# The Health Advocate

Your voice in healthcare

# Healthcare system sustainability

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Creating a low-carbon, climate resilient healthcare system in NSW

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This issue of The Health Advocate features articles from the HEAL (Healthy Environments And Lives) Network

HEALTHY • ENVIRONMENTS AND • LIVES HEAL

The official magazine of the Australian Healthcare and Hospitals Association

ISSUE 73 / November 2023

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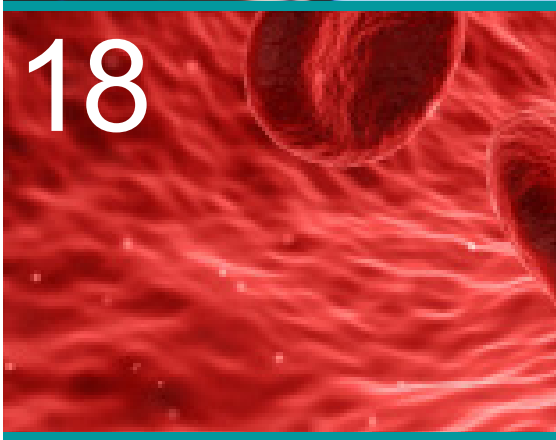




**KYLIE WOOLCOCK**
**Chief Executive**
**AHHA**

# Reducing low-value care

Waste within the healthcare system has been identified as substantial.. In the United States, for example, reports have shown that between 21 and 47% of national health expenditure is wasted each year. Other estimates suggest that only 60% of health care
is delivered in line with guidelines, while 30% is waste, duplication or of low value. The final 10% is care that leads to harm. The landmark Australian Care Track study explored how this waste varied according to different healthcare encounters, with appropriate care estimated to occur in only 13% of encounters for alcohol dependence services through to 90% of encounters for coronary
artery disease.

Removing low-value care has broad ranging benefits. It positively impacts patient outcomes and experiences, the financial sustainability of our health system, our environmental footprint, and the job satisfaction of our healthcare workforce.

There has been significant investment in Australia in identifying low or no-value care. Initiatives
like Wiser Healthcare, the Australian Atlas of Healthcare Variation, Evolve, Choosing Wisely, the MBS Review, Prostheses List reforms, and the use of clinical quality registries and data analyses have made substantial advances in this direction.

However, despite enthusiasm for such initiatives, few large-scale changes in the rates of low-value care have been reported.

'De-implementation' is an emerging area of research. Around the world there has been a focus on de-implementation frameworks, such as Canada's Choosing Wisely De-implementation Framework, which emphasises focusing on local priorities. In contrast, the Research Consortium for Health Care Value Assessment in the US proposes prioritising low hanging fruit.

Insights into barriers and facilitators are important in the quest for de-implementation. Research in the Netherlands identified the most important barriers to reducing the overuse of care were a lack of time, an inability to reassure the patient, a desire to meet the patient's wishes, financial considerations and a discomfort with uncertainty. The most important facilitators were support among clinicians, knowledge of the harms of low-value care and a growing consciousness that more is not always better.

**“The most important facilitators were support among clinicians, knowledge of the harms of low-value care and a growing consciousness that more is not always better.”**


Research from Canada emphasises the importance of addressing both individual and contextual determinants. Particular reference is made to addressing the role of habit, with the need to address repeated behaviours through active interventions, such as financial incentives, data feedback and system level interventions (rather than passive interventions such as education, guidelines and do not do lists).

The road to disinvestment in low-value health care is challenging but necessary. These initiatives can play a vital role in aligning our healthcare system with the principles of sustainability, value, and person-centred care.

This issue of The Health Advocate, in partnership with the Healthy Environments and Lives (HEAL Network, focuses on healthcare system sustainability. Beyond the standard metrics of energy expenditure and reducing carbon emissions, we need to look at reducing wasted and low-value health care to improve the overall sustainability of our health system■

# AHHA in the news

6 JULY 2023

## Who Cares for the carers? How we can best look after Australia's carer community

Across the country, over 10% of our total population provides unpaid care to loved ones living with a chronic condition, disability, or illness, often with no formal healthcare training. Carers are invaluable to those they are looking after, but the role does not come without challenges. Carers may find that being a carer can negatively impact their social and financial status as well as affect their mental and physical health. So how do we make sure that carers themselves are being cared for?

Released by the Deeble Institute for Health Policy Research, the Issues Brief 'Prioritising carers' health and wellbeing in the healthcare system' examines the pressures carers are under, the limited support currently available and how clinicians and our health system can best safeguard their health and wellbeing.

This Brief was co-authored by 2023 Deeble Scholar Dr Natalie Winter from the Institute for Health Transformation at Deakin University. The scholarship program is supported by HESTA.

# HAVE YOUR SAY...

**We would like to hear your opinion on these or any other healthcare issues.**
**Send your comments and article pitches to our media inbox: communications@ahha.asn.au**

**19 JULY 2023**

## Protecting Australian youth mental health in a changing climate

Children and young people are particularly vulnerable to the detrimental effects of climate change on mental health, warns a new Issues Brief released by the Deeble Institute for Health Policy Research.

The Brief, 'Promoting Mental Health in a Changing Climate: Children and Young People as a Priority Population Group', sheds light on the knowledge and research gap concerning the mental health implications of climate change on this demographic, as well as the policy areas that demand immediate attention.

This Brief was co-authored by 2023 HEAL Scholar Hasini Gunasiri, who is a PhD candidate at the School of Health and Social Development, Deakin University. The HEAL scholar is supported by the Healthy Environment and Lives (HEAL) Network, whose aim is to bring measurable improvements to our health, the Australian health system, and the environment. ha

**25 JULY 2023**

## Enhancing Antimicrobial Stewardship in Australian Primary Care Settings

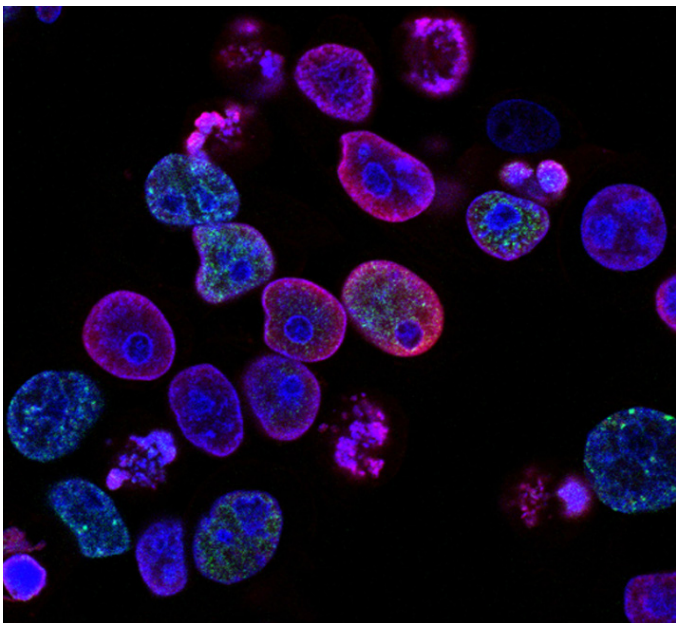
The emergence of antimicrobial resistant infections stands as one of the most significant health threats of our time. The continued inappropriate or overuse of antimicrobials has accelerated the development of antimicrobial resistance (AMR), putting currently treatable infections at risk of becoming life-threatening in the near future.

In Australia, the inappropriate and overprescription of antimicrobials in primary care remains a concerning issue, with 80% of antibiotics being consumed within this setting. Embracing the concept of antimicrobial stewardship (AMS) in primary care will be pivotal to promoting the appropriate use of antibiotics and reducing the risk of antimicrobial resistance.

Released by the Deeble Institute for Health Policy Research, the Issues Brief 'Optimising antimicrobial stewardship in Australian primary care', is co-authored by 2022 Jeff Cheverton Memorial Scholar, Dr Sajal K Saha from Deakin University. ha

# AHHA in the news

## 27 JULY 2023



### Revolutionising Australian Cancer Screening

A cancer diagnosis has the power to significantly alter and potentially limit a person's life. However, by shifting some of Australia's cancer screening programs from a population-based to a risk-based or personalised approach, there is a strong potential for enhanced early detection and improved patient outcomes. In this context, primary care plays a vital and essential role.

Released by the Deeble Institute for Health Policy Research, the Perspectives Brief 'Risk based cancer screening: the role of primary care', is authored by researchers from the Primary Care Collaborative Cancer Clinical Trials Group (PC4). ha

## 25 AUGUST 2023

### Unleashing the potential of our health workforce: Review response

The Australian Healthcare and Hospitals Association (AHHA) welcomed the announcement by the Federal Minister for Health and Aged Care, the Hon Mark Butler MP, of the Unleashing the Potential of our Health Workforce Review.

The Review is one of the recommendations of the Strengthening Medicare Taskforce and will focus on how to assist health practitioners in working to the full scope of their skills and training.

The health system can only function with a strong and effective workforce, and ensuring a sustainable supply and appropriate skill-mix will require effective cooperation and governance across multiple sectors.

The review will need to consider how to enable team-based models of care linked to regional needs assessments and population health planning. Effective clinical governance will be needed to support each team member to work to the top of their scope of practice confidently.

