

Final Project Submission Form

Health Service: Royal Children's Hospital

Title of project:

Small Change, Big Impact: Removing Bluey Absorbent Liners from Emergency Care

Department: Emergency Department

Introduction

As an Equipment Nurse and Clinical Nurse Consultant in the Emergency Department (ED) we were inspired to create sustainable environmental change after recognising the significant volume of single-use disposable bluey absorbent liners used daily in the ED, often without clear clinical benefit. As clinicians working in a high-throughput environment, we saw an opportunity to improve environmental sustainability while maintaining high-quality patient care.

What was the problem you tackled?

Bluey absorbent liners were being used routinely in the ED for interventions and procedures regardless of clinical need. This resulted in:

- High volumes of single-use plastic-containing Polypropylene and Cellulose Tissue
- High volumes of (often unnecessary) clinical waste disposal
- No clear improvement in patient outcomes or infection prevention

Many bluey liners were discarded unused or only minimally soiled, indicating unnecessary use.

What was your SMART Goal?

Specific: Remove routine use of Bluey absorbent liners in the ED

Measurable: Replacement of disposal bluey absorbent liner with reusable items Action:

Remove Disposal Bluey Absorbent liners

Relevant: Reduces waste, carbon emissions, and costs

Time-bound: Within 3 months of project implementation

What system factors contributed to the problem?

- Historical practice and habit-based use of disposal bluey absorbent liners
- Liners stored prominently in accessible areas (trolley and shelving)
- Lack of guidance on when blueys were clinically indicated
- Assumption that disposables are cleaner
- No feedback loop on environmental impact

Who were the key stakeholders?

- ED Nursing Staff
- Emergency Equipment Nurse
- Nurse Unit Managers and Medical Directors

What was the intervention?

- Removal of Bluey liners from standard ED trolleys
- Clear guidance on appropriate clinical indications only
- Staff education during safety huddles and shift handovers
- Reinforcement that standard linen is appropriate in most scenarios

What impacts/outcomes were measured? How did you measure them?

- Initial staff concern regarding spills or hygiene
 - Reviewing VHIMS incident reports, staff feedback entries by staff that related to project.
- Cultural resistance to changing “standard practice”
 - Staff feedback monitored to Nursing Leadership Team
- Linen / Blue Huck Towel supply
 - An increase in linen and/or Blue Huck Towel usage was anticipated following implementation; however, routine monitoring of linen usage demonstrated no measurable increase in consumption related to the removal of bluey, and linen delivery volumes remained consistent with baseline levels.

What challenges did you face? What enablers facilitated the change? What were the learning points?

- Initial staff concern regarding spills or hygiene
 - Targeted education was provided to clinical staff on the use of plastic-free and reusable alternatives that could safely replace the Bluey in appropriate clinical scenarios. This included raising awareness of when single-use plastic items were not clinically indicated and promoting the use of reusable linen options, or Blue Huck Towels, where appropriate. Education was delivered through informal bedside discussions, staff meetings, and leadership communication, reinforcing correct item selection while maintaining patient safety and infection prevention standards. This approach supported a reduction in unnecessary bluey use without impacting clinical care or workflow.
- Cultural resistance to changing “standard practice” addressing this resistance required ongoing education, visible leadership support, reinforcement of clinical rationale to support behaviour change while maintaining staff confidence.

What are the next steps with this project?

- Encourage the intervention to other acute care areas
 - Blueys continue to be widely utilised across other inpatient wards within the organisation. There is now opportunity to share the process, lessons learned, and support education to encourage broader adoption across other acute care settings. Our progress demonstrated that the removal of Bluey use can be safely achieved without impacting clinical care, workflow or resource availability. The intervention could be prompted and implemented by the sustainability nursing representatives across clinical areas who are well positioned to champion change, reinforce education and support local implementation.
- Explore additional single-use item reductions
 - This initiative has demonstrated that sustainable practice change can be successfully implemented within the Emergency Department, with strong engagement and support from both clinical leadership and nursing staff. Applying the same principles of staff engagement, targeted education, leadership support, and outcome monitoring will support the identification and implementation of additional opportunities to reduce environmental impact while maintaining care standards.

Points will be awarded in the following categories:

Environmental sustainability: What were the carbon savings from your project? (Please include your raw data and calculations)

This project saved approximately 24,000 blueys annually.

Carbon Savings

Numbers used bluey liners $24,000 \times 0.087\text{kg CO}_2\text{e per bluey} = 2,088 \text{ kg CO}_2\text{e/year saved}$

This is equivalent of 7 returns flights from Melbourne to Sydney!

(Feely et al., 2026)

Feely, K., Matthews, S., McGain, F., Ibarra, M., Pinan, M., O'Shea, C., McAlister, S., Quilas, E., & Wynne, R. (2026). *Beds we make, futures we shape: A life cycle and cost analysis of reusable and disposable linen in the ICU*. Intensive and Critical Care Nursing, 93.

Environmental sustainability: What were the waste reductions? (If possible, please specify what waste stream – reduced clinical waste by diverting to recycling, reduced clinical waste by using reusable equipment etc.)

Waste Disposal

Disposable Bluey – Blue Backing and Top Layer – polypropylene (7g) + Absorbent Inner Layer – Cellulose Tissue (16g)

Numbers of used liners 24,000 x 23g per bluey = 552 kg avoid landfill waste per annum Polypropylene
= 168 kg
Cellulose Tissue = 384 kg

(Feely et al., 2026)

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Clinical outcomes: How did your project improve patient care? (include outcome data if available)

When we scoped the project, we hypothesised that blueys were being used excessively and, in many cases, unnecessarily, therefore we believed that in removing them there would be nil negative impact on clinical care. Throughout the project, staff feedback and VHIMS reporting were closely monitored.

Financial sustainability: Have there been any financial savings? (please include your calculations)

The primary aim of this project was to reduce the environmental impact associated with the use of single-use disposable Blueys. While the financial benefit was not the primary driver, a modest cost saving was realised.

Social sustainability: How did your project socially benefit patients, staff, or wider community?

- Increased staff engagement in sustainability initiatives
- Empowered bedside clinicians to lead environmental change

Generalisability: Could this project be replicated in other areas of the hospital?

Yes

- Low-risk
- Low-cost
- Easily scalable

Single-use Blueys continue to be widely utilised across other inpatient areas within the organisation. Following the successful implementation of this initiative within the ED, there is now an opportunity to share the process, lessons learned, and supporting education to encourage broader adoption across other acute care settings. The progress achieved in ED demonstrates that a reduction in Bluey use can be safely achieved without impacting clinical care, workflow, or resource. The intervention can be promoted hospital-wide, supported by



Environmental Sustainability Competition 2025/26



Sustainability Nursing Representatives across clinical areas who are well positioned to champion change, reinforce education, and support local implementation.