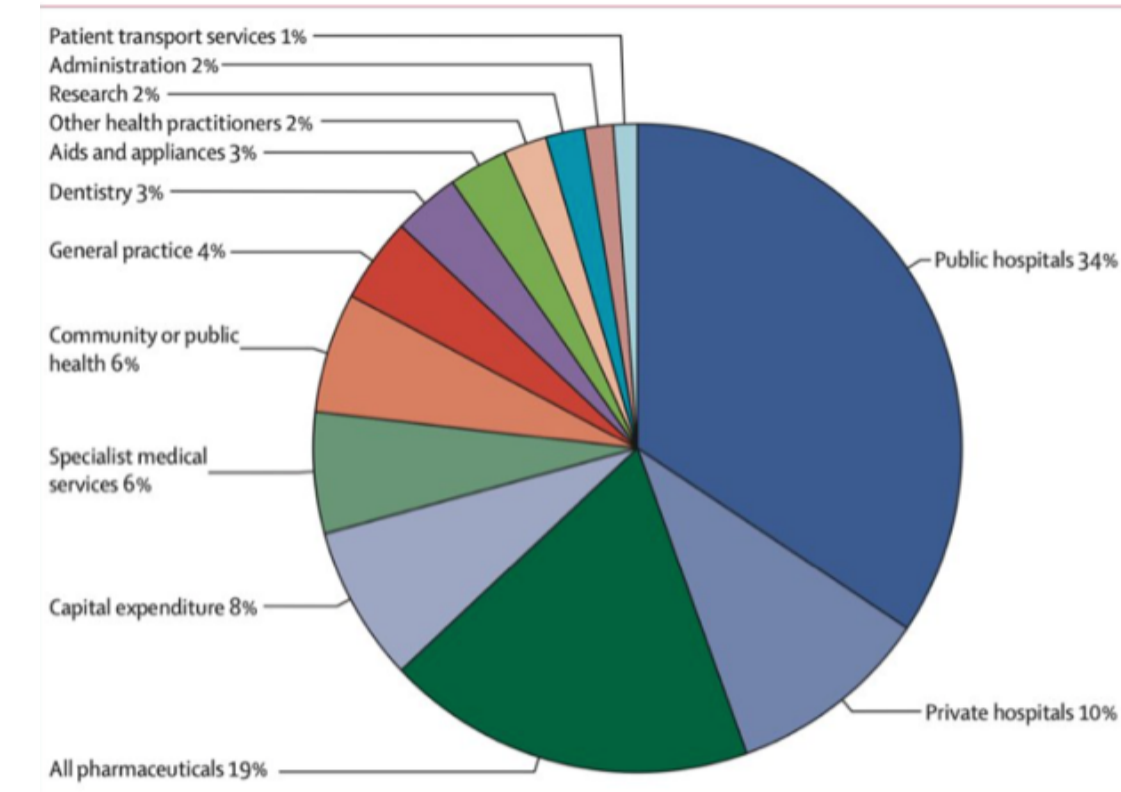




Environmental, Financial and Workforce Engagement Co-Benefits of a Hospital Environmental Sustainability Competition

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Healthcare is responsible for 7% of Australia's overall greenhouse gas emissions. The majority of healthcare's greenhouse gas emissions are from clinical care delivery. Approximately 45% of these emissions are from hospitals.



