

A healthy



dose of concern

Climate change is coughing up some pretty worrying ramifications for our health, finds **Sue White.**

As an asthma sufferer, 24-year-old Daniel Harris doesn't need scientists to convince him that climate change could soon impact his personal health. "I was fine until I was 19, but I've been in respiratory arrest five times over the last five years. I have to stay inside if the neighbours mow their lawn, because dry grass seems to trigger it, and bushfire season is a problem due to the increased pollution in the air."

While Harris' situation is serious, life is about to get a whole lot tougher for the world's 300 million asthma sufferers. The World Health Organisation (WHO) predicts today's 250,000 annual asthma deaths will increase by almost 20 per cent in the next 10 years, unless urgent actions to curb climate change are taken.

Shocking it may be, but this is just one disease at the tip of a rapidly melting iceberg. Researchers warn we can expect thousands more deaths from heatwaves, storms and other extreme weather events to occur; challenges to our food yields and access to water will put pressure on our nutritional health; and geographic borders for insect-borne diseases like malaria and dengue will shift dramatically.

Unsurprisingly, developing countries are predicted to be hit harder than the developed world, but in Harris' experience, the weather doesn't respect border control. "My asthma has gotten worse in recent years as the difference between high and low temperatures has increasingly fluctuated. I'm absolutely worried about climate change," he says.

According to WHO, we all should be: the WHO Director-General recently declared climate change the biggest health issue humans will face in the next century. But Australia's leading scientist on climate change and health, Tony McMichael, from the Australian National University, is just one of many specialists frustrated that the climate change debate has been too narrow for too long.

{ Climate change is the biggest health issue humans will face in the next century. }

"Collectively, we have a naive misunderstanding of where good health actually comes from. Individual choices and behaviours are important, and so are a few genes, but the bedrock of population health lies in the natural environment: the processes that ensure we have food, fresh water flows, reasonable stability of infectious disease patterns and social stability."

Climate change is unlikely to create new diseases, but the devil we know is about to become a major challenge. Diseases we think we have a handle on, like malaria, dengue, and yes, plain old asthma, will become far more threatening under changed climatic conditions.

A recent report from Oxfam demonstrates the breadth of the issue, finding that diarrhoeal diseases in Lima, Peru, will increase eight per cent with every one degree Celsius temperature rise, and by 2030 a disease called bilharzia, which is caused by parasites and particularly impacts children, will threaten 210 million additional people in China alone. The catchphrase is 'disease creep', denoting diseases that shift beyond their traditional geographic boundaries. It's perhaps most easily understood with illnesses like malaria, a so-called 'tropical' disease that's now reported in Moscow and St Petersburg in Russia.

» While scientists are increasingly calling for coordinated action between health departments, policymakers and medical practitioners in order to avert an impending health apocalypse, it's proving challenging to distract the public from the 'tangible' and seemingly more immediate crises which so easily capture our imagination. Let's take swine flu as a good case in point: its catchy name and exotic origins saw all and sundry eager to curb a pandemic that has so far, for most people at least, equated to little more than the common, if still quite unpleasant, winter flu.

The Victorian bushfires are perhaps a more tragic example of our lack of understanding of a changed health environment. While they were undisputedly horrific, where was the outcry (or, for that matter, the Royal Commission) when it was announced that more than twice as many Victorians died in the heatwaves preceding the fires?

What will affect Australians the most?

Given our sunburnt country is about to get hotter, both Australian researchers and the medical organisation Doctors for the Environment Australia (DEA) are highlighting the links between heatwaves and health.

"Heat is a serious health threat. The stress can lead to increased incidents of heart attacks, cerebrovascular stroke or dehydration from gastroenteritis," says DEA's Graeme Horton.

When it comes to heatwaves, scorching daytime highs in excess of 45°C capture our imaginations, but steamy nights are equally threatening. The human body needs a cooling-off period to recover from the stress of a very hot day, and when evening temperatures don't drop off, deaths from heatwaves are unfortunately inevitable.

"We can adapt. But we need to be very proactive, and adapt in a sensible way," says Neville Nicholls, a meteorologist and climate scientist from Melbourne's Monash University. Some cities are now introducing heat alert systems, Nicholls says, which "can save thousands of lives."

Climate change is set to affect more than just our physical health, experts say – it's likely to see mental illnesses on the rise as well.



Concerned individuals have plenty to do Green Greener Greenest

You can lobby for action from policy-makers on climate change and health

Do everything possible to limit the overall impact of climate change

And if you're really worried, get your body prepared for a scorching hot future

The upside?

So if we lose out in summer, will we gain in winter? The demise of the winter cold is often touted as a positive health outcome under global warming conditions, but like most other experts, Nicholls doesn't see a net benefit here.

