Climate change: Why should health care professionals care and what can they do?

Steven Skov, Public Health Physician, CDC Darwin

Abstract

Health professionals have a responsibility to understand the current and potential implications of climate change on health. This article looks at local, national and international impact of climate change on health.

Article

What do you know about health and climate change? Do you believe people are suffering and dying because of global warming? A World Health Organisation report estimated that 160,000 people died in the year 2000 due to the effects of climate change and that there were 5,500,000 Disability Adjusted Life Years (DALYs) lost.[1] A more recent analysis suggests that as many as 315,000 lives per year were lost due to climate change between 2004 and 2008.[2] About 10% of these were due to weather related disasters and the remaining 90% due to gradual degradation of the environment.

How exactly does climate change affect people's health? An increase in vector borne diseases such as dengue, tick borne encephalitis, leishmaniasis and especially malaria occurs as increasing temperatures allow the insects that carry them to expand their range. Increasing temperatures also lead to a greater incidence of common bacterial gastro-intestinal infections which has the greatest impact on young children. Extreme weather events such as floods, storms and fires are becoming more common and more extreme and cause substantial death and injury. They also have a significant mental health burden as people have to live with the stress and anxiety of such events being more frequent.

However, much more important than these is the impact of food and water insecurity. Many parts of the world will have an overall reduction in rainfall, more frequent droughts, and will be more prone to flooding when rain does come. This will lead to a widespread reduction in the production of food. Sea level rise will exacerbate this as the soil in many coastal areas will no longer support food crops. The effect will be that tens if not hundreds of millions of people will have to live with less water, less food and less money. Social and political instability will follow closely and many will become climate refugees forced to move in search of the basic necessities of life.

So far, the overwhelming majority of people suffering and dying from climate change have been in developing countries. But developed countries and Australia in particular are not being spared. In the 2003 summer heat waves in Europe there were some 70,000 excess deaths.[3] In early 2009, heat waves in southern Australia were accompanied by hundreds of unexpected deaths mainly of old people with 374 in Victoria alone.[4]

Of the developed world, Australia is likely to be the country most affected by climate change.[5] Australia will probably adapt well to changes in vector borne diseases and increased heat waves, but agricultural production could decline very substantially. If there is no change to the current trend in greenhouse gas emissions, it is estimated that agricultural production in the Murray Darling Basin will decline by 12% by 2030, 49% by 2050 and 92% by 2100.[6] If it does, then the price of food will rise substantially and result in poorer nutrition for Australians at the lower end of the socio economic scale. The negative effect on the livelihoods and well being of many rural communities already under stress from the drought will only get worse.

Australia will also be under pressure from significant numbers of climate refugees from the Pacific island nations and south and south east Asia. It is thought that even under a best case scenario, climate change will increase the number of displaced people in the Asia Pacific region by hundreds of thousands,[7] many of whom are likely to look towards Australia and northern Australia in particular.

The Northern Territory and northern Australia more generally will be adversely affected. Most of northern Australia's food comes from southern Australia. Food prices are already higher than in the rest of Australia and will rise more as both the cost of food production and the cost of transporting it to the north increase. In a report commissioned by the Garnaut Climate Change Review it is estimated that by the year 2070, under a mid range scenario, there would be more than 220 days per year in Darwin over 35°C and up to 280 heat related deaths per year compared to only 63 in the absence of climate change.[8]

Throughout the world, marginalised populations and economically disadvantaged people will be the ones most adversely affected by climate change. This will also be true for Australian Aboriginal people. The impact on remote Aboriginal communities in northern and central Australia will most probably be even greater. Temperature rises in central Australia will be greater than in coastal areas. The cost of food and energy in remote communities is already much higher than in urban centres and this differential is likely to increase. In addition, sea level rise will damage coastal wetlands and so lead to reduced access to an important source of nutrition and a loss of valuable activities such as hunting and gathering and caring for country.[9]

Health care professionals will need to deal with the ill health caused by climate change. But, they also have a responsibility to prevent disease and so should be active in reducing the carbon emissions that are the cause of this ill health in the first place. They can do so directly in relation to the carbon footprint of the health industry and by advocating for change in the rest of society.

Beyond the direct benefits of reducing carbon emissions, many of the strategies to do so would have the co-benefit of improving health status in other ways. For example, reducing carbon emissions from coal and petroleum would also reduce ill health due to air pollution, increasing the use of public transport could reduce road traffic trauma, increasing active transport such as walking and cycling would lead to improvements in obesity, diabetes and cardiovascular disease and reducing consumption of red meat and associated saturated fat could lead to reductions in ischaemic heart disease and cancers.

The health care sector itself is a major producer of greenhouse gases. For example, the National Health Service (NHS) in the UK has calculated its carbon footprint at more than 18 million tonnes of CO_2 per year which comprises 25% of total public sector emissions and 3.2% of all emissions in the UK.[10] It is highly likely that the Australian health care sector is responsible for a similar proportion of our CO_2 emissions. In the Northern Territory, the Department of Health and Families is responsible for 38% of all government agency emissions:[11] the largest of any department.

There is much that health care professionals can do to reduce carbon emissions by action at the level of their own work unit, or by macro level system approaches such as hospital energy co-generation systems. A great deal of work has already been done in many parts of the world to reduce the health care carbon footprint.

The NHS in the UK has established a Sustainable Development Unit to drive its Carbon Reduction Strategy which aims to reduce 2007 NHS carbon emissions by 10% by 2015 as part of the UK's aim to reduce total emissions by 26% by 2020 and 80% by 2050.[12]

The World Health Organisation has recently published a discussion paper detailing 7 elements of a climate-friendly hospital: energy efficiency, green building design, alternative electricity generation, transportation for staff and patients, food which is locally grown and nutritious, waste reduction and recycling, and the conservation of water including safe alternatives to bottled water.[13]

In the US, Practice Greenhealth has created an energy impact calculator for hospitals, which allows an understanding of some of the health co-benefits which can be gained through energy efficiency and on-site energy generation (available at www.practicegreenhealth.org/tools/eic).

In New South Wales, the Sydney West Area Health Service has already embarked upon a comprehensive strategy of efficiency actions and infrastructure investments to reduce its water and energy use.[14]

But health care professionals can and should do more. With their direct knowledge of the health effects, their public health expertise, their ability to bring an understanding of evidence to policy development, and their credibility in society they are well placed and indeed have a responsibility to advocate for change in the rest of society: in the community and with government and industry.

Several of the world's leading medical journals, most notably the Lancet[15] have devoted a great deal of space in recent years to the health impacts of climate change and the need for broad societal action. In May this year, the Presidents of Colleges of Physicians and Surgeons from 12 countries, including the Royal Australasian College of Physicians, exorted doctors to demand that politicians heed the health effects of climate change and not waste the opportunity for action at the UN Copenhagen Conference on climate change.[16]

Climate change is happening now and it is not just bad for "the environment". It is bad for us. It is damaging the lives of real people today. It is a serious situation but there is much we can do. In our personal lives and our workplaces we can consider carefully the energy we do need to use and adopt more energy efficient practices. Most importantly we have to advocate with government and industry about the urgent need for readily and widely available renewable energy sources and energy efficiency measures and technologies. It is what we need to do to keep the climate, and ourselves, safe.

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