

THE CLIMATE CRISIS: PRESCRIPTION FOR ACTION

Dr Kate Charlesworth MBBS(Hons), MPH, FAFPHM, PhD
Climate risk/Sustainability Lead, SNHN

Overview

- ◆ Climate change is a health issue
- ◆ Health professionals have a responsibility and opportunity to act
- ◆ Prescription for action



Poll #1

Do you either have some role in climate risk,
or does your organization have a Climate &
Health Strategy or Plan?

◆ Yes/ No

Climate change is a health issue

Poll # 2

What proportion of deaths – globally – is fossil fuel air pollution responsible for?

- ◆ 1 in 50 deaths
- ◆ 1 in 20 deaths
- ◆ 1 in 5 deaths



<https://www.seas.harvard.edu/news/2021/02/deaths-fossil-fuel-emissions-higher-previously-thought>



Read the latest updates on coronavirus from [Harvard University](#). For SEAS specific-updates, please visit [SEAS & FAS Division of Science: Coronavirus](#)



Harvard John A. Paulson
School of Engineering
and Applied Sciences



SEARCH



Deaths from fossil fuel emissions higher than previously thought

World Europe Pollution

In legal first, coroner finds Ella's death was caused by air pollution

By Bevan Shields

December 17, 2020 — 4:46am



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London: For more than seven years now, Rosamund Kissi-Debrah has been searching for the truth about why her nine-year-old daughter, Ella, died so young and in such pain.

"I do not think that I can grieve properly about the loss of Ella until I get to the bottom of this," Kissi-Debrah told a coronial inquest in London earlier this month.

On Wednesday, she was given an answer: Ella – an exuberant girl who loved swimming, dancing and football and whose favourite hymn was *I Vow To Thee My Country* – was killed in part by pollution.



Edition: **Australia** ▾

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Australia, your country is burning – dangerous climate change is here with you now

January 10, 2020 8.55pm AEDT

'In Australia, beds are burning. So are entire towns, irreplaceable forests and endangered and precious animal species such as the koala.' State Government Of Victoria Handout/EPA

Email

After years studying the climate, my work has brought me to Sydney where I'm

Author

Michael E Mann, Pennsylvania State University. *The Conversation* 10/01/2020. Available at:
<https://theconversation.com/australia-your-country-is-burning-dangerous-climate-change-is-here-with-you-now-129569>

Environment

Australia is streaking towards a climate tipping point. A major new report gives us 10 years to fix it

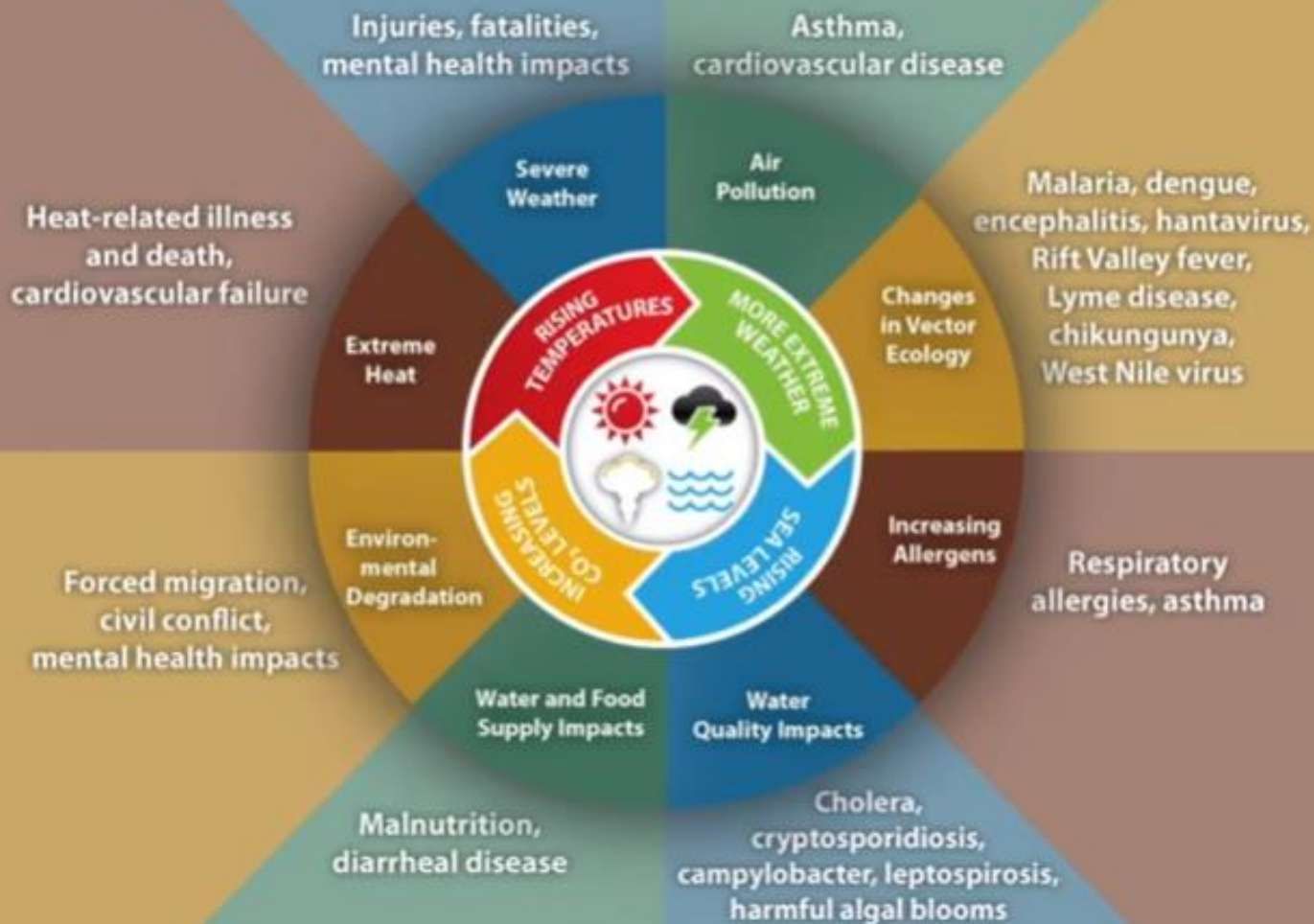


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An Australian Government Initiative

www.sinn.org.au

Impact of Climate Change on Human Health



But before that, the mercury in Penrith reached a scorching 48.9 degrees just after 3pm, making it one of the hottest places on earth and setting a new temperature record for the Sydney basin.



