

## Children's Health Queensland Recycling.

A collective call to action that has driven a hospital recycling revolution and sustainable reform across our health care service.



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Children's Health Queensland – Environment Consultant  
Brisbane Waste Champion 2019, 2020, 2021



# Hospital Waste – What can we do?

Hospital waste management is a large-scale problem that needs sustainable leadership.



# The Carbon Footprint of Health Care Systems

10%



## USA Carbon Footprint

USA produces 4 billion pounds annually = 6500 Tonnes a day

70%

Originates from Operating Theatres

30%

Of USA Hospitals recycle

7%



## Australian Carbon Footprint

PAH produces over 1.8 million kg of landfill every year.

50%

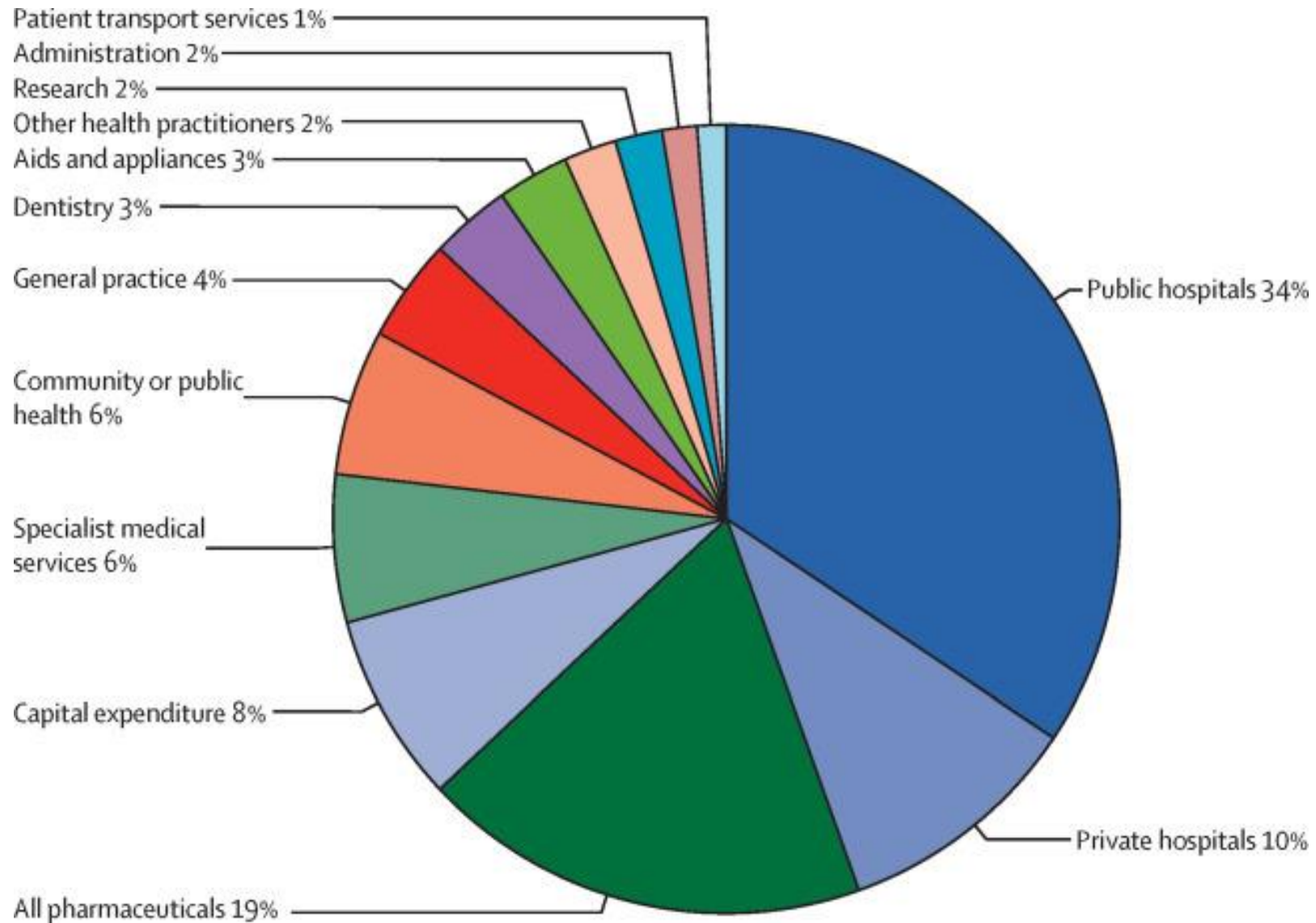
Of the 7% is waste from Australia Hospitals alone

50%

Of Australian Hospitals waste is Operating Theatres and Wards

**62%** of hospital waste that reaches landfill is actually recyclable or compostable.

# % Carbon Footprint of Australian Health Services



# Building a sustainable health care service

Strategically design waste out of health.