AHHA also welcomed the appointment of Professor Mark Cormack, who will lead the independent review and looks forward to contributing to the review as it progresses. ha

# The HEAL Network: Collective action for a climate-resilient and sustainable health system

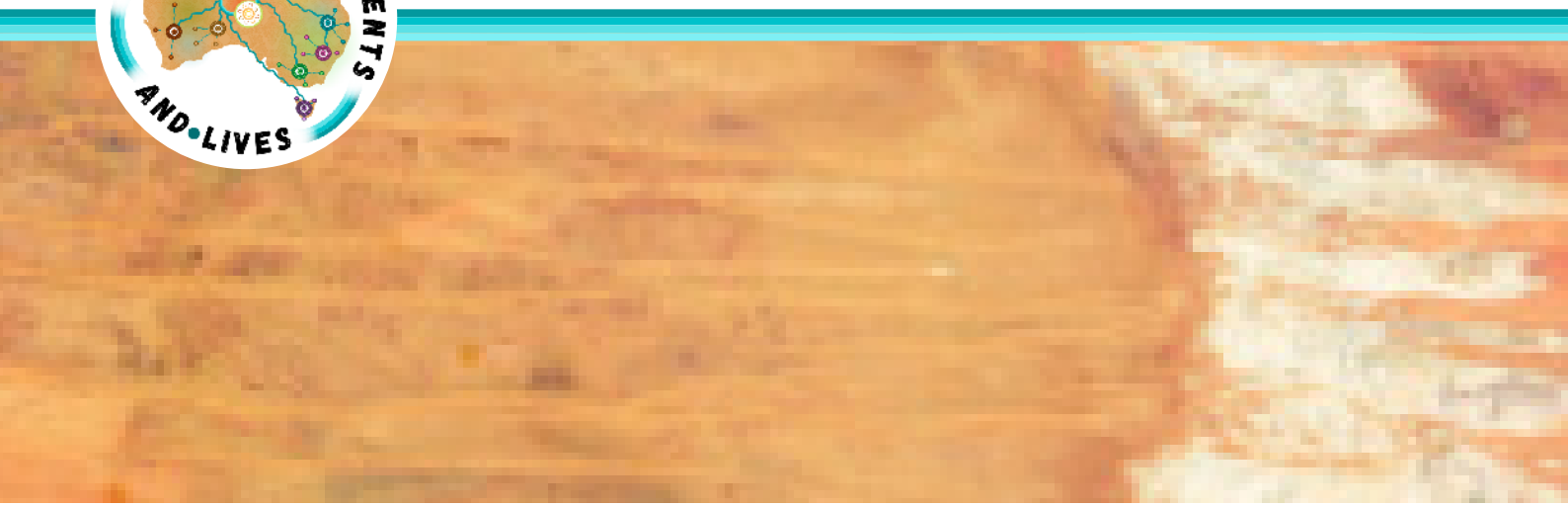
## Listening to the voice for justice, sustainability, and a healthier future

**PROFESSOR SOTIRIS VARDOULAKIS, Professor of Global Environmental Health and Director of the NHMRC HEAL (Healthy Environments And Lives) National Research Network**

Witnessing recent events in Australia and the world can be disheartening. The rejection of the Indigenous voice to the Australian parliament, and the reignited conflicts and humanitarian crises overseas makes hope hard to maintain for many of us. The widespread wildfires and extreme temperatures recorded in the northern hemisphere, supercharged by climate change, could be a precursor of more intense and prolonged heatwaves and bushfires occurring in Australia in the coming months.

However, there are also reasons to be optimistic. The Australian government have listened to the call for a National Health and Climate Strategy, and for a comprehensive National Climate Risk Assessment and a National Adaptation Plan covering all aspects of the Australian society and economy, including the health system. These crucial policy initiatives are currently under development with support from the HEAL Network. The progress towards establishing the long-overdue Australian Centre for Disease Control is also encouraging.

The HEAL Network has provided input into the public consultations and is advising the Department of Health and Aged Care, and the Department of Climate Change, Energy, the Environment, and Water in delivering these key policy initiatives. >



On the international stage, HEAL has played a significant role in the latest IPCC Sixth Assessment Report, the ongoing seventh edition of the Global Environmental Outlook (GEO-7), multiple World Health Organization initiatives in the Western Pacific Region and globally, and the preparation for the next UN Climate Change Conference (COP28) in the UAE in November/December 2023. 'Climate and health' is a key part of the COP28 agenda, under the pillar of focusing on lives and livelihoods. COP28 will host the first-ever Health Day and climate-health ministerial meeting at a COP, which will be co-hosted by the World Health Organization and several countries. The HEAL Network will be present to support this climate and health dialogue, and strengthen collaborations and alliances that aim to put health at the centre of climate action.

'Think globally, act locally', working collaboratively with policymakers, health practitioners and communities, and respectfully bringing together First Nations and non-Indigenous knowledge systems, including stories and data, are key enables of the HEAL Network. This inclusive and collaborative approach enables us to co-design projects that address key evidence needs for making health services and communities more sustainable and resilient to climate change, extreme events, and environmental degradation.

Unlike other research initiatives, HEAL is a decentralised non-hierarchical network of Communities of Practice (i.e. local knowledge exchange forums) that cover all Australian jurisdictions and comprise researchers, policymakers, practitioners, and Aboriginal and Torres Strait Islander and other community groups. A key role of these Communities of Practice is to identify evidence needs and prioritise local action with community participation in the co-design of research projects, capacity and capability building, and policy and practice engagement.

HEAL Network's first year focused on stakeholder consultation and engagement activities carried out online and face-to-face across Australia. Since the publication of the 2022 HEAL issue in the Health Advocate, our Communities of Practice have been maturing through increasing interaction, focus group discussions, roundtables and webinars supported by regional research leaders, Indigenous and other community leaders, researchers and policy makers. Importantly, the HEAL Communities of Practice have extensively engaged with Departments of Health, Environment Agencies, Aboriginal Community Controlled Health Organisations, conservation councils, health consumers associations, peak bodies, industry, and community organisations to shape an action orientated research agenda.

**"Bringing the right diversity of people around the table (policymakers, service providers, community, industry, advocacy organisations) from the very beginning provides the best foundation for effective research and translation into policy and practice."**

NASA

Recent examples of inter-disciplinary collaboration involving HEAL researchers include work to incorporate carbon emissions into health technology assessments, improve access to solar energy in remote communities, assess the impacts of climate change on health and health services in Northern New South Wales, and the impacts of air pollution from wood heaters in the Australian Capital Territory.

Other highlights include the launch of the NHMRC funded Centre for Safe Air led by Professor Fay Johnston (University of Tasmania), and the Cooperative Research Centre for Solving Antimicrobial Resistance in Agribusiness, Food and Environments led by Professor Erica Donner (University of South Australia), as well as the announcements of the Welcome Trust funded project on extreme heat and pregnancy complications led by Associate Professor Caitlin Wyrwoll (University of Western Australia), and the Indigenous citizen science project 'Air in East Arnhem' led by Dr Supriya Mathew (Menzies School of Health Research) and funded by the Medical Research Future Fund. These new centres and projects, as well as other established collaborations involving HEAL investigators, such as the Wiser Healthcare initiative led by Professor Alexandra Barratt (University of Sydney), demonstrate HEAL's potential for collaborative inter-disciplinary research with a clear focus on providing actionable evidence for improved health policy and practice.

As the HEAL Network moves into its third year, more opportunities for inter-disciplinary collaboration through ongoing consultation and engagement are anticipated. In this process, we aim to connect as early as possible with policymakers, communities and other stakeholders to start collaboration and co-design from an early stage. Bringing the right diversity of people around the table (policymakers, service providers, community, industry, advocacy organisations) from the very beginning provides the best foundation for effective research and translation into policy and practice. To achieve this, the HEAL Network is drawing together existing research, policy and community collaborations and creates new ones across Australia.

The HEAL 2023 annual conference on Collective Action for Health, Environment and Climate is taking place online and in-person at multiple locations on 14-16 November 2023. Registration is free. ha

**The HEAL (Healthy Environments And Lives) Network receives funding from the National Health and Medical Research Council Special Initiative in Human Health and Environmental Change (grant no. 2008937).**

AUSTRALIAN GOVERNMENT DEPARTMENT OF HEALTH AND AGED CARE

Australian Government
Department of Health and Aged Care

# National Health and Climate Strategy

Andrew Small

Climate change is already affecting the health of wellbeing of people across Australia. The environmental and human systems which are so important to maintaining good health are increasingly being disrupted by extreme weather events, the spread of climate-related infectious disease and climate-related food and water insecurity.

Responding to these growing health threats, the Australian Government is working to produce Australia's first. The Strategy will establish a plan of action to build a sustainable, high quality, net zero health system, strengthen the health system to protect the health and wellbeing of people in Australia from the impacts of climate change and mobilise whole-of-government climate action for healthy and resilient communities.

The Government has consulted extensively in developing the Strategy, including with health service providers, aged care providers, peak bodies, academia and industry. Consultation with First Nations leaders and community representatives has been a particular priority.

The Strategy will establish a three-year plan focussed on action to measure and reduce greenhouse gas emissions from the health system, identify responses to the health impacts of a changing climate, and engage with other sectors on mitigation and adaptation policies that have implications for human health and wellbeing. the Strategy will aim to build on the work already underway across many portfolios, and to work to establish realistic and meaningful targets to reduce health sector emissions. The Strategy is anticipated for release by the end of 2023. ha

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# Climate change and mental health

A summary of the policy brief on 'Promoting mental health in a changing climate: children and young people as a priority population group'

**MS HASINI GUNASIRI**
**PhD Candidate,**
**School of Health and Social Development,**
**Deakin University**

## 1. Climate change related mental health issues in children and young people

Climate change related mental health impacts is a concern of all humans, but children and young people are particularly vulnerable. Emerging evidence suggests that direct (e.g. physical injury, respiratory illness, and mental health trauma associated with extreme weather events[1,2]) and indirect (social and economic disruptions caused by climate change, e.g. food and water insecurity[2]) experiences of climate change-related extreme events and uncertainty about their future can lead to negative emotions in children and young people. In 2020, 54% of the Australian population reported having directly experienced climate change related weather events and among them, one in four people met post-traumatic stress disorder (PTSD) criteria.[3] Among those who have not had a direct experience of a climate related event, pre-trauma symptoms were more common in younger age groups.[3] According to the 2022 Mission Australia Youth Survey of 18,800 respondents,[4] 25.5% of young people were personally extremely or very concerned about climate change.

