

Sustainable Clinical Practice

RACP Congress 2018

Dr Sujata Allan

Overview

- Why is environmental sustainability important
- What is happening in this space
 - Hospitals
 - General practice/clinics
- What can clinicians do?

THE LANCET

Planetary Health

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Articles

The carbon footprint of Australian health care

Arunima Malik, PhD, Prof Manfred Lenzen, PhD, Scott McAlister, MEngSci, Forbes McGain, PhD

[Open Access](#)

[PlumX Metrics](#)

DOI: [https://doi.org/10.1016/S2542-5196\(17\)30180-8](https://doi.org/10.1016/S2542-5196(17)30180-8) | [CrossMark](#)



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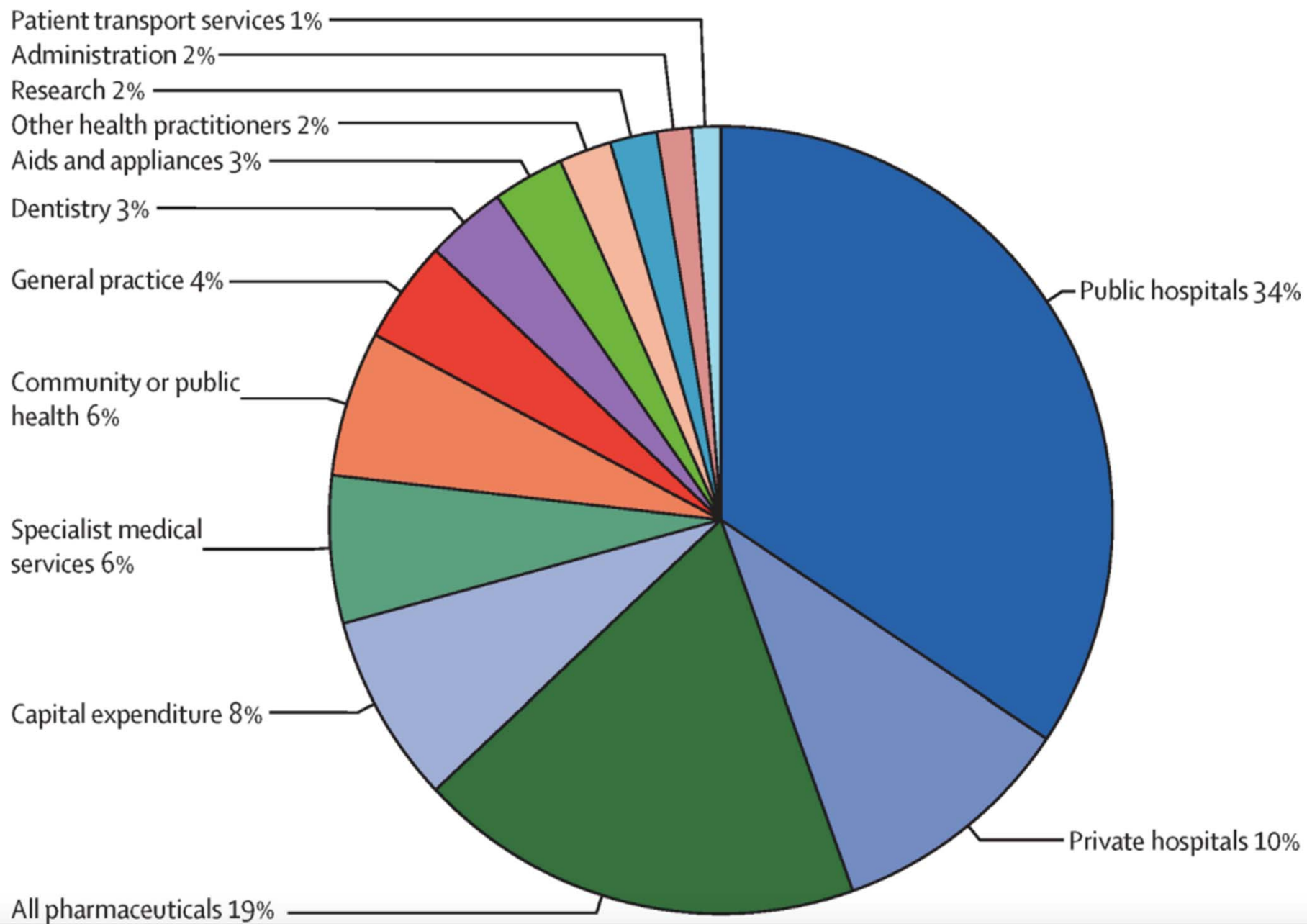
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NSW CLIMATE CHANGE

POLICY FRAMEWORK



of opportunities to grow adaptation services.

