Sustainable Health Care
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Responding to climate change:
Sustaining health and wellbeing
PHSS, University of Otago, Wellington
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Introduction

Context

- Triple aim
- Local
- National

- DHB
- CEMARS
- GGHH
The Issue

- Sustainable health care
- Organisational strategy
- New Zealand
- Frameworks
<table>
<thead>
<tr>
<th>Goal</th>
<th>Year commenced</th>
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</thead>
<tbody>
<tr>
<td>Leadership- Prioritising environmental health</td>
<td>2013</td>
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<tr>
<td>Waste- Reduce and safely dispose of waste</td>
<td>2013</td>
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<td>Transportation- Improve transportation choices for patients and staff</td>
<td>2013</td>
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<tr>
<td>Energy- Implement energy efficiency and purchase clean renewable energy</td>
<td>2013</td>
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<tr>
<td>Purchasing- Purchase safer and more sustainable services and products</td>
<td>2013</td>
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<td>Food- Treat food and its production and distribution as preventive medicine that protects the health of patients, staff, and communities</td>
<td>2014</td>
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<tr>
<td>Buildings- Support green and healthy hospital design and construction</td>
<td>2014</td>
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<tr>
<td>Chemicals- Substitute harmful chemicals with safer alternatives</td>
<td>2014</td>
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<tr>
<td>Water- Reduce hospital water consumption</td>
<td>TBC</td>
</tr>
<tr>
<td>Pharmaceuticals- safe management and disposal of pharmaceuticals</td>
<td>TBC</td>
</tr>
</tbody>
</table>
Measurement

- Problem
- Plan
- Transparency
Counties top emissions sources for 2013

- Natural Gas: 25%
- Electricity: 24%
- Air travel long haul (business): 21%
- Air travel domestic: 10%
- Air travel short haul (economy): 10%
- N2O: 6%
- Waste landfilled: 4%
Management

20% footprint reduction by 2017

Target areas during 2013

- Leadership
- Nitrous Oxide
- Energy
- Waste
- Transport
- Purchasing
Nitrous Oxide

- Nitrous oxide is 310 times more potent than carbon dioxide.
- 90% of this amount can be attributed to O&G.
- Some argue occupational exposure to nitrous oxide may adversely affect a woman’s fertility.
- Small research project is currently underway
Middlemore Hospital and Manukau Health Park consume enough power in a year to generate the electricity required for 2,450 homes.

(Based on the average household consuming 11,000 kWh per year of electricity)

Middlemore Hospital houses over 2,800 computers

Each computer should save somewhere in the region of $20-50 per annum ($50,000)
Waste

• Counties produced 1,719 tonnes of general and medical waste in 2013.

• 2% reduction of total general waste volume between 2012 and 2013

• 1% reduction of medical waste

• Recycled 12% of our total waste volume during 2013, largely due to extensive cardboard recycling.
Waste

- Hand dryers
- Composting
- Desk top cubes
- CUP Campaign
Management

‘Greening’ health care 2014

- Continue making progress with aforementioned projects plus……
- (Fleet)
Benchmarking

Baseline data

- Carbon/$ turnover
- Carbon/total beds
- Energy
- Waste
Waste volumes by type per year, per tonne.

- GW: 1391
- MW: 354
- SW: 25
- R: 218

Year:
- 2012
- 2013
Average waste generated per patient bed day

- General waste
- Medical waste
- Recycling

Average waste generated per day per FTE

- General waste
- Medical waste
- Recycling
Evaluation

- Footprint reduction
- Reporting
- Spend

- Waste
- Mixed methods study
- Add to body of knowledge

Audit
- Survey

Interventions

Audit
- Survey
Sustainable Healthcare Practice

- Safely manage pharmaceuticals
- Support green hospital design
- Reduce, treat and safely dispose of healthcare waste
- Substitute harmful chemicals with safer alternatives
- Purchase sustainably grown food
- Implement energy efficiency and clean renewable energy generation
- Improve transportation strategies for patients and staff
- Buy safer and more sustainable products and materials
- Support green and healthy hospital design and construction
- Reduce hospital water consumption
- Prescribed Medications
- Leaner Energy
- Transport
- Purchasing
- Buildings
- Water
- Healthier Food
- Safer Chemicals
- Sustainable Healthcare Practice
- Leadership
- Waste Reduction
References

**Climate Change and Health**


References

Reuse Campaign


Reuse campaign-
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Energy efficient lighting


case study of a Taiwanese hospital:

The impact of light on outcomes in healthcare settings:
References

Waste management


http://www.noharm.org/europe/issues/waste/reduction.php