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Climate Change and Environmental Health in 2012

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Is Climate Change an Environmental Health issue?

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- It is an issue for us all – as individuals and professionally
- Part of the problem thus far has been the public health implications have been ignored
- Adaptation and mitigation measures

Not least because -

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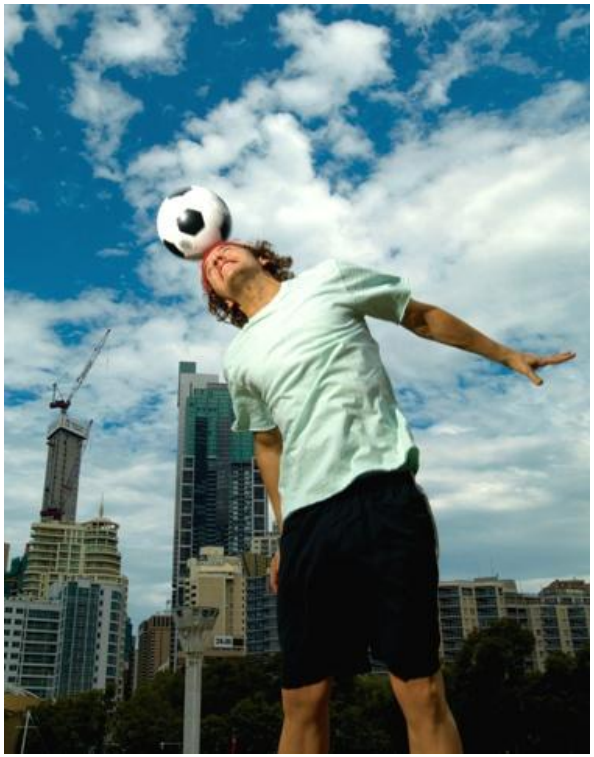

The mission of the CIEH is to promote the health of people and reduce health inequalities through education, training and knowledge.

And climate change poses many risks to public health and will exacerbate inequalities

Overview

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- Core knowledge: the effects of climate change on current responsibilities of Environmental Health
  - Air pollution, water, food, pest control, housing, occupational health

- Areas for development: Environmental Health Practitioners as agents for carbon reduction and adaptation.
  - air, carbon, water, food, housing

Climate change affects the current responsibilities of Environmental Health

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- Air quality
- Water safety
- Food safety
- Pest control
- Housing
- Occupational health

Air quality

Climate change impacts

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- Increasing temperatures combine with air pollution to increase ground level ozone, causing morbidity from respiratory disease.
- Tighter controls on pollution to air needed just to maintain current air quality.
- Surveillance and early warning systems for vulnerable groups.

Water safety

Climate change impacts

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- Water shortages and standpipe use can lead to increased infections as hygiene more difficult to maintain.
- Risks from increased consumption of bottled water in warm weather and bacterial contamination, multiplication during storage and re-use of containers.

Water supply safety

Climate change impacts

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- Upland sources in peat-covered catchments would contain higher levels of dissolved organic carbon, risking trihalomethane formation on disinfection with chlorine
- Severe flooding has the potential to significantly affect drinking water supplies through contamination of the mains supply.
- At risk are poorly treated private water supplies, unfiltered surface water and groundwater

Food safety

Climate change impacts

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- A strong correlation exists between notified food poisoning, *Salmonella* infections and temperature in the UK.
- Higher temperatures increase the rate of infection in animals and multiply bacteria in animal feed.
- They increase risk from food prepared and cooked at home, whether through inappropriate food storage and temperature control or increased outdoor cooking and eating (barbecues).
- Climate change could cause about 10,000 extra cases of food poisoning a year in the UK[1].
- Raising public awareness and food safety training required.

Food safety

Climate change impacts

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- Environmental health practitioners have responsibility for ensuring the safe production of food and hygiene in food premises.
- Climate change could impact the critical control points in HACCP at the step or steps at which control is essential to prevent or eliminate a hazard or to reduce it to acceptable levels

Pest management and vector control

Climate change impacts

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- Climate change will have an effect on pest and vector ecology
- Changes in the natural environment, and also in the built environment as a result of land use changes
- Flooding leads to more surface rat infestations
- Standing water provide mosquito breeding sites
- West Nile Virus the greatest concern of disease from mosquitoes at this time so long as *Plasmodium* not present in Europe

Housing

Climate change impacts

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- The Housing Health and Safety Rating System (HHSRS) focuses on the greatest risks to health and safety in the home.
- The hazard assessment considers the likelihood of an occurrence that could cause harm to a member of the vulnerable age group over the following 12 months.
- The likelihood could increase as a result of the effects of climate change.

