



Final Project Submission Form

Hospital:
Peter MacCallum Cancer Centre

Title of project: ONS Reimagined: From Ward Return to Ward Resource	Department: Allied Health
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Introduction
Provide a short introduction about yourself, your project, and why you were inspired to create sustainable environmental change in your department

I am the Dietitian Manager for Allied Health (Nutrition & Speech Pathology) at Peter MacCallum Cancer Centre. Our project focuses on re-using unopened oral nutrition supplements (ONS) that have been returned from the ward. Inspired by the need to reduce waste and promote sustainability, we developed a Standard Operating Procedure (SOP) for this initiative, which has been reviewed and approved by Infection Prevention (IP). We aim to minimise waste and reduce costs associated with supplement disposal.

What was the problem you tackled?

The problem was the waste generated by unopened oral nutritional supplements (ONS) being discarded as kitchen waste, contributing to landfill and unnecessary costs.
The below supplements were chosen:

Ensure Plus – Chocolate
Ensure Plus – Vanilla
Ensure TwoCal - Strawberry
Ensure TwoCal - Vanilla
Fortisip Compact Protein Mocha
Resource 2.0 Fibre - Neutral
Resource 2.0 Fibre - Coffee
Resource 2.0 - Vanilla
Resource Fruit Beverage - Orange
Resource Fruit Beverage - Wildberry
Resource Fruit Beverage – Peach
Sustagen – Dutch Chocolate
Sustagen - Vanilla
Thickened fluids

What was your SMART Goal?

By December 31, 2025, we aim to reduce waste from unopened oral nutrition supplements (ONS) by 50%, saving at least 1,800 products (approximately 483.6 kg) from landfill annually. This initiative involves implementing and monitoring a Standard Operating Procedure (SOP) for reusing returned supplements, with a goal of achieving annual cost savings of at least \$3,274.49 and receiving positive feedback from at least 90% of the kitchen staff regarding their contribution to sustainability.

- **Specific:** The goal focuses on reducing waste, saving supplements from landfill, achieving cost savings, and improving staff engagement.
- **Measurable:** The goal includes measurable targets (50% waste reduction, 1,800 products saved, 483.6 kg reduced, \$3,274.49 in cost savings, and 90% positive staff feedback).
- **Achievable:** Given the initial success and positive feedback, this goal seems attainable.
- **Relevant:** The goal aligns with the need to reduce waste, promote sustainability, and engage staff.
- **Time-bound:** The goal has a clear deadline of December 31, 2025.

What system factors contributed to the problem?

System factors that contributed to the problem:

- **Lack of a Structured Process for Re-using Unopened Supplements:**
 - There was no established protocol or Standard Operating Procedure (SOP) to guide the re-use of unopened oral nutrition supplements (ONS). This lack of structure led to confusion and inconsistency in handling returned supplements.
 - Without a formal process, unopened supplements were often discarded as waste, even when they were still safe and suitable for use, leading to unnecessary disposal and increased landfill contributions.
- **Limited Awareness and Engagement from Staff Regarding Sustainability Practices:**
 - Staff members, including kitchen staff had limited knowledge and awareness of sustainability practices, insufficient training and education on the importance of reducing waste and how re-using unopened supplements could contribute to sustainability goals.
- **Regulatory and Compliance Barriers:**
 - There were concerns about regulatory compliance and infection control, which hindered the implementation of re-use initiatives. Ensuring that re-used supplements met health and safety standards required careful consideration and collaboration with infection prevention teams.

Who were the key stakeholders?

- Allied Health- Nutrition and Speech team
- Infection Prevention (IP) team
- Kitchen staff
- Food Service staff
- Hospital administration

What was the intervention?

We developed and implemented an SOP for re-using unopened supplements. Food Service staff clean and return the supplements to a designated trolley for re-use. Data on discarded supplements was collected to quantify cost savings.

Key Components:

1. Developed an SOP reviewed by Infection Prevention (IP).
2. Trained Food Service staff on the new process.
3. Collected data on discarded supplements to track cost savings.
4. Monitored the implementation and gathered feedback for improvement.