Deliver better waste efficiencies and outcomes through staff education and practices.

- Mandatory regulated waste education for all staff.
- Staff sustainability pledge.
- Staff waste management and segregation education.
- Define regulated waste with clear signage and education.
- Advanced modular recycling system in place.



Yellow Lid = Hammermill  
Orange Lid = Incineration





# Environmental sustainability plan

2021-2024



SUSTAINABILITY MATTERS



Queensland  
Government



## Focus 01: Leadership and innovation

### Our commitment:

We will champion a culture of innovation and improvement by enabling, educating and empowering staff, young people, families and partners to become stewards for the environment.

### Strategies that will support action:

- Empower staff, young people and families in defining and implementing environmentally sustainable initiatives.
- Leverage international environmental sustainability benchmarking and excellence programs.
- Foster strategic partnerships with other organisations to develop and champion energy sustainability programs and innovation.
- Generate patient and staff therapy and wellness programs using horticulture and environmentally sustainability themes.
- Generate research and thought leadership on environmental challenges, opportunities and solutions in the paediatric health context.

Drive culture  
change through  
empowered leaders

# Environmental Sustainability Plan 2021-2024

## Introduction

Environmental sustainability is critical to delivering Children's Health Queensland's vision of leading life-changing care for children and young people – for a healthier tomorrow.

The Children's Health Queensland Strategic Plan 2020-2024 highlights our organisation's commitment to be an environmentally responsible organisation. Children's Health Queensland's Environmental sustainability plan 2021-2024 (the Plan) articulates how this commitment translates into action.

Children's Health Queensland has set the ambitious goal of becoming a leader in responsible practices that create economic, environmental and social benefits for a healthier and more sustainable future. We continue to strengthen our resolve to reduce our environmental footprint through best practice and continuous improvement. Central to this plan is a person-centred approach that creates value not only for the environment, but also for children, young people, families, the community, staff and our partners.

The chart at left demonstrates how environmental sustainability is intended to deliver benefits across a balanced scorecard.



## Sustainability in action at Children's Health Queensland

### Celebrating a snapshot of our environmental sustainability achievements of 2020





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# **Design waste out of health.....**

## **Create a carbon currency.**

- Reduce our procurement
- Source sustainable products
- Product Stewardship - partner with medical companies to understand product composition, resource recovery, minimise packaging, service agreements to repair rather than replace.
- Revert back to reusable products
- Remove single use plastic
- Create incentives that evoke natural behavioural change
- Integrate carbon reduction and sustainability into our economy.

**Design waste out of health.....**

**Create a carbon currency.**

**2.3 million pieces of paper**

**One million pieces of single use plastic**



56.3%  
100% recycled paper  
made in Australia



**CLEAN THE GREEN**  
REUSE ME - DON'T THROW ME OUT

**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).

# Design waste out of health?

## 491 tonnes recycled in 2021.

### 12% swing from landfill to recycling in 2021.

Waste Stream	2020	Diversion Rate	2021	Diversion Rate
Total Waste	1063.32 tonnes		1116.7 tonnes	
Landfill	659.54 tonnes	62%	625.69 tonnes	56%
Recycling streams	403.78 tonnes	38%	491.01 tonnes	44%

