

Healthcare Plastic Waste

A Roadmap for Effective Plastic Recycling in Healthcare



Ending Plastic Waste
Symposium 2024



medcycle

Healthcare – A major contributor to emissions and waste

4.4%

of all global greenhouse gas emissions and over 5 million tonnes of waste comes from hospitals*

*Health Care Without Harm – Health Care’s Climate Footprint

https://noharm-global.org/sites/default/files/documents-files/5961/HealthCaresClimateFootprint_092319.pdf

7%

of Australia’s national carbon emissions are associated with healthcare, with hospitals being a major contributor.**

** The carbon footprint of Australia Health Care

<https://www.sciencedirect.com/science/article/pii/S2542519617301808>

- ⊕ As a significant contributor to climate change the healthcare sector is under increasing pressure to reduce its carbon footprint.
- ⊕ Waste is intrinsically linked to emissions, as such reducing waste or better managing it at end-of-life will help the healthcare sector to reduce its impact on the environment.

Plastic Waste in Healthcare – A Growing Problem

Healthcare Waste is Growing

Increasing volumes of medical waste are putting a strain on healthcare waste management systems.

Plastics are pervasive in healthcare, particularly single use plastics

COVID-19 has made medical waste more prominent than ever.

The response to the COVID-19 pandemic has highlighted the challenges involved in managing large volumes of healthcare waste, especially single use plastics.

About Medcycle

- ⊕ Established May 2023.
- ⊕ One stop shop to better manage common healthcare related products and medical devices at end-of-life.
- ⊕ Bring together a range of solutions for problematic waste streams under the one banner, making it easy for hospitals to actively engage and participate in sustainability.
- ⊕ Solutions designed to support uptake and ensure that waste is continually redirected away from landfill or incineration through to **demonstratable** sustainable end-of-life pathways.
- ⊕ Primary focus on non-clinical waste streams.
- ⊕ Focus on vertical integration – provision of end-to-end solutions.



Why Medcycle was established?

- ⊕ High level interest from hospitals in blister pack recycling – enquiries coming through PharmacyCycle (affiliated entity).
- ⊕ Gap in the market - Few service providers offering recycling solutions that focus on higher order resource recovery outcomes and pathways to circularity.
- ⊕ Existing waste management systems and approaches, not achieving desired outcomes. In fact, could be negatively impacting on domestic recycling systems.
- ⊕ Single-use non-clinical plastic waste typically consists of high- grade polymers that if segregated/sorted correctly have viable end market applications.
- ⊕ Healthcare practitioner's concerns about plastic waste.



Services

Waste Auditing

Waste audits when carried out correctly provide valuable insights into key issues such as contamination and resource loss. They are a crucial first step to identifying potential opportunities for improvement.

[Learn more](#)

PVC Recycling

Our PVC Recycling Program collects and recycles intravenous (IV) fluids bags, as well as PVC oxygen masks and oxygen tubing. Healthcare facilities can actively contribute to a more sustainable future by responsibly managing PVC waste.

[Learn more](#)

Disposable Curtain Recycling

Our Curtain Recycling Program collects and recycles disposable curtains that would normally go to landfill and take up excessive space in your general waste bin.

[Learn more](#)

Medication Packaging & DAA Recycling

Our Medication Packaging & DAA Recycling program allows this waste to be diverted from landfill and transformed into valuable resources.

[Learn more](#)

Sterile Wrap Recycling

Our Sterile Wrap Recycling Program collects and recycles sterile wrap. We work closely with you to design a solution that best works for your facility.

[Learn more](#)

E-Waste Recycling

Our e-waste program covers the entire spectrum of electronic and electrical waste (anything with a plug or battery unit to power it), found in majority of offices and work environments, as well as specialist medical equipment, devices and machines.

[Learn more](#)

Surgical Device Recycling

Our Surgical Device Recycling Program collects, sterilises and recycles surgical devices that would normally go to landfill.

[Learn more](#)

Battery Recycling

Our Battery recycling program caters for the unique needs of the customer, from choice of receptacles and collection units for various locations across hospitals, offices, theatres and work environments, to collect multiple battery types for specific recycling by chemistry.

[Learn more](#)

What is preventing effective recycling?