The extreme heat fuelling the bushfires has made parts of Sydney the hottest place in the world with temperatures reaching 48.9 degrees.

phn

Australian Medical Association declares climate change a health emergency

Exclusive: AMA points to 'clear scientific evidence indicating severe impacts for our patients and communities'

 **SYDNEY NORTH**

Doctors call for nonviolent direct action over climate crisis

Governments have abrogated responsibility with woefully inadequate policies, says letter



Climate crisis will be like a permanent pandemic: Deloitte



Biden Announces \$2 Trillion Climate Plan **The Guardian**

Joe Biden's plan connects tackling climate change with the economic recovery from the coronavirus crisis, while also addressing racism. The proposal drew praise from his onetime critics.

Australians fear climate change more than catching Covid, survey shows

By [unclear]



FINANCIAL REVIEW

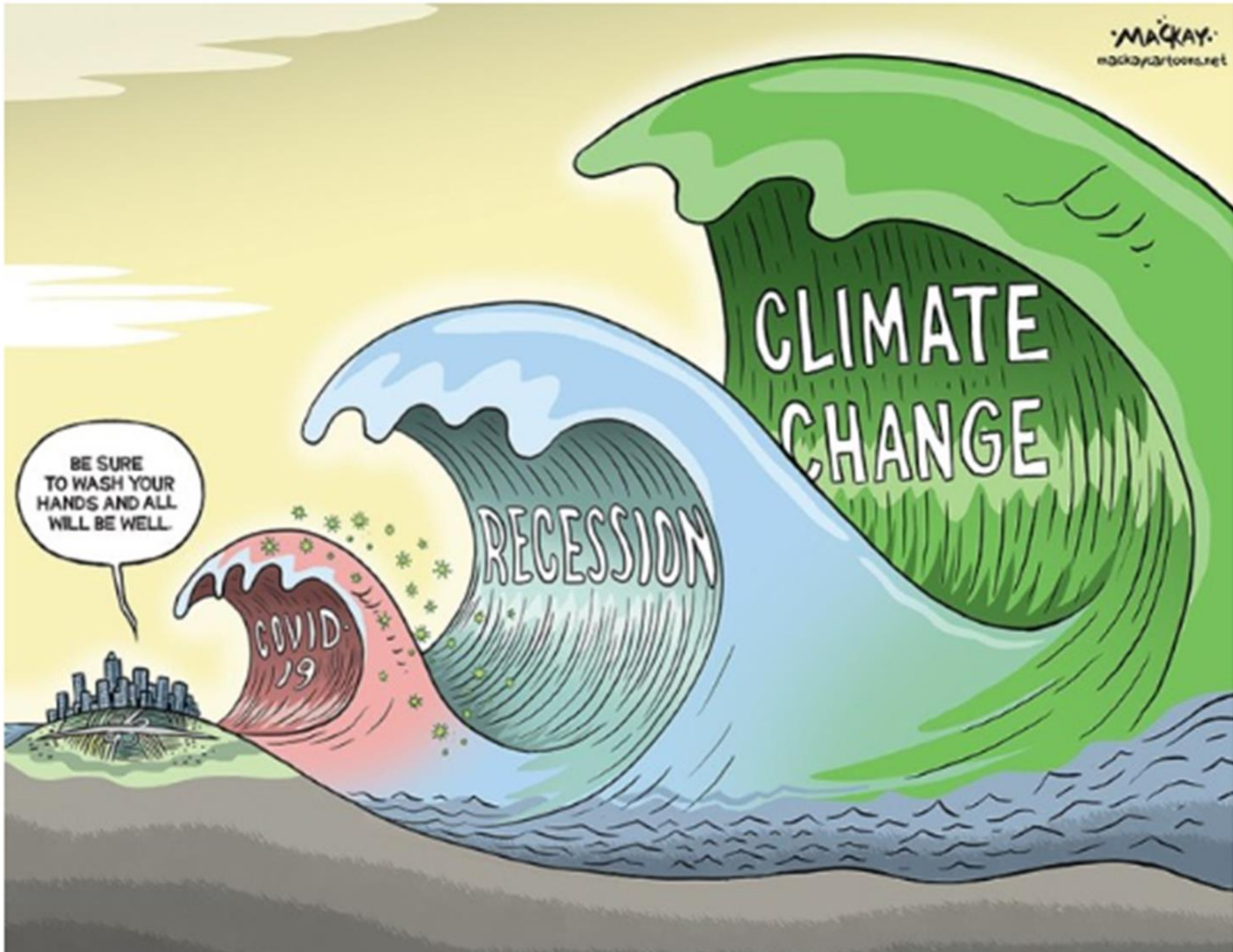


— **Opinion**

Investor opportunities as climate change set to disrupt the economy

While the current media dialogue focuses on the economic impact of the climate crisis, the





Responsibility and opportunity

Poll # 3

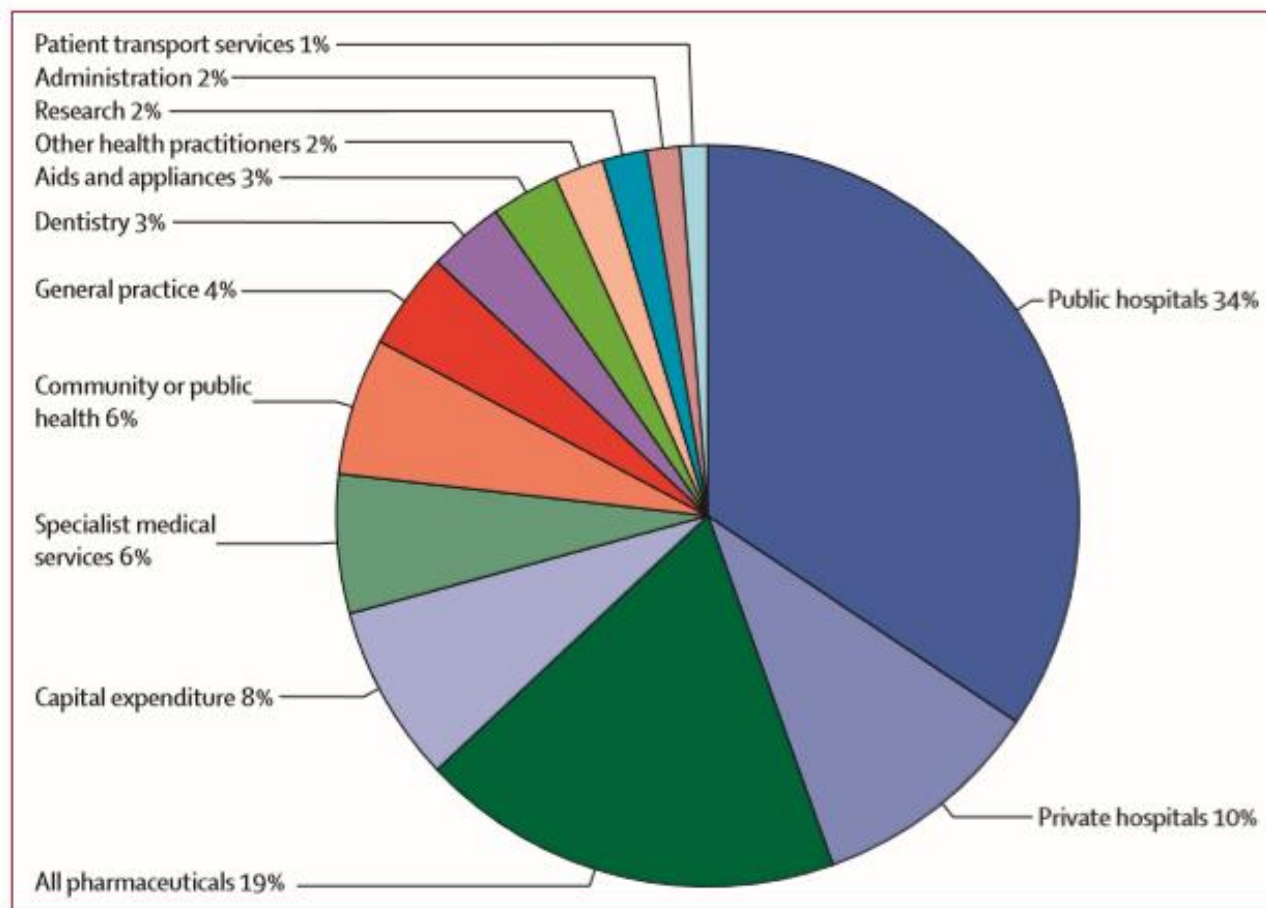
The Australian health sector constitutes
?% of our national greenhouse gas
emissions.