Agencies will undertake additional policy investigation for sectors with significant opportunities and risks, including:

- » energy productivity
(Office of Environment and Heritage)
- » fugitive emissions
(Division of Resources and Energy)
- » primary industries emissions and adaptation
(Department of Primary Industries)
- » health and wellbeing
(Ministry of Health).

Review mechanisms

All action plans will be regularly reviewed consistent

Victoria's Climate Change Framework

VICTORIA
State
Government

We are laying the foundations for transition
with a range of initiatives

- Supporting communities to adapt to climate change:
 - implementing the Victorian public health and wellbeing plan 2015-2019 .
 - implementing the Heat Health Plan for Victoria to protect Victorians from extreme heat.
 - developing an Adaptation Action Plan for the health and human services sector to reduce population vulnerability to climate change health risks.
- Building our knowledge of climate change risks:
 - undertaking an assessment of the climate change health risks to Victorians and the health and human services sector
 - continuing sector-wide resilience planning for the health and human services sector.
- Government leading by example:
 - reducing the carbon intensity of service delivery, and understanding the carbon liability of the health and human services sector.

“Ultimately, the most sustainable system is one that minimizes unnecessary or ineffective use of resources by delivering the right care, in the right place, at the right time – and by preventing care needs from arising at all.”

Epstein P, 2005, NEJM



SYDNEY CHILDREN'S HOSPITALS NETWORK

OUR VISION:
TO BE A LEADER IN
SUSTAINABLE HEALTHCARE



The Sydney
children's
Hospitals Network
care, advocacy, research, education

Global Green and Healthy Hospitals | Agenda Goals



Leadership

Prioritize environmental health as a strategic imperative



Chemicals

Substitute harmful chemicals with safer alternatives



Waste

Reduce, treat and safely dispose of healthcare waste



Energy

Implement energy efficiency and clean, renewable energy generation.



Water

Reduce hospital water consumption and supply potable water



Transportation

Improve transportation strategies for patients and staff



Food

Purchase and serve sustainably grown, healthy food



Pharmaceuticals

Prescribe appropriately, safely manage and properly dispose of pharmaceuticals



Buildings

Support green and healthy hospital design and construction



Purchasing

Buy safer and more sustainable products and materials



SUSTAINABILITY PLAN

2017 – 2022

SIX FOCUS AREAS



- Waste
- Transport
- Energy and Water

- Surface how
- Fr p p xq fowirg
- R shq#Vsdh

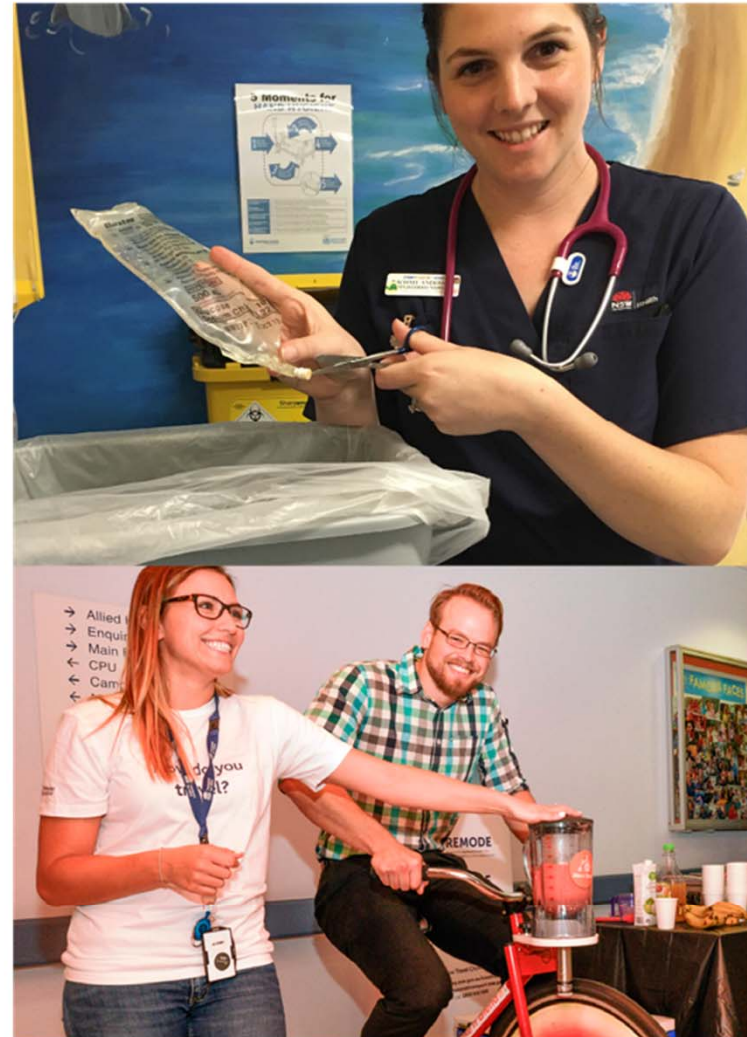
PROJECT HIGHLIGHTS

- Waste
 - Bed donation project
- Transport
 - Ride and Stride Week 2017
 - Bike storage facility
- Communication
 - Sustainability Group
 - Intranet Guides
- Open Space
 - Hospital Farmers Markets
- Procurement
 - Ethical Procurement Pledge



