





David Pencheon, Exeter University, UK, and formerly NHS England / Public Health England Sustainable Development Unit



RACP Annual Congress, Sydney, Monday 14th May, 2018

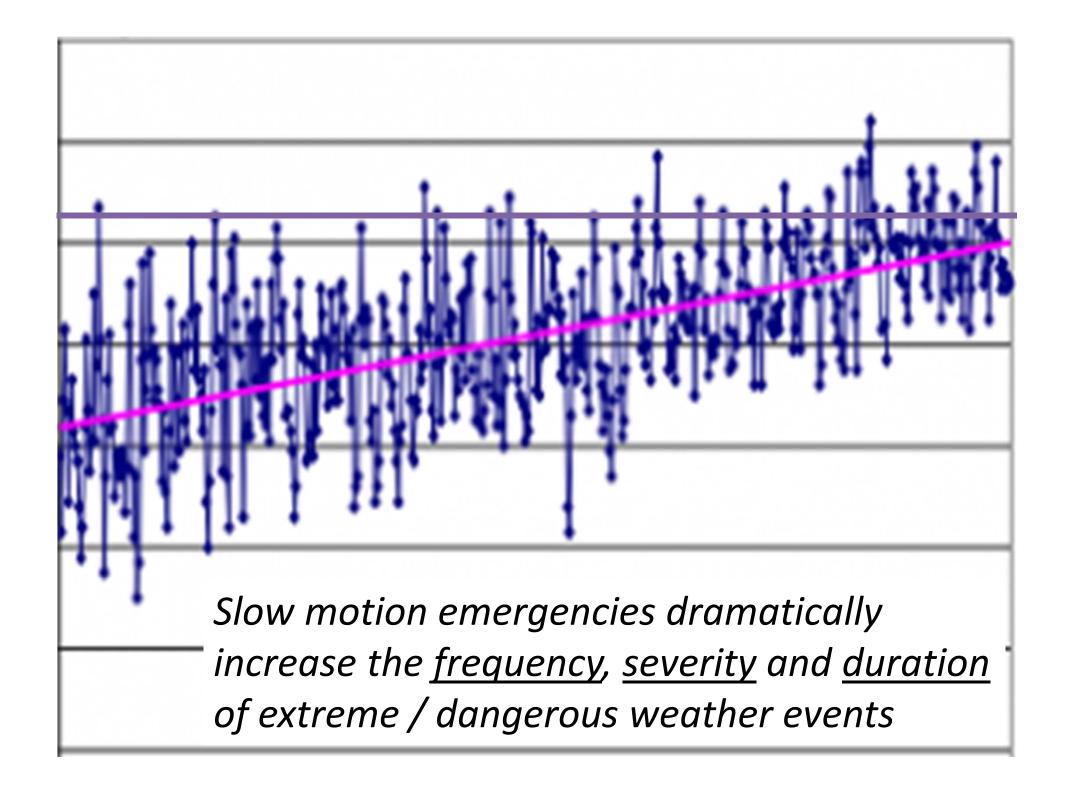
















BMJ 2014;348:g2546 doi: 10.1136/bmj.g2546 (Published 3 April 2014)

Page 1 of 1

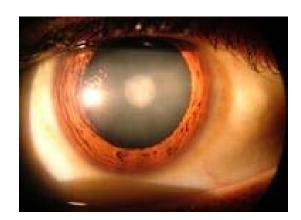
EDITOR'S CHOICE

Climate change is a health emergency

Fiona Godlee editor in chief, BMJ

It's nearly 30 years since Eric Chivian and three other Harvard faculty members won the Nobel peace prize for their work as founders of International Physicians for the Prevention of Nuclear War. At its height IPPNW had a membership of 250 000 doctors from 80 countries. Its leaders spoke directly to the world's leaders and to the public, helping them to understand the terrible things that happen to people's bodies and lives when nuclear bombs explode. As Chivian says in a *BMJ* essay this

with more certainty than before, that human activity is driving climate change, that the effects are already being felt in all parts of the world, and that further global warming will bring increased scarcity of food and fresh water, extreme weather events, rises in the sea level, loss of biodiversity, loss of habitable land, mass human migration, and conflict and violence. Within that list of terrible things loss of biodiversity may be the one that causes us least concern. But Chivian encourages us to

