

Climate change and skin health: Learnings from the Summit



On 28 May 2022, College's Environmental Sustainability Group hosted a virtual summit on climate change and skin health.

DR FIONA BRUCE (CHAIR), DR REBECCA SAUNDERSON, DR AUSTEN ANDERSON, PROF H PETER SOYER AND DR CRYSTAL WILLIAMS, ENVIRONMENTAL SUSTAINABILITY GROUP

WHY WAS THE SUMMIT HELD?

The Summit was held to hear from local and international experts regarding the impact of climate change on skin health.

WHAT DID WE HEAR REGARDING THE SCIENCE?

According to Queensland Chief Scientist **Prof Hugh Possingham**, emissions must be reduced rapidly in accordance with the Paris Agreement to have any prospect of restricting global warming to less than 1.5 degrees celcius. We need to reduce emissions by 80% by

2030, and 100% by 2040.

The impacts of climate change in Australia include more heatwaves, more marine heatwaves, and changes in rainfall with increasing frequency and severity of droughts and floods. Sea level rise in Australia is currently about 3mm per year. Climate change is not a linear process and involves important tipping points.

A/Prof Robyn Schofield discussed the complex interactions between ozone levels, ultraviolet radiation, air pollutants, cloud cover and weather patterns.

These factors are all influenced by greenhouse gas emissions, as well as latitude and season.

Prof Monika Janda focused on the variety of factors which affect skin cancer risk. These are environmental, constitutional (genetic), behavioural and seasonal. Behavioural factors are particularly important in determining an individual's UV exposure. Due to the complexity of interaction of these factors predications of future effects on skin cancer rates have considerable uncertainty.

Research showed that short term exposure to wildfire air pollution resulted in increased visits to dermatologists for atopic dermatitis in paediatric and adult patients, and increased visits for itch in children and adults > 65 years of age.

WHAT IS THE IMPACT ON SKIN HEALTH?

A/Prof Misha Rosenbach gave an overview on how climate change is affecting skin health. More extreme weather events result in more floods and bushfires. Floods result in increased skin infections, arthropod bites, immersion foot and contact dermatitis.

There are already changes related to climate change in the pattern of vector borne diseases such as Lyme disease, dengue, Chikungunya and leishmaniasis. Leishmaniasis is now endemic in the USA. The range of Lyme disease is expanding as the tick expands its habitat range.

Prof Maria Wei's research showed that short term exposure to wildfire air pollution resulted in increased visits to dermatologists for atopic dermatitis in paediatric and adult patients, and increased visits for itch in children and adults > 65 years of age.

Prof Jean Krutmann's research has found that chronic exposure to traffic related air pollution is associated with more facial lentiginosities, due to the oxidative stress response in human skin which leads to de novo melanin synthesis. With every degree rise in ambient temperature the severity of skin aging signs such as wrinkles and lentiginosities increases.

A/Prof Paul Beggs' focus is allergens. At higher atmospheric carbon dioxide concentrations, poison ivy produces a more allergenic form of urushiol, an oily resin contained within the sap.

Ragweed is an important airborne allergen. It is producing more pollen as carbon dioxide levels increase. In the USA the ragweed pollen season is starting earlier and finishing later.

Prof Bart Currie discussed how the distribution of mosquito borne infectious diseases may extend with changes in climate.

HOW WILL AUSTRALIA'S FIRST NATIONS PEOPLES BE AFFECTED?

Dr Janine Mohamed, CEO of Lowitja Institute, spoke eloquently about Aboriginal and Torres Strait Islander peoples as a priority population, and the disproportionate effect of

the climate crisis on this part of our community.

The Lowitja Institute has recently released a discussion paper on [Climate Change and Aboriginal and Torres Strait Islander Health](#), representing a very important contribution to the national discussion on climate change.

Dr Nina Lansbury, Dr Andrew Redmond and Mr Francis Nona have identified five infectious diseases which are susceptible to change in climate and are locally important in the Torres Strait. These are Ross River virus, dengue, tuberculosis, nontuberculous mycobacteria, and melioidosis.

WHAT ACTIONS ARE MEDICAL PROFESSIONALS TAKING?

Climate change is a threat to human health.

Dr Omar Khorshid encouraged us to use our position as one of the most trusted voices in the community to drive action on climate change.

Prof Tarun Weeramanthri was the lead for the Climate Health WA Inquiry. The Inquiry made a variety of recommendations including developing a National Climate and Health Strategy and establishing a National Sustainable Health Unit.

Dr Catherine Pendrey discussed research that climate change is now becoming an additional factor in whether doctors choose to stay working in the Northern Territory.

Dr Kate Charlesworth works on environmental sustainability in the NSW public healthcare system. The health system is 7% of Australia's carbon footprint. This will need to be reduced, which will include using electricity for energy, minimising low value and harmful care, and decarbonising high value care.

In 2021 RACP commissioned the report [Climate Change and Australia's Healthcare Systems](#) to examine the risks of climate change to healthcare, and how best to manage and respond to those risks.

Prof Lynne Madden was chair of the multi-college advisory committee and called passionately for a climate ready and climate friendly healthcare system. Climate change needs to be included in the curriculum for medical students and the medical colleges.

What role can we play?

As climate change is affecting skin health and dermatological care contributes to Australia's carbon footprint, dermatologists have a role to play.



Support a net zero Australian Health care system by 2040.



Support the development of a National Climate and Health Strategy.



Support the development of a National Sustainable Health Unit.



Education of current and future dermatologists regarding the impacts of climate change, and providing sustainable healthcare.



Consider the impact of climate change on workforce issues in remote areas.



Collaborate with priority populations such as Aboriginal and Torres Strait islander peoples.

THANKS TO OUR SPEAKERS

We thank our speakers who gave their time and effort so willingly:

Dr Omar Khorshid, President, Australian Medical Association

Prof Hugh Possingham, Queensland Chief Scientist

Prof Tarun Weeramanthri, President, Public Health Association of Australia

A/ Prof Robyn Schofield, Director of Environmental Science, University of Melbourne

A/ Prof Misha Rosenbach, Associate Professor of Dermatology, University of Pennsylvania

Prof Monika Janda, Professor in Behavioural Science and Centre Director, Centre for Health Services Research, University of Queensland.

Prof Jean Krutmann, Scientific Director, IUF - Leibniz Research Institute for Environmental Medicine, Duesseldorf, Germany

Prof Maria Wei, Professor of Dermatology,

University of California, San Francisco. San Francisco VA Health Care System.

A/ Prof Paul Beggs, School of Natural Sciences, Macquarie University

Dr Janine Mohamed, CEO Lowitja Institute

Dr Nina Lansbury, Senior Lecturer, School of Public Health, University of Queensland

Prof Bart Currie, Team Leader, Tropical and Emerging Infectious Diseases, Menzies School of Health Research, Darwin

Dr Kate Charlesworth, Public Health Physician, Sydney

Dr Catherine Pendrey, remote GP and medical educator

Prof Lynne Madden, Professor of Population and Planetary Health, National School of Medicine, University of Notre Dame

And summit facilitator Kylie Woolcock, CEO, Australian Healthcare and Hospitals Association ●