

## *Editorials*

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### What's good for the climate is good for health: The role of doctors in addressing climate change

The run-up to the New Year was marked by a rush of commentaries and reports in newspapers and journals across the world, reminiscing about the highs and lows of the past decade. In the public health arena, one achievement of the 'noughties' had significant potential to improve global health and well-being. One hundred and eighty-nine developed and developing nations signed the UN Millennium Declaration of September 2000 and pledged to work together to address extreme poverty, hunger, illiteracy and disease in a global bid to make the world a better place.<sup>1</sup>

A decade later, the disappointing news is that progress towards the Declaration's 8 Millennium Development Goals (MDGs) has been slow and a number of them are unlikely to be met by the target date of 2015.<sup>1</sup> The global economic crisis has been a key factor in stalling or even reversing some of the early gains in reducing extreme poverty or the prevalence of hunger.<sup>1</sup> Moreover, with the March 2009 International Scientific Congress 'Climate Change: Global Risks, Challenges and Decisions' reporting that 'the worst-case Intergovernmental Panel for Climate Change scenario trajectories (or even worse) are being realized, with a significant risk of abrupt or irreversible climatic shifts',<sup>2</sup> climate change is the 'elephant in the room' with the potential to destroy any chance of achieving the MDGs.

Climate change is already having a discernible influence on the global burden of disease and particularly on the health of the most impoverished in society.<sup>3</sup> It affects health through direct and also complex indirect mechanisms, and these health impacts are projected to increase if climate change continues unabated. Heat waves have become more frequent worldwide and have been associated with a marked short term increase in mortality. The weather is an important determinant of air quality, poor air quality being associated with higher levels of respiratory and cardiovascular disease. Extreme weather events are projected to become more frequent, more widespread and more intense, and can result in death, disease and injury due to drowning, lack of sanitation and safe drinking water, and exposure to dangerous chemical contaminants. They can destroy property and livelihoods and cause mental anguish which may last long years after the initial event. They may also destroy or impair access to healthcare facilities.

Climate change is also associated with both acute and chronic nutritional deficiencies.<sup>3</sup> Food and water shortage or contamination can directly result in severe undernutrition or death. Undernutrition may increase the vulnerability to infectious disease and the risk of dying from it. Drought may trigger mass migration as rural populations in particular, search for access to safe water, food and employment, exacerbating the existing health risks faced by such communities. Added to all this is the major shift in the patterns and distribution of vector-borne disease anticipated as a result of climate change. For example, a temperature rise of 2–3 °C is projected to increase the number of people at risk of malaria by 3%–5%, which translates globally into several hundred million people.<sup>3</sup> Not surprisingly, socioeconomically deprived communities, which are least able to cope with and recover from climate disasters, face a disproportionately higher burden of ill-health due to climate change.

The major underlying causes of climate change—high-carbon strategies for economic development as well as individual lifestyles—are also increasing the burden of disease and mortality.<sup>4</sup> Unhealthy high-carbon diets and reduced physical activity associated with urbanization and greater reliance on motorized transport increase greenhouse gas emissions, as well as the risk of obesity, diabetes, cardiovascular disease and cancer.<sup>5</sup> Road traffic injuries and deaths are additional risks of increasing motorization, with most deaths occurring in low- and middle-income countries, and children and young people being at greatest risk.<sup>4</sup> According to the 2005 WHO report, *Preventing Chronic Diseases: A Vital Investment*,<sup>6</sup> the number of deaths attributable to chronic diseases in India is projected to rise from 40.4% of all deaths in 1990 to 66.7% by 2020. India is already at the top of the global league table for the number of people with diabetes.<sup>6</sup>

As the health impact of climate change and its underlying causes have become increasingly evident, so too have the 'health dividends' of lower-carbon living. Indeed, the dual benefits of reduced greenhouse gas emissions on public health and the climate may be politically the most persuasive basis for bringing together civil society and world leaders to work towards a carbon-reduction strategy. And who better to articulate the health contention than the medical community? Great hopes and expectations rode on the back of the Copenhagen Conference of Parties in December 2009. Many thought the conference was the 'last chance saloon' to avert the dangers of runaway climate change and hoped it would secure a legally binding international agreement for carbon reduction. Its failure to achieve the desired outcome merely makes it all the more urgent for doctors to assume greater leadership in the sphere of climate action.