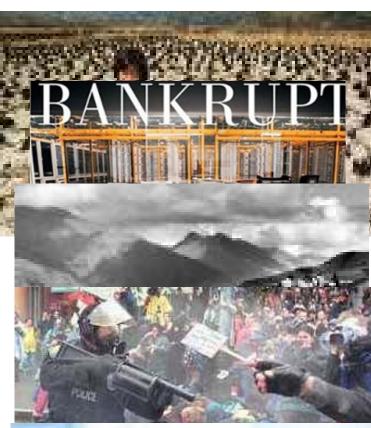














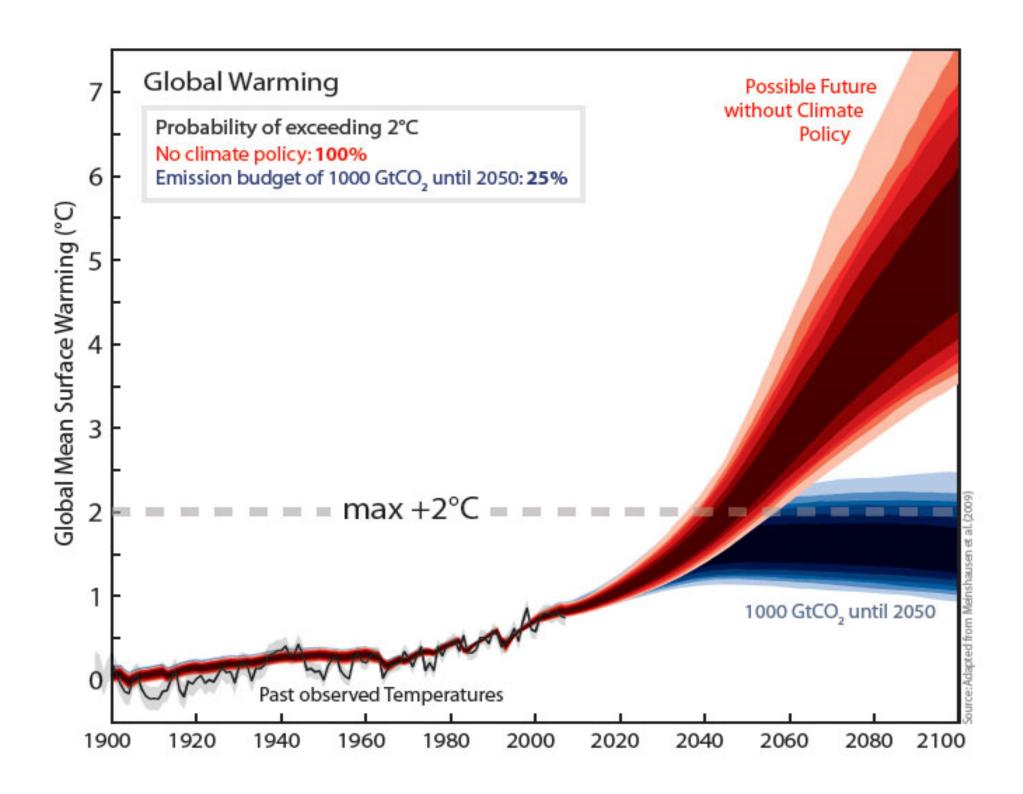




"Health and care services that meet the needs of the present... ...without compromising the ability of others, in future or elsewhere now, to meet their own needs"

- Adapted from the Brundtland Commission





200 years of health professionals taking disruptive, political action

- 1. Slavery
 Abolition
 Bill, 1833
- 2. Cholera: Broad Street Pump, 1854
- 3. Smoking and tobacco, 1962
- 4. Nuclear proliferation







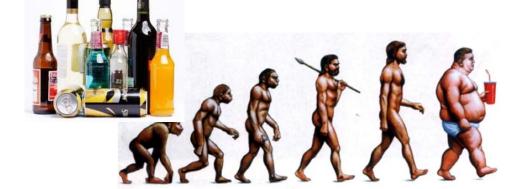


5. Alcohol

6. Obesity

7. HIV/AIDS







These are not just scientific and technical issues - they are communication, engagement and political issues...



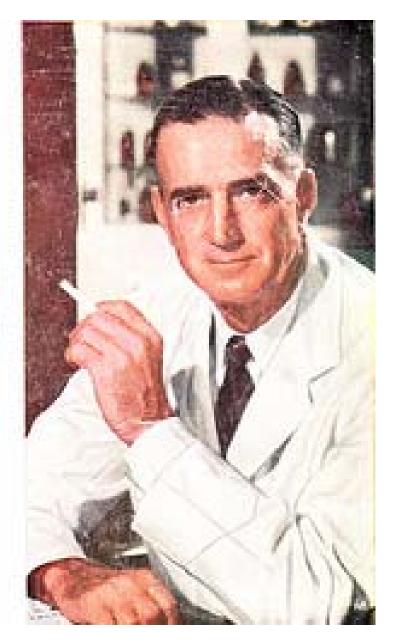
Ipsos MORISocial Research Institute

Ipsos MORI Veracity Index 2016

	%
Nurses	93
Doctors	91
Teachers	88
Judges	81
Scientists	80
The Police	71
Clergy/priests	69
Hairdressers	68
Television news readers	67
The ordinary man/woman in the	65
street	65
Civil Servants	56
Lawyers	52
Pollsters	49
Managers in the NHS	48
Economists	48
Charity chief executives	46
Trade union officials	43
Local councillors	43
Bankers	37
Business leaders	33
Estate agents	30
Journalists	24
Government Ministers	20
Politicians generally	15

According to repeated nationwide surveys,

More Doctors Smoke CAMELS than any other cigarette!

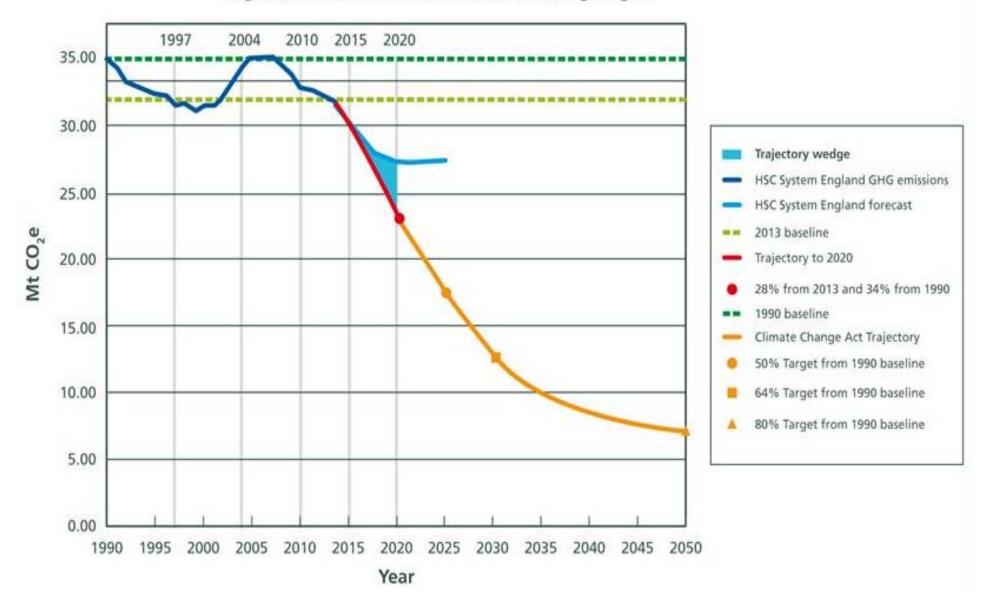


1946 -1953

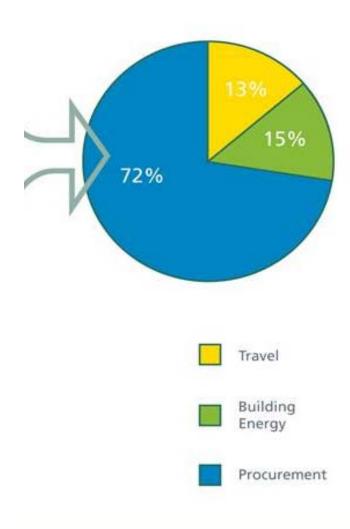


Health and Social Care England Carbon Footprint

CO2e baseline from 1990 to 2025 with Climate Change targets



NHS, Public Health and Social Care carbon footprint breakdown 2012



Breaking down the carbon footprint demonstrates three key areas to focus carbon reduction activity.