"I find it hard to believe that a few deaths saved at the cold end will outweigh the potential for catastrophe at the hot end," he says.

Heatwaves won't be our only health concern, but heat is an easier meteorological condition to predict than rainfall. While it's understood that more cyclones, floods and other wild weather incidents lie ahead, which will no doubt cause catastrophe on their own, scientists predict these episodes will also likely increase incidences of mosquito-borne diseases.

Dengue and malaria are both set to rise in many parts of the world, with dengue already providing Australia with its own example of the dreaded disease creep.

"A recent dengue outbreak in northern Australia resulted in 1,000 cases and one death," says DEA's Horton. "It also highlighted a lack of public awareness as to how to limit the spread of mosquito habitats."

It doesn't take much contemplation about health and climate change to see that increases in floods, fires, heatwaves and disease will quickly put pressure on Australia's health systems. Architect Jane Carthey, director of the Centre for Health Assets Australasia at the University of New South Wales, is looking at how our health infrastructure will cope.

"In some of the recent Queensland floods, hospitals were cut off and roofs collapsed at the very time more people needed care. If we can't move hospitals, they need to be more resilient," she says.

Carthey notes that greening our hospitals (and, say, not building them in vulnerable positions like by the coast) will also have the benefit of making these facilities less dependent on external resources such as power, which may not be available in extreme weather events.

But ending up in a powerless hospital after surviving a flood may well affect more than just your physical health. McMichael's colleague at ANU, Helen Berry, is studying the effects of climate change on mental health. She says being exposed to or affected by events such as intense droughts or cyclones can absolutely impact our mental wellbeing.

"Our physical and mental health are very closely related – you can't have something horrible happen to you without your risk of mental health issues increasing," she says.

Berry believes we need to seriously consider the impact climate change will have on the resilience of our regional communities in particular. "Farmers and drought are obvious examples, because as towns go bust [the structure of] the community starts to erode."

Any good news?

If there's a silver lining surrounding the cloud of recent disasters, it's that the link between climate change and health is at least now getting a hearing, albeit belatedly.

"A lot has changed in the last 12 months," says DEA's Horton. "We put out a report in 2008 that created a lot of debate. We said there would be an increased risk of dengue – and within a year we had an outbreak of 1,000 cases. Science has told us we will see increased rates of heatwaves, and then eight months later Melbourne had the highest temperatures ever recorded for a capital city in Australia. We talked about how incidences of fires would increase, and then within months the Victorian fires happened. Thankfully, policymakers are starting to take notice."

But taking notice and taking action are two different beasts. ANU's McMichael says the lawmakers' response is "not fast enough", and he pulls no punches on the reality.

"The continuing health of all populations depends absolutely on the maintenance of climatic conditions compatible with food yields on land and sea, with fresh water access, with natural constraints on microbes, and with all the other dividends that flow from nature," he says.

Protecting ourselves from the health impacts of climate change requires a policy rethink about the structure and focus of our health system. As McMichael noted in a journal article last year, health professionals and policymakers should seize opportunities where actions addressing climate change also yield tangible health benefits. For example, planting trees will buffer against heatwaves; vegetarian diets are less carbon-intensive and reduce risks of numerous cancers, heart diseases and other chronic diseases such as arthritis; and while tighter air-pollution legislation would help the atmosphere, it would also prevent tens of thousands of cases of bronchitis and millions of deaths globally.

For her part, Berry remains hopeful that we can find the pearl in the mental health oyster through a focus on community building:

"If we can get people to work together to build community capacity and connectedness, this will help protect everyone."

Humans aren't great at dealing with large temperature changes, but we have some capacity to acclimatise. As Andy Pitman, co-director of UNSW's Climate Change Research Centre, points out, gluing yourself to an air-conditioner won't help your body prepare for a future where heatwaves and power outages may coexist.

"You actually need to be exposed to heat to become acclimatised to it. We don't want to be in environments where it is always 23°C. Banning air-conditioners would absolutely minimise our vulnerability to heatwaves. Ironically, this may be the one example where the developed world is more vulnerable to global warming than the developing world," he says.

As Daniel Harris continues to deal with his asthma from the highly urbanised centre of Western Sydney, he is just one voice calling for the health impacts of climate change to be tackled, fast:

"It's like a battle of toxins – deal with those in the air or counteract [them] with toxins like medications. A lot of the media attention is about the effect on the environment, not on people. The whole predicament frustrates me. This is a disease we are supposed to be able to control." **G**

SUE WHITE is a regular G Magazine contributor from Sydney, who is delighted she has never lived in an air-conditioned home.