### 1.1. Eco-emotions and mental health issues

There is a range of eco-emotions and mental health issues related to climate change in children and

Christopher Rusev

young people such as eco-anxiety (anxiety related to climate change perceptions), solastalgia (lived experience of climate change including the loss of familiar environments), pre-trauma (trauma that develops in anticipation of a future trauma related to climate change), and PTSD (intrusive and disturbing memories and recollections of a traumatic event).[3,5] Other eco-emotions include stress, anxiety, hopelessness, powerlessness, and worry about their future uncertainty.[6]

**75% of lifetime cases of mental health problems start by age 24 years.[7]**

To reduce the future burden of disease and related healthcare costs, mental health interventions for children and young people with a focus on climate change must be developed and implemented. As the generation that will have to bear the impacts of climate change throughout their lifetime, it is critical to understand the pathways in which children's and young people's mental health is affected. Co-designing interventions with children and young people can help understand these pathways, the range of factors that influence relationship with climate change and mental health and develop effective mental health promotion strategies. >

## 2. Gaps in climate change-mental health policy

As identified in the policy brief, 'Promoting mental health in a changing climate: children and young people as a priority population group',[8] a range of gaps for developing and implementing climate change related mental health policies are presented below:

- There is a lack of research studies focused on the impact of climate change on children's and young people's mental health. This has been a barrier in developing and implementing early intervention for children and young people.
- There is a lack of inclusion of young people in policy consultation and decision-making processes which contributes to policies that do not meet the needs of this priority population group.
- There is a need for well-equipped mental health services targeted at climate change related mental health issues in Australia. Government incentives should be provided to adequately resource climate change specific mental health services for children and young people.
- There is a need for safe spaces for children and young people to discuss their climate change related concerns and worries. Community level programs to promote coping strategies in children and young people should be implemented in community settings.
- Climate change related misinformation on social media can influence children's and young people's climate related concerns. National evidence-based guidelines on climate change misinformation together with mental health promotion programs and resources must be developed.
- Climate change impacts on mental health should be acknowledged and recognised in the national education curriculum with a focus on climate resilience, active citizenship, and media literacy.

## 3. Opportunities for climate change-mental health policy

Six recommendations were identified in the policy brief to address the above-mentioned policy gaps:

1. Children and young people must be included/ represented in decision making around health and climate change
2. Implement a focus on climate resilience, active citizenship and media literacy in the education curriculum.
3. Develop national guidelines on social media and misinformation including climate change misinformation
4. Provide support for safe spaces for children and young people to discuss climate change related concerns
5. Provide training for mental health professionals to address climate change related mental health issues
6. Co-design climate change mental health interventions with children and young people

Given the limited information on climate change impacts on children's and young people's mental health and the novelty of research in this area, understanding and conceptualising the relationship between climate change and children's and young people's mental health, can play a major role in managing climate change related mental health issues. ha

**"As the generation that will have to bear the impacts of climate change throughout their lifetime, it is critical to understand the pathways in which children's and young people's mental health is affected."**

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# The carbon footprint of dialysis

**DR SCOTT MCALISTER**
**Research Fellow, De-Carbonising Healthcare**
**Melbourne School of Population and Global Health**

In 2021 in Australia, 15,200 people with kidney failure received dialysis. This number has more than doubled from 2000, and is expected to continue to rise, in part due to the rise in risk factors such as obesity and diabetes alongside a more aging population. Dialysis removes extra fluid and waste products from patients when their kidneys are unable to, with there being two main types: haemodialysis (HD) and peritoneal dialysis (PD). In HD, blood is pumped to one side of a membrane in a dialyser, with the other side of the membrane containing glucose and ions in purified reverse osmosis (RO) water, before being returned to the body. Through osmosis, excess fluid and waste is transferred across the membrane and is disposed. Patients undergoing HD typically have dialysis 3 times per week for 4 hours.

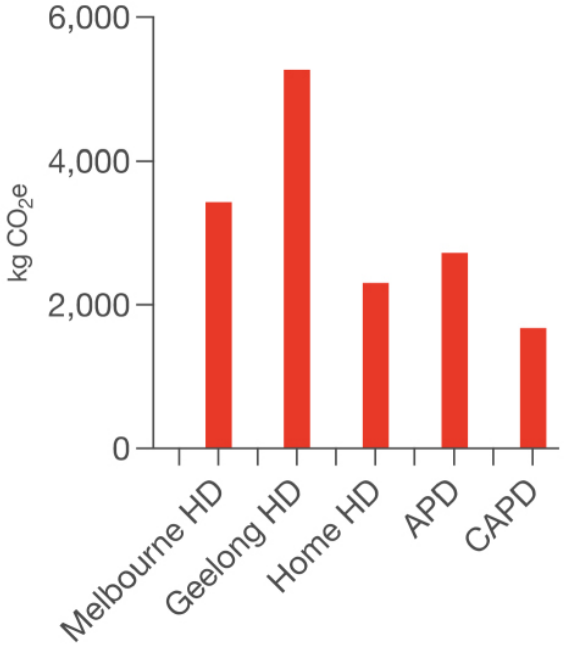
PD uses the peritoneum, the membrane that lines the abdominal cavity, to achieve the same thing, but unlike HD it has to be performed every day. Purified water containing glucose and ions are put into the abdominal cavity, waste and excess fluid are transferred across the peritoneum by osmosis from the blood, and then the abdominal cavity is drained. There are two types of PD: continuous ambulatory (CAPD) and automated (APD). CAPD is performed during the day, with typically three, 2L bags of fluid being exchanged by gravity. Each exchange of a 2L bag takes approximately 30 minutes, and in between exchanges, patients are disconnected from tubing and can go about their usual activities. For APD, 2L bags are exchanged by a machine over the course of 8-12 hours, typically when patients sleep. The weight of all the consumables such as fluid and tubing needed per day is high (15.7 kg for APD and 9.2 kg for CAPD).

In Australia, 82% of patients receive HD and 18% receive PD. For HD, patients predominately receive dialysis in-centre (91%) compared to at home (9%), while PD is purely a home-based treatment. PD is less costly than in-centre HD for comparable clinical outcomes, as well as having a better health-related quality of life. But while it was known that in-centre HD has a high carbon footprint, due to a combination of the high frequency and large carbon footprint of each treatment, little was known about the carbon footprint of PD. We therefore undertook a life


cycle assessment (LCA) to compare the carbon footprint of HD, home HD, APD and CAPD.

LCA models the whole life cycle of devices and consumables used in an intervention (raw material extraction such as ores or natural gas; manufacture into materials such as plastics and steel; assembly into individual items such as syringes; their transport and use; and disposal or recycling). We included all consumables such as fluids and tubing, and the electricity use of dialysers, RO systems, and APD machines. Importantly we included transport, both of patient transport to and from in-centre HD, as well as for the fluid and consumables for home HD and PD.

We investigated two in-centre HD units, located in Melbourne and Geelong. The annual carbon impacts in carbon dioxide equivalents (CO2e) per patient for these units was 3.4 and 5.3 tonnes CO2e. To help put this in context, an average Australian household of 2.6 people emits approximately 15-20 t CO2e. The major difference between the centres was Geelong had longer distances for patients to travel, and a less efficient RO system. By comparison, home treatments had lower impacts. Home HD and APD had similar carbon emissions (2.3 and 2.7 t CO2e), while APD had the least (1.7t CO2e). APD was higher than CAPD predominately due to needing more consumables, and the electricity required to run the APD machine. Transport of the consumables for both APD and CAPD contributed approximately 26%. For home HD, 74% of the impact was from consumables and 26% from the RO system/dialyser electricity.




While shared decision making between clinicians, patients and their caregivers should always take precedence when choosing the most appropriate dialysis modality, given that home HD and PD provides comparable clinical outcomes compared to in-centre HD but with a lower carbon footprint, these modalities should be promoted where feasible. ha

GraphicStock

# Patient initiated follow up as a low carbon alternative for cancer surveillance

**PROFESSOR KATY BELL**
**Associate Professor of Clinical Epidemiology, Sydney School of Public Health, The University of Sydney,**

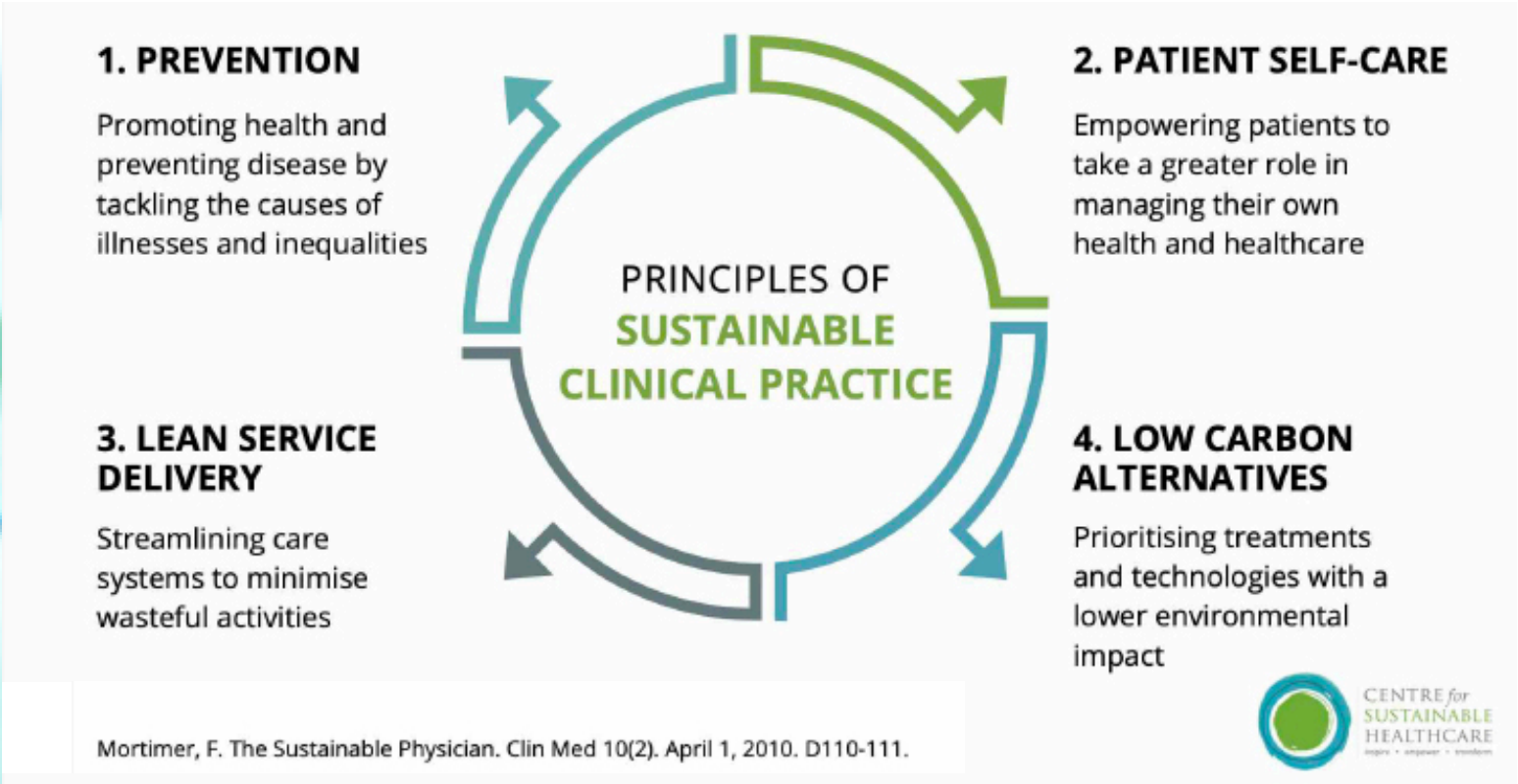
**MS PHILOMENA COLAGIURI**
**Research Assistant, Sydney School of Public Health, The University of Sydney**

**MR JAKE WILLIAMS PhD candidate and Research Assistant, Sydney School of Public Health, The University of Sydney**

## Sustainable healthcare

Human health relies on the health of the planet, and the WHO has declared that climate change is the biggest health threat facing humanity.

