

Moving From Rhetoric to Real Climate Action: Making a Difference for a Sustainable Planet



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This special issue of *Heart, Lung and Circulation* could not be timelier and more critical. Clinicians, educators, and policy-makers need implementable evidence-based strategies to reduce the carbon footprint of health care. For decades, experts have tried to warn us of the challenges of global warming and climate change. The influential Lancet Rockefeller Report heralded the Anthropocene Era where the impact of humans on the planet has left an indelible footprint on the planet [1]. Unfortunately, until recent times, much of the discussion of climate change has been in lofty, academic, nebulous and esoteric terms, leaving gaps for sceptics, propaganda and misinformation. Recent bushfires, floods and a global pandemic have lifted words off the page and created a burning platform for climate action. Current geopolitical instability and the devastating impact of a global pandemic have accentuated the urgency for focus and action. There is a growing awareness that human and planetary health are intricately interconnected, and that human health is reliant on the health of our planet. Consequently, each one-degree Celsius increase in temperature is associated with a 6% increase in cardiovascular disease and we are also aware of the impact of air pollution and the associated risks of hospitalisation, myocardial infarction, stroke and mortality [2,3]. Bushfires cause smoke pollutants and impact air quality, contributing to premature death and increased cardiovascular and respiratory-related hospitalisations, whilst also destroying ecosystems [4]. Moreover, major environmental disasters such as earthquakes and floods are stressor events that can adversely contribute to cardiovascular disease [5].

The impact of climate change on human health is illustrated by the Centers for Disease Control and Prevention in Figure 1 [6]. Increasingly, it is also recognised that social determinants of health contribute to climate change impacts, and it is often those who are most vulnerable that are most impacted by environmental factors. In light of increasing temperatures, at-risk populations, individuals older than 65 years, and those younger than one year of age, have been exposed to many more heat waves and suffered adverse health outcomes [7]. Moreover, changes in our ecosystem are affecting the spread of infectious diseases, and the risk of emerging threats.

As Redfern and colleagues recommend in their editorial, a “whole-of-planet effort” is needed to make significant reductions to meet the challenges of climate change and decades of inaction [8]. The reports from the Intergovernmental Panel on Climate Change have made for some sobering headlines, increasing focus on decreasing carbon emissions; this has gained attention from both the public and private sectors [9]. Decreasing carbon emissions will require a multifaceted, multi-sectoral strategy addressing not just policy but organisational cultures and individual behaviours. Health care contributes significantly to carbon emissions, yet this is not commonly recognised or discussed by health care professions, let alone addressed, in their undergraduate and postgraduate curriculae [10,11]. Research by Malik and colleagues demonstrates that 7% of Australia’s carbon footprint is attributed to health care and that nearly half of this contribution (approximately 3% of this total) can be attributed to hospitals [12]. This highlights the urgent need

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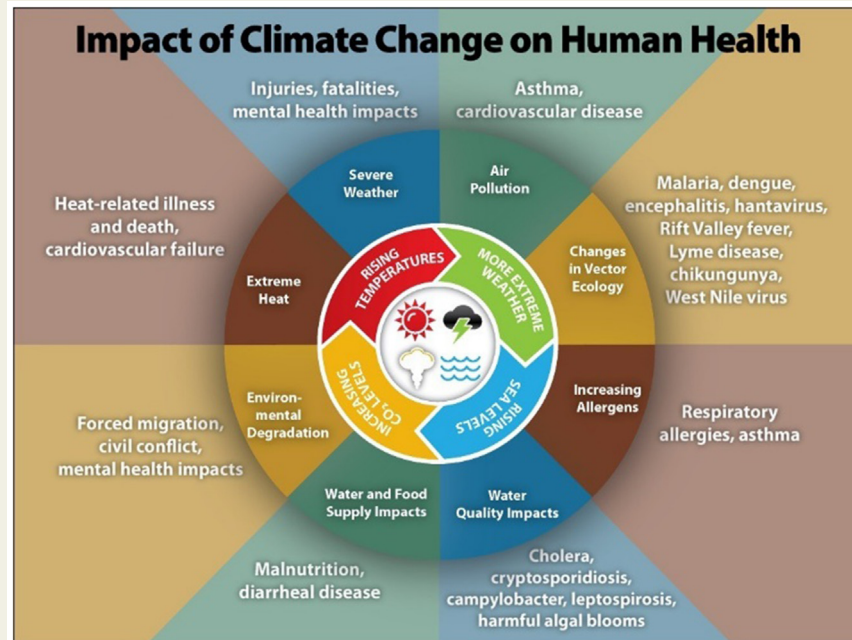


Figure 1 Impact of Climate Change on Human Health [6]. Figure reproduced with permission from <https://www.cdc.gov/climateandhealth/effects/default.htm>.

for carbon-efficient procedures within the hospital system as well as systems of monitoring [13].

Nurses comprise the single largest health workforce in our health system. We are in a unique position to help address reducing carbon emissions and achieve the United Nations' 17 Sustainable Development Goals that lie at the heart of the 2030 Agenda for Sustainable Development—a shared blueprint, adopted in 2015, “for peace and prosperity for people and the planet, now and into the future” (www.sdg.un.org/goals) [14,15]. Inglis and colleagues have provided eight priorities for action in their call to action published on behalf of the Cardiovascular Nursing Council of the Cardiac Society of Australia and New Zealand, in this issue [16]. These priorities are 1) individual counselling to empower self-care in climate-related disasters and highlight the need for an ‘emergency action plan’; 2) case management for those experiencing environmental disasters with access to specialist social work and psychology services; 3) improving educational resources; 4) increasing partnerships to improve understanding of the health impacts of climate change; 5) First Nations peoples’ leadership; 6) maximising the potential of telehealth; 7) responsible and sustainable logistics; and, 8) policy and advocacy [16].