# Environmental Sustainability = Financial Sustainability

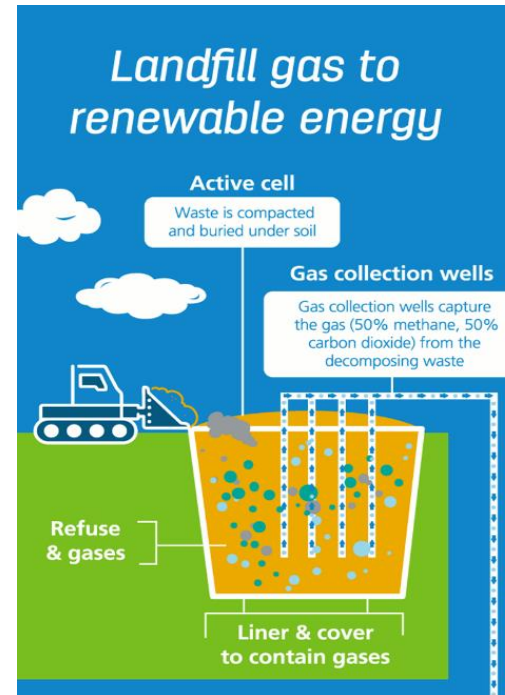
Put simply .... If we buy and use less, then we save money  
If we divert waste from landfill and recycle more, then we save on landfill tax



Stream	Weight	Revenue
Govt Sales of CHQ assets and reusable items	1772 items	\$194,000
Metal recycling	10,500 kg	\$5592
Reduction of landfill costs	894 tonnes	\$174,330
Landfill tax reduction	\$85 per tonne	\$75,990
Redistribution of internal resources		\$29,830
Reduction in procurement	4280 single use pulse oximeters	\$78,752
Reduction of Procurement	T-tube PACU - weekly	\$20,841
Reduction of Procurement	IV Procedure packs from 10,580 to 4800	\$2658
<b>Total</b>		<b>\$581,993</b>

# Building a sustainable workforce that understand waste.

- Educate staff about how landfill and clinical waste is managed by waste vendors, how this affects our environment and the costs associated.
- Showcase new simple recycling solutions in every working area that each staff member can easily adopt in their daily routine.
- Aim for 100% compliance – we will see a huge impact on our positive work culture, waste management and sustainability.



# How waste moves in a metro hospital?

Using multiple waste vendors

Using multiple waste trucks

Compactors for general waste

Compactors for cardboard/paper

6m Skip bin for ad hoc large waste

6m Skip bin for metal waste

660L Clinical Waste Bins

660L Advanced Recycling Bins

660L Containers for Change Bins

240L PVC Recycling Bins

240L Cytotoxic Bins

240L Toner Cartridge Recycling Bins

240L Battery Recycling Bins

240L Community Recycling Bins



**Advanced Recycling Products:**

- ✓ Bagged Soft Clear Plastic (LDPE)
- ✓ Bagged Polystyrene
- ✓ Cardboard
- ✓ Paper (non-Confidential)
- ✓ Milk Bottles
- ✓ Containers (Drink bottles / 10cent eligible – no rebate on containers)
- ✓ Clean hard Plastic

**Advanced Recycling Additional Products – Only Hospitals:**

- ✓ Bagged Kimguard
- ✓ Water Irrigation bottles

**Awaiting feedback on the below items:**

- Kidney Dishes (plastic only)
- Blue bowls
- Hard Hospital Plastic products (e.g. soap dispensers)



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# Operating Theatre – every case, every day.

- 660L recycled of clear sterilised plastic clean every day.
- 40% reduction in landfill by recycling single use plastics.
- Theatre average 1500L of recycled plastic each week!





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# LDPE Soft Clear Plastic Waste

660L of soft, clear plastic every day generated and recycled



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 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.









# Children's Health Queensland CHQ Covid Waste

First HHS to investigate change in clinical waste management to include 'pre clinical covid waste'.



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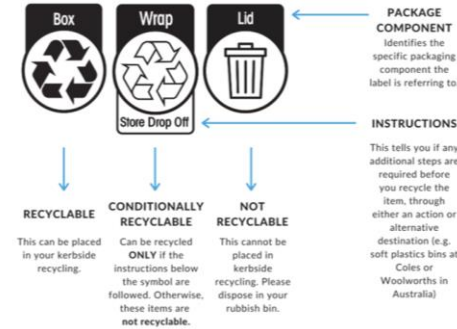
# PVC Recycling

PVC Recycling in hospitals is well established across most Australian hospitals due to product stewardship with Baxter and Vinyl Council of Australia.