But health-care systems also harm the planet by producing greenhouse gas emissions, waste, and pollution that all contribute to climate change. A growing international movement aims to measure and mitigate the health sector's own environmental damage and support a transition to low carbon models[1]. Analyses have revealed that a large share of health care's climate impact is due to clinical care itself[2]. There is an urgent need to identify safe and effective ways to decarbonise health care to achieve equivalent or better clinical outcomes at a lower cost to the carbon budget. Identifying such




**"Reducing the frequency of routinely scheduled clinic visits may realise substantial co-benefits to health (earlier detection of concerning lesions), health systems (reduced financial and opportunity costs) and the planet (reduced carbon footprint)."**

care may be guided by the four sustainable health-care principles: prevention, patient empowerment and self-care, lean systems, and low-carbon alternatives (see Figure)[3].

## Cancer surveillance for follow-up after cancer treatment

One type of care that needs to move to more sustainable options is the long term follow up of cancer patients. The number of people in follow up after cancer treatment is rising globally each year, with a recent estimate of 44 million cancer survivors worldwide[4]. Nearly all these people are in long-term follow-up through routinely scheduled clinic visits, and many undergo routine monitoring tests such as imaging and blood tests aimed at early detection of recurrence[5]. These current models of cancer surveillance appear to meet none of the four sustainable health care principles outlined above, and are increasingly recognised as unsustainable, both in terms of financial costs and clinician time[6,7]. Routine follow up and monitoring are also likely to have a high carbon footprint. >

For example, carbon emissions from patient transport to clinic, as well as surveillance blood tests[8] and imaging[9] have a high carbon footprint. Incidental findings are relatively common[10] and the cascade of (potentially unnecessary) further tests, surgeries, and other treatments each have a carbon footprint[11].

## Patient-initiated follow up as an alternative for cancer surveillance

Patient-initiated follow up has been investigated as an alternative model of care for people with chronic conditions[6], including cancer surveillance[4]. Investigations into this new model of care have primarily been motivated by the need to reduce costs and free up clinician time, and to provide health benefits for patients through faster access to specialist care when needed[4]. However, they may potentially have the added co-benefit of a lower carbon footprint.

Importantly, patient-initiated follow up has been shown to produce comparable clinical and patient outcomes to current models of care. A recent systematic review[4] found that in six randomised controlled trials (RCTs) of patients treated for breast cancer, patient-initiated follow up was equivalent to routinely scheduled clinics for recurrence detection, quality of life, psychological outcomes, and patient satisfaction.

There was often a decrease in the number of specialist consultations, however this was sometimes offset by increases in nurse consultations and mammograms. In two RCTs of patients treated for colorectal cancer, patient-initiated follow up was equivalent to usual care for recurrence and survival, and decreased the number of routinely scheduled visits. One RCT of patients treated for endometrial cancer found no difference in clinically significant fear of cancer recurrence and fewer hospital examinations required with patient initiated follow up. The final RCT included in the review was the MEL-SELF pilot RCT of melanoma surveillance, described below.

Collectively, these trials suggest that patient-initiated follow up may achieve similar clinical outcomes at a lower cost. Although carbon footprints were not measured (except in the MEL-SELF RCT), if the new model of care reduces the number of clinic visits, then it may subsequently reduce carbon emissions. However, it is important to note that not all proposed patient-initiated models of care actually result in fewer clinic visits, as reflected by the finding in the breast cancer trials that reduction in one type of health care (i.e., specialist consultations) may be offset by the use of other types of care (i.e., increased nurse consultations and mammograms). This highlights the need to undertake robust studies before implementation so that we can be certain that what seems like a low carbon health care option in theory, is actually a low carbon option in practice.

## Patient-led surveillance for melanoma as example of sustainable healthcare

Patient-led surveillance for melanoma is an example of patient-initiated follow up after treatment of melanoma. This model of care is currently under evaluation in the MEL-SELF RCT, with an intervention that aims to support patients and their skin-check partners to undertake

effective self-surveillance[12,13]. The intervention includes instructional videos, smartphone tools (mobile dermatoscope and App) and rapid remote assessment by a dermatologist (teledermatology)[13]. The pilot trial demonstrated that patient-led surveillance is safe, feasible[12], and acceptable to patients[14] and clinicians[15]. The ongoing, larger trial is generating comparative evidence on the early detection of melanomas and other skin cancers, psychological outcomes, financial costs, and carbon footprint[13].

Patient-led surveillance aligns with all four sustainable health care principles[3]: prevention (early detection and treatment of changing moles to prevent advanced melanoma), patient empowerment and self-care (support for effective self skin-examination), lean systems (access to melanoma specialists only when needed), and low-carbon alternatives (teledermatology instead of in-person clinic visit). Reducing the frequency of routinely scheduled clinic visits may realise substantial co-benefits to health (earlier detection of concerning lesions), health systems (reduced financial and opportunity costs) and the planet (reduced carbon footprint).

## Conclusion

As health systems decarbonize to meet Net Zero targets, sustainable models of health care are becoming increasingly important. Patient-initiated follow up is a promising alternative model of care that may decrease the carbon footprint of long-term clinical follow up for people with chronic conditions. ha

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# Re-thinking the prevention and treatment of heart disease

## The environmental impact of healthcare for cardiovascular conditions

**PROFESSOR ALEXANDRA BARRATT**
**Professor of Public Health, University of Sydney**

### What motivated this study?

Healthcare services are fundamental to good human health, but have a significant environmental footprint — from carbon emissions to plastic waste and water pollution.[1] Cardiovascular disease is the most common non-communicable disease worldwide, responsible for > 17 million deaths and > 300 million life-years lost in 2017.2 And the burden of heart disease is increasing — 21% increase in deaths between 2007 and 2017.[2] Unsurprisingly then, cardiovascular diseases had the largest carbon footprint of all disease and injury types considered in an analysis of the carbon footprint of medical services in Japan.[3] *So our research question was: What do we know about the environmental impacts of preventive and treatment services for cardiovascular conditions?*[4]

### How did we do it?

We conducted a systematic search of the literature from 2011 onwards, by searching Medline, Embase and Scopu. We included published papers or conference abstracts that had measured the environmental impact of any kind of healthcare for cardiovascular conditions. We screened over 1500

| Study | Findings |
|---|---|
| Cardiac MRI v CT v Echo (Ultrasound) | MRI >> CT >> ECHO/US |
| Rigid v stretchable pacemaker monitors | Rigid devices > stretchable devices |
| Best practice diabetes control v uncontrolled | Uncontrolled diabetes > Controlled diabetes |
| Contamination of waterways by CVD drugs (2 studies) | CVD drugs in freshwaters of all continents |
| In person clinic visits v telehealth consultation (2 studies) | In person > telehealth consultations |
| Reduce unnecessary biochemical tests ordered | 10 tonnes CO2e savings |
| Reduce unnecessary PPE used on admission | 132 fewer pieces of single-use plastic/patient |
| Footprint of one adult cardiac surgery | 124kg CO2e per surgery |
| Rinsing blood from open heart surgery bypass circuit lines and disposing as municipal waste | Waste requiring incineration reduced by 90% |
| In person v on-line conference | In person (1920 tons) >>> virtual conference (4 tons) |

Table 1 Summary of study findings

articles for inclusion, ending up with 10 studies and 2 conference abstracts the met our inclusion criteria. We extracted information about the location of each of study, the type of healthcare assessed, the types of environmental impacts assessed, and how these were measured. We also conducted a content analysis of all included studies to gain additional insights.

## What did we find?

The included studies were very diverse. As shown in the Figure, studies looked at environmental impacts across the spectrum of healthcare for cardiovascular conditions — from prevention (e.g. using blood pressure and lipid lowering medications) to diagnosis using medical imaging, to medical and surgical in-hospital care. The types of environmental impacts measured were diverse too — most studies (8/12) measured carbon emissions, two measured water pollution, and two measured waste to landfill/incineration.

Most studies measured existing practices, e.g. environmental impacts of cardiac surgery as currently practised, or conducted prototype studies of alternatives to practice that could be introduced. >

One of these was a study that looked at how rinsing the bypass circuits that are used during cardiac bypass surgery can convert these plastic tubes from medically regulated waste to municipal waste, saving money and reducing air pollution and carbon emissions by avoiding incineration. Two other studies tested the use of telehealth (instead of in-person clinic visits) for routine, follow-up consultations. Two studies tested interventions to increase value in healthcare — one intervention to reduce unnecessary blood tests and one intervention to reduce unnecessary PPE (Personal Protective Equipment) use.