To date, many of our attempts to address climate change have been reactive and not focussed on prevention. We must plan, organise, and adapt health care delivery to reduce the environmental impact through the implementation of environmentally sustainable health systems. This includes rapidly implementing what works, and de-implementing or reducing what causes harm to the environment. Further, in designing new health care interventions we must

increasingly consider the environmental impact of interventions and the carbon cost.

So how can cardiovascular health professionals reduce their carbon footprint? This is more than reducing the number of single-use coffee cups. There is an urgency about this; however, it’s not all doom and gloom. There are actionable steps we can all take to reduce carbon emissions and help to achieve Paris Agreement goals—the legally binding international treaty of climate change adopted in late 2015 (unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement). Achieving these targets will require both collaboration and political will, particularly given the complexity of the health care system. Firstly, hospitals consume a large amount of energy and emit a significant amount of greenhouse gases. Hospitals should consider switching to renewable energy, although this may only be achievable through intersectoral partnerships. In Australia, there is significant state and federal investment in the bricks and mortar of hospitals; it is critical that these are designed to be carbon-neutral and sustainable. This should be part of strategic planning, with governing boards bearing the responsibility for monitoring and accountability.

Another important contributor is the use of medical equipment and devices in health care. Imaging machinery, for example, requires high amounts of energy. It is therefore critical that energy requirements play a role in decision-making when designing and planning new health care facilities to ensure efficient and effective use and sustainable operating models. Reducing the environmental impact of diagnosis and treatment is an important, key challenge—particularly in the context of increasing multi-morbidity. This

may mean more judicious use of medical imaging and diagnostic procedures, increased virtual care, and models that address multi-morbidity and assess health care within a values-based framework [17].

Recycling and minimising single-use items or unnecessary waste is not straightforward. For example, many single-use items are often used in the cardiac catheterisation laboratory or operating room. Szirt and colleagues provide some practical strategies in this issue to help address environmental sustainability in this setting [18]. There is a need to reconsider the single-use nature of many items in health care, currently required for safety (to minimise transmission of infectious disease) and by regulation. Whilst sterilisation procedures have advanced, sterilisation itself uses energy and is a contributor to carbon emissions. On average, each health worker contributes 13 kg of waste (per staffed bed, per day), with non-sustainable items ending up in landfill or being incinerated [19]. We can do better. Personal responsibility is vital, although we need to collaborate to achieve policy and system change. Virtual care or telehealth offers promise through the transformation of high-resource clinical facilities to lower-resource home-based care. Although the carbon footprint of data storage is an important factor to consider, cloud-based data storage can help reduce overall power use.

There should also be closer examination of the environmental impacts of routine health care activities, such as laundry and travel. There is a fine balance to strike between the benefits of hygiene maintenance and infection prevention achieved by changing all patients' bedsheets on a daily basis and the considerable costs of the associated power-consumption. Travel comes in many forms—patients travelling to hospital or clinic appointments, transportation of health care consumables, and domestic and international air travel to-and-from scientific meetings. The global COVID-19 pandemic has been a catalyst for virtual working and virtual care, and it is important to consider sustainability as a factor in decision making in these new models of care provision. There is an increase in specialisation in health care, and this is juxtaposed with the increase in complex multimorbidity. As the population ages, and multimorbidity becomes an increasingly defining feature of general health status, we may need to question the sustainability of super-specialised clinics for single conditions when this can often result in multiple hospital visits for those patients with more than one (potentially related) condition, such as atrial fibrillation, heart failure and diabetes mellitus. Peak bodies, such as the Cardiac Society of Australia and New Zealand, need to consider the sustainability of in-person meetings and the viability of hybrid meetings for those individuals wishing to minimise their carbon footprint.

No single discipline or institution holds the panacea for reducing the carbon footprint of health care. There is need for cross-disciplinary collaboration and partnership in developing carbon emission reduction strategies and sustainable interventions. This means health professionals sharing their

expertise and working together with designers, architects, procurement and waste personnel, infectious diseases experts, logistics officers, and health service planners. We must all recognise our critical contributions to health care sustainability at all levels: our society, our health care organisations, and by our own individual actions.

There is much we can do as individuals, and this comes down to factors such as our personal choices in food consumption, travel and energy use. Engaging in political advocacy around issues of climate change and advocating for those individuals and communities at highest risk is also important. These strategies will all help to shift us from mere rhetoric to action and these choices, although they seem small, can be cumulative and impactful. Addressing climate change also means looking beyond our shores and considering health within a global ecosystem [20]. While the contribution of low-income countries to carbon emissions is relatively low, the economic and associated health impacts of increasing temperatures are considerable for them [21]. For many of Australia and New Zealand's global neighbours in the Pacific, the threats of climate change are very real, and they need our help and assistance.

This special issue has cast an important spotlight on the relationship between environment and climate and health, which not only affects planetary health but also, more specifically, impacts our cardiovascular health. Fostering a focus on research and collaboration that not only prevents but also mitigates the impact of climate change on health will be critical in preparing health professionals of the future. The cataclysmic impacts of recent years, including bushfires and floods in the context of a global pandemic, have forced us to refocus and recalibrate our efforts. Experts tried to warn us of these looming threats for decades but, for the most part, we have been caught by surprise and, consequently, there has been death and suffering which will likely be evident for many years to come. Sometimes, when viewing the magnitude of the problem, it is hard to see a path forward, but we can draw on successful programs, such as decreasing tobacco usage, to see how we can change and make a difference. This special issue provides a path forward and a platform for action—it is now up to us all, individually and collectively, to act.

Disclosures

None to declare.

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