How does our environment affect our health, and how do we know?

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What am I going to say?

Public health context
CRESH
Green space
Better study designs

Public health had great success in the past, by thinking about how our environment harms us, and then altering the environment to reduce the harm.
More recently, the miracle of modern medicine has led the way in population health improvement, and we stopped thinking about place / environment.

Death rates are falling, life expectancy is rising.

But, more people are living with chronic disease &/or poor mental health. 27% of the EU adult population experienced at least one "mental disorder" in the past year; that’s an estimated 83 million people. Growing interest in population happiness as a social and political goal.

Source: WHO Europe
Clinical medicine struggles with all this

And so, a return to thinking about environment. Places aren’t just ‘containers’ in which individuals live and are exposed (or not) to pathogens... places actively shape lives (for better and worse).

Think about places like fields, where we grow lives, rather than crops; bad soil and neglect produces weak and sickly crops.

Established 2010
Collaboration between Universities of Glasgow and Edinburgh
c15 academics / PDRAs / PhD students
Project Title/Acronym | Funder | Aspects of Environment
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MEDPA | ESRC | Multiple physical environment factors
Cliff/Slope | ESRC | Social and economic
CommunityFood | AHRC | Food
MEDIx/MEDClass | NERC | Multiple physical environment factors
Neighbours & Health | HRC (NZ) | Social and physical
ERC PhyBEI | ERC | Physical and built environment (e.g. urban form, air pollution)
WIAT | NIHR | Tobacco / alcohol environments
NIHR | NERC | Pollution and weather
M74 health impacts | NIHR | Built environment
DISPLAY | MRC | Tobacco environment
ARPH | MRC | Outdoor environments (under people)
AWESOME | MRC | Pollutants and weather

Impact and KE via events (practitioner/academic meetings), Twitter / blogs, consultancy, third sector board membership.

Growing interest in the importance of natural environments for protecting / enhancing population health.

Physical activity
Social contact
Restoration
The evidence for a direct effect comes primarily from lab & field experiments.

Can we see evidence for the effects of green space on health, which have been demonstrated by experiment, at a population level?

The association between neighbourhood green space and health.
Another Scottish effect

Exercise in different environments has different impacts

Public health and epidemiology is experiencing an experimental ‘turn’. It’s now hard to get cross-sectional observational work published in high ranking journals. The REF won’t rate this work highly anyway.
Society & environment can and do change over time. And people do move (though often, to the same type of place).

Population weighted mean values for NUTS2 regions, based on EEA Airbase data.

2004

2005

Thanks to Liz Richardson, at CRESH, for producing these maps. Source EEA Airbase data.
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Our relationships with environment are life long, and environments often change (or persist) over even longer time scales (>decades).

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Dudley Stamp’s Land Use Map, 1931.
Sometimes rapid and spatially discrete changes in environments are made; natural experiments. Evaluations (M74, WIAT) are useful and exciting. But these are small, isolated changes, followed up on short-time scales (i.e. less than 10 years).

We suspect that environment matters a great deal for our identities, attitudes, behaviours and health. We suspect that the temporal and spatial scales of these influences are very important, and not always well suited to study by intervention / experiment. Understanding and working with time will be key.

Want to come and work with us? Get in touch!

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