

## Projecting health impacts under climate change scenarios

Vicedo-Cabrera A<sup>1</sup>, Sera F<sup>1,2</sup>, Gasparrini A<sup>1,2</sup>

<sup>1</sup>Department of Public Health, Environments and Society, London School of Hygiene And Tropical Medicine,

<sup>2</sup>Centre for Statistical Methodology, London School of Hygiene and Tropical Medicine

Duration: half day

**Background and significance:** Climate change is considered one of the most important environmental challenges of the current and future decades. Reliable evidence on health impacts due to global warming is critical for the design and implementation of effective adaptation and mitigation strategies. However, projecting health burdens associated to specific environmental stressors can be a difficult task, due to the potentially complex risk patterns and inherent uncertainty of future climate scenarios. These issues can be properly addressed by applying advanced study designs and statistical techniques recently developed in time-series analysis.

This course will provide a practical overview on a novel methodological framework for health impact projections under climate change scenarios. It includes the latest methodological advances in epidemiological studies, applied in recent publications (Gasparrini et al. 2017 *Lancet Public Health*, Vicedo-Cabrera et al. 2018. *Climate Change*). The framework will be illustrated through a hands-on tutorial consisting of a brief theoretical introduction and a practical example of a projections study using real data and implemented R code. The session will be structured in sub-sections covering the different analytical steps of the framework. In each of them, participants will be introduced to the specific methodological approach, and will be able to apply it using the provided R code/data. It is open to environmental epidemiologist interested in climate change research and health impact projections. We assume participants have basic experience on time-series methods and on the use of R for this type of epidemiological analysis, as this part will not be covered in the session. In case the participant does not have experience in time-series analysis in R, we would recommend him/her attending the pre-conference workshop on "Advanced modelling techniques for time series analysis using R" taught in the morning. However, participants will be given fully executable R scripts and data to replicate the examples in future study.

### Interest for the workshop

The workshop will cover a relevant epidemiological topic in climate change research. The main feature of the workshop is its practical format that will allow participants to gain hands-on experience with real examples of projections studies on climate change health impacts. The material provided to participants includes R scripts and documentation that will allow them to independently apply and develop the methodologies in their own research.

**Participants number: 30**