THE LANCET Planetary Health

The carbon footprint of Australian health care

Arunima Malik, Manfred Lenzen, Scott McAlister, Forbes McGain

Summary

Background Carbon footprints stemming from health care have been found to be variable, from 3% of the total national CO₂ equivalent (CO₂e) emissions in England to 10% of the national CO₂e emissions in the USA. We aimed to measure the carbon footprint of Australia's health-care system.

Methods We did an observational economic input-output lifecycle assessment of Australia's health-care system. All expenditure data were obtained from the 15 sectors of the Australian Institute of Health and Welfare for the financial year 2014–15. The Australian Industrial Ecology Virtual Laboratory (IELab) data were used to obtain CO₂e emissions per AUS\$ spent on health care.

Findings In 2014–15 Australia spent \$161.6 billion on health care that led to CO_2 e emissions of about 35772 (68% CI 25398–46146) kilotonnes. Australia's total CO_2 e emissions in 2014–15 were 494930 kilotonnes, thus health care represented 35772 (7%) of 494930 kilotonnes total CO_2 e emissions in Australia. The five most important sectors within health care in decreasing order of total CO_2 e emissions were: public hospitals (12295 [34%] of 35772 kilotonnes CO_2 e), private hospitals (3635 kilotonnes [10%]), other medications (3347 kilotonnes [9%]), benefit-paid drugs (3257 kilotonnes [9%]), and capital expenditure for buildings (2776 kilotonnes [8%]).





Lancet Planet Health 2018; 2: e27-35

See Comment page e8

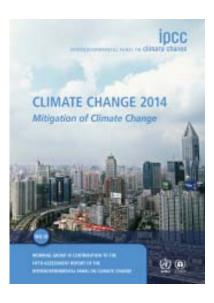
Integrated Sustainability
Analysis, School of Physics
(A Malik PhD,
Prof M Lenzen PhD), and School
of Public Health
(F McGain PhD), University of
Sydney, Sydney, NSW,
Australia; Ecoquantum Life
Cycle Assessment, Melbourne,
VIC, Australia
(S McAlister MEngSci); and
Departments of Anaesthesia
and Intensive Care, Western
Health, Footscray, VIC,
Australia (F McGain)

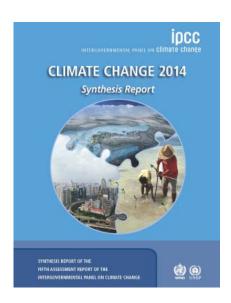
IPCC (Intergovernmental Panel on Climate Change)

- AR5 (Fifth Assessment) Report.
 - Working Group 1 (WG1) Sept 2013: The Physical Science Basis
 - Working Group 2 (WG2) March 31st 2014. "Impacts, adaptation, and vulnerability to climate change." [CHAPTER 11 = Human health]
 - Working Group 3 (WG3) April 2014. Mitigation of Climate Change
 - IPCC Synthesis Report, November 2014.









THE TIMES Letters to the Editor

Global warming threat to health

Published at 12:01AM, Saturday, March 29 2014

More than 60 leading physicians and medical scientists call for an urgent response to climate change

"Sir, On Monday the Intergovernmental Panel on Climate Change (IPCC) publishes its latest report on the current and projected impact of global warming and climate change. The report will add substantially to the existing evidence that climate change represents, as The Lancet put it, 'the greatest threat to human health in the 21st century'. Never before have we known so much and done so little. Failing to act decisively and quickly will inevitably cause great suffering and have potentially catastrophic consequences..."



Climate Change Act 2008

...makes it the duty of the Secretary of State to ensure that the net UK carbon account for all six Kyoto greenhouse gases **for the year 2050 is at least 80% lower than the 1990 baseline**, toward avoiding dangerous climate change.



Victoria

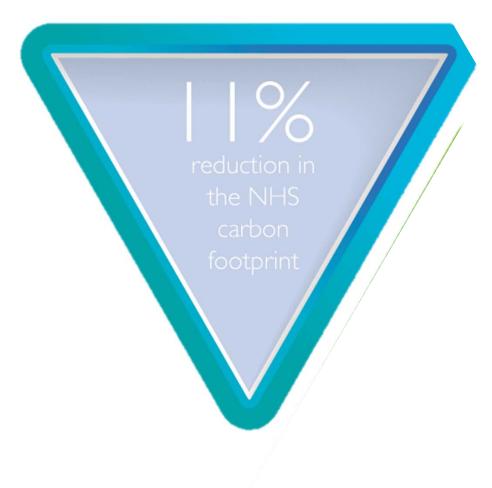
Climate Change Act 2017[†]

No. 5 of 2017

[Assented to 28 February 2017]





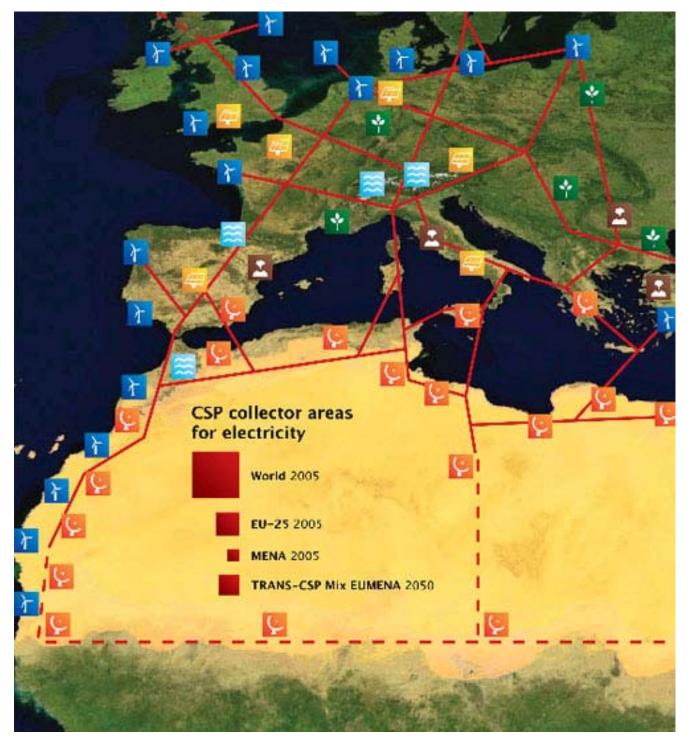


£\$?

