METHODOLOGICAL ISSUES TO EVALUATE THE SHORT-TERM HEALTH EFFECTS OF WEATHER CONDITIONS: THE PHEWE PROJECT

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Epidemiological studies have shown that high and low temperatures are re- lated to mortality and hospitalization. However little is known about the exposure-response curves and the distribution of the lagged effects.
We describe the modelling approach used for the analyses of apparent temperature on mortality and hospitalization in the PHEWE project which includes data from 16 European cities.ects.
The analysis was carried out for warm and cold season. The city-specific analysis included three steps: 1) a dynamic regression approach to exploratory analysis; 2) a Generalized Estimating Equations approach for estimating the city-specific exposure-response curve and for obtaining a synthetic index of the effect; 3) a sensitivity analysis to assess the distribution of the lagged effect and the time-varying linear effects. We obtained pooled estimates separately by Mediterranean and Continental cities. City-specific effects were combined using Bayesian random effects meta-analysis models.
We found a strong evidence of apparent temperature effect on mortality. In warm season the effect was higher in Mediterranean cities and during the first period of summer. Results on hospital admissions did not show a clear pattern although there was evidence of heat-related increase in respiratory admissions. A clear effect of population reduction during vacation work was founded.