HENVINET
HEALTH AND ENVIRONMENT NETWORK

HENVINET

SIXTH FRAMEWORK PROGRAMME

Knowledge evaluation: Climate change and respiratory diseases

A 3,5-year (11/2006 – 5/2010) coordination action funded under the EU 6th Framework Programme, contract No: 037019

UmU: Bertil Forsberg and Lennart Bråbäck;
NILU: Alena Bartonova, Hai-Ying Liu, Aileen Yang and Mike Kobernus**; WHO:** Martin Krayer von Krauss**;**

Abstract:

In view of prioritising research funds, designing monitoring programs and developing preventatives health policies, it is useful to gain an overview of those areas of knowledge that are particularly weak or that are characterized by important disagreements. A survey was conducted among 14 leading experts on respiratory diseases and climate change (CC). The experts were requested to evaluate the quality of the scientific knowledge used to predict the impacts of CC on respiratory diseases. Eight different potential changes in exposure were considered, including exposure to: extreme heat, extreme cold, dampness, ozone, $PM_{2.5}$, dust mites, molds & spores, and allergic pollens.

The results of the survey indicate that on average, experts had medium to high confidence in the scientific knowledge available to predict the impact related to these potential changes in exposure. There was a high level of agreement in expert confidence predictions of impact related to changes in exposure to dampness and mold & spores (medium confidence). The experts expressed a particularly low level of agreement in confidence prediction of impacts related to changes in exposure to dust mites and $PM_{2.5}$. Of the eight potential changes in exposure considered, the experts ranked increased exposure to molds & spores, dampness and dust mites as the most important mechanisms through which climate change would have an impact on respiratory health.

Methods:

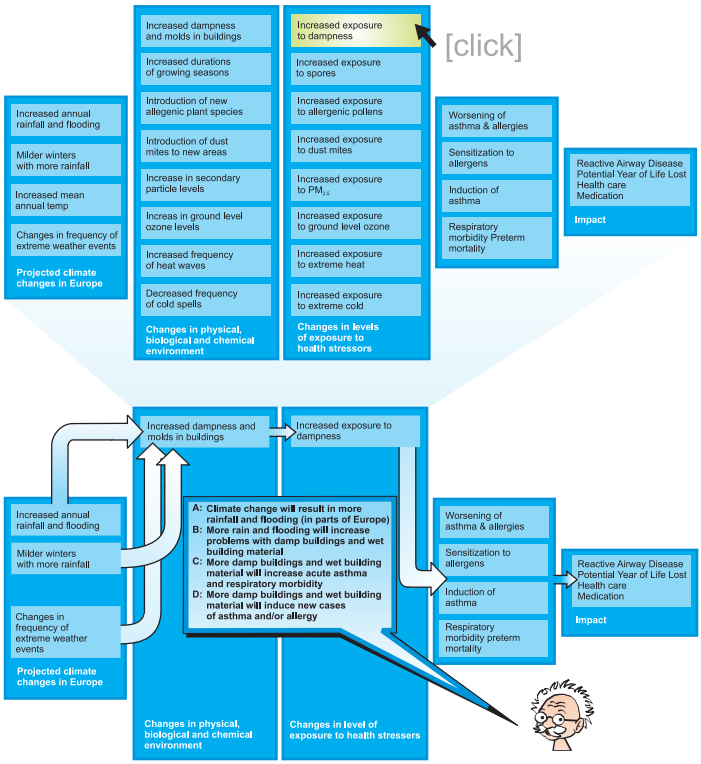

Figure 1: Top: Cause-effect relationships between climate change and respiratory diseases. Bottom: causal diagram for stakeholder evaluation-dampness exposure related to climate change.

