

# REFLECTING ON COMMERCIAL PARTNERSHIPS AND THE IMPACT ON REDUCING THE NUMBER OF AVOIDABLE GRADE 3 AND 4 PRESSURE ULCERS WITHIN THE COMMUNITY HOSPITAL SETTING.

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## Introduction

A recent study in five acute hospitals suggested that 43% of grade 3 and 4 hospital acquired pressure ulcers were avoidable (Downie et al, 2013). This higher than expected prevalence is possibly due to the increase in our ageing population and people suffering with more complex and multiple comorbidities. Therefore, organisations have a responsibility to be proactive in preventing avoidable harm for people within their care. These findings inspired a product evaluation of a new dynamic mattress system within a community hospital setting. Whilst the clinical outcomes were favourable, it was felt that one year on we should reflect on whether these positive outcomes had been maintained.

## Method

The original evaluation of 98 patients (males n=40; females n=58; mean age = 82; mean weight = 70kg) using a dynamic mattress replacement system demonstrated multiple benefits including, effective pressure ulcer prevention, engagement of nursing staff, positive patient feedback and excellent customer service from the chosen commercial partner (Grothier & Bradley, 2014). During the evaluation any patient deemed to be at increased risk of developing pressure damage was commenced on the product (n=100, or 14% of all admissions). Whilst the organisation continued to monitor all levels of pressure damage, grade 3 and 4 pressure ulcers were of particular interest, as these are often associated with extensive tissue loss as well as infection and morbidity.

Throughout the evaluation there were no reports of organisational acquired grade 3 or grade 4 pressure damage, grading according to EPUAP guidelines EPUAP, 2014.

Hence the key questions were:

- Had this zero incidence been maintained?
- Had the service from Shelden Healthcare Ltd remained consistent and at a high level?

## Results

In the original evaluation (Grothier & Bradley, 2014), although 100 participants were initially evaluated, data analysis was carried out only on participants where all relevant values were available. The data collected during the evaluation indicated that pressure damage ranged from 1 to 4, grading according to NPUAP/EPUAP/PPPIA guidelines, NPUAP/EPUAP/PPPIA, 2014. However, the evaluation also found that when comparing participants that used the mattress before and after their admission, there was a statistically significant reduction in the number of pressure ulcers (n=58, z=-2.5, p<0.01, r=-.232, see Figure 1). This was found using a wilcoxon signed-rank test (Wilcoxon, 1945, cited in Field, 2005).

**Number of Pressure Ulcers Before and After time on the Dynamic Pressure-Relieving Mattress**

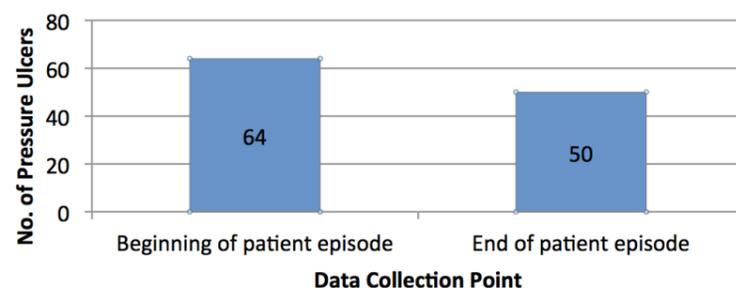


Figure 1: Number of Pressure Ulcers before and after episodes of care on the mattress (n of patients=58)

The original evaluation also included feedback from patients about the mattress, and also feedback from staff about the mattress and the customer service received from the mattress supplier. 96% of patients (n=92) rated the mattress as 'Comfortable', 'Fairly Comfortable' or 'Very Comfortable' (see figure 2), and 90% of patients (n=88) reported that the noise of the mattress pump was quiet or silent (see figure 3).

