The carbon footprints of obesity, chronic disease and population growth: four things doctors can do

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ABSTRACT

- Obesity, ill health and global warming are linked.
- The risks to health of climate change have been well articulated but have not been accompanied by clear policy and effective action.
- Four areas where doctors can and should act, and where changes will benefit both the environment and human health in the short-to-medium term are:
  - reduction in the adverse environmental impact of the health care industry;
  - development of a nationwide comprehensive food and nutrition policy that takes account of the entire food production cycle;
  - urban redesign to encourage active transport; and
  - more support for sexual and reproductive health services in developing countries.
- Finally, climate change policies should be assessed for their impact on global health and equity.

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It is no accident that the obesity epidemic coincides with signs of climate change. Both phenomena stem from a fundamental and unsustainable imbalance in use of food and other energy by humans that is linked to modern agribusiness and transport systems, and the growing number of people using them.[1] A recent review[2] estimated that a population with an abnormally high mean body mass index (BMI) and 40% obesity requires 19% more food energy for maintenance than one with a normal mean BMI and 3.5% obesity; the marginal greenhouse gas emissions from food production and car travel associated with the higher level of human adiposity is between 0.4 and 1.0 gigatonnes of carbon dioxide (CO_2) equivalents per year per billion people — up to 2.5% of total emissions for 2002.

This year, we reached the point where more than half the world's population lives in cities. Population growth, and absolute growth in the overweight and obese populations, is occurring most rapidly in developing countries, with rapid urbanisation and uptake of energy-dense diets.[3] At the same time, millions have been lifted from poverty, and life expectancy has increased because of better nutrition, as well as access to vaccination and other effective primary health care services.[4] Populations of developing countries have historically contributed least to global warming, yet they will likely bear the greatest economic and health burden from it. They will be the most vulnerable to food and water scarcity, environmental degradation and mass migration.[5] Globally, at least 200 million women want, but do not have, access to modern contraceptives and, as a result, 76 million unwanted pregnancies occur each year.[6]

In Australia, ageing, obesity and associated conditions account for the greatest proportion of disability and accelerating health care use. Health care spending approaches 9% of gross domestic product here and in the developed countries generally (except in the United States, where it is much higher), but without a clear relationship with better health outcomes.[7,8] The health sector itself has a significant and expanding carbon footprint. For example, the National Health Service in the United Kingdom has calculated its carbon footprint to be more than 18 million tonnes of CO_2 per year, 25% of total public-sector emissions.[9] In the US, Practice Greenhealth has created an energy impact calculator for hospitals, which allows an understanding of some of the health co-benefits of energy efficiency and on-site energy generation.[10]

When we add the increasing costs of health care and the health industry's carbon footprint to the entirely preventable loss of years of life and wellness caused by obesity and physical inactivity, we have a compelling case for specific action led by doctors in four health-related domains.

Areas where doctors can act

Health care system

The health care industry can mandate its own energy efficiency standards. The World Health Organization recently published a discussion paper detailing seven elements of a climate-friendly hospital: energy efficiency; green building design; alternative electricity generation; greener and healthier transport for staff and patients; nutritious food that is locally and sustainably grown; waste reduction and recycling; and water conservation, including safe alternatives to bottled water.[11]

Food production policy and urban design

A critical look at two areas — agri-industry (including food supply and pricing policies) and urban design that facilitates active transport (walking, cycling and public transit) — shows how change can improve the national energy balance while increasing access to healthy and affordable food. Food production needs to be environmentally sustainable, and local production of healthy foods should be given priority in pricing and other policies. A broad, whole-of-government commitment to a comprehensive food and nutrition policy that addresses food quality, safety and security, rather than the current narrow focus on food labelling and industry-driven agendas, is needed.[12]

Municipal planning rules need upgrading to make climate change mitigation measures enforceable. Energy-efficient building design and construction, more green spaces and fewer urban "heat islands", pedestrian- and cyclist-friendly corridors and services location, and energy-efficient public transport would mitigate some climate effects and also improve urban amenity, reduce obesity and promote physical fitness and wellbeing.[13] In much the same way as the health-driven regulation of smoking in public spaces, use of seatbelts and alcohol consumption by drivers has now become "normal", so policy change to promote healthy food

(and disincentives for unhealthy food) and active transport is both feasible and potentially highly effective. What's good for the climate can also be good for health.[14]

Sexual and reproductive health services

More robust policies to protect the sexual health and reproductive rights of women globally would improve quality of lives generally and indirectly slow population growth. An approach to health aid abroad which prioritises the welfare of poor communities affected by climate change and the provision of voluntary access to family planning services, over the more simplistic aim of reducing population growth to limit greenhouse gas emissions, is likely to be more effective.[15] Such an investment could also be a more cost-effective strategy to combat climate change than many green technologies. A recent report from the London School of Economics and Political Science (LSE) estimates that each US$7 spent on basic family planning would reduce CO_2 emissions by more than a tonne.[16] While the methods used by its author are open to challenge, the LSE report illustrates the point that the exclusively technological focus of much of the debate on climate change mitigation strategies needs to be combined with health and human (and reproductive) rights strategies.

Health equity

It has been shown that policies that increase inequity (in income, economic opportunity, education, access to health and other services) also reduce overall health in the whole population, not just in those groups who are directly disadvantaged.[17] There are well founded concerns that some proposed strategies (eg, emissions trading) may increase inequities nationally and globally, without necessarily achieving the proposed reductions in carbon and other greenhouse gas emissions.[18] The "equity ruler" should be used to balance the likely costs and gains in human health and welfare of all proposed and existing climate change policies. The Stern Review[19] suggests that:

> [W]ith strong, deliberate policy choices, it is possible to "decarbonise" both developed and developing economies on the scale required for climate stabilisation, while maintaining economic growth in both.

The presidents of 10 medical colleges called on governments to act decisively in negotiating a new United Nations Framework Convention on Climate Change in Copenhagen in December 2009.[20] They also called on doctors to take the lead in practical steps to effect needed changes. The disappointing outcomes of the Copenhagen summit make the need for action all the more pressing. The four domains for action that I have singled out are precisely those where doctors can and should be leading.

Competing interests

None identified.

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