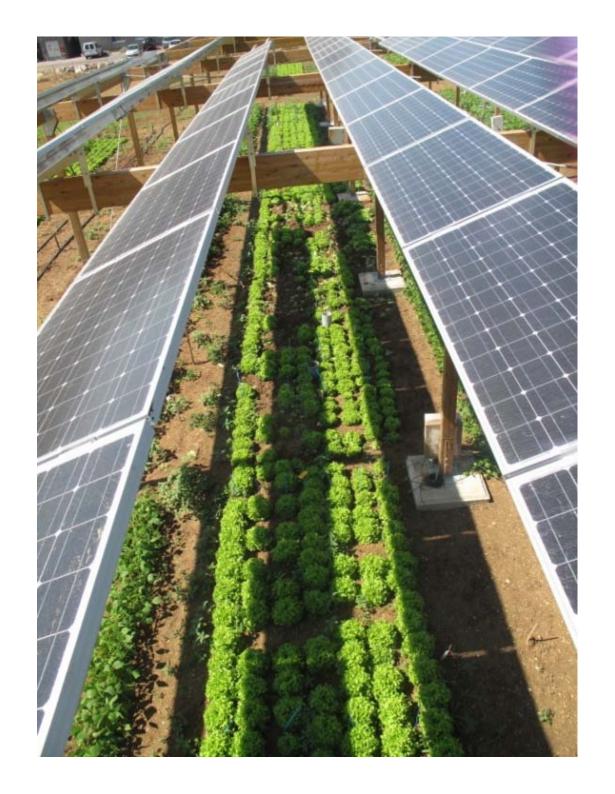
Global disruption in the causes of planetary health

- powering the world
- caring for the world
- feeding the world
- moving the world
- buying/selling around the world
- building the world

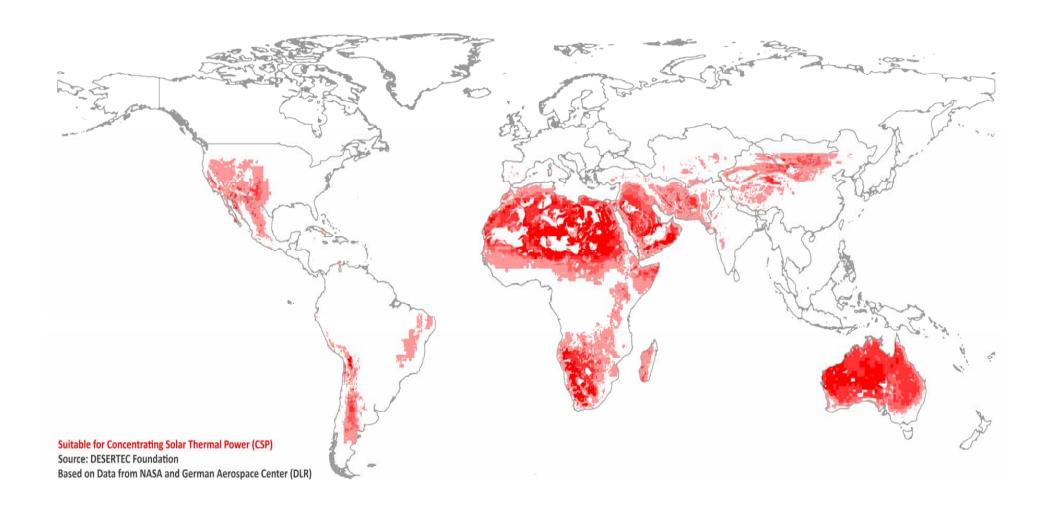




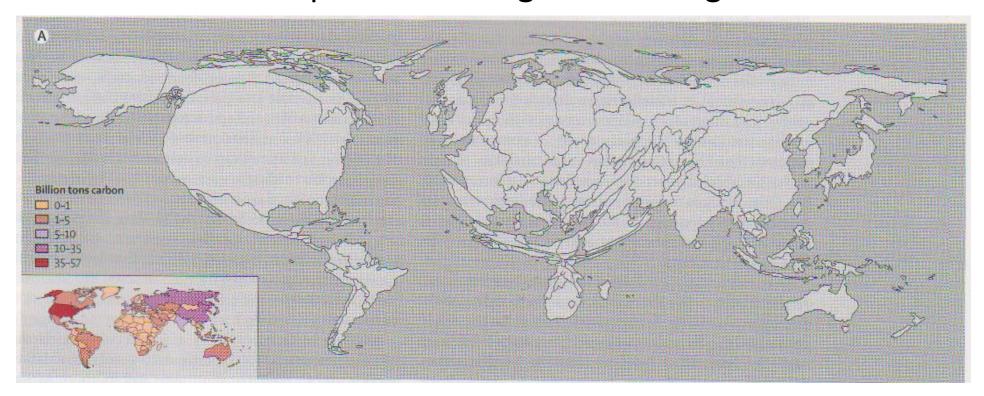
Within 6 hours, the deserts of the world receive more energy than the world's human population uses in a year.



Photovoltaic (PV) Cells or Reflecting Mirrors for Concentrated Solar Power (CSP), provide important shade for crop growing in hot countries.