◆ 12%

◆ 7%

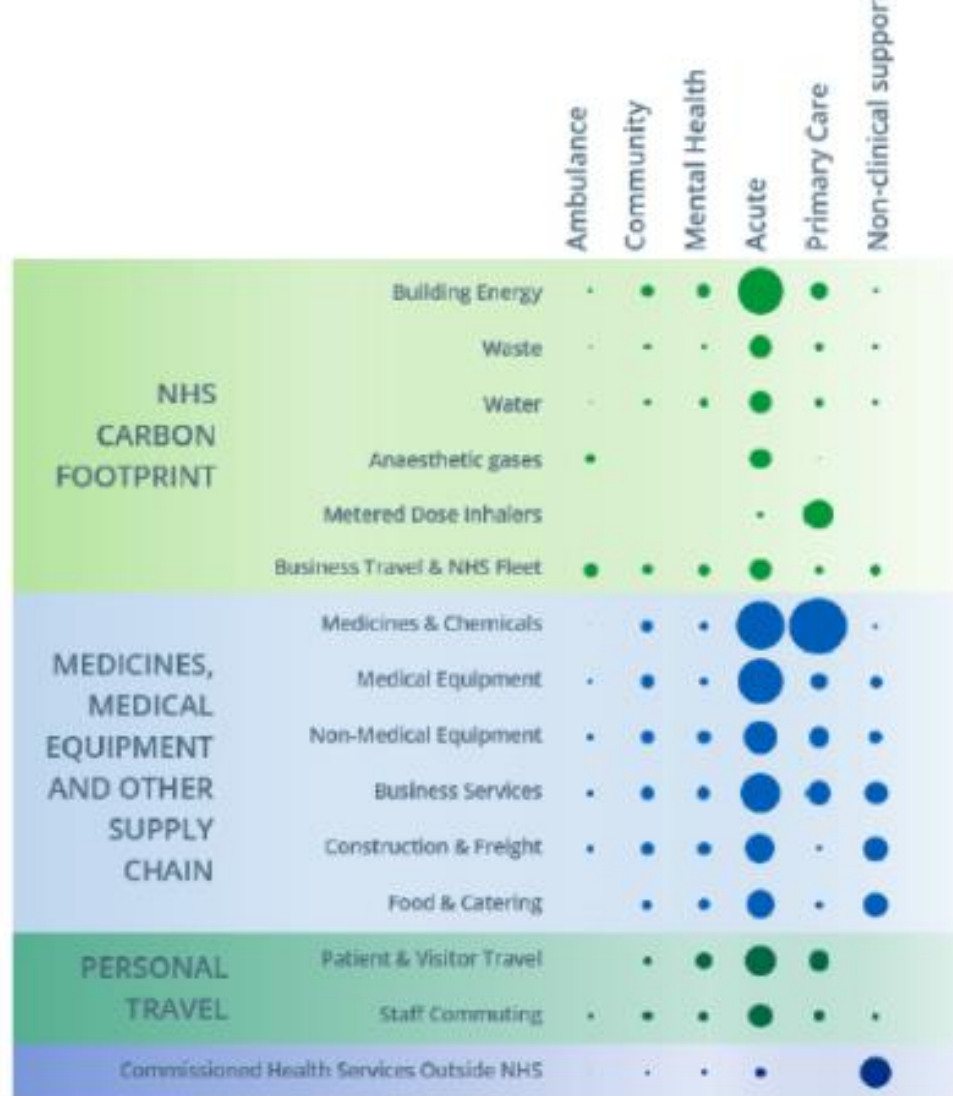
◆ 3%

The carbon footprint of Australian healthcare



Source: Malik A., Lenzen M., McAlister S., McGain F: 'The carbon footprint of Australian health care'. The Lancet Planetary Health 2018; 2:e27-35.

NHS ACTIVITY TYPE



‘Delivering a Net Zero National Health Service’ October 2020. Available at: [Greener NHS » Delivering a ‘Net Zero’ National Health Service \(england.nhs.uk\)](https://www.england.nhs.uk/greener-nhs/delivering-a-net-zero-national-health-service/)

Figure 1: Carbon hotspots of healthcare subsectors

Environmental footprint assessment of NSW healthcare system

The University of Sydney Human Health and Social Impacts Node

- ◆ 6% of GHG
- ◆ 4% of water
- ◆ 8% of waste



Source: <https://search.creativecommons.org/photos/6390d7a8-5694-4462-8ede-fc2545c67971>

This report provides a quantitative assessment of the environmental impact of the NSW health system. This report complements the work undertaken by Mulcahy and Boylan, 2020, who offer a review of strategies to support environmentally sustainable and climate-resilient health systems¹.

Arunima Malik, Michael Padget, Sarah Carter, Takako Wakiyama, Isis Maitland-Scott, Aditya Vyas, Sinead Boylan, Georgina Mulcahy, Mengyu Li, Manfred Lenzen, Kate Charlesworth, Arne Geschke



Carbon Footprinting

Climate change and health

Environmental footprint of healthcare

Sustainable healthcare

What is a carbon footprint?

How good is your carbon instinct?

