

ELECTRONIC SUPPLEMENTARY MATERIAL

Characterising vulnerability of the elderly to climate change in the Nordic region

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Analytical steps

This is one of a number of case studies undertaken in the MEDIATION project, highlighting different methods of climate change adaptation assessment. In common with the other MEDIATION case studies, this assessment can be broken down into a number of analytical steps, each of which may draw on methods associated with general stages of the adaptation learning cycle (see MEDIATION Adaptation Pathfinder: http://www.mediation-project.eu/platform/apf_entry/entry_point.html). For this study, the authors identified questions for each of five main steps:

- *Step 1 (What do we already know?)* involved drawing together evidence from the published literature to demonstrate the susceptibility of elderly people to weather-related extremes in general, and specifically in the Nordic region (cf. "Extreme weather events and the elderly" section).
- *Step 2 (What climate-related risk factors do the elderly face?)* comprised a detailed literature review to identify those factors known or suspected to be most important in contributing to adverse impacts of weather events on the elderly population at present, as well as likely contributory factors to altered risks of impacts in the future. This information defined the types of variables and resolution for which data would be required in order to quantify future risks. It also formed the basis for the design of different analytical methods applied to determine future vulnerability and impacts. Following stakeholder feedback in Step 4, this step also allows for a re-definition of the input variables and modification of methods.
- *Step 3 (How does vulnerability vary regionally?)* involved developing a framework for collecting relevant data identified in Step 2 for the Nordic region, storing these in a database and offering options for producing regional maps of the original data or of combinations of these by means of an interactive web-based mapping tool.
- *Step 4 (How relevant is information shown in the mapping tool?)* was the point at which initial contacts were made with key stakeholders, defined as persons concerned with the provision of care, facilities and resources for the elderly at national and regional scale in the Nordic region. Two approaches were employed: interviews and a workshop, the latter being the forum in which the web tool was first presented.
- *Step 5 (How could the mapping tool be improved?)* represented the first major iteration in the study, where feedback from key sectoral stakeholders as well as other researchers provided a basis for refining the methods of mapping future impacts and vulnerability,

adding a model of heat wave mortality, extending the treatment of uncertainties, and providing more information on adaptation options.

All five steps fall under the stage of the MEDIATION adaptation learning cycle labelled "Assessing vulnerability (impacts & capacity)", though elements of Step 5 can also be classified under "Identifying adaptation measures".