Anita Charlesworth, Alastair Gray, David Pencheon, Nicholas Stern

Assessing the health benefits of tackling climate change

Article (Published version) (Refereed)

Original citation:
Charlesworth, Anita and Gray, Alastair and Pencheon, David and Stern, Nicholas (2011) *Assessing the health benefits of tackling climate change.* *BMJ*, 343 (oct19). d6520-d6520. ISSN 0959-8138
DOI: 10.1136/bmj.d6520

BMJ

BMJ 2011;343:d6520 doi: 10.1136/bmj.d6520

EDITORIALS

Assessing the health benefits of tackling climate change

Robust measures and interdisciplinary collaboration are needed

Anita Charlesworth *chief economist*[1], Alastair Gray *professor of health economics*[2], David Pencheon *director*[3], Nicholas Stern *IG Patel professor of economics and government* [4]

[1]Nuffield Trust, London, UK; [2]Health Economics Research Centre, Department of Public Health, University of Oxford, Oxford, UK; [3]NHS Sustainable Development Unit, Cambridge CB21 5XB, UK ; [4]Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science, London, UK

Health systems around the world are not short of big challenges, such as managing demand; containing cost; improving access, quality, and transparency; embracing new technology, and engaging patients and the public. More recent challenges to add to this list include population growth; competition for the limited resources of energy, food, and water; and increasingly serious climate change.[1] If these problems are left unchecked and unmanaged collaboratively at a global level, compelling evidence shows that this could result in economic and social breakdown, migration, and conflict.[2 3] Evidence suggests that these urgent emerging problems could provide an opportunity for health professionals and health systems to also tackle the more traditional challenges that health systems face.

Fortunately, actions that can help mitigate climate change over the longer term can also improve individual and global health now.[4] For example, over-consumption of red processed meat is not good for immediate health or for longer term environmental survival and the use of fossil fuel to move from one place to another can be bad for health and is carbon intensive.[5] Increasing evidence also shows that models of care for specific health problems such as myocardial infarction,[6] renal disease,[7] and diabetes[8] can be developed in more patient centred and environmentally sensitive ways.

Two specific areas need to be tackled to ensure that improvements in the delivery of healthcare and global public health are informed and driven by research. Firstly, health systems need to design and implement valid and consistent methods of embedding genuine sustainability and assessment of environmental risk into health and healthcare evaluation. This means going beyond health specific measures of value such as quality adjusted life years. Indeed, the most recent version of the UK Treasury's *Green Book* (guidance on the appraisal and evaluation of all policies, programmes, and projects) now states that "Social cost benefit analysis seeks to assess the net value of a policy or project to society as a whole," with health being referred to directly.[9] Agreed methods are urgently needed that assess the full social impact of health and healthcare, to ensure that opportunities for advancing social welfare are taken and that unnecessary damage (such as unsustainable resource use, irreversible climate change, or even human conflict) is avoided. Crucially, this means ensuring that the environmental impact of resource consumption and carbon emissions associated with healthcare is systematically examined and reflected in evaluations. Only then can better models of care be designed in which sustainability is one of the dimensions of quality.[10] This would enable comparisons of the real social benefits and costs of different models of care, which could result in many current activities being re-prioritised. In particular, incorporating environmental costs and benefits associated with health interventions into assessments would help align the incentives towards more financially, clinically, and environmentally sustainable models of prevention and care. In doing so, the size of the contribution of healthcare (public and private) to the overall economy should be recognised—in terms of resources alone, in 2009 around 6% of national income (conventionally measured) was spent on healthcare across all countries and almost 11% in countries that are part of the Organisation for Economic Co-operation and Development.[11]

Secondly, agreement is needed on how to cost and value the immediate and longer term health benefits of mitigating climate change. The multiple health benefits of reducing carbon emissions and their effect on the economy are yet to be systematically captured and valued. The importance of doing this was recognised in the Stern review.[12]

Designing and agreeing systematic measures of the health benefits of taking action requires interdisciplinary collaboration between health professionals, economists, and climate change scientists. It also involves interagency collaboration between the Department of Energy and Climate Change; the Department for Environment, Food and Rural Affairs; the Department of Health; and the National Institute for Health and Clinical Excellence to ensure that this is done in rigorous ways that

david.pencheon@sdu.nhs.uk

benefit patients, the public, and future generations. These methods need to quantify the multiple benefits in ways that stimulate action from all parts of the global health system, from local nurses and doctors to global drug companies.

Competing interests: All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf (available on request from the corresponding author) and declare: support from their employers for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

Provenance and peer review: Not commissioned; externally peer reviewed.

1 Costello A, Abbas M, Allen A, Ball S, Bell S, Bellamy R, et al. Managing the health effects of climate change. *Lancet* 2009;373:1693-733.
2 Jarvis L, Montgomery H, Morisetti N, Gilmore I. Climate change, ill health, and conflict. *BMJ* 2011;342: d1819.
3 Gilding P. The great disruption: how the climate crisis will transform the global economy. Bloomsbury, 2011.
4 Griffiths J, Rao M. Public health benefits of strategies to reduce greenhouse gas emissions. *BMJ* 2009;339;b4952.
5 Roberts I, Edwards P. The energy glut: the politics of fatness in an overheating world. Zen Books, 2010.
6 Zander A, Niggebrugge A, Pencheon D, Lyratzopoulos G. Changes in travel-related carbon emissions associated with modernization of services for patients with acute myocardial infarction: a case study. *J Public Health* 2011;33:272-9.
7 Connor A, Mortimer F, Higgins R. The follow-up of renal transplant recipients by telephone consultation: three years experience from a single UK renal unit. *Clin Med* 2011;11:242-6.
8 NHS Sustainable Development Unit, Forum for the Future. Fit for the Future. Scenarios for low-carbon healthcare 2030. Cambridge: 2009.
9 HM Treasury. The green book. 2011. www.hm-treasury.gov.uk/data_greenbook_index.htm.
10 Atkinson S, Ingham J, Cheshire M, Went S. Defining quality and quality improvement. *Clin Med* 2010;10:537-9.
11 World Bank. Data. 2009. http://data.worldbank.org/indicator/.
12 Stern N. Stern review on the economics of climate change. 2006. http://webarchive.nationalarchives.gov.uk/+/http:/www.hm-treasury.gov.uk/sternreview_index.htm.

Cite this as: *BMJ* 2011;343:d6520