Carbon instinct answers

Carbon hotspots in healthcare

Footprinting methods

1. Approaches

2. Goal and scope

2.b Boundaries

2.c Inventory

3. Data collection

4. BEIS database

5. ICE database

6. Other factors

7. Impact assessment

8. Interpretation

Study 1: UK healthcare

Study 2: hospital area

Study 3: clinical pathway

Environmental footprint of healthcare

So we have seen that climate change affects health in many ways. Healthcare itself has a considerable environmental footprint in some different ways in which healthcare affects the environment.



Figure 1: Healthcare's impact on the environment



Health care has a huge environmental footprint, which then harms health. This is a matter of ethics



CLIMATE SUMMIT

WHAT IF IT'S
A BIG HOAX AND
WE CREATE A BETTER
WORLD FOR NOTHING?

- ENERGY INDEPENDENCE
- PRESERVE RAINFORESTS
- SUSTAINABILITY
- GREEN JOBS
- LIVABLE CITIES
- RENEWABLES
- CLEAN WATER, AIR
- HEALTHY CHILDREN
- ETC. ETC.



DEL
PETT

12/7/19 USA TODAY

The task ahead

TWO KEY TASKS:

1) MITIGATE:

- Direct actions reduce our emissions
- Indirectly by reducing reliance on hospital-based care

2) ADAPT

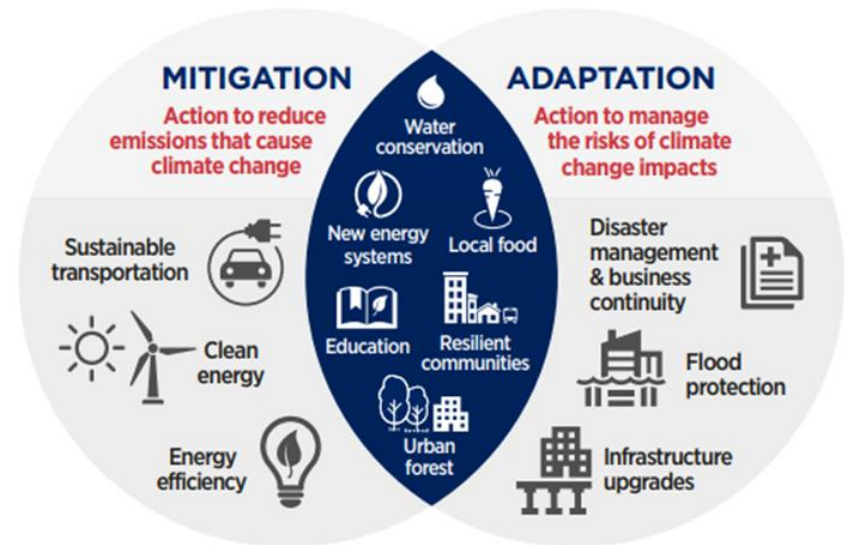


Figure 5: Examples of climate change mitigation and adaptation actions and complementary approaches.

Adapt NSW 'Climate Risk Ready Guide'. Available at:
[Climate Risk Ready NSW](https://www.nsw.gov.au/climate-risk-ready-guide)



Climate change

Net Zero Plan

NSW Climate Change Fund



Policy framework

Understanding climate change



Projections

Impacts

Adapting

Topics > Climate change > Net Zero Plan



Net Zero Plan Stage 1: 2020-2030

The Net Zero Plan Stage 1: 2020-2030 is the foundation for NSW's action on climate change and goal to reach net zero emissions by 2050. It outlines the NSW Government's plan to grow the economy, create jobs and reduce emissions over the next decade.

The plan aims to enhance the prosperity and quality of life of the people of NSW, while helping the state to deliver a 35% cut in emissions by 2030 compared to 2005 levels. The plan will support a range of initiatives targeting electricity and energy efficiency, electric vehicles, hydrogen, primary industries, coal innovation, organic

Download



Department of Planning, Industry and Environment

**Net Zero Plan
Stage 1: 2020-2030**



<https://www.environment.nsw.gov.au/topics/climate-change/net-zero-plan>

© State of New South Wales (Department of Planning, Industry and Environment) [2020]

Joint statement - Medical Professionals call for emissions reduction in health care

18 Mar 2021

AMA and Doctors for the Environment

The Australian Medical Association (AMA) and Doctors for the Environment Australia (DEA) are today calling on the Australian healthcare sector to reduce its carbon emissions to net zero by 2040, with an interim emission reduction target of 80 per cent by 2030.

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📠 042

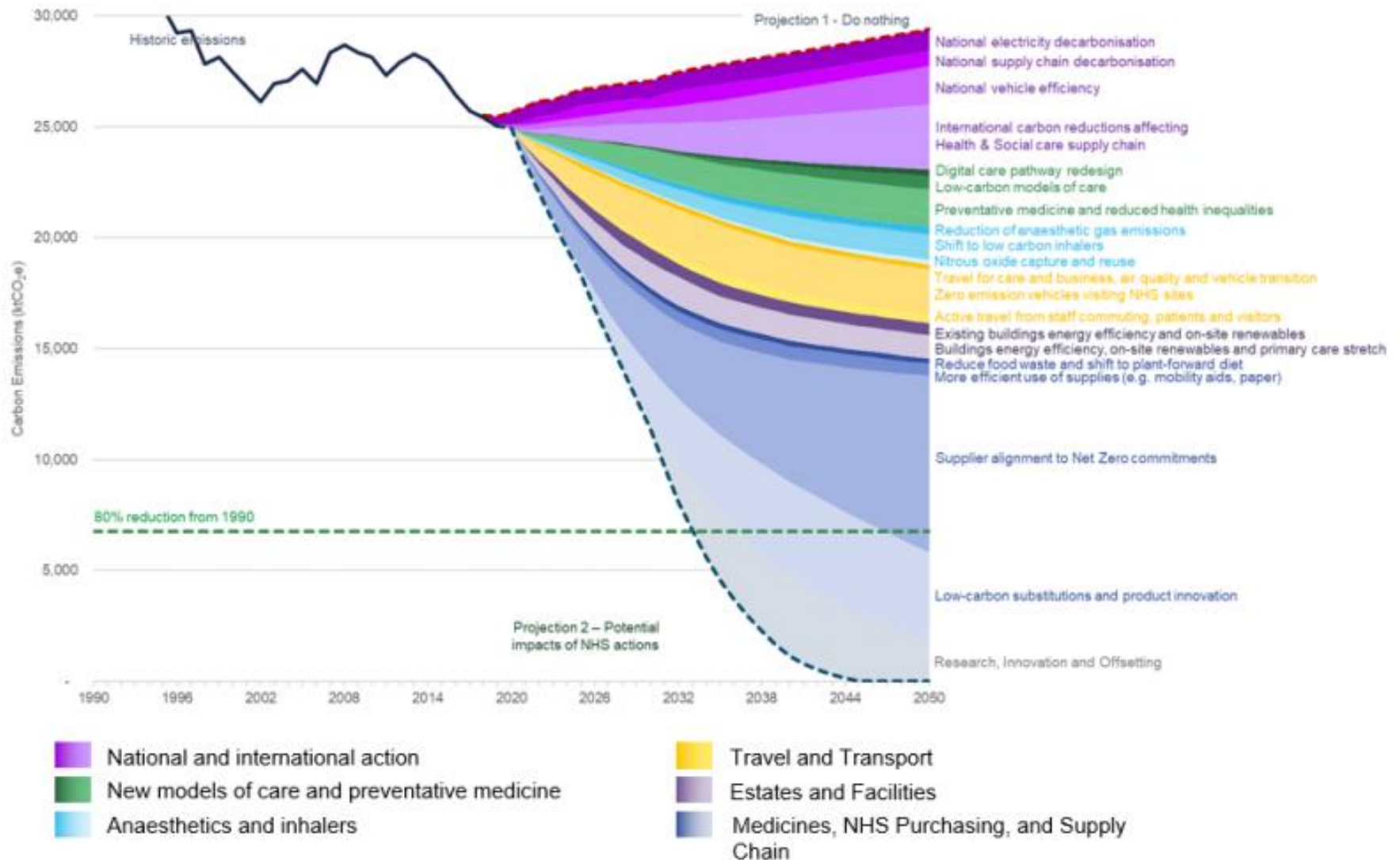
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Figure 5: Pathway to net zero for the NHS Carbon Footprint Plus Scope