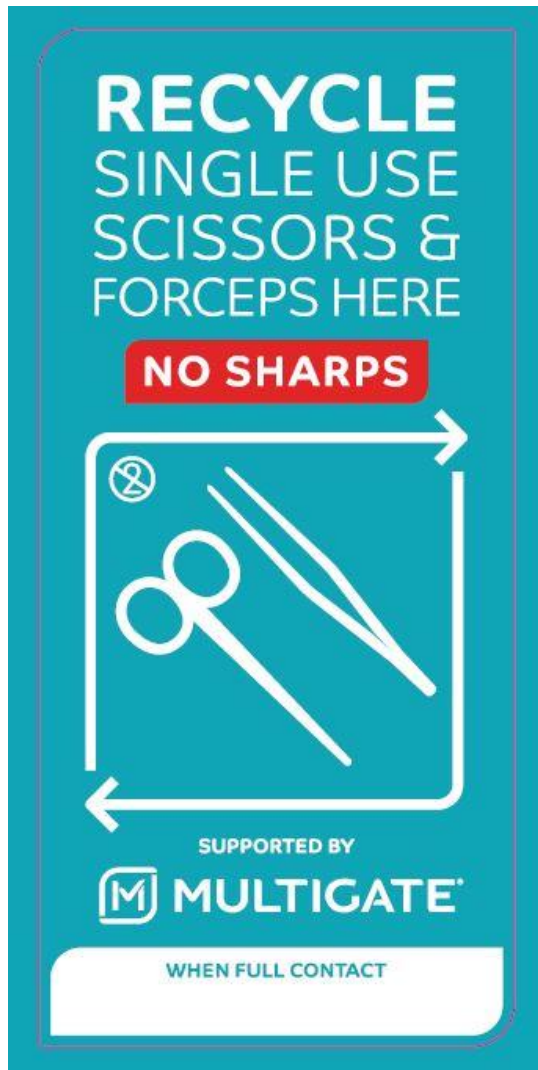


Vinyl Council Australia

# Medical Plastic Recycling – building a circular economy of clean plastic in Australia



# Theatre /Clinical Metal Recycling



Recycle all single use metal into the dedicated theatre metal recycling bins.

These bins will accept all clean

- Diathermy wires
- Laryngoscope blades
- Single use scissors and forceps
- ECG dots
- eWaste

**QCH averages 1.5 Tonnes of metal recycled every month!**



# Children's Health Queensland Medical Metal Recycling

We mine the earth to create metal, we need to make sure it never ends up in landfill, it has an endless recycle capacity.

Clinical practise uses a lot of single use metal that can be recovered and recycled and ... metal makes money!

Financial Sustainability = Environmental Sustainability



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# Solid Platinum and Gold Catheters

Cath Lab catheter tips – pure gold and platinum iridium returns high revenue.



# Children's Health Queensland eWaste and Battery partnership

Keyboards, computers, monitors Lithium ion batteries

All batteries recycled into Ecobatt battery stewardship program





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# Food/Organic Waste Stream

Organic Waste creates methane in landfill sites which is 25 times worse than carbon emissions.

- Qld Dept of Environment Organic Strategy – 2022 -2032
- Target for zero kitchen and ward organic waste to into landfill.
- Patient food waste is organically recycling into NuGrow Commercial Compost Industry
- Non perishable food is redirected fortnightly into Oz Harvest program for Children.



