

Reusable surgical gowns and drapes

Peter MacCallum Cancer Centre

Demographic information

- Peter MacCallum Cancer Centre is an adult cancer research, education and treatment facility providing highly specialised cancer treatments.
- Region: North Melbourne, Victoria
- Country: Australia
- Type of institution: Public cancer hospital, research institute
- Number of staff: >4000
- Number of beds: 270

GGHH agenda goals

- Leadership
- Waste

Case study summary

Peter Mac has conducted a pilot study into using reusable gowns and drapes for surgical procedures at their hospital to reduce the environmental impact of surgery. To date, the results have shown only possible outcomes like increased comfortability, and no concerns raised about infection risks.

The issue

The operating theatre is one of the most energy intensive areas of a hospital and is responsible for producing over half a hospital's waste. Single-use items like surgical gowns and drapes are attributed to approximately two-thirds of the carbon footprint of a surgical operation. At Peter Mac, it is estimated that 11 tonnes of surgical gowns and drapes are used by operating theatres every year. Furthermore, costs to procure these disposable textiles are around the same as the reusable alternatives which means that the sustainable option is cost-neutral.

Previous research has shown that reusable surgical textiles can reduce natural resource energy consumption by 64%, greenhouse gas emissions by 66%, solid waste generation by 84%, and blue water consumption by 83%. Broad adoption of the reusable surgical gowns and drapes would result in a reduction of solid waste by approximately 9.2 tonnes per year, which would be followed by reductions in water consumption and greenhouse gas emissions.



Hospital goal

- Reduce energy costs
- Reduce carbon footprint of operating theatres
- Reduce costs of surgical waste disposal
- Replace single-use items with reusable alternatives that can reduce resource use

Sustainability strategy implemented

Over 2 separate phases, surgical lists were selected to trial the reusable surgical textiles – gowns and drapes.

- The initial phase trialled the textiles in simple, small procedures as an initial pilot to assess for any major issues encountered.
- For the second phase, larger, more complex procedures were chosen.

Following use, staff involved were invited to partake in a survey to assess their satisfaction with the products – including ease of use, practical and logistical issues, patient protection and support for ongoing use. This allowed for feedback to the manufacturer to further improve the quality and usability of the reusable items.

Please note that the information in this case study was provided by the GGHH member named above. Health Care Without Harm (HCWH) is not responsible for the accuracy of the information/data provided.

Implementation process

- Initial stakeholder engagement – theatre nursing staff, surgeons, procurement staff, site managers, hospital executive – to determine support for the intervention.
- Engagement of the linen service provider - to discuss logistics of supply, removal, re-processing, sterility considerations.
- Pilot implementation phase - this was preceded by an education campaign to all staff users about the process and which theatre lists would be utilised. Staff were encouraged to provide live feedback to highlight any issues as soon as they arose.
- Finally, survey feedback was analysed and published to ensure robust feasibility assessment.
- Currently the procurement team is in contract negotiation to secure the reusable textiles for ongoing use.



Progress achieved

Cost Reduction

The current cost of surgical waste disposal is roughly \$2 per kg, which equates to \$22,000 for 11 tonnes of waste. Using reusable textiles would not only lower the environmental footprint of the operating theatre, but save on costs from waste disposal as the procurement of these alternatives are cost-neutral to the single-use items that the hospital uses.

Engagement

The results of the pilot study on staff engagement was beneficial to the hospital. From the post-implementation survey, data showed that 90% of staff believed in the importance for healthcare services to use textiles that have the lowest environmental footprint. Furthermore, 93% of respondents supported the ongoing use of reusable surgical textiles in their surgery department.

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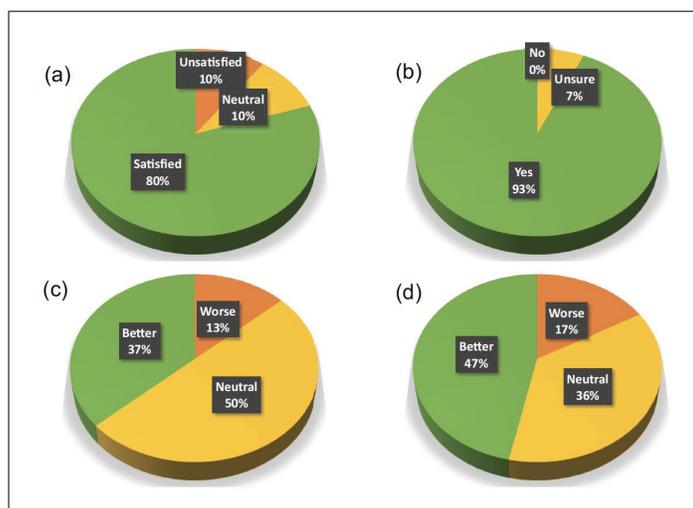


Figure 2 Key responses to survey questions. (a) How satisfied are you with reusable drapes? (b) Would you support the ongoing use of reusable drapes? (c) Effectiveness compared with disposable drapes? (d) Ease of application and removal compared with a disposable drape?

Benefits

In their post-implementation surveys, most respondents insisted that the reusable gowns were more comfortable than the disposable gowns which has improved staff comfort, especially during long operations. Similarly, there have been no concerns raised over the safety of infection risks, which suggests that the introduction of these textiles provides only benefits to the community in terms of reducing the environmental impact of surgery.

Challenges and lessons learned

The main lesson learned was that, for the most part, staff are keen to make changes that will help reduce our environmental footprint. The main challenges have all been logistical. Hospital supply chains are complex with many factors to consider when trying to introduce new products. The most useful lesson for others attempting similar interventions is to enlist the involvement and support of a wide network of key stakeholders as early as possible. This will allow identification of barriers early so that they can be addressed.

The major challenges have been satisfying infection prevention standards and negotiating new textiles service providers for the hospital. In addition, some staff with strong objections needed to be heard and satisfied that their concerns were addressed.

The entire process has taken two years, so the team needs to be committed.

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Next steps

The concept of reusable textiles has been expanded across Peter Mac and its different hospital departments. They have taken steps to procure reusable surgical gowns and drapes for their chemotherapy unit, radiology, and endoscopy. The leadership shown by Peter Mac has inspired other hospitals in Melbourne to replicate their model of introducing these reusable textiles for their own sites.

Links

- [Staff satisfaction with reusable surgical drapes](#)