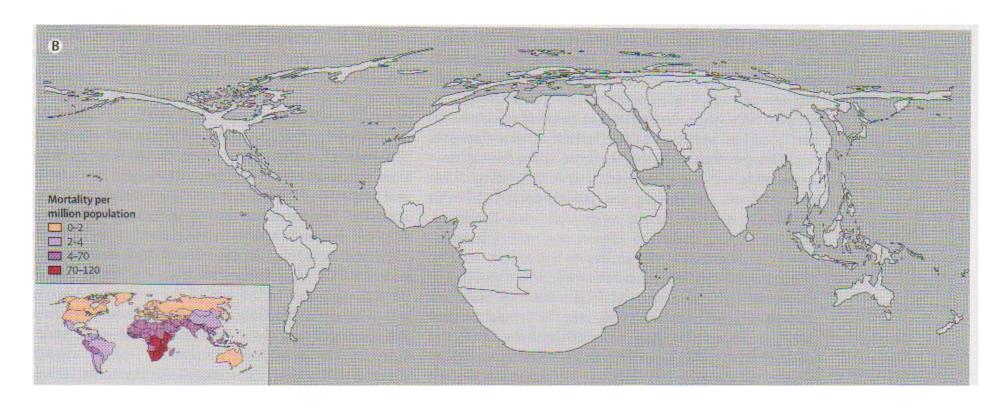
Who produces the greenhouse gases?



The world map reflecting production related to climate change. "Climate

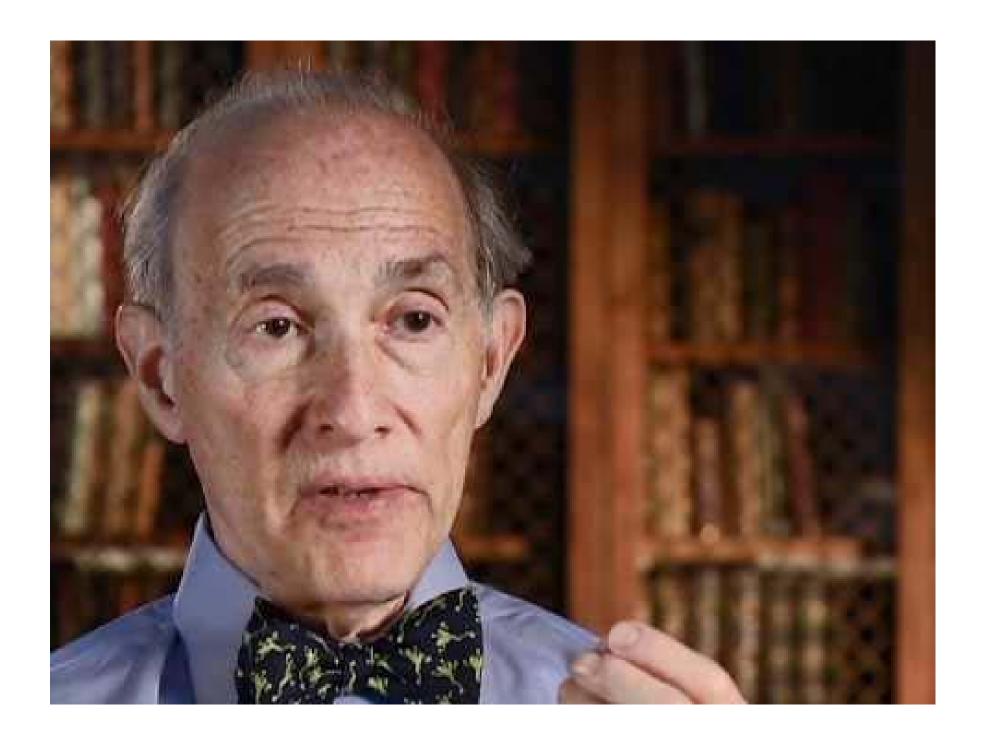
Change presents the biggest threat to health in the 21st Century" The Lancet (373;9697 pp 1659-1734, May 16-22 2009).

Who bears the burden?



The world map reflecting mortality related to climate change. "Climate

Change presents the biggest threat to health in the 21st Century" The Lancet (373;9697 pp 1659-1734, May 16-22 2009).





The role of local health systems and health professionals in...

- feeding the world
- moving the world
- powering the world
- buying/selling around the world
- building the world
- caring for each other and the world



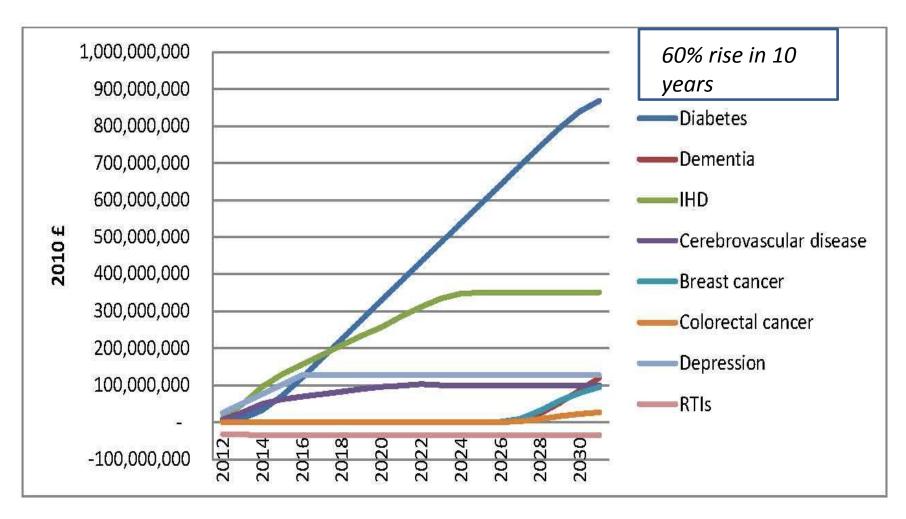


Physical activity the underrated 'wonder drug'

"The potential benefits of physical activity to health are huge. If a medication existed which had a similar effect, it would be regarded as a 'wonder drug' or 'miracle cure'."