# Case Study – QCH Food Audit 2021

Investigation of food plate waste management

Qld Organic Waste strategy mandates 80% of organic waste to compost by 2032

## Method - Plate and tray waste

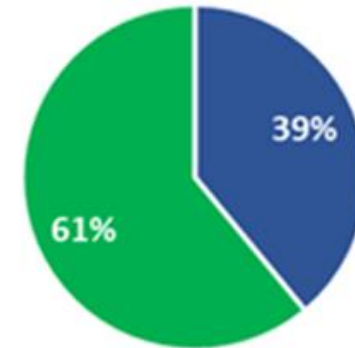
Before



After



Plate and Tray Waste  
Landfill and Compost Waste Comparison



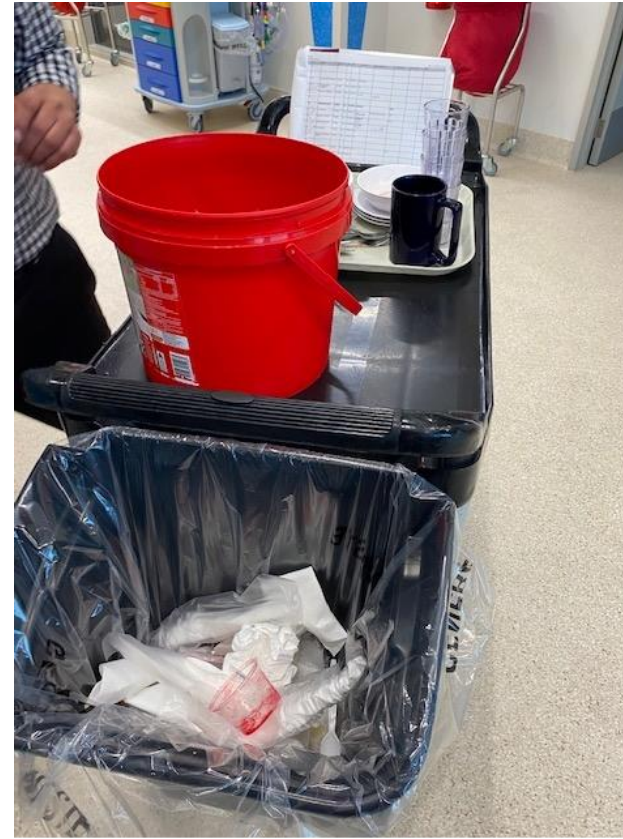
■ Landfill % ■ Compost %

# Children's Health Queensland Food/Organic Waste Stream

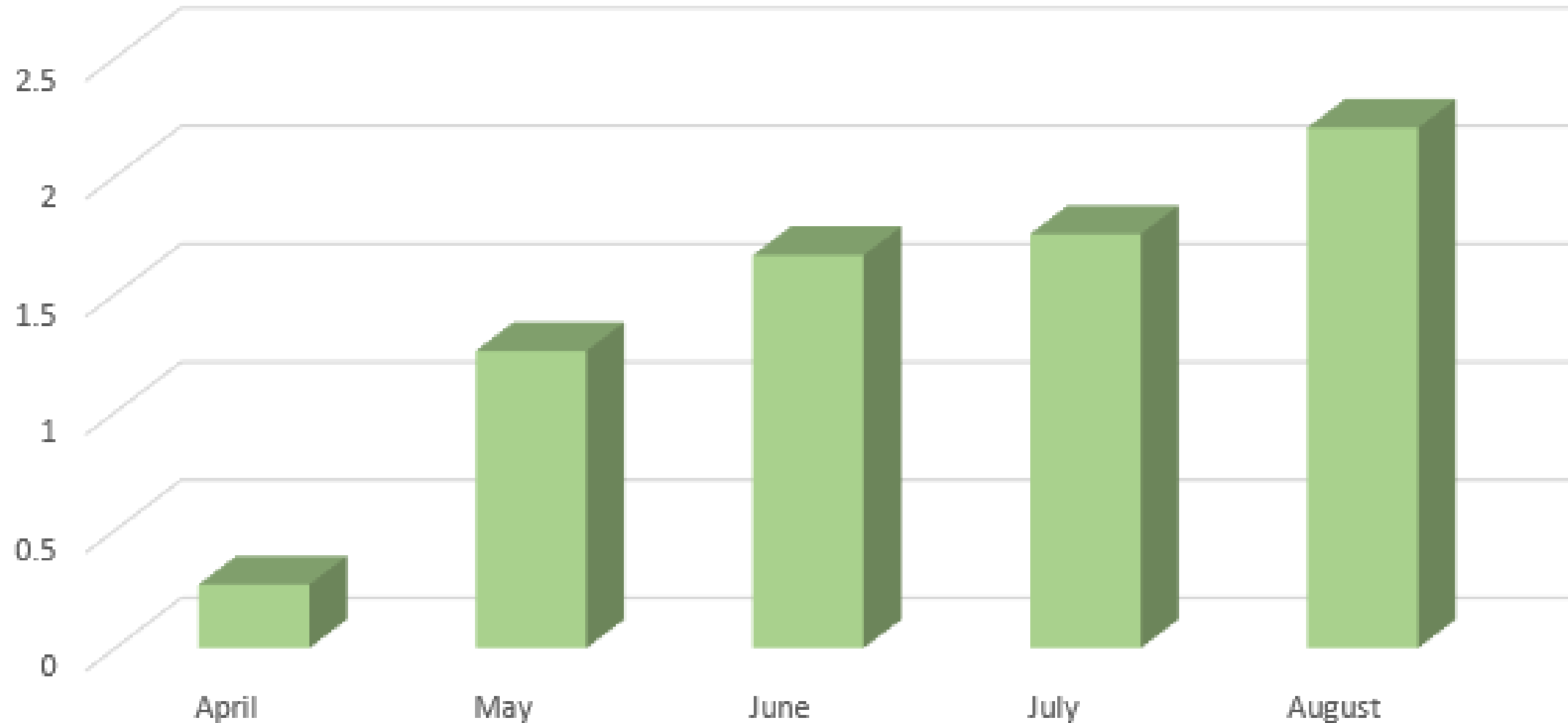
Queensland Children's Hospital have responded to the Queensland Dept of Environment Organic Strategy 2030 and have targeted all food waste across our hospital.

