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 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 CrossMark

Summary Background
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

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

• Supporting communities to adapt to climate change:
  – 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
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
SIX FOCUS AREAS

- Waste
- Transport
- Energy and Water

- Surf\$x\$hp hqw
- Frp p xqlfdwlrq
- R shq#Vsdfh
PROJECT HIGHLIGHTS

• Waste
  o Bed donation project

• Transport
  o Ride and Stride Week 2017
  o Bike storage facility

• Communication
  o Sustainability Group
  o Intranet Guides

• Open Space
  o Hospital Farmers Markets

• Procurement
  o Ethical Procurement Pledge
• 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)

<table>
<thead>
<tr>
<th></th>
<th>Daily</th>
<th>Annual</th>
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<tbody>
<tr>
<td><strong>Energy consumption</strong></td>
<td>170 kWh</td>
<td>62,050 kWh</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>$63</td>
<td>$22,958</td>
</tr>
<tr>
<td><strong>CO2</strong></td>
<td>221 kg</td>
<td>79,000 kg</td>
</tr>
<tr>
<td><strong>Balloons</strong></td>
<td>4,420</td>
<td>1,500,000</td>
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</table>
### Cost of potential responses

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

**01/01/2018 - 31/12/2018**

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<th>System Production</th>
<th>Consumption</th>
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<tr>
<td><strong>2018</strong></td>
<td>6.12 MWh</td>
<td>7.33 MWh</td>
</tr>
<tr>
<td><strong>Self-consumption</strong></td>
<td>5.56 MWh</td>
<td>5.56 MWh</td>
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<tr>
<td><strong>Export</strong></td>
<td>0.09 MWh</td>
<td>0.41 MWh</td>
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<tr>
<td><strong>CO2 Emission Saved</strong></td>
<td>2,867.58 kg</td>
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**Environmental Benefits**
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.
Financial and environmental costs of reusable and single-use anaesthetic equipment

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*Corresponding author. E-mail: forbes.mcgain@wh.org.au
Leadership and advocacy
Improving a hospital’s environment: what can a doctor do?

A 'practical' guide to 'achieving' change...

www.dea.org.au
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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

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• EJA (2017). Toxic and terminal: how the regulation of coal-fired power stations fails Australian communities
• https://unsplash.com/photos/43LwvC-eQPM