The Royal Australasian College of Physicians

Climate change contributes to growth in mosquito populations

Media Release

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Warmer temperatures caused by climate change may be leading to an increase in mosquito numbers, heightening the risk of Ross River Virus and Dengue Fever in Australia.

In 2015 there were almost 10,000 reported cases of Ross River Virus in Australia, the largest annual number of cases ever reported, almost doubling the 2014 numbers.

While the majority of Ross River Virus cases typically occur in Queensland, 21 per cent of the 2015 cases occurred in New South Wales, Victoria, Tasmania, South Australia and the Australian Capital Territory.

Australian National University Associate Professor and RACP Fellow David Harley is running an ambitious program of research to better understand the changes.

“In 2015, there was a notable increase in mosquito population numbers in Southern Australia, including NSW, and warm temperatures and heavy rainfall contributed to this.

“This translated into a larger number of Ross River Virus cases reported in NSW in 2015,” said Associate Professor David Harley.

Despite the recent data there is still little understanding of how warmer temperatures are changing the prevalence and distribution of mosquito borne diseases.

“We already know there is a relationship between weather and the incidence of mosquito-borne viruses. So climate change will alter the epidemiology of these diseases but predicting what these changes will be is extremely challenging.

“The incidence of diseases like Ross River and Dengue, and by inference Zika, is associated with changing rainfall, temperature and humidity.

“February 2016 was the hottest on record in Australia, it’s unlikely that this didn’t impact the epidemiology of mosquito-borne viruses. But demonstrating causal links is immensely challenging.

“While the incidence of infectious diseases will evolve with changes in climate, it’s important that we must apply sophisticated thinking and methods to the issue.

“Interactions between the local environment, human behaviour and the built environment also need to be monitored. Factors like increased travel patterns, changing demographics and even whether people use air-conditioning, also influence the incidence and distribution of mosquito-borne diseases,” explained Associate Professor Harley.

Associate Professor Harley hopes to complete his current research project on dengue by late 2016, but intends to continue to explore the relationship between climate and infectious diseases.

RACP President Laureate Professor Nick Talley said that changes to the epidemiology of mosquito-borne diseases is one of the many health impacts of climate change.

“RACP is committed to bringing a medical voice to the forefront of the climate change debate. There are potentially devastating health impacts from rising temperatures and increases in the frequency and severity of heatwaves, bushfires, droughts and floods.

“Unfortunately we are seeing that vulnerable people including children, the elderly and those suffering with chronic illnesses are at most risk.”

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About The Royal Australasian College of Physicians (RACP): The RACP trains, educates and advocates on behalf of more than 15,000 physicians and 7,500 trainee physicians across Australia and New Zealand.

The College represents a broad range of medical specialties including general medicine, paediatrics and child health, cardiology, respiratory medicine, neurology, oncology, public health medicine, occupational and environmental medicine, palliative medicine, sexual health medicine, rehabilitation medicine, geriatric medicine and addiction medicine. Beyond the drive for medical excellence, the RACP is committed to developing health and social policies which bring vital improvements to the wellbeing of patients.

The College offers 60 training pathways. These lead to the award of one of seven qualifications that align with 45 specialist titles recognised by the Medical Board of Australia or allow for registration in nine vocational scopes with the Medical Council of New Zealand.