clinical judgement and a formal tool were seen as playing a key role in the success of the static-led approach. Patients at risk are assessed daily and “stepped up or down” from the dynamic mattresses depending on their clinical condition. Initially there was no place in the nursing documentation to record the patients’ risk score and compliance identified on audit was poor, with less than 40% of patients having an up-to-date assessment. The introduction of a standardised care plan in line with the NICE Guidelines (2003) allows for the risk assessment to be accessible to all members of the interdisciplinary team (fig1). It has also increased the number of patients having an up-to-date assessment to 85%.

**Mattress selection**
Initially there was a concern that the static mattresses would be compromised by the need for frequent movement between wards and the equipment library. However, the MSS Softform mattresses have been audited annually and in agreement with Grey (1998) have continued to perform well. There has been no evidence of loss of function of the foam. Replacement covers and inserts has been unremarkable and within anticipated budget allowances.
The dynamic mattresses that are on a lease agreement have ensured a constant supply of appropriate equipment for those patients at very high risk of pressure damage. An agreed rental pool of five mattresses allows immediate access if all leased systems are in use, without the delivery time and costs normally incurred. Original budget of £10,000 /annum was allocated in the programme for anticipated rental costs. However, over the last year the actual rental spend was less than £1500 for the two hospital sites.

**Centralised Equipment library**
An equipment library was opened in the second hospital and a support worker employed to facilitate this, including providing support in the delivery and installation of the equipment. Due to the success in reducing the amount of equipment, it was decided to extend both libraries to include infusion devices. Since opening, the libraries have been met with a positive response from nursing, portering and medical electronics staff. The equipment has been well utilised and kept stored in a clean condition and is readily available at the point of need. Equipment needing routine servicing can be sought using an electronic tracking system, which has proved to be very effective in saving both time and resources. Equipment is selected from a request form (fig2), which initiates the first stage of the tracking, and decontamination forms returned with the equipment end the process. The libraries have facilitated a reduction in the amount of infusion devices needed, which has resulted in further cost savings for the Trust.

**Appropriate Usage**
In the 1997 White Paper “The new NHS: modern, dependable”, the government introduced change that would place great emphasis on improving quality of care, treatment and services to the public. A new framework of governance was introduced to ensure that clinical management and educational practice is based on scientific evidence (DoH, 1998). This change is implemented at a macro level by the formation of “National Institute for Clinical Excellence” to produce guidelines and assess new technology. More locally, the Health Commission (formally CHI) has been created, to monitor the quality of services in both primary and secondary care. At the micro level, clinical governance has made each local chief executive accountable not only for financial management, but also for the quality of the services they provide. Clinical Governance incorporates a number of processes, one of which being clinical risk management.
To ensure that the patient is nursed on appropriate mattress helps to meet and improve the patient experience through safe and high quality care. Initially when the static-led approach was introduced at Carmarthen a reduction in inappropriate usage of equipment was noted. This has been monitored through audit over the last three years. Recent results indicated that the reduction has maintained inappropriate use at 1.6%.

This has been mirrored in the second hospital, where inappropriate use has been reduced from 26% down to 4.6% in the last year since the introduction of the static-led approach. This year the management of pressure relieving equipment was cited as an example of good practice in the Welsh Risk Management Standards annual review.

**Prevalence and Incidence**

Incidence and prevalence surveys reported in the literature suggest that at any one time between 10 and 15% of the general hospital population is likely to be at risk of pressure ulcers (Gebhardt, 2003).

Large variations in prevalence and incidence have been reported across health care settings. Incidence is usually defined as the number of persons developing a pressure ulcer after admission divided by all new admissions during the study period (Bergstrom, 1994), whereas prevalence is defined as a cross sectional count of the number of cases at a specific point in time.

In this Trust point prevalence data was traditionally collected twice a year, however this was not entirely satisfactory as the “day or month when a survey is carried out can markedly affect the results” (Bridel, 1995).