Delivering a Net Zero National Health Service' October 2020. Available at: [Greener NHS » Delivering a 'Net Zero' National Health Service \(england.nhs.uk\)](https://www.england.nhs.uk/net-zero/)

1. Prevention

Promoting health and preventing disease by tackling the causes of illnesses and inequalities.



2. Patient self-care

Empowering patients to take a greater role in managing their own health and healthcare

3. Lean service delivery

Streamlining care systems to minimise wasteful activities.



4. Low carbon alternatives

Prioritising treatments and technologies with a lower environmental impact.

Principles of sustainable healthcare



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“Carbon will be as important as money.”



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The Centre for Sustainable Healthcare offers strategic input and consultancy on sustainable healthcare research and practice to national and local programmes.

Our **Sustainable Specialties Programme** is mainstreams sustainability within clinical areas so that it is integral to the planning of health systems and the practice of healthcare professionals. This is supported by our work in **medical education** and in **carbon modelling** of clinical care.

Our **greenspace projects**, especially our **NHS Forest**, assist organisations to improve their natural environment and reconnect their staff, patients and the wider community with their local greenspace to benefit their health.

NEWS

CSH Sustainability School: New Online Courses!



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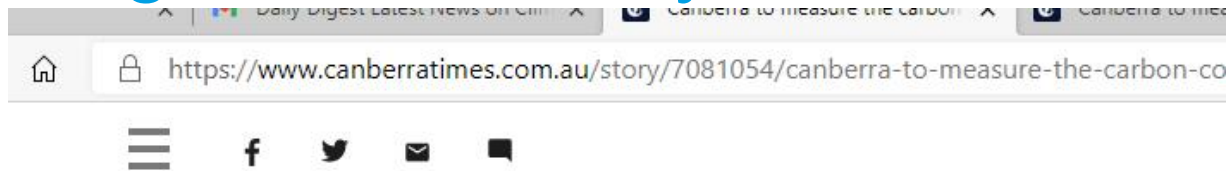


CSH ON TWITTER



#FeelGoodFriday Video conferencing in the NHS is not only saving staff and patients time and money but is making in... <https://t.co/deWF3QIEvc> @SusHealthcare

‘Canberra to measure the carbon costs of food, goods brought into territory’.



"If we work out, for example, some product that we need a lot of in Canberra, where we get it from is a particularly high emissions intensive version, can we source it from somewhere different where it's produced with less emissions?" Mr Rattenbury said.

"We've got a lot of good corporate citizens who would also use that information to change their procurement as well."



Prescription for action

Prevention and patient self-care

Research

Reducing emergency hospital admissions: a population health complex intervention of an enhanced model of primary care and compassionate communities

Julian Abel, Helen Kingston, Andrew Scally, Jenny Hartnoll, Gareth Hannam, Alexandra Thomson-Moore and Allan Kellehear

British Journal of General Practice 2018; 68 (676): e803-e810. DOI: <https://doi.org/10.3399/bjgp18X699437>

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Abstract

Background Reducing emergency admissions to hospital has been a cornerstone of healthcare policy. Little evidence exists to show that systematic interventions across a population have achieved this aim. The authors report the impact of a complex intervention over a 44-month period in Frome, Somerset, on unplanned admissions to hospital.

Aim To evaluate a population health complex intervention of an enhanced model of primary care and compassionate communities on population health improvement and reduction of emergency admissions to hospital.

Design and setting A cohort retrospective study of a complex intervention on all emergency admissions in Frome Medical Practice, Somerset, compared with the remainder of Somerset, from

In this issue



British Journal of General Practice

Vol. 68, Issue 676
November 2018

[Table of Contents](#)

[Index by author](#)

Reference: Abel J, Kingston H, Scally A et al. Reducing emergency hospital admissions: a population health complex intervention of an enhanced model of primary care and compassionate communities. *British Journal of General Practice*. 2018; 68 (676): e803-e810. DOI: <https://doi.org/10.3399/bjgp18X699437>

Exercise: the miracle cure for surgeons to fix the NHS and social care

SYDNEY NORTH
Health Network

What are the benefits of exercise, and how can we encourage its uptake?

SA McNally Consultant Orthopaedic Surgeon
East Sussex Healthcare NHS Trust



SA McNally. 2020. Exercise: the miracle cure for surgeons to fix the NHS and social care. The Royal College of Surgeons of England – The Bulletin. 102(1); 28-33. <https://doi.org/10.1308/rcsbull.2020.28>

The health benefits of trees!





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our urban environment

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Nature Prescription trial

Get involved in our free Nature Prescription trial for a nature kick-start in 2021.



Planetary health diet

<https://eattorum.org/learn-and-discover/the-planetary-health-diet/>



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Interest

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Quick facts

more sustainable work practice.



Sustainability in Healthcare

Models of care - TELEHEALTH

2017-2018 financial year

- 2236 consultations
- Savings of:
 - 1.3 million km (32.2 trips around the world)
 - 57.6 tCO2 equivalents (9407 seedling trees grown for 10 yrs)
- Patient feedback universally positive
- No patient safety issues observed
- Since January – 5.8 million km (144.2 trips around the world) and 1044.1 tCO2 equivalents (unofficial figures)

MORE VIDEOS



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32:08 / 1:18:48



YouTube



Presented by Dr Karen Kiang and Dr Forbes McGain. Hosted by the RACP NSW/ACT Regional Committee.

