

Climate change and vulnerability assessment: water-borne disease

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The aim of the lecture was to provide an overview of the methodological challenges in conducting a vulnerability assessment for the health impacts of climate change.

The health is defined by the WHO as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The presentation has emphasized the complex interactions between water, climate and health, but also the difficulty to predict the potential impacts of climate change on human health.

In the context of public health, the vulnerability was defined as the degree to which individuals and systems are susceptible to or unable to cope with the adverse effects of climate change. The vulnerability is influenced by individual factors (disease status, socio-economic factors, demographic factors), community factors (integrity of water and sanitation systems, their capacity to resist extreme events and access to information), as well as by geographical factors (e.g. low-lying coastal population more vulnerable to the effects of sea-level rise).

Another part of the lecture was the presentation of the Global Burden of Disease (GBD) programme, with an example on climate change impact on incidence of diarrhoea cases, at a global level.

The vulnerability assessment in this context was defined as one way of integrating various stresses on populations and regions arising from climate change (IPCC, 2001).

The development of methods and tools for the vulnerability assessment must consider several issues, like:

- uncertainties regarding the sensitivity of many health outcomes to climate or climate-induced environmental changes;
- little quantitative research, with estimation of exposure-response relationships;
- there is not clear what criteria are most appropriate for the assessment of climatic influences on changes in infectious diseases patterns;
- formal methods of choosing indicators and combining them into meaningful composite indices must be tested;
- the methods and tools should facilitate comparison between regions and populations and highlight the potential reductions in vulnerability, through policy measures or beneficial effects of climate change.

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