"Climate change 2007", the Fourth Assessment of the International Panel for Climate Change (IPCC) is now complete with the release of the Synthesis Report.

Geography & Geology

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WHO/Europe contributed to "Climate change 2007" on health impacts and public health responses. Read the key messages on health.

Key health messages of the Fourth Assessment Report of the International Panel for Climate Change (IPCC) http://www.euro.who.int/[..]

The IPCC's Fourth Assessment is completed with the release of the Synthesis Report in November 2007. The Fourth Assessment identifies the impact on human health as one of the most important effects of the changing climate. WHO/Europe has contributed as author to the Assessment.

The key messages on health

1. Effects of climate change on human health are emerging at regional level, such as:

excess heat-related mortality in Europe;
changes in vectorborne disease ranges in some areas;
anticipated pollen season in the northern hemisphere high and mid-latitudes.

2. Health impacts are among the main consequences of global average temperature increases. Today there is a stronger understanding of the timing and magnitude of impacts. Health effects are likely to increase over time as temperatures continue to rise. The health status of millions of people is projected to be affected through, for example:

increased malnutrition;
increased deaths, diseases and injuries due to extreme weather events (floods, windstorms, droughts and heat-waves);
increased diarrhoeal diseases;
increased frequency of cardio-respiratory diseases due to higher concentrations of ground level ozone;
changed geographical distribution of some plants and vectors and associated diseases;
altered distribution of some infectious diseases;
decreased deaths from reduced cold exposure, in some places.
Overall it is expected that benefits will be outweighed by the negative health effects of rising temperatures, especially in developing countries.

3. Health impacts are among the consequences of increased frequency of extreme weather events, such as:

reduced mortality from decreased exposure to cold temperatures, due to increase of hot days and decrease of cold days (1);
increased risk of heat-related mortality, especially for the most vulnerable groups (elderly, chronically sick, children and socially isolated) due to increased frequency of warm spells/heat waves;
increased risk of deaths, injuries and infectious, respiratory and skin diseases from augmented frequency of heavy precipitation events;
increased risk of malnutrition and of water- and foodborne diseases due to food and water shortage from raise in droughts;
increased risk of deaths, injuries, water- and foodborne diseases, and post-traumatic stress disorders from increases in intense tropical cyclone activity;
increased risk of deaths and injuries by drowning in floods and of migration related health effects from increases of high sea level.

4. Health is likely to be affected differently in different parts of the world.
Examples of some projected impacts are:

Africa: exacerbation of malnutrition in some countries due to up to 50% reduction in yields from rain-fed agriculture by 2020;
Asia: rise in endemic morbidity and mortality due to diarrhoeal disease primarily associated with floods and droughts in East, South and South-East Asia due to projected changes in the hydrological cycle;
Europe: increase of the health risks due to heat-waves, and of the frequency of wildfires;
Latin America: increase of the number of people at risk of hunger due to the decrease in productivity of some important crops and livestock;
North America: increase of the number, intensity and duration of heat waves, with potential for adverse health impacts in the cities that currently experience heat waves during the course of this century.

5. Health is between the especially affected systems and sectors.
Some sectors and systems are likely to be especially affected by climate change. Overall it is expected that the health status of millions of people would be affected, but in particular in those populations with low adaptive capacity (2).

Critically important will be factors that influence the health of populations, such as economic development, health care services, public health infrastructure and education.

6. Health is among the climate sensitive systems to which key vulnerabilities are associated.
Key vulnerabilities may be associated with many climate sensitive systems including food supply, infrastructure, health, water resources, coastal systems, ecosystems, global biogeochemical cycles, ice sheets, and modes of oceanic and atmospheric circulation.

7. A wide array of adaptation options is available, but more extensive adaptation than is currently occurring is required to reduce vulnerability to climate change.

In the health sector, examples of assessed adaptation measures include the development of heat health action plans (heat-wave early warning and public health response), the strengthening of emergency medical services, the improvement of climate-sensitive disease surveillance, and actions to increase accessibility to key determinants of health, such as clean water, energy and sanitation.

As vulnerability to climate change can be exacerbated by other stresses, including lack of preparedness or high burden of disease (e.g. incidence of diseases such as HIV/AIDS), it is important to include risks from climate into public health policies, thus strengthening health services' preparedness and enhancing international cooperation.

A range of barriers limit both the implementation and effectiveness of adaptation measures. Even societies with high adaptive capacity remain vulnerable to climate change, variability and extremes.

8. A wide variety of policy instruments are available to governments.
There is high agreement and much evidence that mitigation actions can result in near-term co-benefits (e.g. improved health due to reduced air pollution) that may offset a substantial fraction of mitigation costs.

Neither adaptation (i.e. reduction of effects) nor mitigation of greenhouse gases (i.e. reduction of CO2) alone can avoid all climate change impacts; however they can complement each other and together can significantly reduce the risks of climate change.

(1) Cold days = Percentage of days with temperature not exceeding the 10th percentile of the daily distribution in the reference period (1961-1990).

Hot days = Percentage of days with temperature exceeding the 90th percentile of the daily distribution in the reference period (1961-1990).

Source: IPCC 4th assessment report, working group 1, Chapter 3

(2) Adaptive capacity = The ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with the consequences.

Source: IPCC Glossary, working group 2

For more information and requests of interviews please contact:

www.who.int