Consumption

Home ? What Am I Looking At?

Costs

Consumption

2018-19 MoG

2019-20 MoG



2019-20

2018-19

2017-18

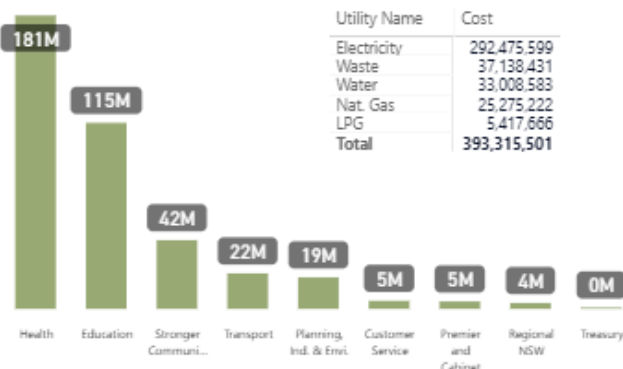
2016-17

2015-16

2014-15

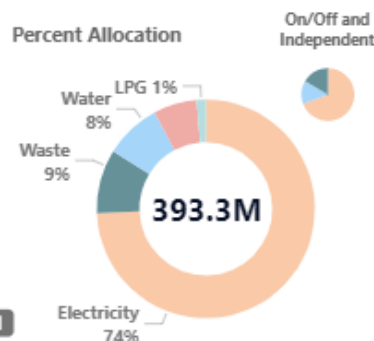
2013-14

Costs by Cluster (\$)

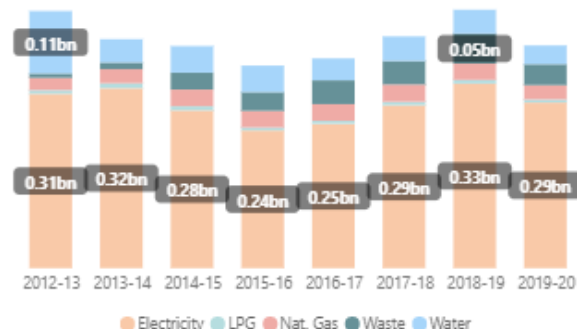


Utility Name	Cost
Electricity	292,475,599
Waste	37,138,431
Water	33,008,583
Nat. Gas	25,275,222
LPG	5,417,666
Total	393,315,501

Percent Allocation



Costs by Utility & Year (\$)



Cost Breakdown (\$)

Cluster	Energy	Water	Waste	Total
Health	147,548,855	16,132,806	17,471,814	181,153,475
Education	88,221,139	9,675,360	16,956,117	114,852,616
Stronger Communities	37,478,299	4,453,875	516,498	42,448,672
Transport	21,578,304	363,771	0	21,942,075
Planning, Ind. & Envi.	15,731,221	1,932,634	1,820,635	19,484,490
Customer Service	4,789,689	44,054	181,490	5,015,233
Premier and Cabinet	4,191,548	256,278	182,588	4,630,414
Regional NSW	3,508,706	149,805	9,289	3,667,800
Treasury	120,726	0	0	120,726
Total	323,168,487	33,008,583	37,138,431	393,315,501

Low carbon alternatives

The carbon footprint of pathology testing

Scott McAlister¹, Alexandra L Barratt², Katy JL Bell², Forbes McGain^{1,3}

The known: Health care ultimately generates 7% of national carbon emissions in Australia. A considerable proportion of the cost of health care in Australia is associated with pathology services (12% of Medicare spending).

The new: The overall carbon footprints of five common hospital pathology tests, measured as carbon dioxide equivalent (CO₂e) emissions, ranged between 0.5 and 116 g CO₂e, equivalent to driving a car between 3 m and 0.8 km.

The implications: Opportunities to reduce the carbon footprint of pathology testing are limited. The greatest environmental benefit can be achieved by reducing unnecessary testing. Environmental impact, together with cost-effectiveness and health outcomes, should be considered when ordering tests.

Climate change is among the most important threats to human health in the 21st century.¹ Health care itself is carbon-intensive and therefore contributes to climate change;² in Australia, it is the cause of 7% of national carbon dioxide equivalent (CO₂e) emissions.³ The health sectors of 36 major countries are responsible for 4.4% of annual global CO₂e emissions, and hospitals are the main sources of these emis-

Abstract

Objectives: To estimate the carbon footprint of five common hospital pathology tests: full blood examination; urea and electrolyte levels; coagulation profile; C-reactive protein concentration; and arterial blood gases.

Design, setting: Prospective life cycle assessment of five pathology tests in two university-affiliated health services in Melbourne. We included all consumables and associated waste for venepuncture and laboratory analyses, and electricity and water use for laboratory analyses.

Main outcome measure: Greenhouse gas footprint, measured in carbon dioxide equivalent (CO₂e) emissions.

Results: CO₂e emissions for haematology tests were 82 g/test (95% CI, 73–91 g/test) for coagulation profile and 116 g/test (95% CI, 101–135 g/test) for full blood examination. CO₂e emissions for biochemical tests were 0.5 g/test CO₂e (95% CI, 0.4–0.6 g/test) for C-reactive protein (low because typically ordered with urea and electrolyte assessment), 49 g/test (95% CI, 45–53 g/test) for arterial blood gas assessment, and 99 g/test (95% CI, 84–113 g/test) for urea and electrolyte assessment. Most CO₂e emissions were associated with sample collection (range, 60% for full blood examination to 95% for coagulation profile); emissions attributable to laboratory reagents and power use were much smaller.

Conclusion: The carbon footprint of common pathology tests was

nbn

Reference: McAlister S, Barratt A, Bell K, McGain F. The carbon footprint of pathology testing. *Med J Aust* 2020; 212 (8): 377-382. doi: 10.5694/mja2.50583



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Putting anaesthetic-generated emissions to bed



The issue

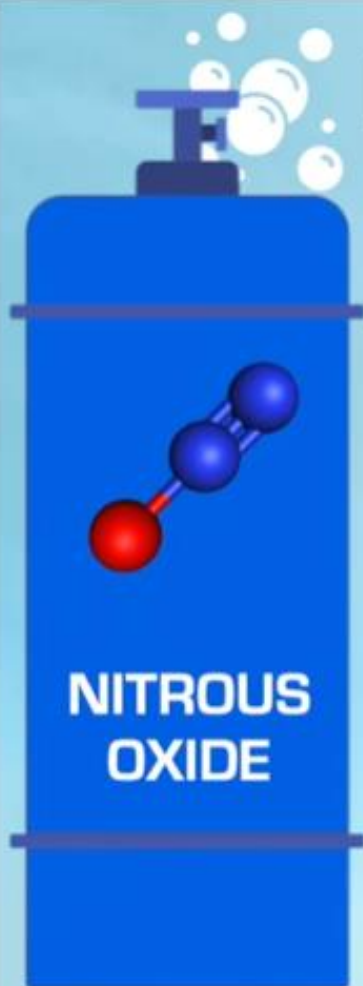
Across the NHS, anaesthetic gases are commonly used as a part of everyday surgeries. These gases alone, are responsible for over 2% of all NHS emissions.