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

Outcomes:

- Saved 179 products from landfill over 5 weeks, equating to 46.5 kg.
- Achieved approximately \$293 in cost savings over 5 weeks, with projected annual savings of \$3,274.49 including cost of supplements and waste disposal.
- Positive feedback from kitchen staff on their contribution to sustainability.

Impacts/Outcomes Measured:

- **Waste Reduction:**
 - Saved 179 products from landfill over 5 weeks, equating to 46.5 kg.
 - Projected annual waste reduction: Approximately 1,800 products saved (483.6 kg).
- **Cost Savings:**
 - Achieved approximately \$293 in cost savings over 5 weeks.
 - Projected annual savings: \$3,274.49, considering the cost of supplements and waste disposal.
- **Staff Engagement:**
 - Positive feedback from kitchen staff regarding their contribution to sustainability.

Measurement Methods:

1. **Waste Reduction:**
 - Tracked the number of unopened supplements returned and re-used over a 5-week period.
 - Weighed the supplements to calculate the total weight saved from landfill.
2. **Cost Savings:**
 - Calculated cost savings based on the price of each supplement and waste disposal costs.
 - Extrapolated the 5-week savings to project annual savings.
3. **Staff Engagement:**
 - Collected feedback from kitchen staff through surveys and informal discussions.
 - Assessed the staff's perceptions of their involvement in sustainability initiatives.

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

Challenges:

- Initial hesitation from Infection Prevention (IP) regarding the safety of re-using supplements.
- Ensuring consistent participation and adherence to the new process by all team members.

Enablers:

- Securing approval from the Infection Prevention (IP) team, which provided necessary validation and support for the SOP.
- Enthusiastic participation and commitment from kitchen staff, who embraced the new initiative.
- Clear and effective communication of the benefits of the program, which helped to build support and understanding among staff.

Learning Points:

- The critical importance of engaging stakeholders early and obtaining their buy-in to ensure smooth implementation.
- The necessity of continuous monitoring and feedback to maintain compliance, identify issues, and make improvements to the process.
- The value of clear communication and training in fostering a culture of sustainability and encouraging staff involvement.

What are the next steps with this project?

Continue Monitoring and Evaluating the Re-use Process:

- Regularly track and document the number of unopened supplements re-used and the associated cost savings.
- Gather feedback from staff to identify any challenges or areas for improvement.
- Adjust the SOP as needed to enhance efficiency and compliance.

Explore the Possibility of Re-using Other Packaged Foods:

- Assess the types of other packaged foods such e.g. juice, biscuits that are frequently returned and determine their suitability for re-use.

Engage with IP to Expand the Scope of the Project:

- Collaborate with the Infection Prevention team to explore new opportunities for waste reduction and sustainability within the department.
- Discuss potential risks and develop mitigation strategies to ensure safety and compliance.

Calculate Potential Cost Savings from Reduced Waste Disposal Fees:

- Analyse current waste disposal costs and estimate the potential savings from reducing the volume of waste.
- Use this data to demonstrate the financial benefits of the re-use initiative and secure further support.

Enhance Staff Training and Engagement:

- Provide ongoing support to staff to ensure continued adherence to the SOP.

Report and Share Successes:

- Document and share the successes and impacts of the project with stakeholders, including department leadership and the broader healthcare community.
- Use the positive outcomes to advocate for similar initiatives in other departments or facilities.

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)

Raw Data:

- Waste reduction: 483.6 kg of unopened oral nutrition supplements (ONS) saved from landfill annually.
- Emissions factor for food waste (average value): 0.34 kg CO₂e (carbon dioxide equivalent) per kg of waste (Heller & Keoleian, 2014, Kovacs et al., 2021).

Calculations:

Carbon savings = Total waste reduction (kg) × Emissions factor (kg CO₂e per kg)

Using the given values:

Carbon savings = 483.6 kg × 0.34 kg CO₂e per kg = 164.42 kg CO₂e

Result: The annual carbon savings from your project is approximately **164.42 kg CO₂e**

Reference

Heller, M. C., & Keoleian, G. A. (2014). Greenhouse gas emission estimates of US dietary choices and food loss. *Journal of Industrial Ecology*, 18(3), 391-401.