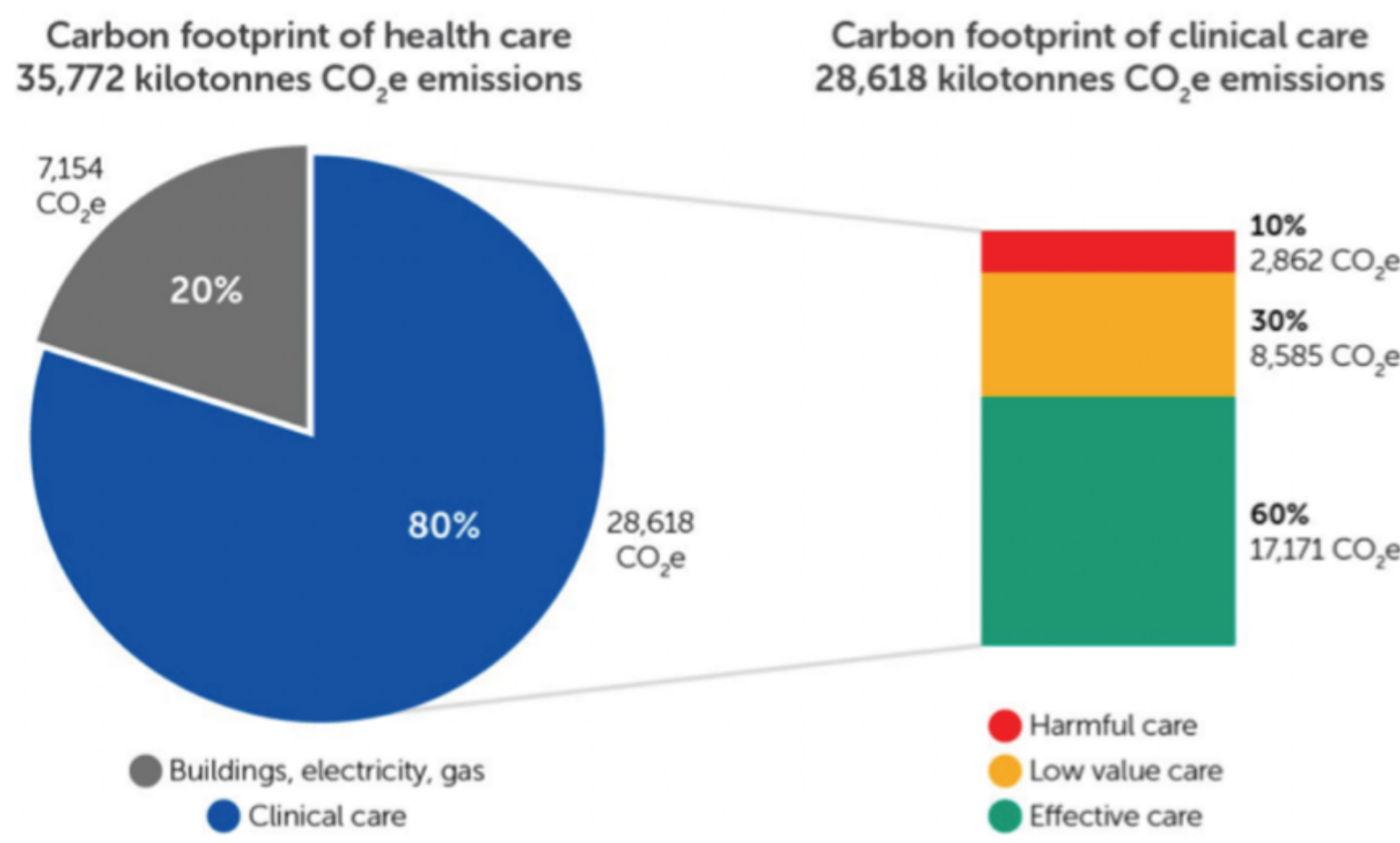
Clinicians have a critical role in reducing the environmental impact of healthcare delivery through low-carbon models of care, reducing unnecessary testing and waste.

Innovative workforce engagement strategies are required to enable staff to lead sustainable healthcare initiatives.

Malik A., Lenzen M., McAlister S., McGain F. The carbon footprint of Australian health care Lancet Planetary Health 2;1:27-35

80% of healthcare greenhouse gas emissions are from clinical care delivery

The carbon footprint of Australian health care and the share of its carbon emissions attributable to harmful, low value and effective care



~60% of care is in line with evidence-based guidelines

~30% is wasteful or of low value to our patients

~10% is harmful

Reducing low value and harmful care is better for our patients and better for our planet

CO₂e = carbon dioxide equivalent. Data sources: Malik et al.³ Tennison et al 2021,⁴ and Braithwaite et al.⁵

Barratt AL, Bell KJ, Charlesworth K, McGain F. High value health care is low carbon health care. The Medical Journal of Australia. 2022 Feb;216(2):67.

Methods

In 2022, Royal Melbourne Hospital launched an environmental sustainability competition open to all clinical and non-clinical staff.

In 2023 the competition expanded to Peter MacCallum Cancer Centre and the Royal Women's Hospital with access to sustainable quality improvement resources and support.

Participant surveys gathered feedback on the benefit of resources and supports provided to competition participants.

Results

In 2022, 13 projects resulted in savings of \$500,000, 2.5 million kg CO₂e, and kept 250,000 items out of landfill.

In 2023, 17 projects resulted in savings of \$160,000, 140,000 kg CO₂e, and 3000 kg of waste.

