

## How can cardiovascular healthcare be ‘greener’?

A new review has shown how medical professionals in cardiology can help reduce healthcare’s carbon footprint, by making small, low-cost changes in how they work. The review, published today in the prestigious *Open Heart* journal, explores the environmental impact of cardiovascular healthcare.

The study, led by the Centenary Institute and the University of Sydney, highlights the potential to effectively reduce environmental impacts within cardiac care, without compromising on quality of healthcare. The review found that steps to reduce carbon emissions often reduced costs too.

When clinically appropriate, decisions include what type of medical technology is used when examining the heart that could make a difference. Cardiac magnetic resonance imaging (MRIs) have a much larger carbon footprint compared to echocardiography (ultrasounds). Choosing remote monitoring of pacemaker devices and telehealth consultations can also help lower emissions.

Senior study author, [Professor Christopher Semsarian](#) AM, Head of the Centenary Institute’s Agnes Ginges Centre for Molecular Cardiology and cardiologist at Royal Prince Alfred Hospital, said in light of climate-related threats, the environmental footprint of cardiovascular healthcare needed to be scrutinised.

“While the healthcare sector is vital to human health and wellbeing, it also has a significant carbon footprint, contributing 4 to 5 percent of global greenhouse gas emissions. This warrants further attention,” Professor Semsarian said.

“Our study emphasises the impact of cardiology practice on the environment and also identifies measures to help make how we practice cardiology ‘greener’.”

Other recommendations by the researchers include using simple, low-cost interventions, such as quality improvement programs, aimed at cutting ordering of unnecessary blood tests and reducing the use of personal protective equipment where appropriate.

The researchers also found how small changes in operating theatres can help reduce waste. This included being mindful of how waste is disposed. For example in some situations, after cardiac bypass surgery, it is possible for bypass circuits (tubes connecting the patient to a machine that monitors the heart) to be rinsed and safely discarded in normal waste disposal rather than having to be incinerated as medically regulated waste.

“If global healthcare was a country, it would be the fifth largest emitter of greenhouse gases on the planet,” said lead author of the study, [Professor Alexandra Barratt](#), from the School of Public Health, University of Sydney.

“It is essential we minimise the environmental impacts of healthcare as much as possible. Medical professionals can take action and make a difference, by making small adjustments on how we practice medicine, particularly to reduce low value care (for example unnecessary tests).”

“But how can we work towards a more sustainable healthcare system overall? A crucial starting point is to measure the carbon footprint, and other environmental impacts of specific healthcare practices. As present we lack that knowledge, and we need it to identify areas for improvement and to inform doctors and patients in making safe and effective changes,” said Professor Barratt.

The authors say further research is necessary to explore the environmental impact of various aspects of cardiology practice. This includes finding strategies to decrease the carbon footprint, and to determine the most efficient methods for educating and increasing awareness among cardiologists, nurses and other healthcare professionals about the environmental effects of cardiovascular healthcare.

**[ENDS]**

**Publication:**

The Environmental Impact of Cardiovascular Healthcare.

<https://openheart.bmj.com/content/10/1/e002279>

**Images:**

Professor Christopher Semsarian AM:

<https://drive.google.com/file/d/1KHCzWpdxvsjMF0lqegeOMCIICr3-DNZ3/view?usp=sharing>

Professor Alexandra Barratt:

<https://drive.google.com/file/d/1EbBFZJsCHbzfNU0BSewjUvuOQJDufxOs/view?usp=sharing>

**For all media and interview enquiries, please contact**

Tony Crawshaw, Media and Communications Manager, Centenary Institute on 0402 770 403 or email: [t.crawshaw@centenary.org.au](mailto:t.crawshaw@centenary.org.au)

Ivy Shih, Media and PR Adviser (Medicine and Health), University of Sydney on 0439 160 475 or email: [ivy.shih@sydney.edu.au](mailto:ivy.shih@sydney.edu.au)

**About the Centenary Institute**

The Centenary Institute is a world-leading independent medical research institute, closely affiliated to the University of Sydney and the Royal Prince Alfred Hospital. Our research focuses on three key areas: cancer, inflammation and cardiovascular disease. Our strength lies in uncovering disease mechanisms and applying this knowledge to improve diagnostics and treatments for patients.

**For more information about the Centenary Institute, visit [centenary.org.au](http://centenary.org.au)**

**About the University of Sydney, Australia**

As Australia’s first university – founded in 1850 – the University of Sydney has a proud history of global leadership in education and research and inspiring people from all backgrounds to contribute to positive real-world change. We’re a world-renowned teaching and research institution – our research combines the expertise and talents of scholars from many disciplines.

**For more information about the University of Sydney, visit [sydney.edu.au](http://sydney.edu.au)**