Amongst anaesthetic gases, desflurane is one of the most common, but also one of the most harmful. It has 60 times the environmental impact of other less harmful greenhouse gases and

Nitrous Oxide Mitigation (Part 1)

Lunch & Learn | Friday 15th January 2021 | 13:00-14:00

Launch: Background



Dr Chris Allen

*Anaesthetist
AoA/CSH Fellow in
Environmentally Sustainable Anaesthesia
Newcastle upon Tyne Hospitals, England*



Alifia Chakera
Project Lead

*Lead Pharmacist
Theatres & Anaesthetics
NHS Lothian, Scotland*



Amarantha Fennell-Wells

*Dentist
Clinical Leadership Fellow in
Sustainable Healthcare
Cardiff and Vale UHB, Wales*

COVID-19

Get the latest information from the Department of Health about COVID-19.

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Waste: Reduce-reuse- recycle

PVC RECYCLING



Place **only** these articles into this bin

NO hard plastics. **NO** giving sets.
NO infected waste.

IF IN DOUBT, THROW IT OUT!



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RTH
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Acknowledgement: Rodrigo
Fritis-Lamora, St Vincents
Healthcare Australia

org.au

Sustainable Healthcare: Together Towards Zero Carbon and waste neutral by 2030

Hunter New England Local Health District will be carbon and waste neutral by 2030.

Under the ambitious new initiative, Sustainable Healthcare: Together Towards Zero, we are setting our sights on an environmentally sustainable future.

Significant investments will be made in solar power, water sustainability and energy efficient practices during the next decade to lighten and, eventually, eliminate the organisation's carbon footprint.

We will be doing a huge amount of work in the coming years to achieve this green vision and take our place as an industry and community leader in sustainability.



- Solar panels on all health facilities
- Water – rainwater and dialysis
- Hybrid and electric vehicles
- Telehealth
- Working towards zero waste to landfill by 2030
- Sustainability champions

Sydney North Health Network - Climate and Health Strategy 2020

*Achieving Together - Better Health, Better Climate,
Better Health System*

GOALS	ROLES	STRATEGIES
A. Community Activation 	Support our community to anticipate their climate risks and mitigate the impacts of climate change on health and well-being	<ul style="list-style-type: none"> Develop an understanding of the current and projected impact of climate change on our community Enhance the capability of our community to anticipate, prepare for, and respond to a range of climate-sensitive health impacts and climate-related hazards and disasters
B. System Transformation 	Strengthen health system resilience and adaptive capacity to climate-related hazards and disasters	<ul style="list-style-type: none"> Establish primary healthcare in local, state and national plans for the prevention, preparedness, response, and recovery from climate-related hazards and disasters Promote sustainable and climate-resilient solutions for health infrastructure and operations that decrease reliance on hospital care and ensure continuity of health service delivery Develop and strengthen partnerships to enhance the capacity of the health system to anticipate and respond to climate and health impacts
C. Commissioning 	Attract and distribute resources that enable and incentivise a climate-resilient and environmentally sustainable health sector	<ul style="list-style-type: none"> Encourage environmentally sustainable and climate-resilient solutions for health infrastructure and operations through our commissioning of services Commissioning addresses the population needs of those most vulnerable to climate-sensitive health impacts and climate-related hazards and disasters
D. Member & Provider Support 	Build the knowledge and capacity of all primary healthcare providers to mitigate, adapt and respond to climate hazards and disasters	<ul style="list-style-type: none"> Develop our member and provider workforce knowledge and skills for preparing and responding to a range of climate-sensitive health impacts and climate-related hazards and disasters Support the mental and physical well-being of the health workforce with increasingly impacted by frequent and severe climate hazards and disasters Support health-promoting and emission-reducing initiatives to transition our member and provider operations to a low/zero carbon footprint
E. An Exceptional Organisation 	Embed climate mitigation, adaptation and sustainability in our operations, our people and our visibility	<ul style="list-style-type: none"> Provide leadership and representation for primary healthcare in addressing the health impacts of climate change Implement health-promoting and emission-reducing initiatives to transition our operations to low/zero carbon footprint

SYDNEY NORTH
HEALTH NETWORK

CLIMATE AND HEALTH STRATEGY 2020

Adaptation and resilience

LIVE BLOG

[Follow our live coverage for the latest news on the coronavirus pandemic](#)

SCIENCE

Heatwaves may mean Sydney is too hot for people to live in 'within decades'

ABC Science / By technology reporter James Purtil

Posted Yesterday at 6:12am, updated 5h ago





Too hot, heading south: how climate change may drive one-third of doctors out of the NT

April 10, 2021 8:47am AEST

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202

A sizeable chunk of Northern Territory's doctors are thinking about leaving the territory because of climate change, our new research shows.

Our study, just published in [The Lancet Planetary Health](#), shows for 34% of doctors in our survey, climate change is already, or is likely to, make them consider leaving the NT.

Authors



Simon Gullity
Senior Staff Specialist, Alice Springs Hospital
Honorary, Australian National University



Catherine Pendrey
Visiting researcher, Australian National University

Climate Risk Ready NSW Guide

Practical guidance for the NSW Government sector
to assess and manage climate change risks



Table 1: Climate Risk Ready risk assessment and management process

Process step	Page	Indicative timeframe	Outputs
<div><div>1</div><div>Step 1. Establish the context Establish an authorising environment and resources for climate change risk assessment and management</div></div>			
Understand your organisation's climate risk management maturity	25	2 weeks	Completed Climate Risk Maturity Health Check Tool
Establish the reason for a climate change risk assessment and secure approvals	28	3 weeks	Briefing paper to secure an executive sponsor.
Identify stakeholders and establish an assessment team	30	2 weeks	List of stakeholders and assessment team members.
Determine the scope of the climate risk assessment	33	2 weeks	An agreed climate risk assessment scope
<div><div>2</div><div>Step 2. Identify, analyse and evaluate the risks Establish a plausible climate future and document priority climate change risk</div></div>			
Understand past and recent climate hazards and trends	41	3 weeks	A list of climate variables relevant to your context
Consult relevant climate projections	43	2 weeks	An understanding of projected climate change impacts
Identify risks and opportunities	46	3 weeks	A list of climate change risk statement
Analyse and evaluate risks	49	3 weeks	Priority climate risks with agreed risk ratings
<div><div>3</div><div>Step 3. Treat the risks Develop an adaptation plan to treat priority climate change risks and increase climate risk maturity</div></div>			
Identify and prioritise adaptation actions	53	3 weeks	A resourced adaptation plan including actions to improve climate change risk maturity
Develop and implement an adaptation plan	56	4 weeks	
<div><div>4</div><div>Step 4. Monitor and review Monitor implementation of adaptation plans, climate change impacts and embed reviews in existing procedures and systems</div></div>			
Develop a monitoring and evaluation plan	64	2 weeks	A plan to track adaptation implementation, and monitor climate risks