Kitchen, product, and ward plate waste is now all captured into our organic compost stream.

**250% increase in organic waste over 6 months**



## Queensland Children's Hospital Organic Waste 2022



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# No waste kitchen

Unused fresh bananas taken back to the kitchen and baked into banana bread for our children and young people. = Sustainable, nutritious and fresh food.



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# End of Life Assets.... Still have Life!

## Queensland Health Technology Sales

Allows us to connect with over 1600 buyers to repurpose, repair and reuse our resources

Connects government with local business to repair.



# Health Technology Sales

Platform for our local health community to rescue, repair and reuse.





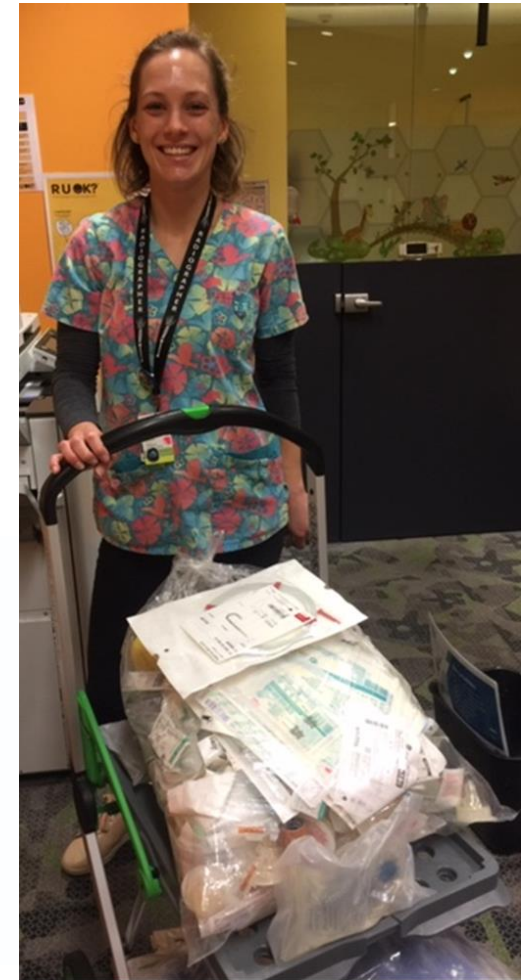


## Connecting Human health to the Vet industry

Allows us to connect with over 1600 buyers to repurpose, repair and reuse our resources  
Expired medical consumables sold to RSPCA and local vets.



# Reallocation for all Education and Health resources – legal partnership with Rotary -RARE





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## Crutches for Kids CHQ Donation Program

All rehabilitation equipment will be donated through our Rotary 'Donations in Kind' partners to support children in need across the world.

- ✓ Crutches
- ✓ Moon boots
- ✓ Knee braces
- ✓ Wrist guards
- ✓ Shoulder slings



### INDIVIDUAL DISTRIBUTIONS OF CRUTCHES



The crutches were given to the people who have disability of walking. According to the data collected, about 50-60 crutches was given out, most were male of age range (25-80years +) with different nature of illnesses. Some had car accidents, paralyzed, aging, amputated legs, leg injuries, sits on wheelchairs and had no crutches, knee problems, gunshot wounds etc...

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Connecting with communities around the globe to support health and education.



