

Children's Health Queensland

# Environmental Sustainability Plan 2021-2024



An action plan to tackle the environmental impact of our health service.

# Climate Impact of Healthcare



- Natural environment and climate change directly impact human health
- Water and air quality, floods, heat waves, storms, droughts, zoological viruses all contribute to human harm and surges in demands on our healthcare systems.

## Epidemic Asthma thunderstorm season in Melbourne

- Grass pollen is captured into the atmosphere in a thunderstorm
- November 21<sup>st</sup> 2015, unprecedented number of people developed breathing difficulties
- **2248 Hospital presentations, 9 deaths**



# Children's Health Queensland



1 million pieces of unnecessary plastic removed from health care

44% diversion rate = 500 000kg a year into resource recovery and recycling

11 sustainable community partnerships

41 recycling streams

4 Plastic recycling streams – Hard, Soft, PVC and Styrofoam

\$1.7 million in favourable financial outcomes



1 million pieces of unnecessary plastic removed from health care

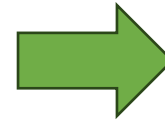
Removal of unnecessary gowns and gloves from bedside care  
Replaced with standard 3 hand hygiene and cleaning



1 million pieces of unnecessary plastic removed from health care

## Operational services – audit of single plastic use

Removal of plastic bags from cleaner's trolleys to transport cleaning linen to laundry - now use a reusable bucket.





1 million pieces of unnecessary plastic removed from health care

## Ban the Bin project

Removal of excess bins across the hospital and admin areas –  
Over 600 bins removed, saves 250 000 bin liners and 1 cleaner full time.



1 million pieces of unnecessary plastic removed from health care

# Removal of single use plastic trays Replaced with reusable plastic trays

“Allowing environmental science to influence clinical practise”



- SUSTAINABILITY MATTERS**
- **GREEN TRAY CLEANING GUIDELINE**
  - All Green trays are to be thoroughly cleaned (front and back) before and after use.
  - Green trays must have time to completely dry before re-use.
  - Green trays are to be cleaned in a warm soapy wash every 24 hours.
  - Please use appropriate wipes (clinell or detergent) to correlate with patient precaution status (high/low risk).



‘Green ware’  
reusable





# 1 million pieces of unnecessary plastic removed from health care





1 million pieces of unnecessary plastic removed from health care

## Plastic wipe buckets

No longer recycled but reused within our local community.

Sold to local painters, stops use of virgin plastic buckets used and generates a value partnership for plastic waste.



1 million pieces of unnecessary plastic removed from health care

# First Qld Hospital to recycle Blister packs

Funded by QCH Containers for Change Program

Children's Health Queensland Hospital and Health Service



**SUSTAINABILITY MATTERS**



## Blister Pack Recycling

- No residual medicine
- No pills or capsules
- No infectious material
- No biohazard material
- No cardboard medicine boxes

Empty blister packs only.





# Medical Plastics – the facts, so far



Plastics have an important role in health care and are used in packaging, personal protective equipment, syringes, and surgical products, etc. While plastics are critical to the health care service, consideration for reducing, reusing, repairing, recycling and proper disposal of plastics is important for reducing plastic uses and harms.

Medical plastics valued at USD 22.8 billion in 2019 and will reach USD 31.7 billion by 2024.

1.7 million tonnes of plastic waste per year in US

50% of all waste/plastics generated from operating theatres  
40% reduction in landfill by recycling single use plastics.

## **Plastics – Hard, soft, PVC, Kinguard (PP) & Styrofoam**

660L – Soft, clear sterilised plastic (LDPE)

1200L - Hard plastic (PP, HDPE, PET, PS)

240L - PVC

**Clean, repeatable feed stock for plastic value chain**

**Focused pool of staff to engage and educate to segregate**



# Building a modular recycling system with 41 streams

Creates value in our waste for the manufacturing and recycling industry.

Mixed recycling



Single stream recycling



Creates Value & Manufacturing

**Reuse. Recycle. Remake.**

**What is the PVC recycling program?**

The PVC Recycling program is an initiative of the Bata Shoe Company of Australia to help reduce worn PVC gumboots being disposed of into landfill. Bata's aim is to re-process this waste into the raw materials to create brand new Bata PVC gumboots and help save the planet.