So, how can doctors make a difference? Surveys consistently demonstrate that doctors enjoy a high level of public trust.<sup>7</sup> Moreover, doctors practising in many parts of rural India may be better educated and better informed than the population they serve, an advantage which should oblige them to exercise their leadership in protecting and promoting the health of their communities. To be effective agents of change, doctors first need to equip themselves with knowledge of the scientific evidence of the health benefits of carbon reduction. A series of articles recently published the results of studies undertaken by the Task Force on Climate Change Mitigation and Public Health to explore actions that have a dual benefit of improved health and climate protection.<sup>8</sup> One of the studies estimated that the impact of a 10-year programme to replace 150 million inefficient solid fuel stoves in India with efficient low-emission stoves would be to provide 87% of households with cleaner combustion and air by 2020, and to reduce greenhouse gas emissions equivalent to 0.5–1 billion tonnes of CO<sub>2</sub>.<sup>9</sup> In health terms, this would result in an estimated 240 000 fewer deaths of children under 5 years of age from acute lower respiratory infections, and more than 1.8 million fewer premature deaths of adults from ischaemic heart disease and chronic obstructive pulmonary disease. Another study demonstrated that increasing participation in walking and cycling combined with the use of lower-emission motor vehicles in Delhi would result in substantial health gains, such as a reduction in ischaemic heart disease, cerebrovascular disease and diabetes.<sup>10</sup> The number of road traffic injuries would also decline. Doctors need to be prepared to inform politicians and the public of such facts, and to be courageous advocates for policies and strategies which enable people to lead healthier lower-carbon lives. They need to build a convincing case for change on the basis of their first-hand knowledge of the impact of climate change and high-carbon environments on their patients. Who better than cardiologists and diabetologists to influence politicians and municipal authorities to develop integrated transport policies which encourage more cycling and walking?

Doctors need to become role models and lead through personal action, through inspiring others to do the same and through transforming the organizations within which they work. This means that they need to understand how to measure the carbon footprint of their organizations and how to stimulate team action to reduce it, if possible. For example, buildings can substantially increase the carbon footprint of healthcare.<sup>11</sup> Planning the internal layout to encourage climate-friendly behaviour, such as increasing the use of well-lit and attractive stairs rather than elevators, has the

potential to save costs and improve health. Such measures may be possible only while constructing new buildings, but measures such as increasing energy efficiency, video-conferencing to avoid travelling to meetings and replacing paper-based with electronic records can be implemented in most organizations.

Lastly, doctors need to be at the forefront of planning to help their communities adapt to climate change. Climate change is increasing health hazards ranging from more frequent heat waves, severe floods and drought to increasing intensity of transmission of vector-borne diseases. Doctors are well placed to enhance and lead the surveillance and monitoring of the health impact of climate change, to help develop preparedness and response plans to extreme weather events and changes in the distribution and patterns of disease, and to help increase cross-sectoral collaboration and the resilience of communities. Let us seize this opportunity to spread the message that 'what's good for climate is good for health'<sup>12</sup> and help ensure that 'lower carbon saves lives'.

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## Does India need NICE healthcare?

Despite a thriving economy, almost three-quarters of the Indian population lives on less than US\$ 2 per day, which in a healthcare economy dominated by the private sector, with out-of-pocket expenditure or distress financing commonplace for the majority, breeds health inequalities. With a 4.9% GDP (~US\$ 39 per head) expenditure on healthcare (of which approximately 20% is government funding), India's investment in healthcare exceeds that of its neighbours (Pakistan, Nepal and Sri Lanka each spend <1% of GDP on healthcare) and is close to that of several European countries.<sup>1</sup> Why then, are there still so many challenges to delivering equitable healthcare in India?