Kovacs, B., Miller, L., Heller, M. C., & Rose, D. (2021). The carbon footprint of dietary guidelines around the world: a seven-country modeling study. *Nutrition Journal*, 20(1), 15.
<https://doi.org/10.1186/s12937-021-00669-6>

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.)

To calculate the annual waste reduction, we have extrapolated the 5-week data to an entire year (52 weeks).

Weekly Waste Reduction:

- 5-week waste reduction: 46.5 kg
- Average weekly waste reduction: 46.5 kg/5 weeks = 9.3 kg/week

Annual Waste Reduction:

- Annual waste reduction: 9.3 kg/week × 52 weeks = 483.6 kg/year

The annual waste reduction is approximately **483.6 kg** of supplements saved from landfill.

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

Improved Nutritional Support: By re-using unopened oral nutrition supplements (ONS), we were able to ensure that more patients had timely access to the nutritional support they needed. This helped in maintaining their nutritional status, which is crucial for recovery and overall well-being.

Patient Satisfaction: Patients appreciated the availability of their preferred supplements without delay. This led to an increase in patient satisfaction, as they felt their nutritional needs were being met more efficiently.

Reduced Infection Risk: With the Standard Operating Procedure (SOP) reviewed and approved by Infection Prevention (IP), the re-use of supplements was done safely, ensuring that there was no increased risk of infection. This maintained a safe environment for patients.

Outcome Data:

- **Waste Reduction:** Over a 5-week period, we saved 179 products from landfill, equating to 46.5 kg. Projected annual waste reduction is approximately 1,860 products saved (483.6 kg).
- **Cost Savings:** Achieved approximately \$293 in cost savings over 5 weeks, with projected annual savings of \$3,274.49, including the cost of supplements and waste disposal.

- **Patient Feedback:** Collected feedback from patients indicated improved satisfaction with the availability and variety of nutritional supplements, contributing to their overall care experience.

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

Cost savings – waste disposal fee

- Supplements saved from landfill over 5 weeks: 46.5 kg
- Projected annual savings: $46.5 \text{ kg} / 5 \text{ weeks} \times 52 \text{ weeks/year} = 483.6 \text{ kg/year}$
- Cost per kg: \$0.47
- Annual cost savings from waste disposal fees:
 $483.6 \text{ kg/year} \times \$0.47/\text{kg} = \$227.29$

Cost Savings – supplements cost:

- 5-week cost savings: \$293
- Projected annual savings:
- $\$293 / 5 \text{ weeks} \times 52 \text{ weeks/year} = \$3,047.20$

Total Annual Cost Savings:

Combining the savings from reduced supplement purchases and waste disposal fees:
 $\$3,047.20 + \$227.29 = \$3,274.49$

Total annual cost savings from the project is approximately **\$3,274.49**.

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

Increased Staff Morale and Engagement:

- Staff felt pride and satisfaction through active involvement in sustainability practices, boosting job morale and engagement.

Improved Patient Care:

- Efficient re-use of unopened supplements will ensure consistent nutritional support for patients.
- Cost savings will allow for better resource allocation, enhancing patient care quality.

Wider Community Impact:

- The project will set a positive example for other departments and organisations, promoting sustainability in healthcare.
- Contributes to Peter Mac's and the broader community efforts towards environmental responsibility.

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

Yes, the Standard Operating Procedure (SOP) and process implemented in this ongoing project can be adapted for other departments and hospitals aiming to reduce food waste and promote sustainability.

Adaptable SOP:

- The SOP for re-using unopened oral nutritional supplements (ONS) can be tailored to suit different types of packaged foods and consumables in various departments.
- Customisation can be made to address specific needs, challenges, and safety protocols of each department.

Scalable Process:

- The systematic approach of tracking, monitoring, and evaluating waste reduction efforts can be replicated in other areas to achieve similar success.

- Regular training and engagement sessions can help ensure staff across departments understand and adhere to the new processes.

Broad Applicability:

- The principles of waste reduction and sustainability can be applied to a wide range of healthcare operations, from clinical waste to equipment re-use and recycling.
- By sharing the ongoing successes and insights from this project, other departments can be encouraged to adopt similar initiatives, creating a hospital-wide culture of sustainability.