All of the 2022 clinical projects were sustained resulting in cumulative savings of \$800,000. No adverse patient events were reported.

All participants found the competition support resources helpful, they were motivated to continue working on sustainable healthcare, and would enter the competition again. Participant support could have been improved with more Sustainable QI education sessions.

RMH Sustainability Competition 2022

13 Quality Improvement Projects led by clinical and non clinical staff

Financial Savings
\$500,000

CO₂ savings
2.5 million kg eCO₂

Waste savings
250,000 items kept from landfill



Parkville Precinct Sustainability Competition 2023

17 Quality Improvement Projects led by clinical and non clinical staff

Financial Savings
\$160,000

CO₂ savings
140,000 kg CO₂e

Waste savings
3 tonnes of waste out of landfill

The 2022 projects were maintained culminating in \$800,000 savings



Environmentally Sustainable Is Financially Sustainable



Zero Emission Fleet Vehicles

Switching fossil fuel vehicles for electric vehicles

CO₂ 100,000 Kg eCO₂/year
\$60,000/year
Driving 684,031 km

LED Lighting at Royal Park

Converting all RPH lights to LED

CO₂ 180,000 Kg eCO₂/year
\$43,000/year
Driving 1,232,896 km

Paper Free Mental Health Triage Service

Going digital for faxes, team rosters and handover at Triage

CO₂ 250 Kg eCO₂/year
\$1,000/year
Driving 1712 km

Paperless Revenue Services Project

Going paperless in the Revenue Services Office

CO₂ 342 Kg eCO₂/year
\$650/year
Driving 2,342 km

Clinical Practice Change: Choosing Wisely

Reducing unnecessary blood test in the ED

CO₂ 900Kg CO₂ e/year
\$240,000/year
Driving 6,164km

Nitrous Oxide Procurement & Consumption

Audit and investigation for leaks in hospital N₂O pipelines

CO₂ 642,000 kg eCO₂/year
\$12,000/year
Driving 4,397,260 km

RMH Telehealth Program

Reduction in patient travel and N95 masks for clinic visits

CO₂ 2.4 million Kg eCO₂/year
\$100,000/year
Driving 16,438,356 km

Choosing Wisely in CTS PAC

Reducing pathology and CRX orders in preadmissions clinic

CO₂ 90Kg eCO₂/year
\$40,000/year
Driving 616 km

Scan here to find out more and access competition resources



Environmentally Sustainable Is Financially Sustainable



Choosing Wisely in ED: IVC & CT KUBs

Reducing unnecessary IVC and CT KUBs in ED

CO₂ 6,000kg CO₂ e/year
\$60,000/year
Driving 24,695km

Going Digital with QR codes

Patient brochures on QR codes instead of paper

CO₂ 2,022 kg eCO₂/year
\$4,800/year
Driving 8.8km

Choosing Wisely in PAC: Coag Orders

Reducing unnecessary coagulation tests

CO₂ 63.5kg CO₂ e/year
\$42,000/year
Driving 260km

Eliminating Nitrous Oxide in PMCC

Eliminated the use of N₂O in theaters

CO₂ 116,000 kg CO₂ e/year
\$1,800/year
Driving 477,456km

Food Waste Reduction

Reducing food waste in dietetics

CO₂ 658.06 kg CO₂ e/year
\$1,925.00/year
Driving 2,708km

Dermatology

Environmental Sustainability in Dermatology

CO₂ 43.2 kg eCO₂/year
\$5,439/year
Driving 180km

Virtual Fracture Clinic

Running spine fracture clinics online

CO₂ 13,602kg CO₂ e/year
\$37,188/year
Driving 56,080km

Reusable Drug Trays at PMCC

Implementing reusable drug trays

CO₂ 865kg eCO₂/year
\$7,058/year
Driving 3543km



Reflections & Conclusion

Participants found the sustainable QI resources clear and helpful however requested more didactic teaching on how to lead a sustainable QI project

Those who used the sustainable QI resources to plan their project submitted higher quality entries

Competitions are an effective way to increase workforce engagement with sustainable healthcare initiatives that can result in significant environmental and financial savings.

Providing clear supporting resources and sustainable quality improvement education is key to successful projects.

The competition's success demonstrates the effectiveness of engaging healthcare staff in sustainability initiatives, the importance of providing clear resources and education, and fostering a culture of sustainability within healthcare organisations.

