



Design for Life Pilot Project

Somerset NHS Foundation Trust

The Centre for Sustainable Healthcare (CSH) is working with the Design for Life team, in collaboration with key partners in the NHS to explore the potential for switching from single-use to reusable products. This initiative aims to identify barriers, opportunities, and the benefits of such a transition, focusing on sustainability, cost savings, and improving healthcare efficiency. By quantifying these benefits, the project supports the NHS's broader goal of reducing waste and promoting a circular economy in medical technologies.

Contributors

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Background

Slide sheets are essential tools used in healthcare settings to assist with patient handling, particularly when moving or repositioning patients. They are designed to reduce friction and help prevent injury to both patients and healthcare colleagues and used in a variety of situations, such as transferring patients from bed to stretcher, repositioning patients in bed, or assisting with mobility during procedures. They are used across many areas of the hospital, including intensive care units (ICUs), general wards, surgical theatres, emergency departments, and rehabilitation settings.

The National Institute for Health and Care Excellence (NICE) guidelines highlight the importance of safe patient handling to prevent musculoskeletal injuries to colleagues and to ensure patient safety during transfers and repositioning. The guidelines stress that using appropriate equipment, such as slide sheets, can help reduce the risks of injury. While slide sheets are crucial for ensuring safe and efficient patient handling, the use of single patient use slide sheets (used multiple times with one patient, but are not re-used with other patients) presents several problems. Single patient use slide sheets contribute to significant medical waste and incur higher operational costs due to the need for constant replenishment. Economic evaluations from NICE are uncertain but suggest that washable slide sheets could save money compared with disposable or single patient use slide sheets (NICE GUID-HTE10051 Slide sheets - Draft guidance for consultation - expected publication date 24th April [consultation-document](#)), provided they are appropriately managed and cleaned.

Somerset NHS Foundation Trust has two acute hospitals, 13 community hospitals and four mental health sites across the county of Somerset. The two acute hospitals have over 1,000 beds of which

Yeovil District Hospital site has 345. In the last few years the trust has been through two mergers. The first to merge the community and mental health trust (Somerset Partnership NHS Foundation Trust) with the Taunton based acute site (Taunton and Somerset NHS Foundation Trust), and the second, in 2023, to merge with Yeovil District Hospital NHS Foundation Trust. For this reason, separate procurement, facilities and estates teams for the Yeovil District Hospital site exist.

Somerset FT recently commenced the transition to reusable slide sheets at Yeovil Hospital site. The aim of this report is to summarise the recent transition process, learning and evaluate the benefits of switching from single patient use to reusable slides sheets at Yeovil Hospital, part of Somerset NHS Foundation Trust.

Across the trust, there is mixed usage of slide sheets with approximately 50% sites using reusable slide sheets (all from the same manufacturer). Most of these have laundering facilities on site, however some send their slide sheets to Yeovil for laundering. Single patient use sheets are still available at sites as a backup in case of any issues, for example if laundering was not available, or for patients with specific needs.

At Yeovil hospital, prior to this project the majority of the hospital used single patient use, tubular design sheets. Some areas, such as our Intensive Care Unit (ICU), also had selected a different type of flat slide sheet for use in their department (likely due to the flat sheet offering more varied clinical functions/uses). The theatre complex uses reusable sheets, externally laundered from an alternative supplier who manages other laundry provision and cleaning.

Process and approach taken to support transition

The transition from single patient use to reusable slide sheets was initiated by the Safer Moving and Handling Ergonomic Service team with a focus on standardisation of product usage across sites as well as to bring potential financial savings to the Trust. A key stakeholder group was established to support the transition.

The reusable product and manufacturer was already identified due to supplying other sites in the trust. The product size is not available through the NHS Supply chain and the trust have recently established a pricing agreement through the trust procurement teams. Simply Serve Limited (SSL) is a wholly owned subsidiary of Somerset NHS Foundation Trust which provides clinical support services (e.g., portering, estates, cleaning and laundry). SSL have purchased the reusable slide sheets and will provide them to clinical areas as identified and maintain records of stock allocated. Each clinical area via the SSL process is then charged according to use and laundering of the items.

