Politicians must heed health effects of climate change

The UCL Lancet Commission on climate change and health (May 16, p 1693)1 concludes: “Climate change is the biggest global health threat of the 21st century”. In this report, the authors emphasise not only the immediacy and gravity of this threat, but also the directness: while the poorest in the world will be the first affected, none will be spared. The escalating carbon footprint of the developed world has led to the present situation, but the rapid impact on developing countries such as the encroaching deserts in Africa is the immediate price.

This is one reason why doctors must take a lead in speaking out. Another is that there are important co-benefits of tackling climate change for those with long-term conditions in the developed world, such as those that come from more exercise with less use of cars and dietary change with reduced meat consumption. In December of this year, world governments meet in Copenhagen, Denmark, to negotiate a new UN Framework Convention on Climate Change. There is a real danger that politicians will be indecisive, especially in such turbulent economic times as these. Should their response be weak, the results for international health could be catastrophic. Doctors are still seen as respected and independent, largely trusted by their patients and the societies in which they practise. As leaders of physicians across many countries, we call on doctors to demand that their politicians listen to the clear facts that have been identified in relation to climate change and act now to implement strategies that will benefit the health of communities worldwide.

We declare that we have no conflicts of interest.

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Climate change is not the biggest global health threat

The UCL Lancet Commission (May 16, p 1693)1 claims that “climate change is the biggest global health threat of the 21st century”. But it offers no comparison of the relative magnitude and severity of various health threats to justify this claim. It claims that climate change was responsible for 5·5 million disability-adjusted life-years (DALYs) in 2009.1

![Table: Ranking of 26 global public health risk factors based on the global burden of disease (measured as disability-adjusted life-years [DALYs]) and on global mortality for 2000](image)
adjusted life-years lost globally in 2000. But this estimate came from a WHO global burden of disease study which indicated that climate change presently (2000) ranks 21st or 22nd out of 26 health risk factors (table). Moreover, British-government-sponsored analyses based on the Intergovernmental Panel on Climate Change’s (IPCC’s) warmest scenario, which would increase average global temperature by 4·0°C from 1990 to 2085, suggests that by 2085 climate change’s contribution to global mortality from hunger, malaria, and flooding would be just 10%. Notably, several authors of these analyses helped develop the IPCC’s latest assessment.

The Commission’s figure 3 also asserts that climate change would expose “hundreds of millions... to increased water stress”. But this statement’s original source also estimates that climate change would reduce water stress for even greater numbers, thereby reducing the net global population at risk.

These results indicate that other global health threats outrank climate change now, and probably for the foreseeable future. They also show that rolling climate back to 1990 levels through “primary mitigation”—eg, drastic emission reductions—would at most reduce mortality from hunger, malaria, and flooding in 2085 by 10%, while increasing the prevalence of water stress. Alternatively, one could endeavour to reduce 100% of the mortality by focusing on reducing society’s vulnerability to the health-related problems that climate change might exacerbate. And whereas mitigation indiscriminately reduces positive and negative effects of climate change, “focused adaptation” allows society to capture its benefits (eg, on water stress) while reducing its damage. Or adaptive capacity could be advanced more broadly, particularly in developing countries, through poverty reduction via sustainable economic development. This would treat the underlying disease—shortage of economic and human resources needed to harness technologies to cope with adversity in general—rather than the symptom, namely, their vulnerability to climate change in particular.

Analysis, based on UN Millennium Program reports, indicates that either adaptive approach—focused adaptation or sustainable economic development—will deliver far greater benefits than mitigation, at lower cost, faster (because the climate system’s inertia delays benefits from emission reductions), and more surely (because while hunger, malaria, and extreme events are real, the contribution of climate change to these problems is uncertain). In summary, the Commission has misdiagnosed the world’s primary health problem, and its costliest remedy—mitigation—is also probably the least effective.

I am an assistant director for policy analysis in the US Department of the Interior. The views expressed in this letter, which was written in my own time, are mine alone and not those of either the Department of the Interior or the US Government.

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Authors’ reply
We agree with Indur Goklany on the importance of adaptation to reduce countries’ vulnerability to the health-related problems of climate change. But his views on the relative importance of primary mitigation are too complacent. They are based on incorrect projections about future warming, and a 9-year-old WHO report. The ranking of climate change at 21st out of 26 risk factors was made at a time when global temperature rise was only 0·74°C, and when the effects of climate change on the other risk factors was unclear. This situation has changed substantially.

Two recent papers show that about 1 trillion tonnes is probably the cumulative limit for all carbon emissions if we wish to stay within the 2°C “safety” limit, and that, without action, we shall exceed this limit before 2050. Schneider raised the prospect of worst case scenarios: warming at 3°C gives a 90% probability that Greenland will melt, raising sea levels by 6·4°C by 2100, “a risk way above the threshold at which people would usually buy insurance”.

The likely population and health effects of climate change will be much more severe than the WHO 2000 report suggested. Parry and colleagues report that, by 2100, with unmitigated climate change, global warming will reach 4·5°C; up to 3·2 billion people will face increased water stress; there will be an accelerated extinction rate around the globe; more than 40% of ecosystems will be affected; the production of all cereal crops will fall; there will be an increasing burden of malnutrition and cardiorespiratory and infectious diseases; deaths from heat waves, floods, and droughts will increase; and more than 30% of coastal wetlands will be lost, with a major reconfiguration of coastlines worldwide and inundation of low lying areas.

We must protect current efforts to improve global health by ensuring that all the gains are not undermined by the effects of climate change. These problems can be avoided if the