HHSRS: 29 Hazards

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A. Physiological Requirements
Damp and mould growth etc
Excessive cold
Excessive heat
Asbestos (and MMF)
Biocides
CO & Fuel combustion products
Lead
Radiation
Uncombusted fuel gas
VOCs

B. Psychological Requirements
Crowding and Space
Entry by intruders
Lighting
Noise

C. Protection Against Infection
Domestic hygiene, Pests & Refuse
Food Safety
Personal hygiene Sanitation & Drainage
Water supply

D. Protection Against Accidents
Falls associated with baths etc
Falling on the level etc
Falling on stairs etc
Falling between levels (e.g from windows),
Electrical Hazards
Fire
Flames, hot surfaces etc
Collision and entrapment
Explosions
Position and operability of amenities etc
Structural collapse and falling elements

Housing

Climate change impacts

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- HHSRS hazards affected by climate change
  - Excess cold
  - Excess heat
  - Damp and mould
  - Crowding and space
  - Domestic hygiene, pests and refuse
  - Food safety
  - Personal hygiene sanitation and drainage
  - Water supply

Tackling climate change now and in 2012

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- **Mitigation** - to reduce the level of greenhouse gases and reduce the future climate change.

- **Adaptation** - to deal with the impacts of climate change already being experienced, and those which we cannot avoid in the future due to the inertia of the climate system (Resilience).

Tackling climate change

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- Environmental Health Practitioners as agents for mitigation and adaptation...
  - Air quality & carbon co-management
  - Regulation of carbon emissions
  - Sustainable water management
  - Food sustainability
  - Housing
  - Educating employers and workplace managers

Tackling climate change

Co-management of air quality and carbon emissions

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- Some air quality measures have trade-offs with carbon emissions
  - Re-routing traffic to a bypass will displace pollution but may increase it.
- Some carbon reduction measures do not benefit air quality
  - Biofuels
- However, synergies can be found when air quality and carbon are managed together
  - Encouraging modal shifts to walking and cycling
  - Renewable energy

Tackling climate change

Pollution control: regulating carbon emissions

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- Under the Environmental Permitting (England and Wales) Regulations 2007, and regulation of (A2)(LA-IPPC) installations, and regulate emissions to air from Part B installations (LAPPC).

- Operating permits to include "all measures necessary to achieve a high level of protection of the environment by taking all appropriate preventative measures against pollution, in particular through use of best available techniques (BAT)"

Tackling climate change

Sustainable water management

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- The Private Water Supplies Regulations 2008 and monitoring water supplies for domestic use or commercial food production.
- Opportunity for encouraging sustainable use of water resources and discourage the purchase of bottled water.
- Requires knowledge of:
  - Water saving technologies
  - Sustainable drainage systems (to reduce flood risk)

Tackling climate change

Sustainable food systems

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- Role of Environmental Health in food safety provides opportunities to promote food *sustainability* – in catering and retail sectors.
- Do you have ideas how?

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Sustainable, healthy housing

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1. Energy efficiency / affordable warmth
2. Household carbon emissions
3. Heat resilience (in heatwaves)

   Environmental health has the opportunity to address these issues *together* in housing/HHSRS programmes to improve home health and reduce inequalities.

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Workplace health and safety

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1. Will some risks be exacerbated?
2. Heat resilience (in heatwaves) as important in the workplace as at home – safe maximum temperatures
3. More use of air conditioning? *Legionella* concerns
4. Drinking water availability
5. Overlap with pest management and emerging diseases in some occupations
6. Waste management issues and reduction of waste

Conclusion

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- Climate change presents an opportunity for the profession to assert its value and fulfil its purpose
- Advocacy required within and outside the place of employment
- The EH world may then look different by 2012
- Commitment can be shown by signing up to the Climate and Health Council pledge - www.climateandhealth.org/
- But are you a carbon addict?

What is the carbon addict?

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The Carbon Dependence Syndrome (CDS) can be defined in accordance with ICD-10* as "a cluster of physiological, behavioural, and cognitive phenomena in which the use of *carbon-based fuels* takes on a much higher priority for a given individual than other behaviours that once had greater value".

NB Self diagnosis at:

www.carbonaddict.org/diagnosis