Nine of the 12 studies showed actual or potential carbon or waste savings could be made from modest changes to clinical practice. For example, when clinically appropriate, decisions to use less advanced imaging could make a difference, as cardiac magnetic resonance imaging (MRI) has a much larger carbon footprint compared to echocardiography (ultrasound). The other 3 studies were descriptive studies that simply measured the carbon footprint of cardiac surgery (1 study) or the concentration of cardiovascular drugs in waterways worldwide (2 studies). The latter two studies show that blood pressure and lipid lowering drugs are detectable in surface waters in all continents (except Antarctica which hasn't been studied).

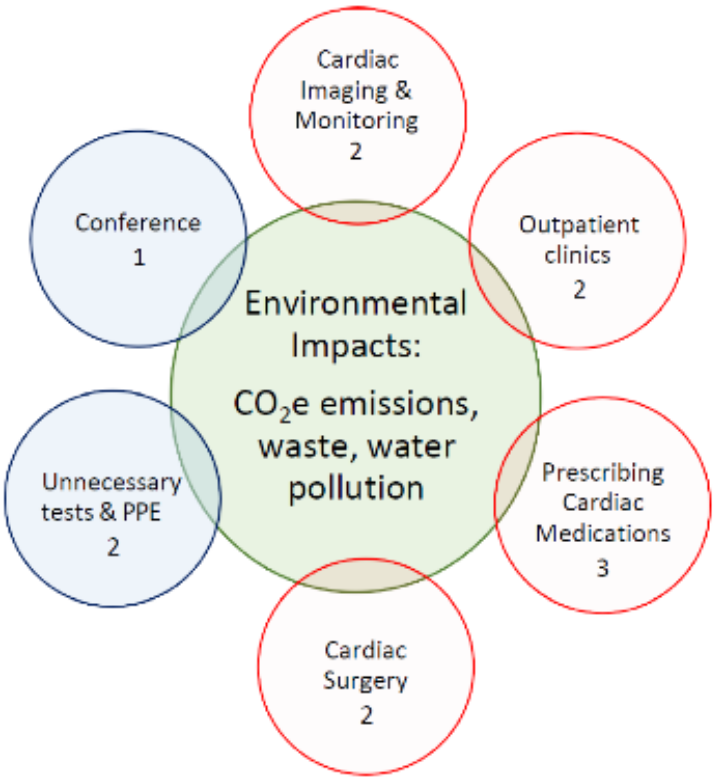


Figure 1: Types of healthcare for cardiovascular care or cardiovascular practice studied

The quality of the studies was mixed. For measuring carbon emissions, four studies used the international standard for measuring environmental impacts, Life Cycle Assessment, while the others only estimated emissions from costs or patient reported travel. Both intervention studies were uncontrolled before-after studies providing only weak evidence of intervention effectiveness.

**"Our study emphasises the impact of cardiology practice on the environment and identifies some simple, low cost measures to make cardiology practice greener."**

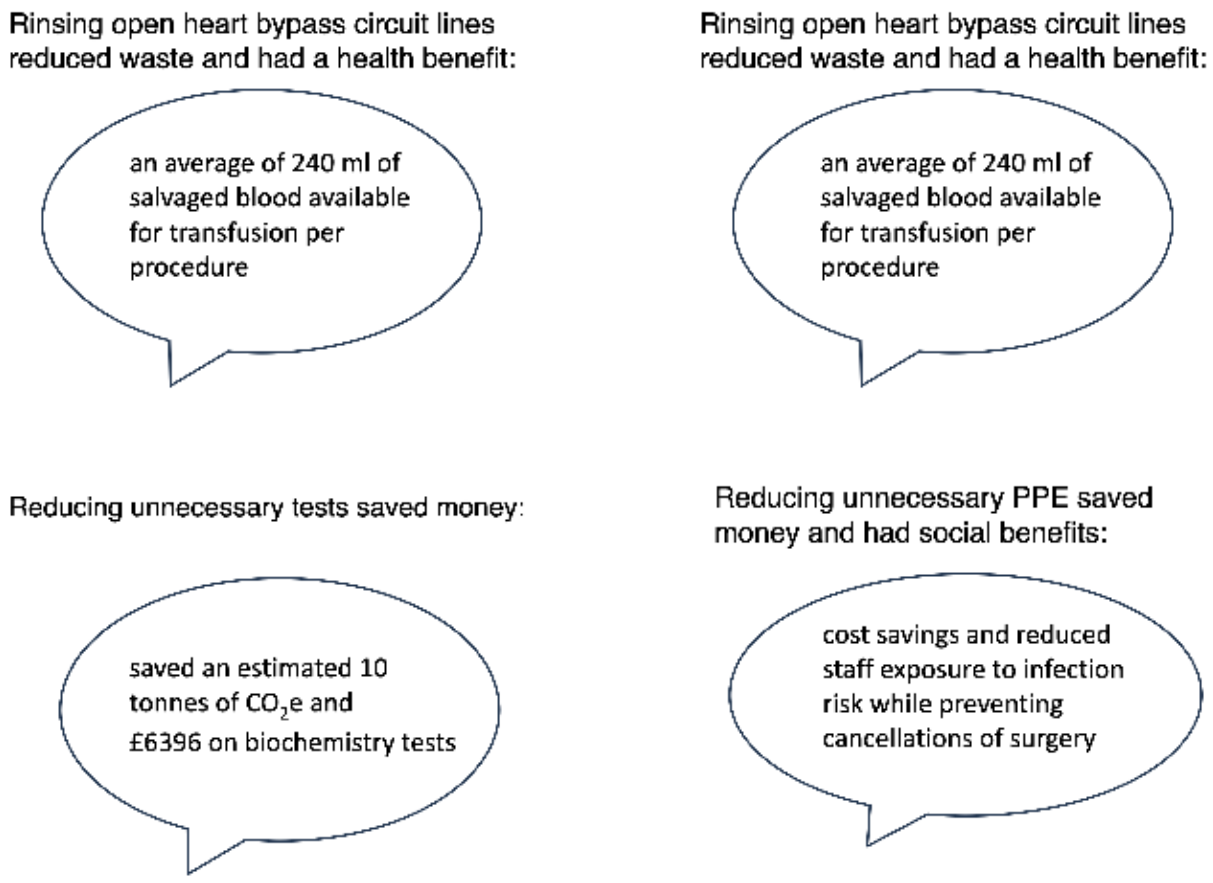


Figure 2: Co-benefits of practice changes to reduce environmental impacts

## What is the significance of this study?

While the cardiovascular healthcare sector is vital to human health and wellbeing, it also has a significant carbon footprint. Our study emphasises the impact of cardiology practice on the environment and identifies some simple, low cost measures to make cardiology practice greener. Of note, our review found many co-benefits of taking action to reduce environmental impacts including cost savings and health and social benefits. ha

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# A smoother path for your super

**We look at some obstacles to building your retirement savings, and how by navigating them you can make a smoother path for your super.**

## Managing higher living costs

The price of almost everything has gone up. Fuel price spikes, supply shortages, and a tight jobs market have been putting upward pressure on living costs. With household budgets and living standards being squeezed, many people are looking to cut costs and get the most from their investments.

The current high inflation (CPI) rate of 7.8% indicates the squeeze on living costs. In managing your super, a long-term approach and good diversification can help smooth fluctuations in investment returns, grow your savings, and provide enough income to help maintain your lifestyle in retirement.

## Knowing how much super you need

Many people underestimate how much super they need. The rule of thumb is that two-thirds[1] of a person's (who own their own home) pre-retirement income is needed to maintain their standard of living in retirement.

The good news is that we provide tools and resources to help you understand how much super you need in retirement:

- Tools for planning your super — budgeting and super calculators can help
- Combine your super so you could be paying less fees while boosting your super
- For members closer to retirement age, understanding your full entitlements — the Commonwealth Seniors Health Card is a good start. You can also read our member story.

## Taking the right amount of investment risk

How much risk you take on your investments depends on your individual situation. Some people can be overly conservative in their investments in times of market volatility, rising living costs, or when they retire. This may leave them more vulnerable to fluctuating markets and lower returns.

When investing your super, we take a long-term, diversified approach. This allows us to manage risk more effectively and helps provide more stability for your super and retirement income. We give you the freedom to choose which option to invest in.

- Explore your super investment choices
- Explore your income stream investment choices

## Taking control of your super

Taking control of your super helps you get the most from your retirement savings, whether you're still building your super or in the income stream phase.

To help you get the best out of your super, you can make use of a wide range of tools and services, including:

- access to one-on-one advice
- budgeting tools
- check your estimated balance in retirement
- reviewing your investments online, any time.

1 Source: Moneysmart.gov.au.



HESTA

# Measure, monitor, and mitigate

The three M's needed to achieve climate resilient, carbon-neutral healthcare systems

**DR K-LYNN SMITH**
Research Fellow,
Australian Institute
of Health Innovation,
Macquarie University

**PROFESSOR YVONNE ZURYNSKI**
Professor of Health
System Sustainability,
Australian Institute
of Health Innovation,
Macquarie University

**MS CHRISSY CLAY**
Media and Research
Outreach Consultant,
Australian Institute
of Health Innovation,
Macquarie University

