REPORT OF A ONE-DAY WORKSHOP, 4 NOV 2015
Improving UK evidence on health and environmental (low carbon) behaviours:

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This report provides a short summary of:

- ***workshop background***
- ***key points from the day's discussions***
- ***priority gaps to be filled***

The workshop programme and participant list can be found in the appendix to the report.

1. WORKSHOP CONTEXT AND OBJECTIVES

On 12th December 2015, 195 countries signed a new climate change agreement[1]. Meeting in Paris under the auspices of the United Nations, they agreed to hold global temperatures to 'well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.'

The Paris agreement commits the UK to significant reductions in national greenhouse gas emissions in order to prevent the worst impacts of global climate change. At the same time, the UK's public policy challenges relate to lifestyle factors – e.g. sedentary behaviour and unhealthy diets – that form part of a high carbon lifestyle.

This means that there is real potential for a combined approach to tackling climate change and improving public health. Indeed, research has highlighted the significant health benefits of climate policies – and how public health policies can contribute to low-carbon lifestyles, for example through low-fat diet and active travel. There are also behaviours with wider health benefits, like housing investments and domestic energy use, which are key to the UK's low carbon development.

However, there are challenges to developing an evidence base to support 'co-benefits' decision-making. For example, research on environmental and health behaviours is separated by research discipline (e.g. environmental science vs social science); these behaviours are also relevant to a wide range of policy sectors involved (e.g. DH, DECC, DfT and Public Health England in the English context).

Against this background, the workshop aims were to assess data sources on environmental (particularly low-carbon behaviours) and health behaviours in order to enhance the UK research data infrastructure. To do this, we brought environmental and health researchers in dialogue with policy advisors, representatives from research funding bodies and those with oversight of key UK's data sources.

[1] http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf

The workshop's objectives were to:

1. Connect researchers working on health behaviours and environmental/low carbon behaviours and with key representatives from policy, research funders and survey research/data infrastructure
2. Identify data sources available now to advance understanding of individual and household behaviours that affect health and the environment
3. Identify key gaps and challenges in existing data source

The planned outputs from the workshop are:

- A workshop report (this is the report)
- Recommendations for enhancing UK datasets to facilitate research and policy relevant to environmental and health behaviours (a range of recommendations are included in section 4 of this report)
- A contact list of researchers working across environmental and health behaviours as the basis of an inter-disciplinary and cross-sector network
- A resource listing UK data sources with measures of environmental and health behaviours

2. KEY POINTS FROM THE DAY'S DISCUSSIONS

Key points:

- ***There is considerable scope to promote sustainable healthy lifestyles***
- ***The UK has a small but rapidly-growing evidence base on sustainable healthy lifestyles***
- ***The UK data infrastructure offers exciting opportunities to address important scientific and policy questions***

These are detailed below. The section should be read alongside the PowerPoint presentations from the workshop.

The scope for promoting sustainable healthy lifestyles

Important policy initiatives at national, city and local level to promote sustainable healthy lifestyles were presented at the workshop. It was recognised that changing individual and household behaviour is only a part of a co-benefit approach to health improvement and climate change mitigation. Nonetheless, behaviour and behaviour change are integral to disease prevention and to an effective mitigation strategy – for example, individuals and households account for 70% of Scotland's GHG emissions and two-thirds of daily journeys have the potential to be walked or cycled.

Large shifts in individual and household behaviour are possible, with evidence coming from both the environmental behaviour and the health behaviour fields. Anchor organisations in which there is public trust – like the NHS – are important in changing social norms regarding these behaviours. The wider UK policy context, including the 2008 Climate Change Act and public health priorities around improving

lifestyles and reducing NHS costs, adds further impetus to a combined approach to improving people's environmental and health behaviours.

Time is vital. Time is short to 'bend the curve' on rising GHG emissions and the increasing burden of chronic disease. A temporal perspective is also vital because behaviours 'track' across the lifecourse: behaviours established in childhood and early adulthood often become engrained parts of people's identities and everyday lives. At the same time, key life stages - like moving into the labour market and becoming a parent - provide opportunities for behaviour change. Setting behaviours in a temporal perspective is important too because lifestyle changes with measurable benefits for health and the environment can be hard to maintain (the resumption of old habits can be hard to resist) – and delivering these benefits turns on sustained, and preferably lifelong, changes in behaviours.

An emerging evidence base

The presentations and discussion illustrated how rapidly the UK evidence base around co-benefit behaviours, with studies pointing to the scope for health gains from changes in diet and travel mode to be combined with reductions in GHG emissions and other adverse environmental impacts. Presentations illustrated how modelling and spatial microsimulation using a range of data sets can shed light on the health/environmental gains of a co-benefits approach.

