

## EDITORIALS

## The health impacts of cold homes and fuel poverty

Three reasons to act: the health burden, inequity, and mitigation

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On 12 May Michael Marmot and his team published their report, “The health impacts of cold homes and fuel poverty,” commissioned by Friends of the Earth.<sup>1</sup> The report highlights an obvious, well known, and largely ignored fact—that cold homes waste energy and harm their occupants—and identifies an opportunity for simultaneous gains on three fronts. By improving the thermal efficiency of British homes the government would reduce carbon dioxide (“greenhouse”) emissions, avoid a major burden of ill health, and reduce health inequity, which—as the report shows—maps closely with social and economic disadvantage. The report delivers three messages. Firstly, improving the energy efficiency of the housing stock—to spread “affordable warmth”—would bring multiple health gains, directly and through improved home finances. Secondly, fuel poverty as a result of poor housing stock causes avoidable health inequality and is unjust. Thirdly, reduced fuel use would bring environmental gains, in the short term through reduced air pollution and in the longer term in helping to mitigate climate change.

The same is true of Australia, which is perhaps often envied by inhabitants of northern Europe as a land of sand, sunshine, and seasonal tropical monsoons that bring welcome warm rains (albeit sometimes to excess). The reality is that even in the subtropical city of Brisbane (population two million) deaths as a result of extremes of winter cold are roughly equal to those attributable to extremes of summer heat.<sup>2</sup> This fact matches the finding in Europe that “higher rates [of excess winter deaths] are found in countries with less severe, milder winter climates.”<sup>3</sup> The explanation is that building standards have been raised in colder countries such as Finland and Sweden, but not in countries with a milder climate such as the United Kingdom. The report estimates that in the UK, about 5500 more deaths a year occur in the coldest quarter of houses than would occur if those houses were warm. Of note, this substantial burden of mortality was shown only by careful accumulation and analysis of national statistics. Might measures of housing quality be added to the international health statistics website, gapminder.org? The software at this site (created by Hans Rosling) allows graphical cross referencing of many national

statistics over time, but housing quality is not currently represented among the variables available.<sup>4</sup>

Living in a cold house can affect health at any age, not just in old age, for a variety of reasons. Although the extra deaths in elderly people are caused mainly by cardiovascular and respiratory disease, far greater numbers have minor ailments that lead to a huge burden of disease, costs to the health system, and misery. Compared with those who live in a warmer house, respiratory problems are roughly doubled in children, arthritis and rheumatism increase, and mental health can be impaired at any age. As the report notes, adolescents who live in a cold house have a fivefold increased risk of multiple mental health problems.<sup>1</sup>

The report also presents evidence that living in a cold house has indirect effects, some of which persist throughout life. In many such households, educational attainment is affected, emotional resilience is impaired, and the financial burden of heating a poorly insulated house takes food off the table, risking malnutrition.<sup>1</sup>

The action proposed in the report connects well with the important concept of “health co-benefits,” wherein health benefits accrue directly within communities that undertake an intervention that is aimed primarily at mitigating climate change, such as insulating houses to reduce energy use.<sup>5</sup> The “win-win” aspect of co-benefits is often overlooked. For example, in Australia a government funded programme of home insulation was undertaken in 2009 as an economic stimulus measure. It was, commendably, aimed at mitigating climate change and the public health benefits of the programme were not much stressed (on this occasion, however, the public health community should probably be glad of its low profile: four deaths and many house fires associated with faulty installations led to early cancellation of the programme).

The Marmot report takes the same approach in reverse—an environmental benefit (reduced greenhouse emissions) will accrue from an intervention aimed primarily at protecting health. In addition to this double benefit, the social equity argument provides yet a third motivation.

We should not assume that because the planet is warming dangerously, cold temperatures will become a thing of the past. Climate scientists anticipate that warming will be accompanied by increased variability.<sup>6</sup> Furthermore, warming will not be globally uniform. In particular, northern Europe might become much colder later this century if the meridional overturning circulation is weakened by inflows of fresh water from a melting Greenland ice sheet (the geological record shows that such things have happened before).<sup>7</sup>

The world community is struggling to curb greenhouse gas emissions. The concentration of atmospheric carbon dioxide is not merely continuing to rise when it should be starting to fall, but its rise is accelerating.<sup>8</sup> The essence of the problem is our apparent unwillingness—as people, populations, and politicians—to put moral obligations above short term economic interests. So, when measures are identified that have negligible net cost and that will bring benefits on many fronts, including reducing health inequalities, they should be enthusiastically and promptly embraced and implemented.

Britain, like some of its former colonies, is saddled with obsolete housing stock many decades, if not centuries, old. These inadequate homes are a waste of energy, a health hazard, and (given today's levels of national wealth) a shameful relic for their part in fostering persistent, avoidable, social inequity. For many reasons—economic, ethical, environmental, and epidemiological—governments should heed the call in this timely report.

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