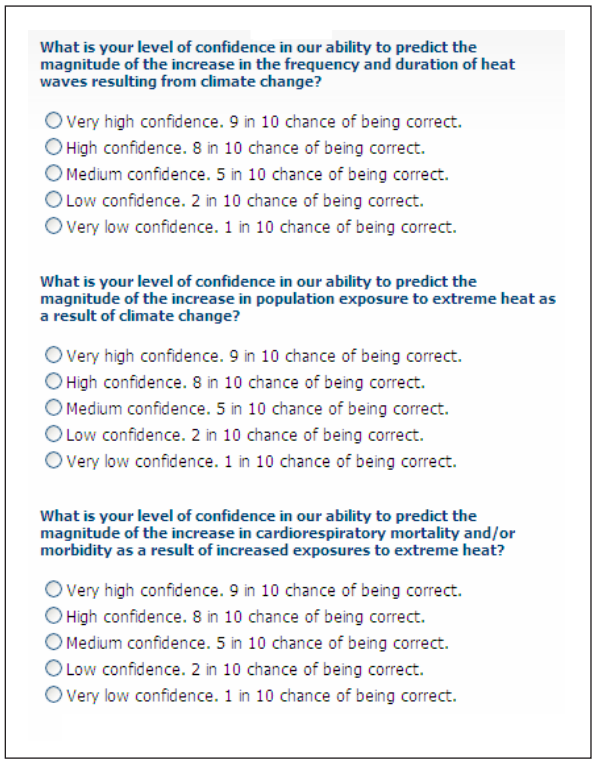

Figure 2: Questionnaire sheet about climate change and heat waves.

Results:

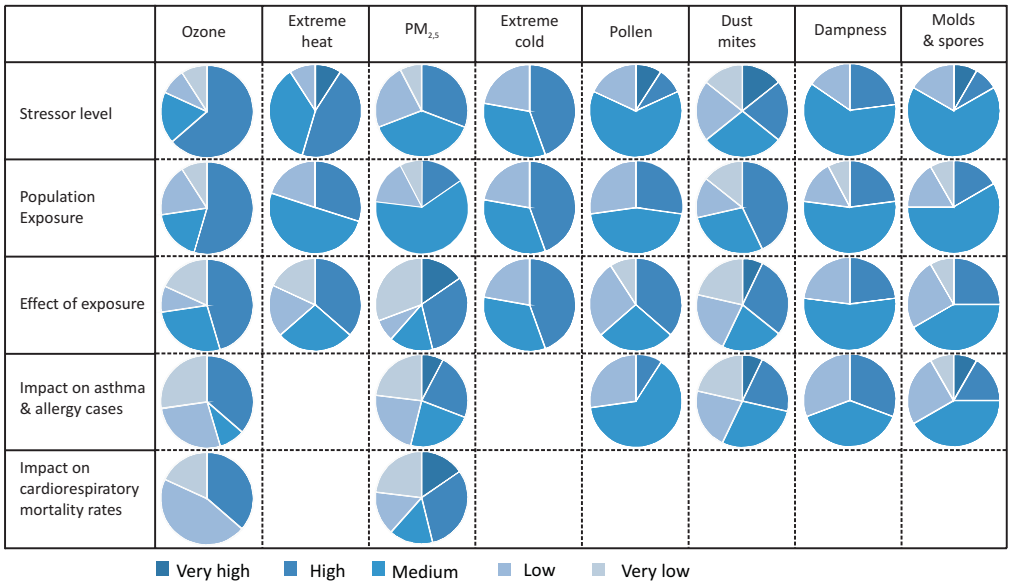

Figure 3: Cause-effect relationships between climate change and respiratory endpoints. The eight exposures are ranked from the least important (ground level ozone) to the most important (molds & spores) which the experts consider to have an impact on respiratory diseases. The values of diagrams are expert confidence in predictions and sorted accordingly from light (very low) to dark (very high) shades of blue.

For more information,
please contact project coordinator office:
Alena Bartonova, *aba@nilu.no*
or
Hai-Ying Liu, *hyl@nilu.no*

HENVINET website:
http://henvinet.nilu.no