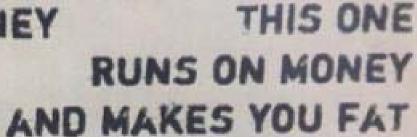
Liam Donaldson, Annual report of the Chief Medical Officer, 2009

Figure 1: Potential annual NHS expenditure averted by year and health outcome from Increased Active Travel scenario



James Jarrett, James Woodcock, Ulla K. Griffiths, Zaid Chalabi, Phil Edwards, Ian Roberts, Andy Haines Lancet 2012

THIS ONE RUNS ON FAT AND SAVES YOU MONEY













Sustainable Development Unit

Low Carbon Travel, Transport, and Access

Key actions

- All Trusts should have a Board approved active travel plan as part of their sustainable development management plan.
- The NHS should consider introducing a flat rate for business mileage regardless of engine size or even modal option (car, cycle and foot).
- NHS organisations should establish consistent monitoring arrangements so reductions in emissions from road vehicles used for NHS business can be measured.
- Mechanisms to routinely and systemically review the need for staff, patients and visitors to travel need to be established in all NHS organisations.
- Healthcare delivery must continue to move closer to the home.



30,000 early deaths across the UK per annum attributable to air pollution. (60,000 if NOx from diesel engines included)
Average 8 month loss of life for <u>every</u> person
Especially lung disease and stroke

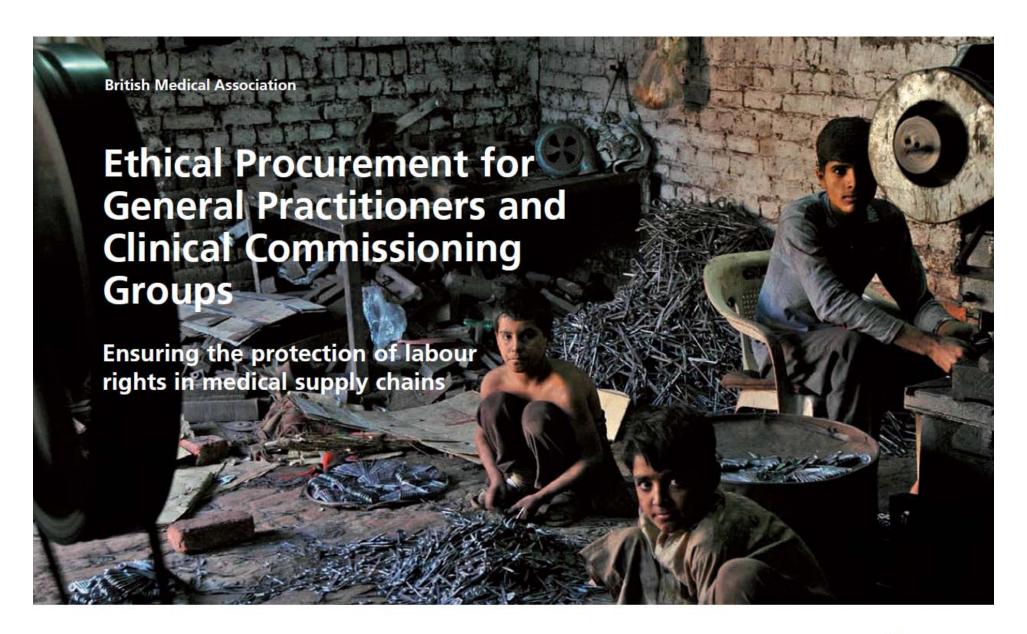
Abu works 11 hours a day, six days a week, in a small roadside workshop in Sialkot, Pakistan. He is seven years old.



Abu is one of many children who work in unregulated factories



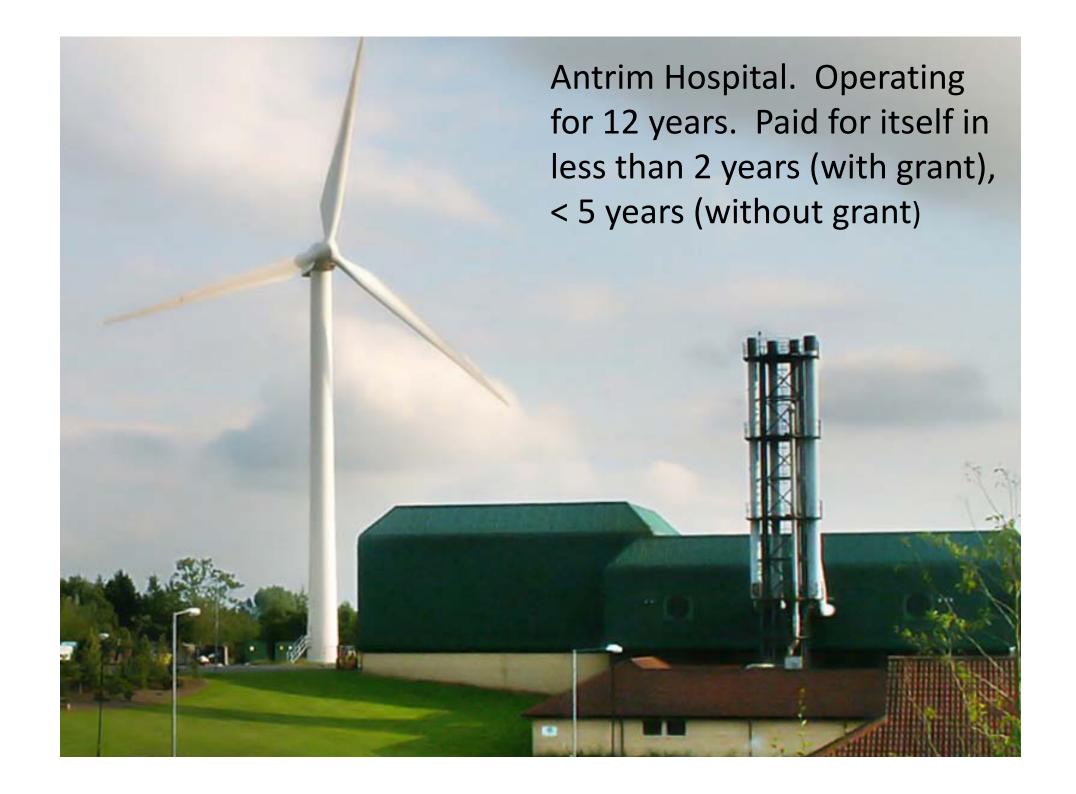
https://www.youtube.com/watch?v=-uqal-bWbg4