**PROFESSOR JEFFREY BRAITHWAITE**
Founding Director,
Australian Institute
of Health Innovation,
Macquarie University

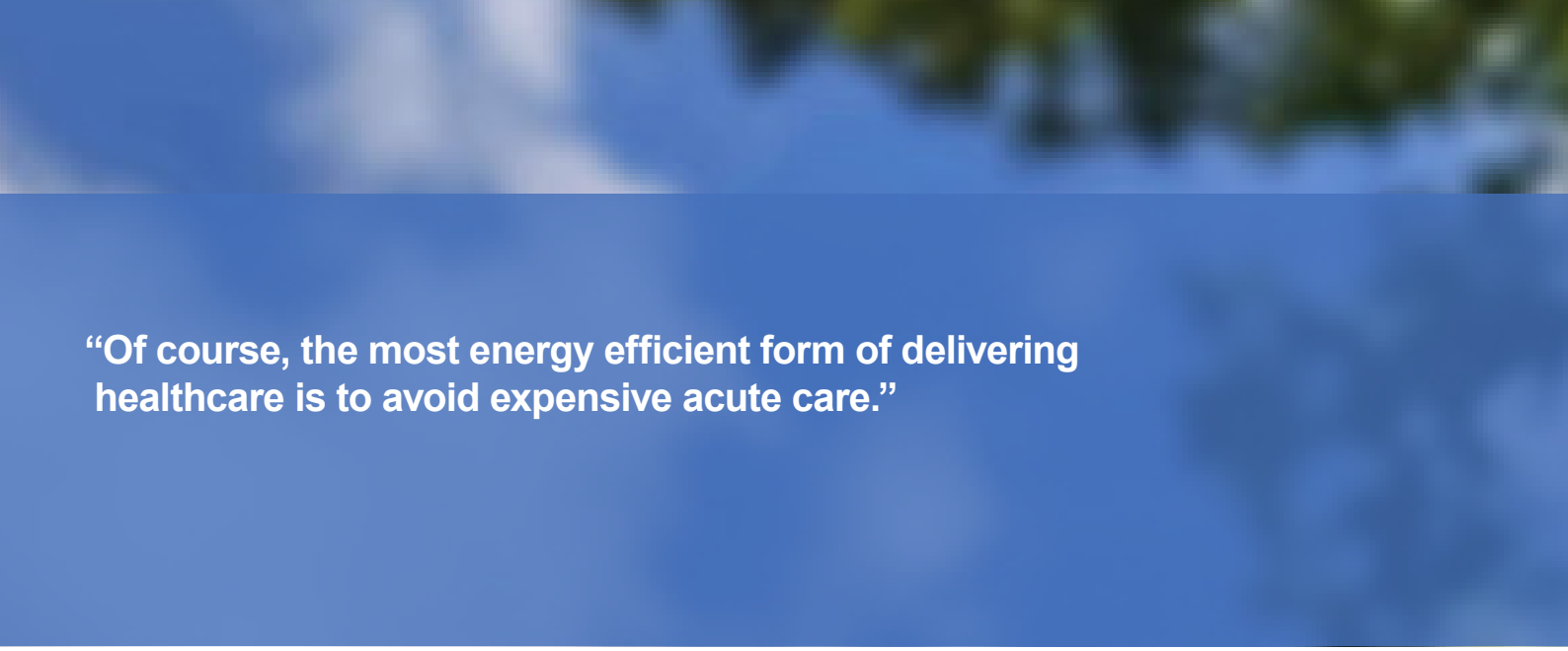

## "Clinicians, managers and policymakers can all play a part in creating climate resilient, carbon-neutral healthcare systems"

Not only are health systems on the frontlines of coping with climate-induced demand for healthcare, they are also major carbon emitters. Australia's healthcare system contributes around 7% of the country's total greenhouse gas (GHG) emissions. By international standards, this is very high per capita GHGs, benchmarked against comparable health systems such as those of the United Kingdom, Germany, Japan and China.

Clinicians, managers and policymakers can all play a part in creating climate resilient, carbon-neutral healthcare systems. In the UK, for instance, policymakers, acting on clinical advice, have established NHS England's 'Delivering a Net Zero National Health Service' plan, which has helped NHS England become amongst the least GHG-emitting healthcare systems in the developed world. In Australia, the Department of Health and Aged Care recently released its first National Health and Climate Change Strategy consultation paper, and the Royal Australian College of General Practitioners has published a position statement and several guides for sustainability.

Grassroots initiatives by health professionals and managers, such as Doctors for the Environment Australia and the Climate and Health Alliance, are drawing attention to the inextricable link between human health and wellbeing and a healthy planet.

So, while awareness has grown around this issue, we have a long way to go. There are three important steps for Australia to successfully lower health system emissions. These are to measure emissions, monitor progress with reducing emissions and implement mitigation strategies. >



**"Of course, the most energy efficient form of delivering healthcare is to avoid expensive acute care."**

## Measuring emissions

It is critically important and urgent to use tools and metrics to quantify different sources of emissions to support action on climate change and to monitor progress towards reducing emissions. Measuring includes identifying where emissions are generated in terms of both direct emissions (e.g., through hospitals and ambulances), indirect (e.g., through purchased energy sources for power, heating and cooling) and through supply chains (e.g., energy used for the production and transportation of medicines and equipment). It also means measuring the impact of climate induced health events such as bushfires, floods and heatwaves.

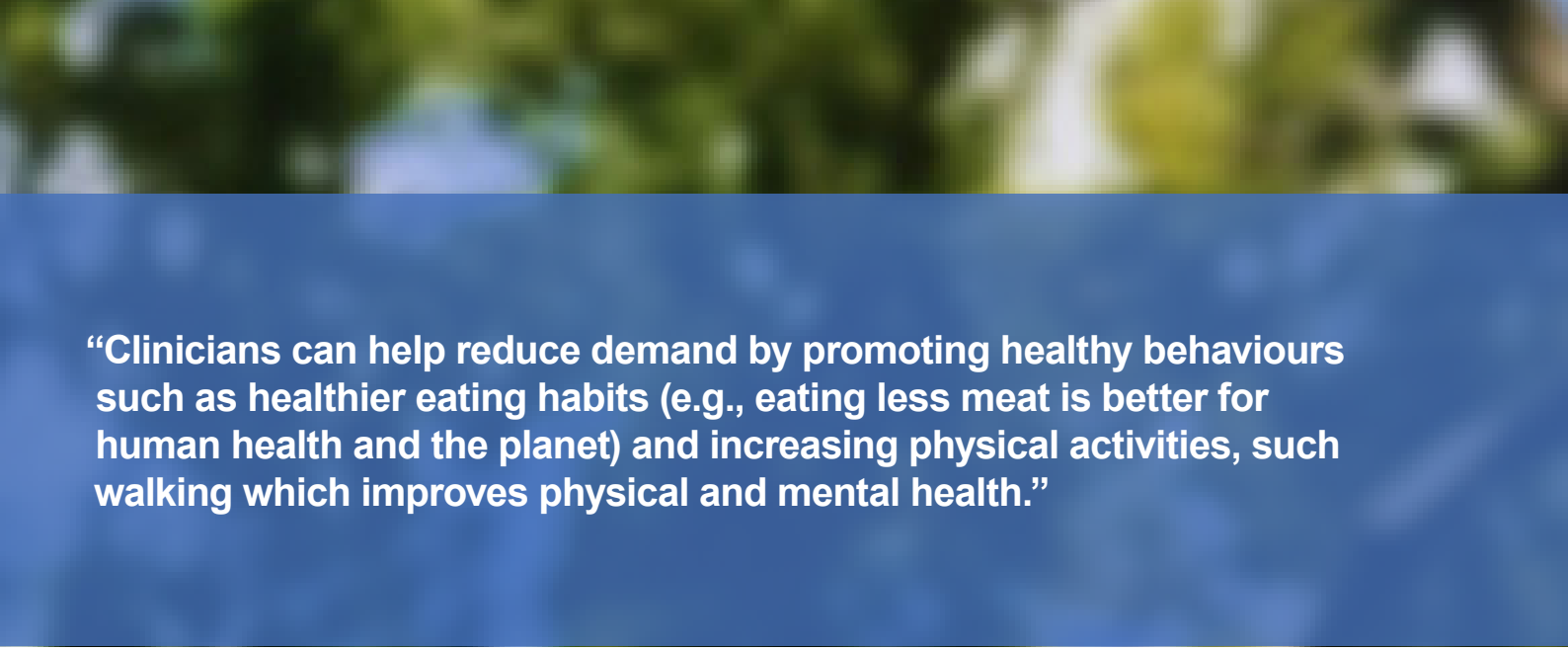
Government policymakers, health system researchers, health economists, and healthcare managers each have significant influencing power in this arena. We need policies requiring reporting on health systems' direct and indirect emissions. In parallel, more tools such as the Global Green and Healthy Hospitals' Hippocrates Data Center and Sustainable Procurement Checklist need to be developed in collaboration with health system professionals and managers and embedded at the system, hospital, clinic and community care levels. The right tools will function to evaluate the effectiveness of interventions and to track climate crisis pressures on healthcare seeking behaviour.

Unfortunately, many current tools are complex, specific to inpatient health facilities or specialist activities, and often require users to gather and enter data manually, with few embedded within electronic health records or procurement systems.

## Monitoring progress

Regular reporting on health systems' GHG emissions is crucial both for understanding our current position and for monitoring progress in GHG reduction. The Australian states and territories departments of health have existing strategies to do this and report annually on their progress.

However, for the clinic or facility manager, performance information can be difficult to access. For clinics and hospitals, measuring their carbon footprint can involve rigid spreadsheets, staff volunteering their time, and an incomplete picture from lack of data (e.g., on supply chain emissions). To reduce inefficiency, Australia needs centralised monitoring and reporting at the facility and clinic level. For example, pharmaceuticals account for 19% of Australian healthcare's carbon footprint. Borrowing centralised reporting systems, such as NHS England's Open Prescribing database, would allow clinics to monitor their prescribing levels for different medications over time and compare their performance to other clinics.



"Clinicians can help reduce demand by promoting healthy behaviours such as healthier eating habits (e.g., eating less meat is better for human health and the planet) and increasing physical activities, such walking which improves physical and mental health."

## Mitigating emission through strategies and actions

Measuring and monitoring outcomes should be used to support our mitigation strategies and actions. At the clinical level, ours and others' research has demonstrated that 30% of healthcare is of little to no-value to patients and contributes over 8,000 kilotons of CO2 equivalent per year in Australia. This presents a clear area where clinicians can help to reduce healthcare's GHG emissions by, for example, avoiding ordering unnecessary pathology tests and medications. To support clinical decision-making, information about the average emissions associated with common procedures, imaging, and pathology tests could be linked to electronic health records and act as an adjunct nudge for behaviour change in programs designed to drive down low-value care (e.g., Choosing Wisely and the Royal Australasian College of Physicians EVOLVE program).

Of course, the most energy efficient form of delivering healthcare is to avoid expensive acute care. Clinicians can help reduce demand by promoting healthy behaviours such as healthier eating habits (e.g., eating less meat is better for human health and the planet) and increasing physical activities, such walking which improves physical and mental health.

However, achieving climate resilient, carbon-neutral healthcare systems requires policies to mitigate emissions right across the system. Here, Australia can learn from other countries. For instance, NHS UK is requiring all integrated care units to produce Green Plans to reduce emissions in line with national legislation. They have created a net zero supplier roadmap that requires suppliers to commit to a carbon reduction plan when working with the health system.

