

EVALUATING THE CLINICAL AND COST EFFECTIVENESS OF THE DYNA-FORM® STATIC AIR HZ IN THE INTERMEDIATE CARE SETTING

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Introduction

The community integrated equipment service approached the tissue viability service regarding the high rental (£34,000 over 3 months) and delivery cost (£6,800 over 3 months) of alternating air replacement or overlay pressure relieving mattresses to the intermediate care unit. The intermediate care unit within Greenwich community provides rehabilitation and support for patients who are not yet ready to be discharged home. Prior to hospital discharge, mattresses are ordered/ delivered to the intermediate care unit with a choice of surface dependent on the outcome of patient assessment whilst in the hospital setting.

A snapshot audit identified that 83% of mattresses were over prescribed and 4% under prescribed for the patient's level of risk. Many patients fed back that they did not understand why they had been provided with a dynamic mattress and said they found it uncomfortable and difficult to move/ reposition once in bed.

The objective was to evaluate a static hybrid mattress, the Dyna-Form® Static Air HZ, with the overall goal of purchasing/ having a supply of high risk pressure relieving mattresses within the unit and drastically reduce the volume/cost of deliveries/rental.

As the Dyna-Form® Static Air HZ provides a unique 'air only intelligent heel zone', another objective was to further reduce costs by negating the need for off-loading heel products for patients at risk of heel pressure damage.

Method

Direct Healthcare Services provided 10 mattresses for the purpose of the evaluation, as well as episodic staff training over several days, so as to catch the majority of staff. Holistic assessment was carried out using the SSKIN bundle to identify patient's level of risk and suitability for this mattress. Of the patients assessed as suitable for the Dyna-Form® Static Air HZ, 13 consented to the mattresses evaluation and 1 patient refused preferring to remain on their current mattress.

Patients with lower limb contractures, virtually bed bound or needing maximum help to reposition, were omitted from the evaluation.

The objective of the evaluation was to measure the following criteria;

- Improved patient experience, in particular for patients with rehabilitation goals
- Appropriate for patients 'at risk' and 'at high risk' of pressure ulcers as per NICE guidelines (2014)
- Appropriate for patients with existing pressure ulcers up to grade 3
- Negate the need for off-loading heel devices for patients at risk, or with existing heel pressure ulcers up to grade 4
- Easy to clean/ transport between patient episodes of care



Results

The mean age of the group was 81 years, with 61.5% identified 'at risk' and 38.5% identified 'at high risk', with a mean Waterlow score of 17.4. 31% of patients had grade 1–2 sacral pressure ulcers and 8% with a grade 3 heel pressure ulcer. 92% of the group were identified as being at risk of heel pressure damage.

