Editorials

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**Climate change- WHO should now declare a public health emergency**

When *The BMJ* started publishing articles on climate change, some readers told us to stick to our knitting ([www.bmj.com/content/332/7554/0.7/rapid-responses](http://www.bmj.com/content/332/7554/0.7/rapid-responses)). “What did this have to do with medicine?” they asked. And wasn’t climate change a myth, a result of natural climatic variation, nothing to do with human activity? There were surely more immediate challenges that *The BMJ* and its readers should be focusing on.

We listened politely but carried on, convinced of the threat to human health and survival. With others we set up the Climate and Health Council ([climateandhealth.org](http://climateandhealth.org/)).

We published editorials and articles ([thebmj.com/content/climate-change](http://thebmj.com/content/climate-change)), co-hosted conferences and seminars, lobbied funders, talked to policy makers and politicians, and worked with the BMA, the royal colleges, and their equivalents in other countries, all the time worrying that this was not enough. Our hope was to encourage doctors and other health professionals to take a lead in tackling climate change.

Now we have gone a step further, with the publication of an article that contains no medicine or healthcare at all. “The science of anthropogenic climate change: what every doctor should know” is pure climate science.[**1**](http://www.bmj.com/content/349/bmj.g5945#ref-1) Why? Because if we doctors are to become effective advocates against climate change, a better understanding of the science will help us.

As most readers will know, the news is not good. With a high degree of certainty the Intergovernmental Panel on Climate Change (IPCC) has concluded in its fifth report that the world is getting hotter and that human activity is mainly to blame. Global average temperatures have risen by about 0.5°C in the past 50 years and by 0.8°C from pre-industrial times. The effect of these higher temperatures on weather systems is already being felt. The IPCC reports that it is highly likely that global warming is causing climate change, characterised by more frequent and intense temperature extremes, heavier rainfall events, and other extreme weather events. Sea levels are rising as a result of the thermal expansion of the oceans and the melting of polar icecaps and glaciers.

The headlines should come as no surprise, but the detail may prove instructive. Higher seas mean more frequent and extreme tidal surges, coastal flooding, and the salination of vital fresh water supplies. Warmer air carries more moisture, leading to more extreme rainfall events. But warmer air also reduces the amount of moisture in the soil, contributing to soil erosion and flash flooding.

As for the main underlying cause, the IPCC is clear: it is the accumulation of anthropogenic carbon dioxide in the atmosphere. Other gases and aerosols are also to blame, especially methane and nitrous oxide, and particulate black carbon. But carbon dioxide is long lived. Once released into the atmosphere it stays around for centuries. Deforestation makes this worse.

**Best and worst cases**

What of the future? The IPCC has modelled four scenarios varying with the extent and nature of future emissions. The best case (the so called RCP (representative concentration pathway) 2.6) sees a radical cut in greenhouse gas emissions, starting almost immediately. Even then global warming would continue, leading to average temperatures of almost 2°C above pre-industrial levels. The worst case (RCP 8.5) is “business as usual” with unabated emissions, which would lead to a further rise by 2100 of 3.7°C above the average at the beginning of this century and more than 4°C higher than pre-industrial levels. As our Analysis authors explain, regional variations mean that in some parts of the northern continents temperatures would increase by more than 10°C.

Writing last week in the *Lancet*,**[2](http://www.bmj.com/content/349/bmj.g5945%22%20%5Cl%20%22ref-2)** Andy Haines and colleagues emphasised that such huge temperature rises, and the consequent severe climate instability, would take us into what is being called the “afterlife” threshold, “where the impact on humanity is so great as to be a discontinuity in the long-term progression of humanity.” In other words, the effects would be catastrophic.

**The diagnosis**

If climate change is a symptom of a planet in distress, what is the disease? Speaking last month in Geneva, Christiana Figueres, executive secretary of the United Nations Framework Convention on Climate Change, was uncompromising. The disease is “our unbridled dependency on fossil fuels,” which shows no sign of abating. Despite the rhetoric from the world’s major polluters at last week’s United Nations meeting on climate change in New York,**[3](http://www.bmj.com/content/349/bmj.g5945%22%20%5Cl%20%22ref-3%22%20%5Co%20%22)** rates of carbon emission are accelerating. Our Analysis article explains that the amount of carbon we can still afford to emit if we are to stay below 2°C of warming compared with pre-industrial levels (our “carbon budget”) will be exceeded in the next 25-30 years.

Calls for organisations to disinvest from fossil fuels and reinvest in renewable energy are gaining momentum. The president of the World Bank, Jim Yong Kim, himself a doctor, propelled this idea into the mainstream by suggesting in a speech at the World Economic Forum that carbon emissions could be tackled through divestment and taxation.[**4**](http://www.bmj.com/content/349/bmj.g5945#ref-4) Groups such as the Global Climate and Health Alliance ([www.climateandhealthalliance.org](http://www.climateandhealthalliance.org/)) have been quick to take up the call. Archbishop Desmond Tutu has called divestment a moral imperative.[**5**](http://www.bmj.com/content/349/bmj.g5945#ref-5) The BMA agreed to divest at its annual meeting in June, and major universities and funding bodies have also signed up, the Rockefeller family and the World Council of Churches being among the most recent.[**6**](http://www.bmj.com/content/349/bmj.g5945#ref-6)

Figueres was speaking at the first WHO conference on health and climate, where health ministers joined delegates from intergovernmental and non-governmental organisations in an extraordinary show of consensus. All agreed with WHO director general Margaret Chan’s assessment that climate change is the greatest threat to public health and the defining issue of the 21st century. The conference gave a clear warning: that without adequate mitigation and adaptation, climate change poses unacceptable risks to public health worldwide.[**7**](http://www.bmj.com/content/349/bmj.g5945#ref-7)

**Health benefits of acting on climate change**

In this unequal battle with big business and political inertia we have a crucial card to play: the knowledge that much of what we need to do to tackle climate change will bring substantial benefits to health. Burning fossil fuels causes about seven million premature deaths from indoor and outdoor air pollution. Smog in Beijing and other major cities is alerting the public and waking up our politicians in ways that the more invisible threat from carbon dioxide emissions has failed to do. Healthcare is itself a major emitter of greenhouse gases and has a responsibility to get its own house in order, to avoid the paradox of doing harm while seeking to do good.[**8**](http://www.bmj.com/content/349/bmj.g5945#ref-8) Also in our hand is the substantial health dividend of more active and sustainable low carbon lifestyles: lower rates of obesity, heart disease, diabetes, and cancer.[**9**](http://www.bmj.com/content/349/bmj.g5945#ref-9)

WHO has shown important leadership on climate change but has stopped short of declaring a global public health emergency. This may be understandable with Ebola raging. But it is what WHO should now do. Deaths from Ebola infection, tragic and frightening though they are, will pale into insignificance when compared with the mayhem we can expect for our children and grandchildren if the world does nothing to check its carbon emissions. And action is needed now.

**Notes**

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**Footnotes**

* Competing interests: At the request of WHO I acted as moderator at its first conference on health and climate in Geneva, 27-29 August 2014.
* Provenance and peer review: Not commissioned; peer reviewed.

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