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EDITORIALS

Healthcare professionals must lead on climate change

Short lived climate pollutants and unchecked carbon dioxide emissions are both a serious threat to human health

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Carbon dioxide and short lived climate pollutants (SLCPs) are the main contributors to climate change.[1] While carbon dioxide is the largest contributor to climate change, the four SLCPs[2]—methane, black carbon, ozone, and hydrofluorocarbons—contribute as much as 40%.[1 3] SLCPs are super pollutants since they are, on a per molecule basis, about 25 (for methane) to 2000 times (black carbon and hydrofluorocarbons) more potent than CO_2 in warming the climate.[1] SLCPs, especially black carbon particles, are also super pollutants in terms of public health effects.[2] About 40% of the global black carbon emissions are from cooking and lighting with solid biomass fuels (such as firewood and dung) and kerosene; the smoke particles from these household fuels along with household use of coal cause about 4.3 million deaths annually.[4]

More widely, fine particulate pollution from burning fossil and solid biomass fuels for energy contributes to around 7 million premature deaths a year, mostly from ischaemic heart disease, stroke, and chronic obstructive airways disease.[4] However, the biggest threat of CO_2 and SLCPs comes from climate change, since if past decadal trends in emission growth continue beyond 2050, our grandchildren will witness around 4°C warming,[1 3] with potentially devastating consequences.[5]

The planet has already warmed by 1°C since pre-industrial times, and climate models are projecting an unprecedented increase in warming sometime soon, exceeding the ability of many social systems and ecosystems to adapt. Drastic reductions in both CO_2 and SLCPs will save millions of lives through reductions in diseases caused by air pollution and through climate stabilisation below 2°C of warming. The 2015 agreement in Paris[6] was a major milestone but insufficient to protect the Earth's ecosystems or humanity. However, there is still time.[1-3]

Two sets of policy levers must both be pulled vigorously now to bend the emission curve[7] downwards and stabilise climate change within one generation [2 3]: the CO_2 lever and the SLCP lever. In the next 20 years, at current rates of warming, we will shoot past the 1.5°C increase in global temperature.[3] Reaching this temperature can be delayed by two or more decades by pulling the SLCP lever.[2 3] But without decisive action, by 2050 we will have passed the 2°C mark and be driving fast towards the 4°C cliff.[2 3]

To stabilise the climate below 2°C, we must also pull hard on the CO_2 lever and make the planet carbon neutral this century. However, CO_2 molecules persist in the atmosphere for more than a century, so we will not see the major climate benefits of their mitigation until the second half of the 21st century. SLCPs have a much shorter lifespan, measured in weeks up to a decade or so. Pulling on the SLCP lever now will cut pollution in the near term and reduce the rate of warming by as much as 50% by 2050.[3] In so doing, we would also prevent around 2.4 million premature deaths annually, at current population size.[2]

Why should healthcare professionals get involved?

The large number of people at risk from projected increases in extreme events such as heat waves, droughts, floods, and fires and threats to food production provide good evidence supporting WHO's assertion that "without adequate mitigation and adaptation, climate change poses unacceptable risks to global public health."[8] Unicef[9] has also stated, "There may be no greater, growing threat facing the world's children—and their children—than climate change."

Health professionals have key roles in fighting climate change caused by both SLCPs and carbon dioxide. They must advocate effectively to influence policy, educate peers to be champions in their workplaces and their communities to persuade the wider public to put pressure on governments to take immediate action. The direct effects of climate change on health must be documented better. In addition, health professionals need to show how destruction of ecosystems, declines in crop yields, and acidification of the oceans could reverse recent advances in global health, with special attention paid to the populations of low income countries who have insufficient resources to adapt to these challenges.[5]

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Health professionals can and should emphasise the health benefits of a decarbonised economy[10-12] and engage fully with industry leaders to achieve this goal. Industry leaders must become part of the solution, to safeguard future economic prospects.

The recent WHO conference[8] on climate change and health concluded with a clarion call to the health community: it is imperative that health professionals worldwide show strong leadership in tackling climate change.

The BMJ is part of the UK Health Alliance on Climate Change (www.ukhealthalliance.org). Read more at www.bmj.com/campaign/climate-change

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