OUR GOAL IS TO MAKE EVERY WORN PVC GUMBOOT'S SECOND DISPOSITION INTO LANDFILL.



# PVC Recycling – circular economy

PVC Recycling in hospitals is well established in over 220 Australian hospitals

Product stewardship with Baxter and Vinyl Council of Australia.

Proves capacity and potential of healthcare in the plastics value chain



Vinyl Council Australia

# Medical plastic identification & Recycling in reality

- Product Stewardship to identify plastic polymers
- Product Stewardship integrated into procurement

Partner with medical companies to be transparent and disclose the chemical composition of their products, so that we can work TOGETHER to design resource recovery into their products and our segregation streams.



## Medela Recycling Guide

Our goal is to help reduce recycling going into landfill and we are committed to using chlorine-free polymers in newly developed products and using PVC or PVdC only when their technical properties are strictly necessary for the product performance. We will modify existing products and replace PVC and PVdC with other substances in our components when technically possible. In addition to this, please follow your local hospital recycling guidelines and regulations.

Product	Recycling Code
<b>Quick Clean Microwave bags x5</b> 008.0040	 Bag: PP
<b>Sterile Single-Use Bottle</b> 80ml: 008.0297 150ml: 008.0304 250ml: 008.0305	 Bottle: PP      Lid: HDPE
<b>Calesca Disposable Insert</b> 020.0002	 Liner Disc: Silicone Tray: PP      Liner frame: HDPE      Liner: LDPE
<b>Ready-to-Use Single-Use Bottles</b> 80ml 200.2957 150ml 200.2956 250ml 200.4802	 Bottle: PP      Lid: HDPE
<b>Disposable Teat</b> Standard medium flow teat 200.3200 Premature slow flow teat 200.3201	 Teat: Cowitron TPE      Collar: PP
<b>Symphony and Lactina One-Day Pump Set</b> M 24mm: 008.0179 L 27mm: 008.0180 XL 30mm: 008.0181	 Breastshield, Connector, Valve: PP      White Membrane: TPE      Tubing: PVC
<b>Symphony Ready-to-Use One Day Pump Set</b> M 24mm: 008.0276 L 27mm: 008.0277 XL 30mm: 008.0278	 Breastshield, Connector, Valve, Protective Cap: PP      Tubing: PVC      Yellow protective membrane: Silicon      White membrane: TPE
<b>Symphony Single Use Sterile Set PersonalFit PLUS</b> M 24mm: 101033931 L 27mm: 101033932 XL 30mm: 101033933	 Breastshield, Connector & Lid, Cap: PP      Tubing: PVC      Yellow protective membrane/Media Separation: TPE

Product packaging: Medical paper and thermoforming film are commonly used in Medela's product packaging and can be disposed of with the conventional household waste and recycled or incinerated accordingly. PP: Polypropylene, HDPE: High Density Polyethylene, LDPE: Low Density Polyethylene, TPE: Thermoplastic Elastomer



# Operating theatre – recycling hub



# Hospital plastic hard and Soft Plastic = clean feed stock

## Operating Theatre Recycling– Every case, Every day.





# LDPE – Soft plastic recycling stream

- Large volumes of pallet wrap
- Extremely large volumes of flexible packaging waste
- clinical medication rooms
- ICU beside collection points
- Operating theatres collection points
- 1600L a day



SUSTAINABILITY MATTERS



## Soft plastic

(no sharps or blood products)

- ✓ Clear plastic only
- ✓ Stretchy plastic not crunchy
- ✗ Coloured plastic
- ✗ Stick labels or paper

All soft plastic must be sealed in the bag and tied off.



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# CRC Solving Plastic Waste - Research

Average surgery generates 2.3kg of valuable clean plastic

Average 12,000 operations year = 27.6 tonnes plastic feed stock available





# Partnership objectives

## QCH & the CRC Solving Plastic Waste



- Increase the understanding of the role of plastics in health care, with a focus on health products.
- Facilitate discussions on how plastic use in healthcare can be made more sustainable.
- Review how the critical role of plastics in health care can be balanced with the need to protect health from the adverse impacts of plastics pollution.
- Developing partnerships to directly connect medical single use plastic into a circular economy.
- Will assist in solving Australia's plastic waste problem by enhancing end-user driven collaboration which addresses the current challenges across the entire plastics value chain.