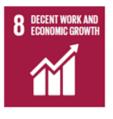
Win wins

- -Saving lives with solar
- University Hospitals N.
 Midlands
- Public investment raised £336K
- Community owned solar on hospital.
- No capital cost to NHS
- £300k to tackle local fuel poverty

















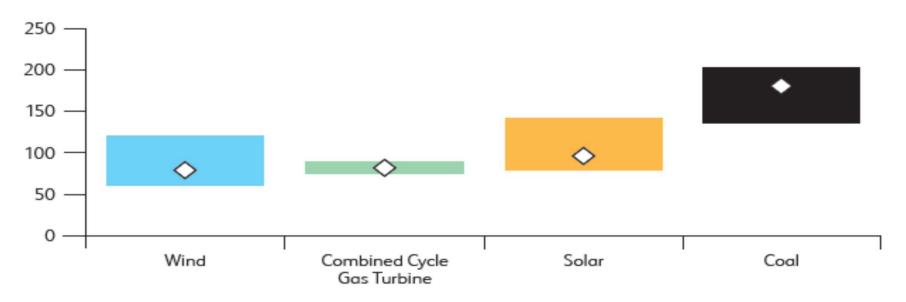




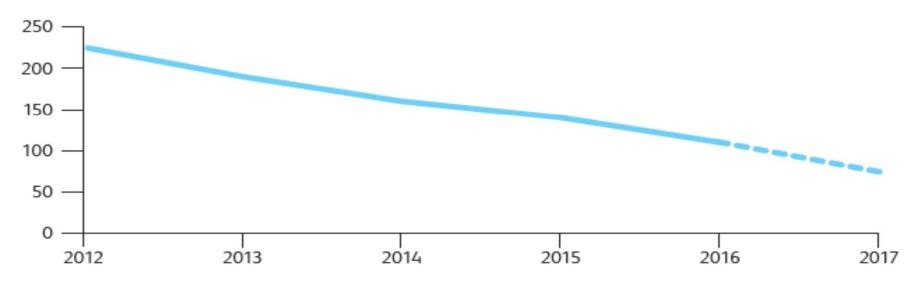




2017 LEVELISED COST OF ENERGY FOR NEW BUILD TECHNOLOGIES IN AUSTRALIA (AUD/MWH)



LARGE-SCALE SOLAR COST (AUD/MWH)









Defining quality and quality improvement

Stephen Atkinson, Jane Ingham, Michael Cheshire and Susan Went



Introduction

Within the NHS the introduction of a statutory duty of quality in 1999 followed by clinical govern regulatory frameworks have repre delivering good quality healthcare policy has shifted its focus away towards patient experience and o quality care for all and the 'quality' initiatives that have sought to embe healthcare delivery.1,2 The recen Equity and excellence: liberating the tance of outcomes and a commi

Patient experience

- Safety
- Effectiveness 3.
- Efficiency 4.
- Equity
- Sustainability

effectiveness, efficiency, equity and timeliness.8 In his Next Stage Review, Lord Darzi called for high quality care for all that

> and safe'.1 The US Quality Assurance fining nine domains of quality: access, effectiveness, efficiency, interpersonal ty, safety, choice, and physical infra-The Royal College of Physicians (RCP) on of quality which comprises patient ctiveness, efficiency, equity, timeliness 1).

> variability in the number and nature bed, certain areas seem consistently ent released in March 2006 by the



FRAMEWORK FOR A

TIONAL STRATEGY LIMATE, HEALTH AND LL-BEING FOR AUSTRAI

June 2017







































































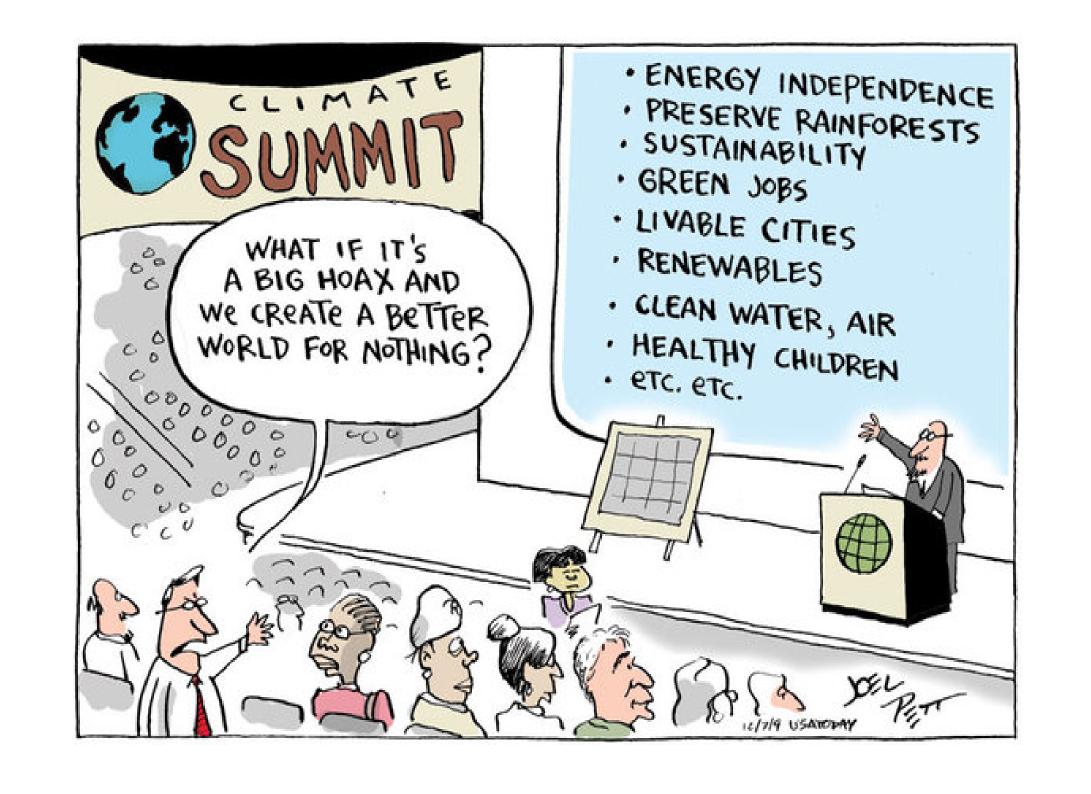


Improving a hospital's environmental impact: what can a doctor do?