In December 2024, 1,200 reusable slide sheets were purchased based on provision of three slide sheets per inpatient bed - one for current use, one to be washed and one on the way back from laundering facilities. Ordering of single patient use was significantly reduced - however this is on a roll out programme as each department meets the mandatory education requirement. The reusable slide sheets are being distributed to the wards by materials management in line with provision of education and competency. Education for the use of both types of slide sheet design has been supported for over 18 months and will continue as part of the mandatory education sessions. Areas and number of colleagues trained is recorded by the learning management system via the Safer Moving and Handling Ergonomic Service. Approximately 50% of hospital sites/teams have received training and are using the reusable slide sheets as of May 2025.

The SSL Laundry team was part of the key stakeholder group and had the capacity to wash the sheets. As the Yeovil laundering facility already laundered sheets for other sites, colleagues were familiar with the guidance and laundering process according to the manufacturer's instructions. The system for collection and return of the sheets from clinical areas includes a netted bag inside a dedicated bin. The bag is labelled with the ward name that allows the same number of reusable sheets to be delivered back to the ward after laundering.

Perceived barriers to the transition

Barriers, or delays to the transition were linked to practicalities of the rollout, rather than any concerns regarding the reusable product itself.

A key stakeholder group was established to support the transition, and regular meetings were held throughout. However, the identification and involvement of all relevant parties was in some cases reliant on others within the wider network. This interdependence may have contributed to some delays in recognising and addressing logistical issues. For instance, there was initially some uncertainty around storage and the processes for collecting and returning reusable slide sheets. While portering services now carry out this role, the arrangement was not initially formalised, which led to some early ambiguity.

The early removal of red single patient use slide sheets in certain areas led to some understandable confusion among colleagues, with questions arising about the absence of familiar equipment and a lack of clarity around the new process. Whilst there was an agreed roll out process with clinical teams via senior managers, due to the volume of colleagues involved it did not reach all colleagues simultaneously. Operational demands within clinical areas can make it challenging to release colleagues for training, meaning not everyone has been able to attend. Consequently, some colleagues felt less confident or familiar with the reusable sheets.

While only a single change in technique has been introduced, the slide sheets obviously look different due to colour and design (tubular vs flat slide sheets). It is understandable colleagues would wish to be fully aware of use before using new equipment to ensure safe practice and high standards of patient care. Feedback from those who have completed education sessions has been positive with many reporting improved quality indicating challenges were more about implementation processes rather than the sheets themselves. Education sessions will continue to include use of all the new standardised slide sheets. Intensive care was one of the first wards to stop use of disposables completely. They were one of the few wards previously using a flat sheet design of single patient use sheets, which may have assisted colleague's confidence in the transition.

Although reusable slide sheets are not expected to be mistakenly disposed of in the way single patient use sheets might have been, there is a potential risk that they could be placed into incorrect laundry streams (e.g. general linen), particularly if the item is soiled. In such cases, the sheets could be sent to the wrong laundering facility and not returned. Clear labelling and ongoing colleague awareness is key in mitigating this risk.

Perceived change to patient experience or safety (including infection prevention and control considerations)

Infection prevention and control (IPC) involvement, as a key stakeholder, is already well established as the reusable slide sheets are used across other areas of the trust, and have been for some time; therefore there are no issues or concerns. There is a theoretical risk that if a transition is not made

clear to colleagues they may not understand the change, which could lead to incorrect use of equipment. In the context of slide sheets this could place patients at increased risk of injury.

Importantly, there has only been a single change in technique, and feedback from those who have completed training has been positive. The new slide sheets differ in design, they are flat sheets compared to the single patient use equipment being a tube. This design enables the sheets to be used for a wider range of clinical functions, and so the sheet is not just an in-bed system, but provides broader patient safer handling support.

Perceived change to colleague experience or safety

As above, there is a theoretical risk that if a transition is not made clear to colleagues and they do not have the skills or knowledge, there can be confusion with the potential for risk of harm. This highlights the importance of comprehensive communication as part of the roll-out. Generally, colleague experience will be unchanged outside of where they need to place the sheets after use to ensure they are sent for laundering, instead of placing in a disposal bin. Colleagues have fed back during education sessions that the reusable slide sheets are superior. It may support colleagues to continue to do their job well and more efficiently with slide sheets that offer a wider range of functions. Colleagues have also commented that the slide sheets are better as they reduce waste.

Environmental cost / saving of the proposed changes

A cradle-to-grave process-based carbon footprint analysis was used to estimate the GHG emissions associated with the disposable slide sheets, reusable slide sheets and reusable straps. The analysis included GHG emissions associated with raw materials, transport, disposal and for the reusable items, sterilisation.