- ⊕ Fragmented approaches
- ⊕ Misaligned procurement activities
- ⊕ Complexity in materials
- ⊕ Inadequate infrastructure / built environment challenges
- ⊕ Waste segregation and sorting can be a challenge in time pressured hospital units



Our Roadmap for effective recycling

**Comprehensive
research and
development**

**Enable whole of
supply chain
approach to product
stewardship**

**Establish dedicated
healthcare plastics
recycling facilities and
technology**

Roadmap – Key Workstreams

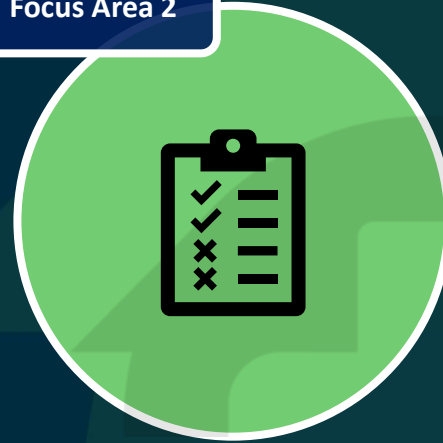
Focus Area 1



Auditing

Map plastics supply, utilisation and current disposal pathways

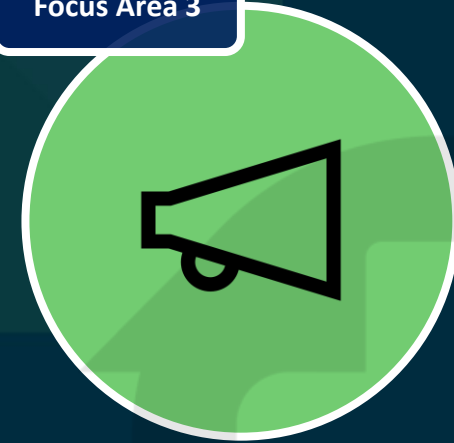
Focus Area 2



Piloting

Pilot material/item specific collection initiatives and collate learnings

Focus Area 3

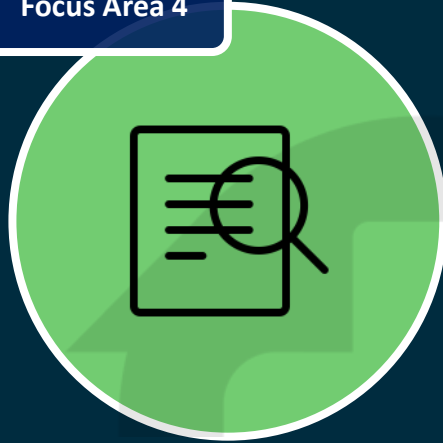


Advocacy & Directly Influence

Influence private and public procurement through evidence-based approaches

Roadmap – Key Workstreams (cont.)

Focus Area 4



Education

Develop case studies and tailored training programs

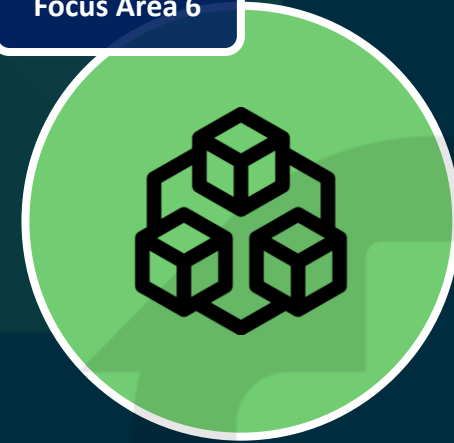
Focus Area 5



Product Stewardship

Support manufacturers and suppliers to adopt EPR approach

Focus Area 6



Infrastructure

Scale infrastructure to increase processing capacity and optimise efficiencies



Product Stewardship

Brand Initiated/Led

Government Enabled

Industry/Government Led

PVC Recycling in Hospitals

Sterilisation Wrap

Holistic Plastics in Healthcare



Material or Item Specific
Single Brand
Single Polymer

Material or Item Specific
Multiple Brands
Multiple Polymer
Support collective voluntary PS

Levy based
Multiple materials or items
Holistic Co-regulatory Approach

Immediate/Short Term
(<1 year)

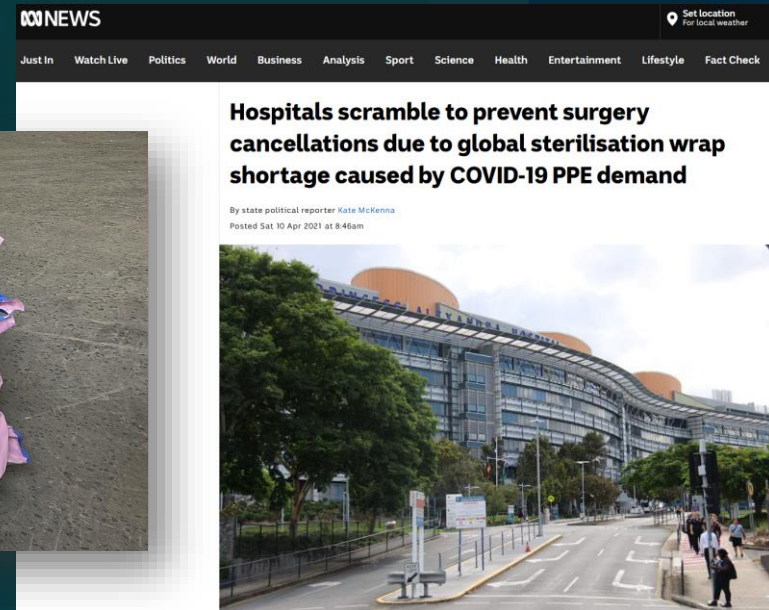
Medium Term
(2-3 years)