## Conclusion

Australia has committed to reduce its carbon emissions to 43% below 2005 levels by 2030. That is a huge ask across all industries. But with increased awareness and application of the strategies outlined, clinicians, managers and policymakers can all play their part in reducing healthcare's carbon footprint and creating climate resilient, carbon-neutral healthcare systems. ha

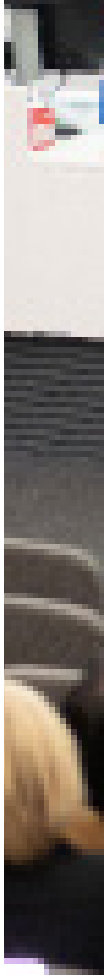
**Further reading**

Braithwaite J, Pichumani A, Crowley P. Reducing healthcare's carbon footprint: the pivotal role of clinicians. British Medical Journal 2023; Sep 28;382:e076963. doi: 10.1136/bmj-2023-076963. https://bmcmedicine.biomedcentral.com/articles/10.1186/s12916-020-01563-4

**MS CAROL BEHNE**
**Sustainable Healthcare Program Manager, CAHA**

# Health sector leaders showcase action for low carbon, climate resilient healthcare

## Policy, research and practice for advancing low carbon and climate resilient healthcare in Australia and New Zealand



The Climate and Health Alliance (CAHA) and its members have advocated for a low carbon, climate resilient and sustainable health system for over a decade.

As Australia's peak body on climate and health, and coordinators of the Global Green and Healthy Hospitals network (GGHH) in the Pacific region, CAHA faces many questions from its members and healthcare institutions to help them transition to a sustainable future.

But this transition brings with it many questions. Questions like how do we include the healthcare sector in this shift; how do we engage our decision-makers, colleagues, suppliers and patients in the process; and how do we overcome inevitable barriers to progress?

In Perth, CAHA proudly teamed up with the WA Health Sustainable Development Unit to address some of these questions through our annual *Greening the Healthcare Sector Forum*. Held between September 14-15, it was the first time the Forum had been conducted in the west on beautiful



Whadjuk Noongar country. It was hosted by South Metropolitan Health Service at the Fiona Stanley Hospital Education Building.

The 2023 Forum theme was, *How do we empower action to deliver sustainable and climate resilient healthcare*?

Along with a welcome session, the program included sessions focusing on: strategy and systems; engagement and leadership; sustainability in practice; and caring for country.

We were honoured to be joined by Assistant Federal Minister for Health & Aged Care, the Hon Ged Kearney, and Director of the National Health, Sustainability & Climate Unit, Madeleine Skellern. Together, they provided the audience with updates on the eagerly awaited National Health and Climate Strategy, due by the end of 2023.

Along with plenary sessions, attendees had the option to take part in one of four hybrid workshops, aimed at equipping attendees with practical knowledge and skills to drive sustainable healthcare. Workshops focused on: climate >

communications; sustainable quality improvement; behaviour change in transitions to sustainable health care; detecting nitrous oxide leaks, auditing use and reducing emissions.

In person attendees also had the opportunity to attend one of five tours covering different practical aspects of sustainability in healthcare across Fiona Stanley Hospital, St John of God Hospital Murdoch and Linen Services Australia.

The Forum organising team put out a call out for nominations for an inaugural Sustainable Healthcare Champion Award in the lead up to the Forum. The award recognises a person or team who has demonstrated passion for sustainable, low-carbon, climate resilient, equitable and effective health systems. The award has been designed to honour a group or person who has gone above and beyond to bring about real and tangible change. This year the award went to Dr Sarah Joyce, the Sustainable Development Officer in the WA Health Sustainable Development Unit. As project director for the world's first statutory inquiry into climate change and health, Dr Joyce played a significant role in the development of the framework which has allowed the WA health system to respond to climate change and inspired positive climate action more broadly.

**"The forum was very successful with more than 150 people attending in person at Fiona Stanley Hospital and hundreds more joining online, which shows there is a lot of support for sustainability within the health care sector."**

The forum was very successful with more than 150 people attending in person at Fiona Stanley Hospital and hundreds more joining online, which shows there is a lot of support for sustainability within the health care sector.

As CAHA board director and Forum MC Michelle Isles said in her closing remarks — 'this is just the beginning of the work we have to do'.

'There is so much waiting to be done in our hospitals and health services, and the institutions where decisions about healthcare are made,' she said. ha

**PROFESSOR EUGENIE KAYAK**
Enterprise Professor of Sustainable Healthcare at The University of Melbourne Medical School, co-convenor of Sustainable Healthcare for Doctors for the Environment Australia (DEA) and an anaesthetist

**MR BEN DUNNE**
Chair of The University of Melbourne Environmentally Sustainable Surgery Network, co-convenor of Sustainable Healthcare for Doctors for the Environment Australia (DEA) and a thoracic surgeon

# Sustainable Health Care

## Opportunities for change

### The Problem

The carbon footprint of Australia's healthcare sector is disproportionally large. Estimated to account for 7% of Australia's total carbon footprint and 2% of healthcare's footprint globally (significant for only 0.33% of the world's population). Unfortunately, Australia's healthcare sector is therefore one of the highest per capita carbon emitters (along with Switzerland, Canada and the US).

Fortunately, though, over the course of 2023 several important national and international initiatives have developed to enable the Australian health care sector to take a lead in addressing its carbon emissions and transform to a sustainable, low carbon sector whilst simultaneously improving the quality of healthcare provided and the sector's climate resilience. Doctors for the Environment Australia (DEA), along with other organisations and healthcare leaders, has been able to directly participate in the development of these important initiatives. Several of these initiatives such as the Australian Commission on Safety and Quality in Health Care (ACSQHC) Sustainable Healthcare Module, the National Climate and Health Strategy, renewable energy supply of healthcare facilities and the WHO supported Alliance for Transformative Action on Climate Change and Health (ATACH) are relevant to all involved, or concerned, with the future of healthcare's delivery, quality of care and climate resilience. >


## ACSQHC Sustainable Healthcare Module

ACSQHC — responsible for national accreditation in relation to health care safety and quality matters — is developing a Sustainable Healthcare Module, due to be released before the end of 2023.

The development of this Module reflects the synergies between the delivery of safe, quality health care and minimising the sector's adverse environmental footprint and the ACSQHC Draft Sustainable Healthcare Module outlined a framework that can be incorporated into any health care organisation's existing clinical governance structure. Whilst this will be a voluntary module there is an imperative (and expectation) as outlined in DEA Australia's joint submission with the Australian Medical Association, that it will transition to a mandatory accreditation standard as soon as possible to reflect the urgency for significant climate action from all high emitting sectors.

## National Climate and Health Strategy

The Department of Health and Aged Care's National Health Sustainability and Climate Unit has undergone an extensive consultation process over 2023 as it develops a National Health and Climate Strategy. The Goals of the draft Strategy are to develop actions that will 1) reduce the carbon footprint of the health system, 2) ensure the health system is well prepared for the impacts of climate change, and 3) increase connections between climate policy and public health policy.

As outlined in DEA's Proposal for a National Sustainable Healthcare Unit national coordination and appropriate resources are fundamental for effective change, as England's Greener NHS program has demonstrated in achieving significant sector emission reductions.

## Renewable energy supply of healthcare facilities

Emerging evidence suggests that up to 30-40% of emissions from an Australian hospital can be a direct result of energy use, both purchased electricity and fossil gas. Mitigating this carbon footprint can be achieved by building all-electric healthcare facilities supplied by 100% renewable electricity. DEA has developed a guideline for clinicians to influence their organisation's next build to be all-electric, and increasingly across the country hospitals are being planned and built to be all-electric. The Victorian government

**"Mitigating this carbon footprint can be achieved by building all-electric healthcare facilities supplied by 100% renewable electricity."**

has shown further leadership in committing to new designs of public hospitals to be all-electric from 2024 and the supply of 100% renewable electricity to all the state's public hospitals by 2025. Minimising the carbon intensity of a hospital's electricity source of can also result in the added advantage of influencing (and minimising) the environmental impact (carbon footprint and waste) of reusable versus single-use equipment.

## Alliance for Transformative Action on Climate and Health (ATACH)

Internationally 76 nations have come together to form the Alliance for Transformative Action on Climate and Health (ATACH), supported by the World Health Organization, after initial meetings at the COP26 in Glasgow. ATACH aims to build climate-resilient and sustainable low carbon health systems, with 69 countries now formally committed to developing sustainable low carbon health systems and 28 making net zero commitments. Unfortunately, Australia is missing from ATACH, as it was at the COP26 health talks though the first ever dedicated health day at COP28, present an opportunity for Australia to join the rapidly growing international action. Non-government organisations are also able to join the ATACH network (DEA is a member) and by doing so can learn from and collaborate with ATACH's five thematic working groups 1) Financing the Health Commitments on Climate Resilient and Sustainable Low Carbon Health Systems, 2) Climate Resilient Health Systems 3) Low Carbon Sustainable Health Systems 4) Supply Chains, and 5) Climate Action and Nutrition.

Australia's health care sector, as a high per capita emitter, has a responsibility to do its share towards addressing climate change — the biggest threat to health. It can do so by being part of the solution (not the problem) and playing its part in leading the race to net zero (by 2040 with the majority of emission cuts by 2030) and multi-sector transformational change. ha

Doctors for the Environment Australia

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

# The future of medicines: good for people, good for the planet

Most of us remain unaware that medicines (or creams, patches, and inhalers, for that matter) have a big impact on the environment — but they do.

Correctly taken medicines often save lives. They afford us healthier and more active lives. So how do we manage the potential damage to environmental health while treating our own? With some thought, it is possible to make our medicine cabinets more environmentally friendly while keeping good health front and centre.

## Medicines and carbon footprint

The carbon footprint of Australia's healthcare sector is estimated at over 7% of our nation's total emissions. Pharmaceuticals are responsible for almost a fifth of these emissions. In addition to carbon emissions, health care is also a significant consumer of natural resources and a major contributor to waste products. Pharmaceutical waste throughout the global supply chain leads to environmental, human, and animal toxicities and, in the case of antibiotic residues, to antimicrobial resistance.