Poll # 4

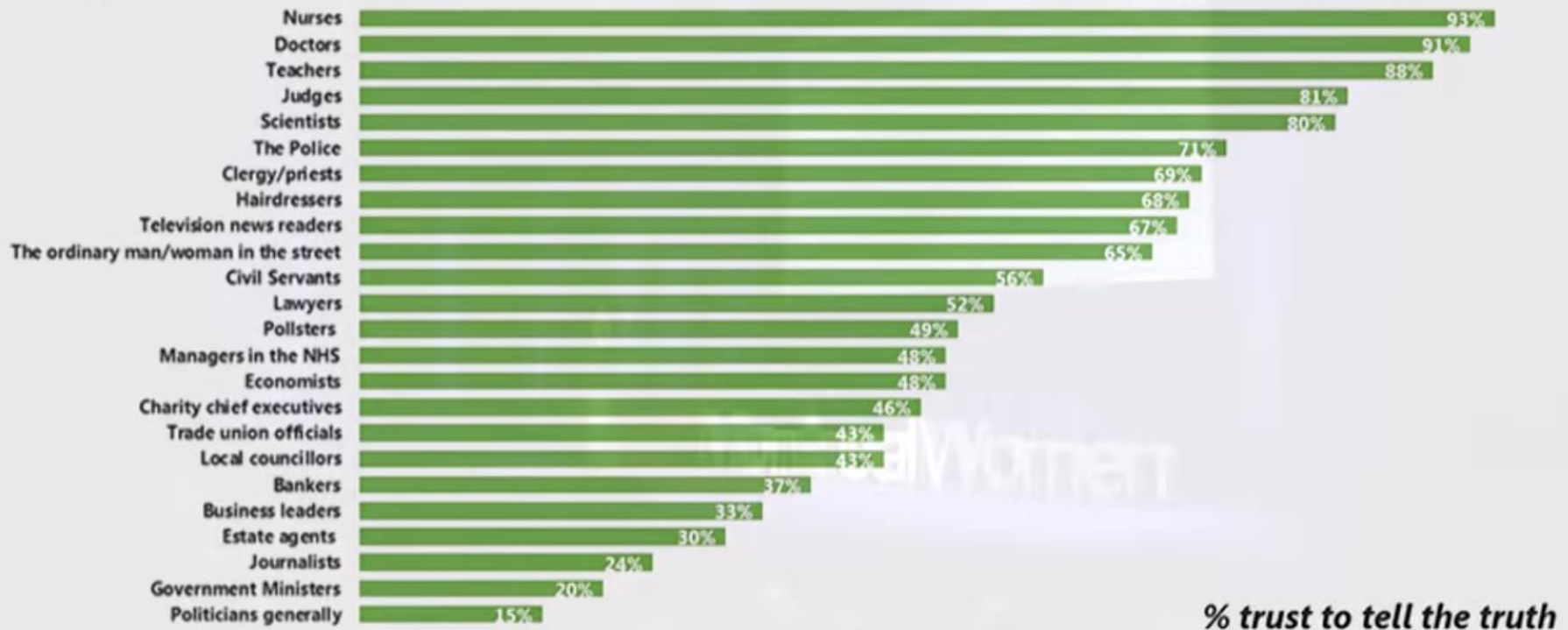
Which is the most trusted and respected professional group in society?

- ◆ Nurses and doctors
- ◆ Second-hand car salespeople
- ◆ Politicians

“Action feels better than anxiety”

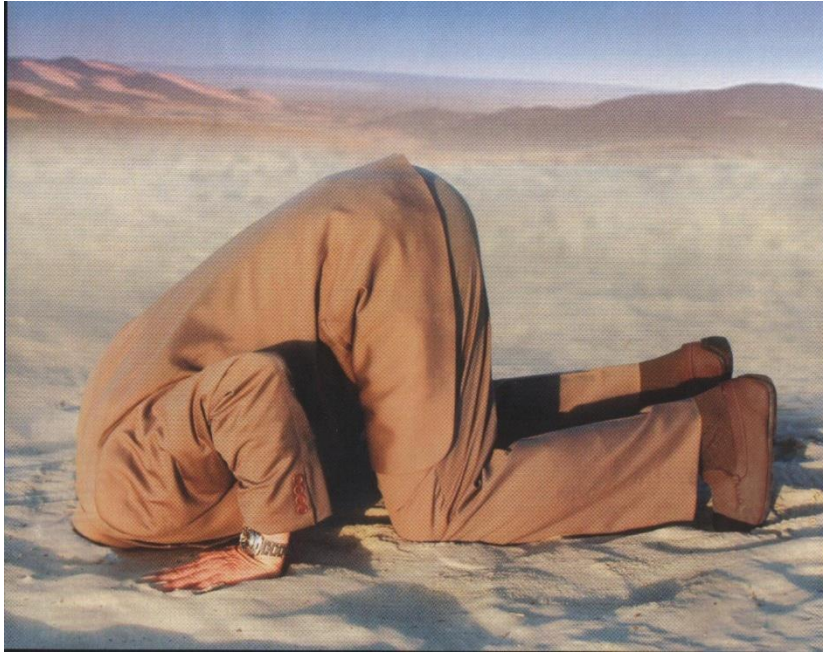
Veracity Index 2016 – all professions overview

“Now I will read you a list of different types of people. For each would you tell me if you generally trust them to tell the truth, or not?”



www.dea.org.au





Head in the sand.....or.....*line in the sand?*

Kate.Charlesworth@health.nsw.gov.au OR kcharlesworth@snhn.org.au

Questions?

<https://theconversation.com/climate-change-will-cost-a-young-australian-up-to-245-000-over-their-lifetime-court-case-r...>

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Climate change will cost a young Australian up to \$245,000 over their lifetime, court case reveals

May 27, 2021 2:17pm AEST

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13

The Federal Court today dismissed a bid by a group of Australian teenagers seeking to prevent federal environment minister Sussan Ley from approving a coalmine extension in New South Wales.

While the teens' request for an injunction was unsuccessful, a number of important developments emerged during the court proceedings. This included

Authors



Liam Phelan
Senior Lecturer, School of Environmental and Life Sciences, University of Newcastle



Jacquie Svenson
Clinical Teacher/Solicitor, University of Newcastle