Long Term
(>5 years)

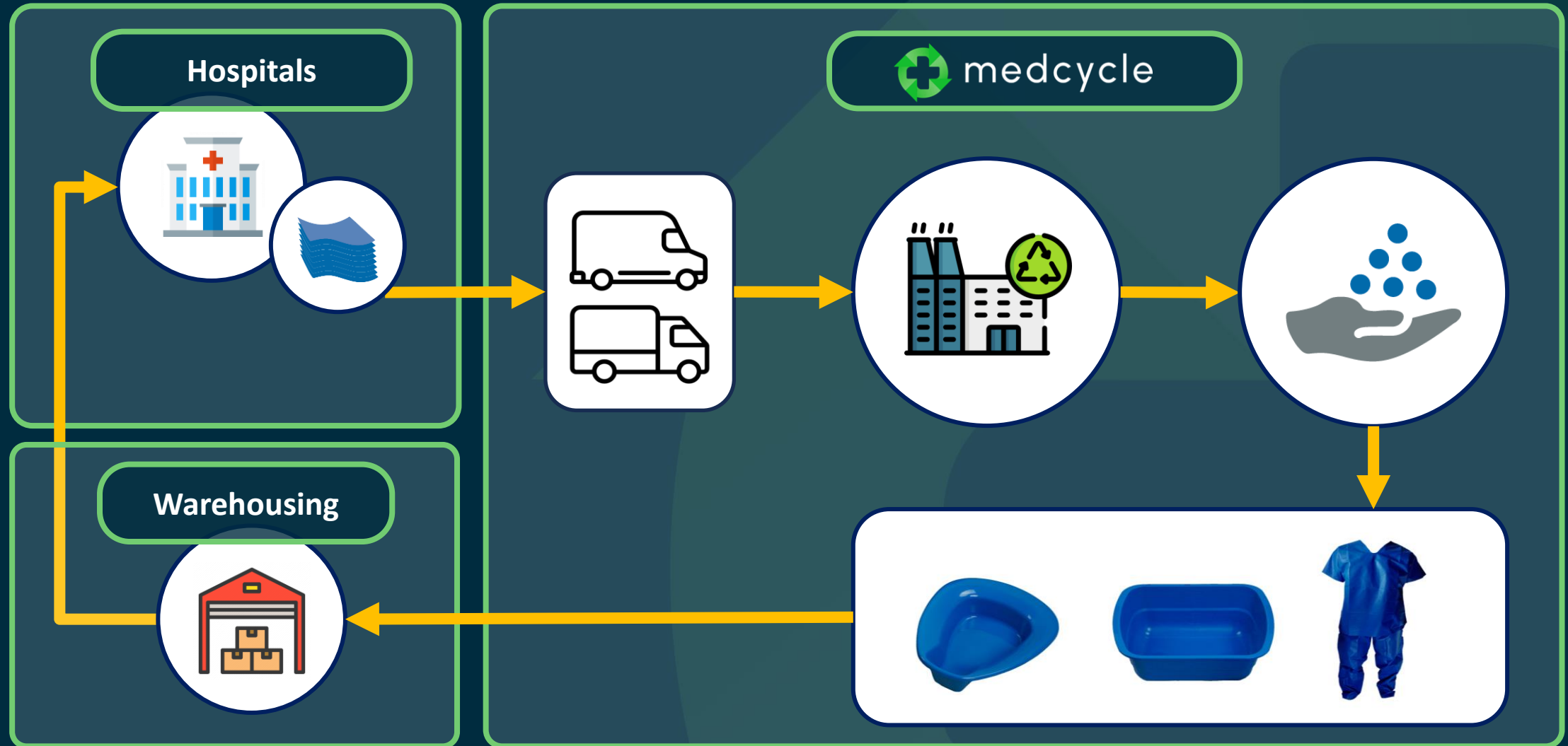
Low hanging fruit – Sterilisation Wrap

Evidence from the US estimates that sterile (blue) wrap alone accounts for 37% of packaging waste in clinical settings, 19% of all operating room waste and 5% of all hospital waste

In NSW alone it is understood that there are more than 15 separate brands supplying sterilisation wrap into the public health system through NSW Healthshare central procurement



Low hanging fruit – Sterilisation Wrap



Key Takeaways

- ⊕ A BAU approach to waste management will not affect change when it comes to improving resource recovery and driving circular outcomes for healthcare plastics
- ⊕ Value creation needs to be defined across the entire supply chain
- ⊕ Procurement for waste management services and procurement of consumables need to be integrated
- ⊕ Recovering and redirecting quality waste materials back into the supply chain, and innovation in more circular models of product design will help support local job creation and optimise supply chain resilience
- ⊕ Initial focus should be to target the most prominent material streams / product types which have an immediate pathway for recovery



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