A practical guide to achieving change...

As health professionals, our primary duty of care is to 'do no harm'. Another important duty of care is to advocate for action to protect health and humanity. With climate change being the world's greatest current threat to human health, it is doubly challenging that our own hospital workplaces are significantly contributing to unhealthy ecological and carbon footprints. This document aims to encourage and guide doctors to help their workplaces move towards greater environmental sustainability.

Our expenditure in healthcare is escalating, yet improvements in health outcomes are likely to fall if negative environmental impacts continue to rise. Over 7% of Australia's total carbon footprint is generated by our health care system with hospitals responsible for 44% of these emissions.1 Fortunately, many of the changes needed to improve environmental sustainability in healthcare are the same changes needed to deliver financial sustainability and quality improvements in health



- DECISION: PAGE 1: Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect...the <u>right</u> to health...
- ADOPTION: PAGE 15: Recognizes the social, economic and environmental value of voluntary mitigation actions and their <u>co-benefits</u> for adaptation, health and sustainable development.



SUSTAINABLE GALS DEVELOPMENT GALS





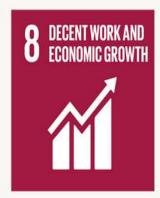
































200 years of health professionals taking political action

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- 2. Cholera: Broad Street Pump, 1854
- 3. Smoking and tobacco, 1962
- 4. Nuclear proliferation





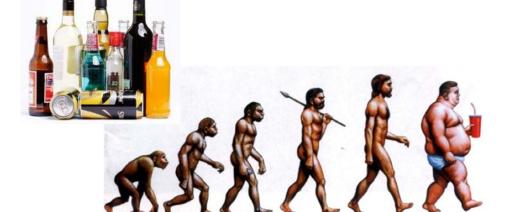




5. Alcohol

6. Obesity

- 7. HIV/AIDS 8. Sustainable development, climate change





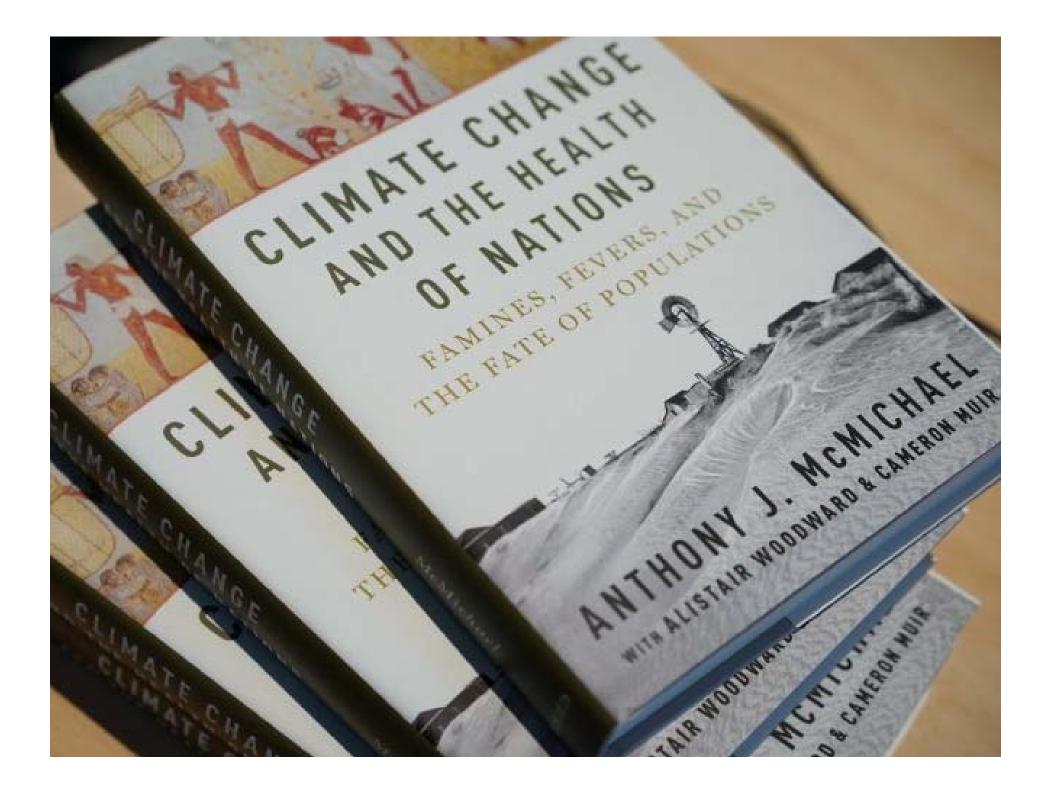


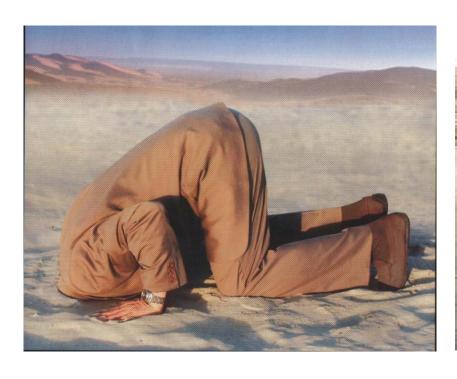
Humanising Healthcare

Patterns of Hope for a System under Strain

Dr Margaret Hannah









Head in the sand.....or..........line in the sand?