Item and packaging materials were weighed by the Head of Sustainability and CSH converted material data into Greenhouse Gas (GHG) emissions using carbon conversion factors taken from the 2024 UK Government Greenhouse Gas Conversion Factors database. For the disposable slide sheets, it was assumed that they are made from 100% non-woven polyester and the packaging is Low Density Polyethylene (LDPE). The reusable slide sheets are made from 100% nylon and include a nylon drawstring bag, paper leaflet and an LDPE layer of packaging. For the reusable extension straps, it was assumed that they are made from 50% non-woven polyester and 50% rigid plastic and include a paper leaflet and an LDPE layer of packaging.

Both disposable and reusable items are supplied by the same manufacturer in the UK. For disposal, it was assumed that 50% of disposable sheets would be disposed of in non-infectious waste and 50% would be disposed of in infectious waste, and packaging would be disposed of in domestic waste. Disposal emissions for each waste stream were taken from [Rizan et al., 2020](#).

GHG emissions associated with laundering the reusable items have been estimated based on data from [John et al, 2024](#). It was assumed that a reusable slide sheet would use 0.1514 kgCO₂e per wash.

Reusable slide sheets were assumed to have a lifespan of three years before disposal, with a 10% loss rate per year factored into the calculations. Additionally, for sterilisation emissions, it was estimated that reusable slide sheets would be used 4,200 times per year, based on the number of single patient use slide sheets procured in 2023/24.

Table 1: Disposable slide sheet GHG emissions

Item	Number procured 23/24	GHG emissions per item (kgCO ₂ e)	GHG emissions per year (kgCO ₂ e)
Disposable slide sheet 1	4,200	1.59	5,955.25
Disposable slide sheet 2		1.24	
<i>Total</i>			5,955.25

Table 2: Reusable slide sheet GHG emissions

Item	Number procured 23/24	GHG emissions per item per year (kgCO ₂ e)	GHG emissions per year (kgCO ₂ e)
Reusable slide sheet 1 (assuming a 3 year life span)	1,236	0.90	923.25
Reusable slide sheet 2 (assuming a 3 year life span)		0.6	
10% loss rate of reusable slide sheets per year	123.60		184.65
Reusable extension straps (assuming a lifespan of 3 years)	36	0.22	7.91
Sterilisation	n/a	0.1514 (per slide sheet sterilised)	635.88
<i>Total</i>			1,751.70

By switching from single patient use to reusable patient slide sheets at Yeovil Hospital it is estimated that the hospital will save **4,203.5 kgCO₂e per year**.

Financial cost / saving of the proposed changes

Data on current spend and projected spend on reusables is not publicly available.

The trust could save a potential £10,000 per year from a switch to reusable slide sheets calculated over multiple years. It is important to note this would not be an immediate saving due to the initial purchase.

This saving accounts for the current purchase of single patient use compared to purchase of 1,200 reusable slide sheets and 36 pairs of extension straps (3 years of usage per item). Laundering costs of approximately £2,000 were accounted for using a figure of £0.47 per item (figure 3c, 2022-23 NHS

England report [Delivering productivity through the NHS estate](#)). As this average encompasses all laundered items and may not account for laundering requirements of specialised items like slide sheets based on factors such as their material, laundering requirements, and regional pricing, we assume this is an underestimation.

Smaller, additional financial savings from reduced waste disposal were not included. Most single patient slide sheets will go in tiger stripe (clinical) waste, unless used with infectious patients and placed in infectious waste stream which carries a significantly higher cost per tonne.

Discussion and conclusion

The majority of other sites within the organisation had already transitioned to reusable slide sheets, creating an opportunity to align practices across the system. While some areas had previously adopted reusable equipment, the uptake had been inconsistent. Moving towards reusables at a broader scale represented not only an operational shift but also a cultural one. Yeovil hospital has recently merged to form part of a larger trust with this process requiring sensitivity to organisational culture and communication, ensuring the "pitch" of the change was appropriate to gain broad buy-in. It was not just about introducing a new product, but embedding a new approach.

The learning gained from this transition is largely transferable and highlighted further areas for potential change. For example, reviewing the use of reusable slings which offer patient comfort advantages. Patients would also have the option to bring in their own slings, adding a layer of personalisation and practicality to care alongside the financial and environmental benefits.