A recent scoping review of observational studies that included both environmental and health behaviours found that much of the existing evidence relates to travel behaviour. The largest group of studies identified in the review focused on active travel and physical activity/active travel and sedentary behaviour. There was also a small set of studies concerned with food-related behaviours (organic diet, plate waste, locally-sourced food).

A range of gaps in the existing evidence base were highlighted in the morning's presentations. The presentations noted that, apart from GHG emissions, there are only limited data on the environmental footprints of diet (e.g. land and water use, impacts of food production and transportation on ecosystems etc.). Well-quantified case studies with both environmental and health data would begin to address this gap. There is also a lack of studies looking beyond activity-related and travel-related behaviours, for example at the combined health and environmental impacts of behaviours linked to food purchasing, waste and household energy use. The lack of longitudinal data was noted to be a particular gap (see point above about the importance of time and the sections of the report on gaps below).

The potential of the UK data infrastructure to answer important scientific and policy questions

The UK is well-placed to address the gap around longitudinal data. For example, it is unique in the range and duration of its **cohort studies**. These include the national birth cohort studies for example those following children born in 1958, 1970 and 2000/01 (see www.cls.ioe.ac.uk). There is also the Next Steps cohort, following the lives of people born in 1989-90 as well as a range of sub-national cohort studies (e.g. following cohorts in Bristol, Southampton and Bradford). While the national cohort studies currently have limited information on low carbon and other environmental behaviours, modules for future waves are informed by stakeholder consultation. The studies also provide the potential for linkage with other datasets, e.g. to green space data.

In addition, the UK has a large **longitudinal household survey**, *Understanding Society* (www.understandingsociety.ac.uk). It started in 2009, building on the British Household Panel Survey which started in 1991, and a future wave will provide links to the NEED dataset (energy use and

efficiency). *Understanding Society* is part of a set of internationally similar surveys, offering opportunities for international comparisons. Researchers can also apply to have methodological experiments included in the Innovation Panel survey. More information on the UK's longitudinal studies (including its cohort studies) is at www.closer.ac.uk**.**

The UK also has a range of **cross-sectional surveys** relevant to health and environmental behaviours, including the National Diet and Nutrition Survey, health, travel and housing surveys and attitudinal surveys (for example, attitudinal surveys include modules on environmental attitudes in some years and self-reported health in all years). There is facility to boost samples to provide data on population sub-groups and local areas. The annual Health Survey for England allows 15 minutes for additional questions over and above the core modules.

The UK has invested in a linkage of **administrative data**. The ESRC Administrative Data Research Network (ADRN - www.adrn.ac.uk) has been established to facilitate this linkage – it is not a data repository but seeks to identify administrative data with the potential for data linkage. It works through a number of centres across the UK. It is important to be aware that administrative data are often non-consented data; the process of gaining permission to access and use such data is therefore tightly regulated.

In addition to established data sources (for example, those detailed above), there are opportunities to identify and exploit other **innovative sources of data**. For example, there are European social surveys (e.g. Eurobarometer which includes specific questions on environmental and health behaviours and can generate time series data). Historical archival data can be used to map back in time, for example using life grid techniques (where individuals provide retrospective data on key domains of their life, like their environment and lifestyles). Satellite data gives continuous environmental data and there are also environmental data from Google Maps and real time individual-level data from smart phones and crowd sourced data – but these later sources exclude those without mobile phones, Facebook accounts etc. There may also be innovative ways of combining data sources – for example, adding local data (e.g. admin or satellite based) to national survey data.

Additional key points include:

- For many surveys and cohort studies, the process of consultation that precedes each round of data collection offers opportunities to the policy and research communities to improve the range of data collected. But note there can be long lead times, particularly for the cohort studies
- Most data from publicly-funded surveys and cohort studies are lodged with the UK Data Service
- The data sources on which there were presentations at the workshop represent a sub-set of the UK's data infrastructure. Other sources will be included in the resource list of UK data sources that will form another output from the workshop.
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3. PRIORITY GAPS TO BE FILLED

> ***This section should be read alongside the PowerPoint presentations from the workshop.***

The workshop held three discussion groups, on travel-related behaviours, diet-related behaviours and on other behaviours with potential effects on both health and the environment. A very similar set of issues and gaps were identified across the groups. In their different ways, these focused on the evidence

needed to inform joined-up policy making across public health, climate change mitigation and the environment.

Informing joined-up policy making requires:

- Data to identify and monitor **trade-offs and unintended consequences**. For example, interventions that are successful in improving household energy efficiency may produce 'sealed houses' with potentially harmful CO2 levels.