**Patients' ratings of comfort**

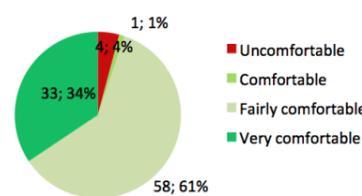


Figure 2: Patients' ratings of comfort

**Reported noise of pump**

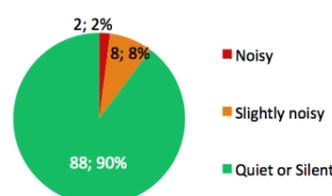


Figure 3: Patients' reported noise of pump

Staff members also answered questions regarding the service provided by the mattress supplier, and the majority of responses for each question (over 98%) were positive (see figure 4).

## Responses regarding the service provided

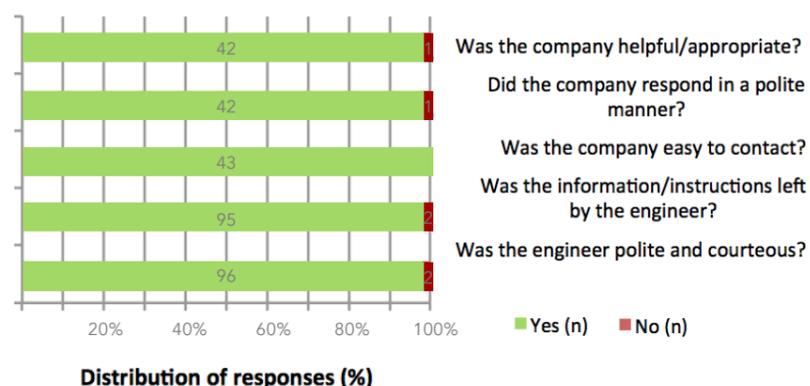


Figure 4: Responses regarding customer service received from Shelden Healthcare Ltd

On reflecting since the evaluation concluded in March 2014. The mattresses continue to be utilised for patients at increased risk of pressure damage across the three community wards.

- Grade 3 and Grade 4 pressure ulcer incidence:

There has been no reported incidence of acquired and avoidable grade 3 and 4 pressure damage in the last 12 months while patients have been cared for within the community hospitals. Considering the complex needs of the patient population; this is considered an outstanding achievement.

- Service level from Shelden Healthcare Ltd:

The mattress supplier has ensured products are readily available when needed. Ongoing comprehensive staff training has ensured familiarity and appropriate utilisation of the mattress system and promoted staff confidence. A newly implemented electronic asset management system has further enhanced the effective management of resources and budgetary control.

Dynamic mattress usage on a day to day basis can be viewed electronically and compared with monthly billing, making the system completely transparent. Costs are able to be controlled and ad hoc usage of additional or bariatric systems are subject to local approval prior to installation so there are no unexpected costs. The organisation has realised approximate savings of 15% of the allocated budget inclusive of VAT.

## Discussion

The original evaluation (Grothier & Bradley, 2014) found that patients in the evaluation had pressure damage ranging from grade 1 to 4, however the number of pressure ulcers decreased for patients spending time on the mattress. The majority of patients also found the mattress to be comfortable, and staff rated the care provided by the mattress supplier to be of a high standard. Although the mattress in the evaluation has not been compared with a different mattress, these positive outcomes for both patients and staff have led to the organisation continuing their business relationship with this commercial company. The partnership developed has facilitated standardisation in practice and optimised the effective management of those at increased risk which has contributed to the zero incidence of grade 3 and 4 pressure damage. However, it is also acknowledged that excellent nursing care has been consistently maintained for community hospital inpatients.

## References

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- National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance (2014). Prevention and Treatment of Pressure Ulcers: Quick Reference Guide. Emily Haesler (Ed.). Cambridge Media: Osborne Park, Western Australia;
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- Grothier and Bradley D (2014) Evaluation of a dynamic mattress replacement system within a community setting. J Community Nurs 28 (5): suppl 1-8 Grothier and Bradley, D. (2014)