Standards in Official Statistics on Climate-Health Interactions (SOSCHI)

Strand organiser: Matt Pearce (ONS)

13:30 – 15:00 Tuesday 2nd September

The Health Effects of Climate Change

Anna Rom – UK Health Security Agency

Climate change poses one of the greatest threats to public health this century. 3.6 billion people already live in areas highly susceptible to climate change. Between 2030 and 2050, climate change is expected to cause approximately 250 000 additional deaths per year, from undernutrition, malaria, diarrhoea and heat stress alone.

This presentation examines the pathways through which climate change affects both morbidity and mortality across populations, including increased exposure to extreme heat, air pollution, shifting distribution of vector borne diseases, and increasing food and water insecurity.

Drawing on current evidence, including UK Health Security Agency's Health Effects of Climate Change (HECC) report, emphasis is placed on population level vulnerability, social determinants of health and the unequal burden borne by vulnerable groups. The session underscores the role of population scientists and statisticians in measuring these impacts to help to shape and inform health policy to protect both people and the planet.

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Standards for Official Statistics on Climate-Health Interactions (SOSCHI): Introduction and Update

Gladin Jose – ONS

The Standards for Official Statistics on Climate-Health Interactions (SOSCHI) project is a four-year international collaboration, to develop a transparent, globally applicable statistical framework and open-source platform for measuring climate-health interactions. It is led by the Office for National Statistics and funded by Wellcome Trust.

SOSCHI aims to assess the growing health risks from climate change and is producing climate-health indicators in topics such as heat/cold mortality, mental health, wildfires, air pollution, and vector- and water-borne diseases. As these impacts vary across regions, there is a need for standardised and comparable data.

By equipping statistical systems with consistent metrics and tools, SOSCHI aims to improve data quality by highlighting gaps, and thereby support organisations towards an evidence-based adaptation and mitigation strategies worldwide.

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Developing Climate Change Public Health Surveillance for Wales

Behrooz Behbod - Public Health Wales

Climate change presents growing risks to public health, and Public Health Wales (PHW) is taking proactive steps to develop an integrated surveillance system that can monitor and respond to these impacts. This presentation outlines PHW's strategic priorities and evolving roadmap for climate change surveillance, led by the Integrated Climate & Environmental (ICE) Epidemiology Team. We will explore how PHW is working collaboratively, engaging stakeholders through agile, co-creative approaches, to build a responsive and equitable surveillance framework. The presentation highlights key findings from recent evidence reviews and modelling studies, including the health impacts of cold weather, floods, storms, and heat exposure in Wales. These insights are shaping the development of intelligence to inform evidence-based public health action. By embedding climate resilience into public health surveillance, PHW aims to protect vulnerable populations, inform policy, and strengthen Wales' capacity to adapt to environmental change.

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Developing an Internationally Standardised Approach to Measuring Heat and Cold Related Mortality

Ellie Watkins – ONS

Climate change is increasing the frequency of climate-related hazards impacting health. It is vital for national governments and other actors to have reliable data for monitoring impacts, identifying vulnerable populations, and informing adaptation strategies. The Standards for Official Statistics on Climate-health Interactions (SOSCHI) project aims to develop a framework of climate-health indicators, using advanced statistical methods with a UN-hosted online platform. Here, we outline progress to estimate mortality attributed to non-optimal temperature.

A triangulation approach combined a literature review, consultation with international experts and potential data sources. The headline indicator was mortality attributed to non-optimal temperatures. The methodology uses a distributed lag non-linear model, developed using data from England and Wales (1988 to 2022). Daily temperatures were modelled against daily all-cause mortality providing estimates of relative risk, attributable numbers and rates. Where sufficient data is available recommended disaggregations include age, sex, urbanisation, disability, ethnicity, socioeconomic status and occupation to identify vulnerable populations. Reproducible open-source R code has been developed; and the model has been generalised for application through an online calculator via the UN-hosted SOSCHI platform.

We will provide a demonstration of the platform and example results for England and Wales (1988-2022). These are experimental statistics, we will invite feedback to inform the SOSCHI framework methods. This project contributes significantly to translational aspects of climate

and health, by providing methods and tools to support the harmonised global production of official statistics. These statistics will strengthen the evidence base, facilitating monitoring of climate-health impacts, with potential benefits for climate policy at all levels.

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Round Table Discussion - Setting the Future Research Agenda on Climate and Health Statistics: Exploring Topics Including Ageing, Children and Fertility, and Deprivation

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As the SOSCHI project nears its conclusion we are looking ahead at ensuring longevity in the framework and further development. In this discussion we want to hear from users about areas they feel should be prioritised to ensure the highest impact of future work. We will discuss measuring overall climate-health risk in a UK context, including risk factors for planning etc.

We will also cover vulnerable groups in the population and any statistics that will be needed here for example, future risk of ageing population and multi-morbidity in the context of climate change.

There will also be the chance to focus on a specific topic of mental health and extreme weather, for example how we explore the impacts of floods on anxiety, depression and PTSD.

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