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# Green Team Champions – our collective call to action Socialisation across our entire CHQ community



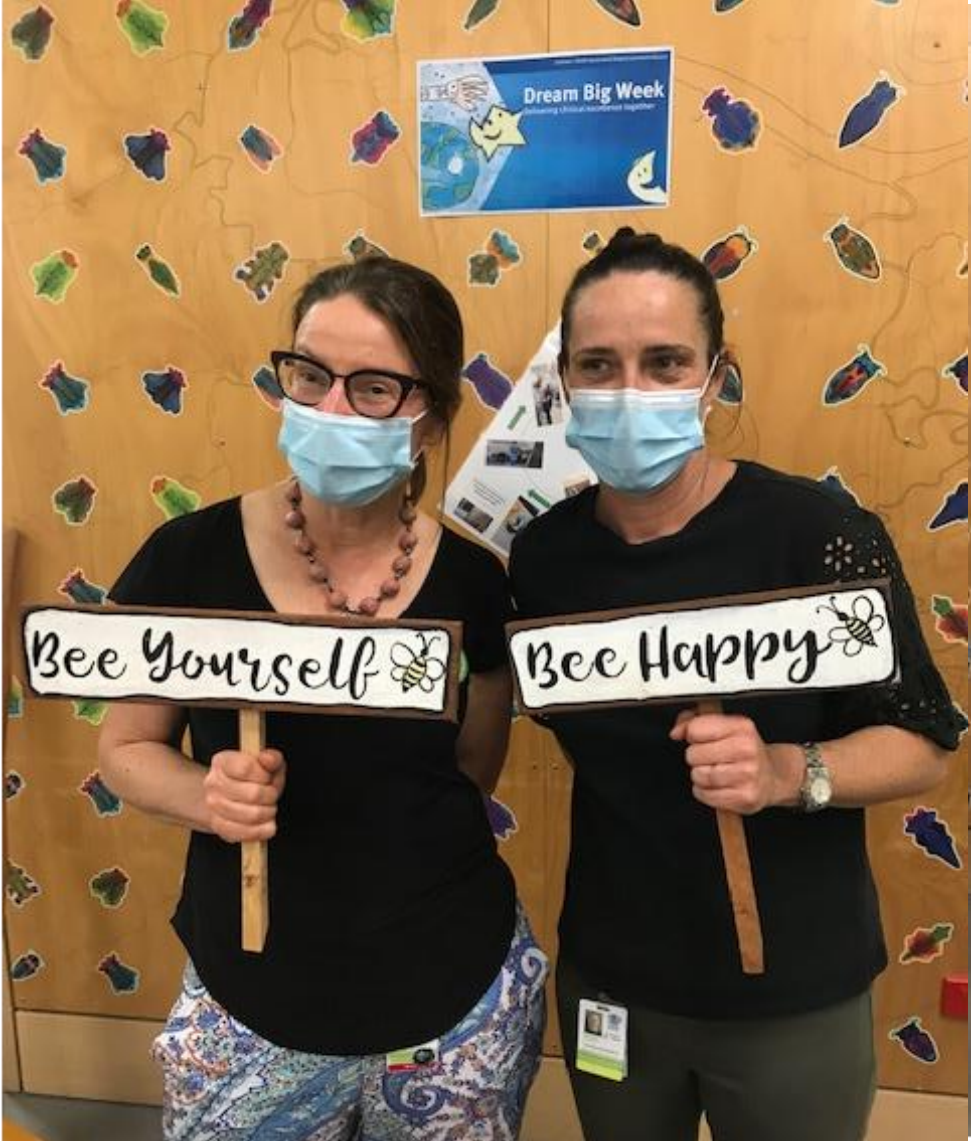
# Children's Health Queensland Socialisation across our CHQ community

Environmental commitment for all of our staff, children, young people and community to see.





# Children's Health Queensland Juice TV – National Recycling Week!



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## Monthly Green Team meetings and Environmental Stewardship Awards

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# Environmental Stewardship Award

MAY 2022

**Sarah Kemp RN**

*Sarah drives her team to make a difference by pioneering recycling on her ward and by delivering recycling education as part of ward orientation. Great Job Sarah!*



*For more information about the Environmental Stewardship Award, go to the CHQ Environmental Sustainability QHEPS page*





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