Health and climate change: a call for action

The health sector has to become proactive, not reactive

Climate change—the subject of this week's United Nations summit in Montreal—is already affecting human health in Europe, and countries are not prepared. It is now five years since the Intergovernmental Panel on Climate Change concluded that there is new and stronger evidence that most of the global warming that has occurred over the past 50 years is attributable to human activities and that climate change could affect human health.¹ Even before that, in 1999, ministers of health and environment from the World Health Organization European Region acknowledged that “human-induced changes in the global climate system and in stratospheric ozone pose a range of severe health risks and potentially threaten economic development and social and political stability.”

Several countries have started the essential action of reducing greenhouse gas emissions. As long as these measures are not altering the ongoing changes in the climate there is a need to understand how people and systems can effectively adapt to new climate patterns and potential threats, and to determine what should be done now to avoid the impact on human health that may result.² In response, the WHO Regional Office for Europe has coordinated a project to assess both the health impacts of climate change and the required measures and policies that it demands.²

Climate change and variability are affecting health in a variety of ways. The heatwave in August 2003 caused over 35 000 excess deaths in Europe.³ Cases of salmonellosis rise by 5–10% for each 1°C increase in weekly temperature when the ambient temperature is at least 5°C.⁴ Floods have hit European countries in recent years, causing deaths, injuries, and diseases, and their frequency is expected to increase.⁵ Lyme borreliosis and tickborne encephalitis have spread into higher latitudes (as seen in Sweden)⁶ and altitudes (such as in the Czech Republic)^{7,8} in recent decades and have become more common. The average length of the growing season of plants with allergenic pollen and other elements causing allergic sensitivity in Europe has increased by 10–11 days over the past 30 years.⁹

We are in a time of uncertainty. Human health will continue to be affected directly and indirectly by climate change, and health systems will need to act to prevent and manage the impacts on populations. At the same time, health services will face various other complicating challenges such as rising costs of health care and an ageing society, making effective preventive strategies even more necessary.

What should the health sector do? It needs to shift from a reactive to a proactive attitude, and to learn from other sectors about anticipating risks. Most countries and cities have barely made a start on this, but a few have developed warning systems for imminent heatwaves and floods. Although effective measures to reduce mortality related to heatwaves

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are still under debate, some countries have tried a combination of health system preparedness, information for citizens, assistance to elderly and sick people, and long term urban and housing planning. For the city of Rome, for instance, the societal costs in the absence of planned adaptation to heatwaves would be in the order of €281m for the year 2020 (at 2004 rates).¹⁰

The health sector can further contribute by reviewing and strengthening existing activities for disease control and health protection. Examples include achieving and maintaining the highest standards of control and surveillance along the food chain⁵ and of vaccination for tickborne encephalitis in high risk areas.⁶

If the health system is to exercise its stewardship it will have to learn to collaborate with climatologists and planners in land use and urban design, and to prepare communities and cities against the growing health risks of climate change.² It will have to work with other sectors in, for example, health impact assessments of structural and non-structural measures for flood prevention and with the energy, transport, industry, and agriculture sectors to advocate “healthy” measures to mitigate the impacts of climate change. Moreover, the health sector will have to inform the public and keep them aware of how to avoid risks of foodborne diseases, allergic disorders, and some vector and rodent-borne diseases. For this, it is essential to collect information systematically on the potential impacts of global changes and on cost effective strategies to reduce them.

In addition, lessons learnt in different countries, regions, and sectors that have applied early warning systems or changes in land use must be shared so that prevention strategies can be modified, new ones put in place, and measures and standards raised.^{11,12}

Political will and support for public health approaches are a prerequisite for reducing any health

risks and instability resulting from climate change. Identifying ways to reduce the causal factors of climate change (mitigation) and to help populations and systems deal with the risks and threats posed by climate change (adaptation) could lead to a greater sense of security and control and result in improved population health. The health sector has to be at the heart of this.

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End of life decisions

Clinical decisions are increasingly shaped by legal judgments

In July this year the court of appeal allowed the appeal of the General Medical Council (GMC) in the case of R (Burke) *v* the GMC,¹ setting aside the high court declaration that the GMC guidance on withholding and withdrawing life prolonging treatment was unlawful and in breach of human rights.² This welcome judgment represents a much needed endorsement of clinical discretion and judgment.

Mr Burke, tragically, has a progressive degenerative neurological condition and will eventually require artificial nutrition and hydration. He fears that on losing the ability to communicate doctors might decide that his quality of life is such that they should withdraw artificial nutrition and hydration, considering this to be futile treatment, and that this would cause him acute mental and physical suffering in contravention of his human rights. He sought judicial review of the GMC guidance on the withdrawal of artificial nutrition and hydration.³

The high court judge ruled that an advance directive to require artificial nutrition and hydration would be valid, and that a number of paragraphs in the GMC guidance were unlawful as there was insufficient emphasis on the patient's rights to *require*, rather than *refuse*, treatment. He also held that in determining the best interests of the incompetent patient, the more stringent standard of whether a patient's life had become "intolerable" should be used in relation to the withdrawal of life prolonging treatment such as artificial nutrition and hydration. This decision could have severely restricted clinical judgment and discretion in relation to artificial nutrition and hydration and by implication other forms of treatment considered to

be clinically useless. Although the GMC's won its appeal against the judgment that its advice was unlawful, the court of appeal lost an opportunity to resolve key ethicolegal issues regarding decision making at the end of life.

The court of appeal restricted itself to the specific circumstances of the claimant, and described the high court judge's declarations as going "far beyond the current concerns of Mr Burke."⁴ The appeal court was satisfied that Mr Burke was competent and that if he wished to continue to receive artificial nutrition and hydration in the circumstances envisaged it would be unlawful to discontinue it. When a competent patient indicates his or her wish to remain alive by artificial nutrition and hydration, any doctor who wilfully discontinues such treatment would be in breach of duty, and guilty of murder. The rights of a competent patient in this respect have therefore been judicially endorsed.

What would have been helpful for doctors would have been greater analysis about withdrawing artificial nutrition and hydration in incompetent patients. The appeal court chose not to enlarge on this issue, pointing out the danger of making rulings on matters of principle divorced from an actual case. Incompetence was not relevant to Mr Burke's position. The test for withdrawal of artificial nutrition and hydration in an incompetent patient is whether it would be in the best interests—in the widest sense—of that patient.

However, what standard is to be applied when assessing best interests? Should it be measured using a "balance sheet" approach,⁴ where the pros and cons

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