3.9. Workshop: Impact on Public Health Services by changes in the climate

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Background and objective
Climate TRAP is a European project funded by DG Sanco. The aim of the project is to strengthen the preparedness of the Public Health sector on the health impact due to key stressors in climate change and in relation to key European action plans and adaptation strategies.

Methods
The project looks into the impact of climate change on the health of the general population. This impact will be translated into the impact on the Public Health System in Europe. This means that we are looking at the increased need for capacity at Public Health Services, at Emergency departments of hospitals, and in medication use. The stressors which will be studied are vector borne disease, heat waves, water borne diseases, food borne diseases, air pollution and UV radiation. Models are applied to predict the changes in diseases incidence and geographical patterns.

Results
A range of diseases will be changed in their incidence and geographical spread by the years 2015, 2020 or 2030. There are many complicating factors in the prediction of these future rates. Some difficulties will be presented.

Conclusions
It is difficult to predict the exact existence of health effects in the future. On the basis of some climatological changes we can predict an increase in general terms for some infectious diseases, but it is difficult to quantify the exact incidence rates.

Climate-change-related stressors that influence health of the public

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Studies have shown that there is a wide variety of stressors that are influenced by climate conditions and pose an impact on the health of the public. This includes heat-related health effects, allergens, vector-borne infectious agents, food-borne infectious agents, floodings, air pollution and ultraviolet radiation. Expected is that due to climate change, the impact of some of these stressors on health will increase. An overview will be given on various stressors that are influenced by climate change.

Adapting the health-care system to climate change: results of a European inventory

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Health impacts of climate (change) can be ordered in three categories: direct impacts through extreme weather events (heat stress, flooding, cold spells), secondary effects when weather patters influence other local systems (e.g. agriculture, food production, disease vectors) that in turn affect health, and tertiary effects that stem from global impacts that affect the local health situation through changes in global trade, wars and immigration. The effects of the secondary and especially the third category are likely the strongest ones in countries with a temperate climate. But the health-care systems are not yet prepared to adapt to tertiary impacts nor is this possible as long as scenarios and clear decisions in other policy fields are lacking.

Therefore, we concentrate on adaptation processes in which the health-care system can take the lead. These processes were ordered in a table linking adaptation measures with relevant stressors. Based on this system European experts were asked to provide the information regarding their own country.

Adaptation measures do take place but are often poorly coordinated. Adaptation simply happens and data are collected (if at all) by different institutions both on a national and on regional levels. Some national institutes try to coordinate the work but often only concentrate on selected aspects of this broad theme. From some countries we received convincing information that they still lack any national adaptation strategy and their preparatory work regarding the health sector has not started yet. Other countries drafted national adaptation strategies but health is not featured dominantly while in other national strategies the health sector is well integrated.

Climate change has a long-term perspective. Hence, education of young health professionals at present is essential to prepare them for future decades. Little is seen yet in this regard in the European medical curricula.

Assessing the impact of climate change on health

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Objective
Different output scenarios (in size/geographical spread) in climate change will be used, in order to get insight in what has to be expected from the public health sector to be prepared for climate change effects, using different timescales.

Methods
There are three types of feasible methods: (i) analogue studies, based on empirical observations of current health effects, e.g. mortality studies during heat waves, (ii) studies of early effects, based on observations of effects of climate change as precursors to health problems (vectors and infectious diseases), (iii) predictive models, using calculations based on known or expected relationship. The work will use geographical information systems and models which calculate the burden of disease, e.g. in Disability-adjusted Life Year scale, or the size of health effects due to catastrophic events. Different scenarios will provide insight in the range of effects due to the different possible extent and spread of climate change effects. The health effects concerned could be direct health effects (heat stress) or indirect effects (infectious diseases). Other effects could be indirect but remote, such as water shortness, desertification, etc. The effect should be related to human health (e.g. quality of water, availability of food).

Results
The results will be analysed in term of key disease or health effects of concern, monitoring data, modelling and predictive tools in relation to health assessment and impact.