PRIORITIES

- Promote our Sustainability Plan
- PVC Recycling
- Sustainable Hospitals Group
- Waste education campaign
- Active transport promotions





Sustainability in general practice



Benalla Church Street Surgery



- Located in North East Victoria
- Open 57 hours per week
- 14 doctors, 11 administration staff, 7 nurses

Benalla Church St Surgery – energy audit 2016

- Cost of audit: <\$1,500
- Immediate savings: \$4,051 pa (reducing 'energy waste' e.g. air conditioning settings)

	Daily	Annual
Energy consumption	170 kWh	62,050 kwh
Cost	\$63	\$22,958
CO2*	221 kg	79,000 kg
Balloons	4,420	1,500,000

Cost of potential responses

	Cost	Energy saving (kwh/day)	ROI (years)
Solar panels 25kw array	\$32,000	76	3.1
Draft proofing	\$5,600	10.8	3.8
Shading	\$6,000	8	4
Ceiling insulation	\$5,700	6.8	6.2
A/C current COP	\$50,000	23.0	16
Secondary glazing	\$28,811	5.2	41

Additional sustainability measures

- Reducing building energy use
 - Draft proofing
 - Reset thermostats for heating/cooling
 - Smaller more efficient hot water system
- Change energy provider – 100% renewable
- Waste management
 - Decreased clinical waste
 - Increased recycling, organics stream
- Decreased paper use
- Cost savings this financial yr (clinical waste, general waste, decreased paper use) = \$3,130



ABOUT

Find out about North East Sustainability & Health Group, our actions to help our community and environment. See how you can become a member.

[Learn More →](#)



TAKE2 PLEDGE

We've pledged to TAKE2 to help reach Victoria's target of net zero greenhouse gas emissions by 2050. See the actions we're taking to fight climate change.

[See our TAKE2 actions →](#)





Power and Energy



Day Week Month **Year**

01/01/2018 - 31/12/2018

System Production: **6.12 MWh**

91%

1%

Self-consumption:

5.56 MWh

Export:

0.09 MWh

Consumption: **7.33 MWh**

76%

24%

Self-consumption:

5.56 MWh

Import:

1.77 MWh

↳ 0.41 MWh from batteries (7.3%)

Environmental Benefits



CO2 Emission Saved

2,867.58 kg

What can clinicians do?

1. Is there a sustainability officer and working group at your hospital? If not, advocate for one
2. Encourage executive support for sustainability initiatives
3. Choose low-hanging fruit – waste is good place to start

What can clinicians do?

4. Recycle

5. Reduce

6. Reuse



up to **85%**
of medical waste
is similar to
regular waste



as low as
5% is
infectious
waste

Research

BJA

British Journal of Anaesthesia, 00 (0): 1–8 (2017)

doi: 10.1093/bja/aex098

Clinical Investigation

CLINICAL INVESTIGATION

Financial and environmental costs of reusable and single-use anaesthetic equipment

F. McGain^{1,2,*}, D. Story³, T. Lim¹ and S. McAlister⁴

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Leadership and advocacy

 Sustainable
Development Unit





Improving a hospital's environment impact: what can a doctor do?!

A "practical" guide to "achieving" change..."

www.dea.org.au

Global Green and Healthy Hospitals | Agenda Goals



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www.greenhospitals.net

Key Messages

- The way we're currently doing healthcare is contributing to ill health – we need to be looking to create a healthy world for future generations
- Solutions are often win-win for health and the environment ...and financial
- There are practical steps everyone can take to improve the sustainability of healthcare

Thanks!

- Dr Eugenie Kayak and Dr Forbes McGain
- Dr Gerard Brownstein
- Megan Shaw
- Dr Richard Yin
- Dr Kim Loo

References

- Malik A, Lenzen M, McAlister S, McGain F (2018). The carbon footprint of Australian health care. 2 (1): 27-35.
- Global Green Healthy Hospitals. A comprehensive environmental health agenda for hospitals and health systems around the world. www.greenhospitals.net
- NSW OEH (2016). NSW climate change policy framework.
- EJA (2017). Toxic and terminal: how the regulation of coal-fired power stations fails Australian communities
- Victoria State Government (2016). Victoria State Government. Victoria's Climate Change Framework
- <https://unsplash.com/photos/43LwvC-eQPM>