It was decided to use an electronic database dedicated to record the weekly incidence and prevalence of pressure ulcers throughout the Trust (Pegasus). Whilst it is difficult to compare prevalence and incidence data with other hospitals due to variations in study populations and data collection methods, the regular collection of data has internal benefits. Instant access to prevalence and incidence figures for any time period and in any specific area of the Trust, Directorates or wards allows monitoring and comparisons to be made of this Trust’s performance (fig3). Identification of information such as grade, location and origin of ulcers for each clinical area allows specific problems to be highlighted and can be used to determine educational requirements (fig 4). Timely intervention can be implemented from the identification of early signs of pressure damage.
Figure 3

Incidence

Prevalence

Figure Four

Anatomical Location of Pressure Ulcers Developing Since Admission to 'Carmarthenshire NHS Trust' (between 01/01/2003 and 01/01/2004).
Conclusion

The static-Led approach was introduced three years ago to improve patient care, decrease costs and provide a simple but effective pressure damage prevention programme.

The system has been regularly monitored since its introduction and more recently extended to other areas of the Trust.

Increase in appropriate equipment usage and assessment of patients risk status as well as a reduction in incidence figures ensures improved clinical effectiveness. At the same time reduced costs allow for controlled financial budget which has positive organisational benefits.

Jane James

Tissue Viability Nurse, West Wales General Hospital, Carmarthenshire NHS Trust

Key Points

- Maintenance of significantly improved results over a three-year period confirms that the static led approach is sustainable, and has been successfully applied to a 685 bed Trust.
- Importance of ensuring the appropriate selection and use of equipment, and the benefits which result from the introduction and management of an equipment library.
- Emphasis on the importance of using clinical judgement supported by a formal assessment tool.
- Pressure ulcer prevalence rate reduced from 30% to 9%
- Significant savings achieved in rental costs, from over £200,000 pa to £1,500 pa
References
Figure 1

**Pressure Sore Prediction Score Assessment**

Name of Patient: ____________________________

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<th>Problem/Need:</th>
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<tr>
<td>PSPS 12-16</td>
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**Objective:**

- Preventative □
- Treatment □

- To reduce/relieve pressure □
- To relieve pressure □
- To maintain skin integrity □
- To promote healing □
- To monitor effects of prevention measure □
- To monitor effects of treatment and nursing intervention □

Plan of Care (Has the plan of care been discussed and agreed with patient or relative)

Yes □ No □

If no, specify reason:

- Prevention □
- Healing □

PSPS <6 Re-assess as condition changes

**PSPS 6-9**

1) Pressure Reducing Foam Mattress (PRFM)
2) Pressure Reducing Cushion Type: ……………………………….
3) Regular re-positioning Frequency: Minimum 2 hrly
4) Encourage independent movement by the client

**PSPS 10-11**

1) PRFM
2) Pressure Reducing/Relieving Cushion Type: ……………………………….
3) Regular re-positioning Frequency: Minimum 2 hrly
4) Encourage independent movement by the client

**PSPS 12-16**

1) Cairwave
2) Pressure Reducing/Relieving Cushion Daycare □ Pro-Active □ Floteck Solution □
3) If sore present initiate wound assessment form □

Signature:……………………………………………. Date:………………..

Please see overleaf
PSPS ABOVE 6: Daily Assessment
PSPS BELOW 6: Weekly Assessment or as condition changes

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<th>PSPS</th>
<th>Comment</th>
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# Equipment Request Form

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<tr>
<th>Ward</th>
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<tbody>
<tr>
<td>Date</td>
<td>Signature (staff requesting equipment)</td>
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<tr>
<td>Time</td>
<td>Item Requested</td>
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## Infusion Device

**(Please tick appropriate box)**

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<tr>
<td>Graseby 500 Volumetric Pump (Wards 5 &amp; 6 only)</td>
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<tr>
<td>Baxter 6201/6200 Volumetric Pump (Wards 1, 2, 3, 4, 7 &amp; 8 only)</td>
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</tr>
<tr>
<td>Alaris (IVAC) P2000 Syringe Pump</td>
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<tr>
<td>Graseby MS 16a Syringe Driver</td>
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<td>Critikon Syringe Pump</td>
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<td>Graseby 3100 Syringe Pump</td>
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<td>Graseby 500 Volumetric Pump</td>
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<tr>
<td>Graseby MS 26 or 16a Syringe Driver</td>
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### Inventory Number of Infusion Device

**(Porter to enter when issuing pump)**

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### Mattress

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<td></td>
<td><strong>If PSPS 12-16 use</strong></td>
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<tr>
<td><strong>If PSPS 12-16 use</strong></td>
<td>Pegasus Cairwave</td>
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### Inventory Number of Mattress

**(Porter to enter when issuing mattress)**