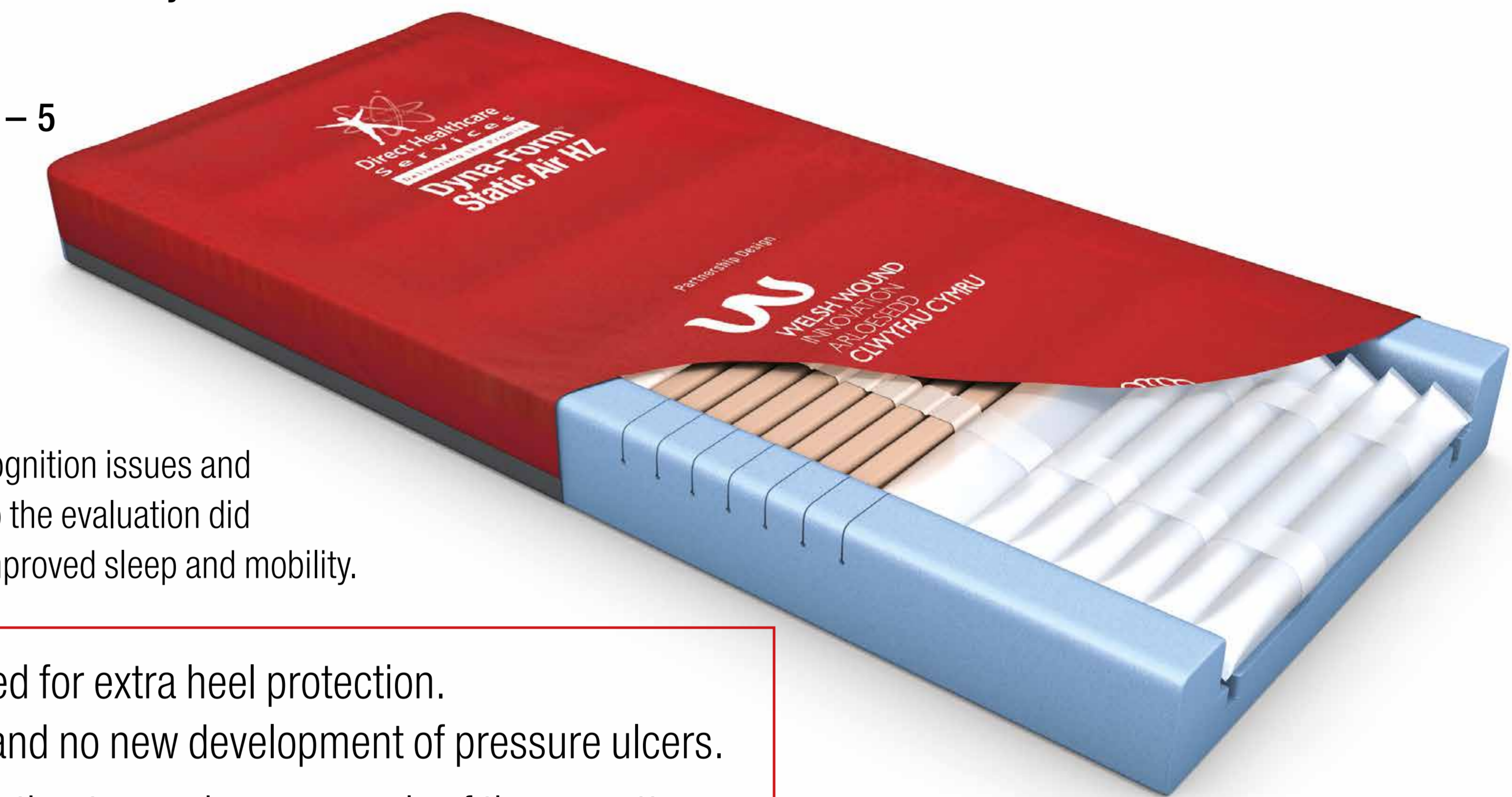
The evaluation was conducted over 21 days with a mean time of 13.5 days on the mattress.

Patients were asked to score the following using a scale of 1 – 5 (1 being poor and 5 being excellent) resulting in a mean score

- **COMFORT = 4.2**
- **SLEEP = 4.2**
- **PAIN = 1.8 (MAJORITY WAS NOT APPLICABLE)**
- **MOBILITY = 4.6**

Overall only 5 evaluations were collected as result of discharges, cognition issues and hospital admission. However, a preliminary review several days into the evaluation did identify patient satisfaction with the mattress, including comfort, improved sleep and mobility.

The mattress was 100% effective in eliminating the need for extra heel protection. There was no deterioration of existing pressure ulcers and no new development of pressure ulcers. Interviews with the staff were very positive with them opting to purchase a supply of these mattress for their unit.



Discussion & Conclusion

Dyna-Form® Static Air HZ Mattress is a non-powered hybrid mattress (high specification foam) which works on the principle of air displacement, by moving air within the mattress to surrounding cells when a person moves or repositions their weight, resulting in optimal pressure redistribution, whilst the heel flotation zone eliminates the need for additional off-loading devices (Direct Healthcare Services, 2014).

This evaluation has shown that the purchase and supply of this mattress will greatly reduce both rental and delivery costs, as well as cost of heel off-loading devices. It has also proven to be clinically effective in the prevention of pressures ulcers, whilst improving the patient experience, in particular those with rehabilitation goals.

Based on this evaluation, 10 mattresses were procured for the unit anticipating significant cost savings over the next 5 years. The Integrated Community Equipment Service has also included the Dyna-Form® Static Air HZ Mattress in its catalogue with the aim of reducing the level of dynamic mattresses and heel off-loading devices for patients in their own homes.

References:

Direct Healthcare Services (2014) Dyna-Form Static Air HZ (on-line) Available from <http://directhealthcareservices.co.uk>
NICE clinical guideline 179 (2014) Pressure Ulcers: prevention and management of pressure ulcers