Incorporating sustainable practices in healthcare settings and at home, including appropriate use of medicines, can improve the health of the community, reduce low value care, unwarranted variation and waste. More and more opportunities are becoming available to discover what is happening and what can be done.

## National Medicines Symposium 2023

The Australian Commission on Safety and Quality in Health Care hosted the National Medicines Symposium (the Symposium) for the first time on 8 November around the theme, *The future of medicines: good for people, good for the planet*.

The Symposium is an annual conference bringing together leading organisations, experts, clinicians, consumers, and policymakers to discuss emerging and key issues in quality use of medicines. This year, it was an entirely virtual event, in keeping with the theme of sustainability. Local and international speakers focused on innovative ideas and initiatives in presentations and panel discussions.

## Focus on solutions

Australian Dr Nick Watts has been working for the Greener National Health Service (NHS) in Britain for several years and is part of the team that has reduced the health sector's carbon footprint to just 3%. How can we learn from their endeavours? What's worked and didn't work? How can Australia work towards net zero in use of medicines and healthcare?

Dr Valeria Stoynova and Dr Celia Culley from CASCADES (Creating a Sustainable Canadian Health System in a Climate Crisis) Canada, will present on the environmental impact of inhalers used by people with respiratory disease. These pocket-sized treatments can be lifesaving but are also a significant contributor to greenhouse gas emissions. They are asking that we consider ways to reduce the carbon footprint of this valued commodity and offering potential solutions — from prescribing to waste management.

Dr Kate Charlesworth, from the Climate Risk and Net Zero unit of NSW Health, is a well-known advocate for change. She will present on the impact of inappropriate use of medicines on the environment and sustainability of the healthcare system. Is a medicine the safest and most effective treatment? What is the link between quality use of medicines and net zero?

## Taking action

While the specialists look at the potential for changes to health services and delivery, what solutions are closer to hand in our own medicine cabinets? One approach is simply to think about whether we do really need that medicine. More isn't always best in health care. Is the medicine necessary or is there another possible solution? The right medicine, at the right time and in the right way, is of course, critical to maintaining good health but it's also important to keep an eye on the benefits and costs of use. From a waste management perspective, we need to look for practical opportunities to reduce, re-use, recycle and/or dispose of pharmaceutical waste in the most environmentally responsible manner. ha

**Hear more ideas about the sustainable future of medicines at the National Medicines Symposium in November. Register for this free event at safetyandquality.gov.au/NMS23.**

**MS ERYNN JOHNSON**
Climate Risk & Net Zero Unit, NSW Health

**DR KATE CHARLESWORTH**
Climate Risk & Net Zero Unit, NSW Health

# Creating a low-carbon, climate resilient healthcare system in NSW

Australia is on the frontlines of climate change. There is overwhelming scientific evidence that climate change is driving more extreme weather. In NSW, we are already experiencing the impacts of climate change, most recently through the unprecedented cycle of heatwaves, droughts, bushfires, storms and floods. Climate change is also affecting health.

As the largest and busiest public health system in Australia, NSW Health produces vast amounts of waste, driving fossil-fuel air pollution and greenhouse gas emissions. As a result, we are in fact, a major contributor to the climate crisis.

Pleasingly, we have identified environmental sustainability as one of six strategic outcomes in Future Health, NSW Health's 10-year Plan, and have committed to an environmentally sustainable footprint for future healthcare.

In the past year, we have published our position statement, which builds on previous strategies and policies within NSW Health, and outlines our commitment to delivering a modern low-carbon, climate resilient healthcare system.

Whilst recognising that climate change is the biggest global health threat of the 21st century, it is also the biggest opportunity. Staff right across the system are actively informing the public about the consequences of climate change on health and taking local action to reduce their environmental impact.

Energy and transport initiatives are an important part of achieving a low carbon system, however, research shows that more than half of health care's footprint comes from scope 3 emissions. These are our supply chain emissions related to clinical care delivery, including our pharmaceuticals and


Haldane Martin

chemicals, medical devices, equipment, patient transport, food and business services.

Our health professionals have a substantial opportunity to support local efforts to reduce emissions and encourage peers to get involved — driving increased action. We are partnering with our frontline clinicians to embed sustainable healthcare principles into everything that we do.

We've established Australia's first Net Zero Leads program, supporting 10 frontline clinicians to decarbonise their service or specialty by rethinking and reimaging their service through a net zero lens. These Net Zero Leads represent a diversity of regional and metropolitan local health districts and are working across known carbon hotspots in anaesthetics, critical care, theatres and pharmacy. They are developing and implementing scalable low-carbon models of care, supported by our academic partner, Wiser Healthcare, University of Sydney. Our Net Zero Leads are advocating, supporting, connecting and empowering their peers to reduce their own emissions. These service innovations and clinical practice changes are critical to our net zero transition.

We are witnessing a growing appetite and interest across the public health system to reduce carbon emissions and minimise the environmental impact of healthcare. To recognise our dedicated health professionals driving sustainability reform, we recently introduced a new environmental sustainability team award category. This new award recognises the achievements of our staff in reducing health's environmental footprint, whilst continuing to deliver high quality healthcare for the NSW community.

Getting to a net zero health system will require changes and innovations across the entire system, with much of this work being led by our frontline staff. Earlier this year, we announced the 17 recipients of the new Sustainable Futures Innovation Fund. This initiative was established to provide dedicated start-up funding for staff-led innovation projects that improve patient care, whilst reducing our environmental footprint (in either waste or emissions).

To reach our net zero target, we must decarbonise health across all emission sources — not just by investing in traditional sustainability activities like improving the energy efficiency of our buildings. We recognise that our health and wellbeing are intrinsically linked to the environment in which we live. Partnering with our healthcare professionals will increasingly become important to accelerate our transition to net zero.

So, listen to your frontline staff and partner with them. They are a powerful force for change as we work together, towards a low-carbon, climate resilient healthcare system. ha

# Become an AHHA member

Help make a difference on health policy, share innovative ideas and get support on issues that matter to you – **join the AHHA**.

The Australian Healthcare and Hospitals Association (AHHA) is the 'voice of public healthcare'. We have been Australia's independent peak body for public and not-for-profit hospitals and healthcare for over 70 years.

Our vision is a healthy Australia, supported by the best possible healthcare system. AHHA works by bringing perspectives from across the healthcare system together to advocate for effective, accessible, equitable and sustainable healthcare focused on quality outcomes to benefit the whole community.

We build networks, we share ideas, we advocate and we consult. Our advocacy and thought leadership is backed by high quality research, events and courses, consultancy services and our publications.

AHHA is committed to working with all stakeholders from across the health sector and membership is open to any individual or organisation whose aims or activities are connected with one or more of the following:

- the provision of publicly-funded hospital or healthcare services
- the improvement of healthcare
- healthcare education or research
- the supply of goods and services to publicly-funded hospitals or healthcare services.

**Membership benefits include:**

- capacity to influence health policy
- a voice on national advisory and reference groups
- an avenue to key stakeholders including governments, bureaucracies, media, like-minded organisations and other thought leaders in the health sector
- access to and participation in research through the Deeble Institute for Health Policy Research
- access to networking opportunities, including quality events
- access to education and training services
- access to affordable and credible consultancy services through JustHealth Consultants
- access to publications and sector updates, including:
  -Australian Health Review
  -The Health Advocate
  -Healthcare in Brief
  -Evidence Briefs and Issues Briefs.

**To learn about how we can support your organisation to be a more effective, innovative and sustainable part of the Australian health system, talk to us or visit ahha.asn.au/membership.**

# More about the AHHA

## AHHA Board

The AHHA Board has overall responsibility for governance including the strategic direction and operational efficiency of the organisation.

**Hon Jillian Skinner**
Chair

**Dr Michael Brydon**
University of Notre Dame

**Ms Yasmin King**
SkillsIQ

**Ms Susan McKee**
Dental Health Services Victoria

**Dr Kim Webber**
cohealth

**Mr Michael Culhane**
ACT Health Directorate

**A/Prof Anthony Schembri AM**
Independently Appointed Board Director

**Dr Tina Janamian**
Australian General Practice Accreditation Limited

**Mr Mike Bosel**
Brisbane South Primary Health Network

## AHHA National Council

The AHHA National Council oversees our policy development program. The full list of Council members can be found at: ahha.asn.au/governance

## Secretariat

**Ms Kylie Woolcock**
Chief Executive

**A/Prof Rebecca Haddock**
Executive Director
Knowledge Exchange

**Ms Ellen Davies**
Communications Manager

**Mr Kevin Chacko**
Research Officer

**Ms Suzzie Harvey**
Director, Business Development

**Ms Emma Hoban**
Manager, Australian Centre for Value-Based Health Care

**Ms Naomi Sheridan**
Policy Manager

**Ms Emma Walsh**
Policy Officer

**Mr Gregory Mowle**
Finance and Operations Manager

## AHHA sponsors

The AHHA is grateful for the support of HESTA Super Fund.

Other organisations support the AHHA with Corporate, Academic, and Associate Membership and via project and program support.

## Contact details

**AHHA Office**
Unit 8, 2 Phipps Close
Deakin ACT 2600

**Postal address**
PO Box 78
Deakin West ACT 2600

**Membership enquiries**
**T:** 02 6162 0780
**F:** 02 6162 0779
**E:** admin@ahha.asn.au
**W:** www.ahha.asn.au

**The Health Advocate, general media and advertising enquiries**
**Ellen Davies**
T: 02 6180 2826
E: communications@ahha.asn.au



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## Did you know the Australian Healthcare and Hospitals Association offers quality, affordable consultancy services?

For more than a decade, AHHA Consultanting has supported Australian healthcare organisations at national, state, regional hospital and community levels across all sectors to meet the complex strategic, workforce, governance and organisational requirements of today's healthcare system.

AHHA offers more than just a consultancy. We are committed to the AHHA guiding principles that health care be effective, accessible, equitable, sustainable and outcomes-focused. We strive for system-wide solutions with our expertise spanning:

**Workforce**

**Sustainability**

**Value-based health care**

**Strategy and Policy**

+61 2 6162 0780

Ngunnawal Country
Unit 8, 2 Phipps Close
Deakin ACT 2600

admin@ahha.asn.au