- Data to measure and monitor **environmental impacts beyond GHG emissions**. Data on wider environmental benefits/impacts data are often poor or missing – e.g. land water use, water quality and biodiversity

- Data to capture **'virtuous cycles'** – e.g. positive changes in diet resulting in better health and, thereby, improved capacity and willingness to undertake active travel

- With much of the data relating to environmental behaviours currently coming from local surveys, there is a need for **a central repository for data on environmental behaviours** (cf Ecological Data Centres for biodiversity data)

- There is a need for **comprehensive time use surveys** covering a range of environmental and health behaviours (e.g. food/diet-related behaviours, travel behaviours, paid and unpaid work patterns, personal care, recreation) together with individual and household consumption data (energy, water etc.). This could build on existing time use surveys (see **www.timeuse.org**), including the time use app in the 2000/01 birth cohort study (the Millennium Cohort Study) and the time use diary included in Innovation Panel (wave 7) of Understanding Society.

- Integrated **surveys with behavioural and psychological data**. Surveys of behaviour often lack information on risk perceptions, beliefs and motivations around climate and environmental change; surveys with these measures often lack data on environmental and health behaviours

- Data to enable **social diversity** to be a major focus of research and policy (e.g. religious and cultural influences on health and environmental behaviours, and lifestyles differences between older and younger people)

- Data that enables **analysis of whole systems.** Examples include analyses of whole transportation networks, and the optimum combination of elements of the transport infrastructure (rather than a piecemeal focus on parts of it) and the food system (to enable studies to vary estimates of environmental impact and sustainability by country of production, food production and transportation methods etc.)

- The pressing needs for more and better **longitudinal data** to capture prospectively factors driving positive change (e.g. changes in travel mode) and to measure behaviours over time (e.g. food consumption)

- Maximising opportunities to apply **evidence from local studies to the wider population**. E.g. how to apply TfL's London Travel Demand Survey (LTDS) and DfT's 'Transport Choices &

Environmental Attitudes and Behaviour Study' to the rest of the country

4. CONCLUSIONS AND NEXT STEPS

The workshop brought together communities – across policy, research and research funding – with a focus on environmental behaviour (particularly low carbon behaviour) and health behaviour. As far as we are aware, it is the first time that there has been such an opportunity for dialogue and networking. With respect to the planned outputs from the workshop, it has generated:

- An initial set of recommendations for improving evidence on environmental and health behaviours (see section above)
- A contact list of researchers as the basis of an inter-disciplinary and cross-sector network. The contact list is being worked up into a network resource. Anticipated completion date is Jan 2016
- Information from participants about relevant UK data sources from which to develop a resource listing data sets with measures of environmental and health behaviours. This work is in progress with an anticipated date for completion of the draft resource in spring 2016

The potential for a follow-up workshop on environmental and health behaviours is also under consideration.

The workshop was supported by ESRC HOPE project (Health Of Populations & Ecosystems), University of York, NIHR Health Protection Research Unit (NIHR HPRU) in Environmental Change & Health, LSHTM and the University of York's ESRC Impact Accelerator Account.

APPENDIX: WORKSHOP PROGRAMME AND PARTICPANTS

Programme

9.30	**Coffee and refreshments**
10.00 – 10.15	**Welcome and workshop objectives** Hilary Graham & Sari Kovats
10.15 – 11.15	**Environmental and health behaviours: policy perspectives from public health, transport and climate change. Chair: Louise Newport.** **Scotland's Low Carbon Behaviours Framework.** Helen Mansbridge, Scottish Government **Transport policy perspective.** John Cummings, Dept for Transport **Public health perspective.** Stephen Morton, Public Health England
11.15-12.15	**Environmental and health behaviours: research opportunities and challenges. Chair: Bernadette Hannigan** • **Research on environmental and health behaviours: an overview.** Hilary Graham, Univ of York. • **Researching sustainable diets – data needs**. Rosemary Green, LSHTM. • **Researching active travel – data needs**. James Woodcock, Univ of Cambridge.
12.15– 13.00	**LUNCH**
13.00 - 14.30	**Enhancing the data infrastructure. Chair: Andy Haines** (including Health Survey for England, National Travel Survey, UK Household Longitudinal Study, birth cohort studies, admin data linkage, new data sources**)** Panel discussion. Sally Bridges, Michaela Benzeval, Alissa Goodman, Chris Dibben, Rich Mitchell.
14.30 – 14.50	**Tea break.**
14.50 – 15.40	**Environmental and health behaviours: research and policy priorities (group discussions)** • what are the major data gaps? • how could these gaps be filled? • which organisation(s) should take the lead and how?
15.40-16.15	**Key themes from the workshop: group leads plus conclusions from day (HG/SK)**
16.15	**CLOSE**
16.15-16.30	Depart

Participants list

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