

Disaster Risk Management for Health

CLIMATE RISK MANAGEMENT

Key Points

Climate risks has a significant effect on public health in terms of malnutrition, diarrhoeal disease, trauma and air pollution.

A combination of increasing vulnerability and risk of weather-related hazards are expected to result in more extreme events and disasters.

Measures to reduce the health impacts from climate risks and associated climate change, include:

- strengthening public health systems based on partnerships with multisectoral actors
- enhancing capacity of health systems to reduce risks and respond to public health emergencies
- protecting hospitals and other health infrastructure from climate risks and effects of climate change
- strengthening surveillance and control of infectious disease against climate risk
- improving the use of early warning systems by the health sector
- building public health interventions at local level to increase community resilience

Examples

Europe heat wave (2003) *The hot summer of 2003 in Europe produced sustained record high temperatures which resulted in markedly higher death rates than normal, particularly among the elderly population. In total, 70 000 more deaths occurred in western Europe during that summer than expected.*¹

Rainfall and flooding *Small changes in average precipitation can have a very large effect on the extremes of rainfall events that cause flooding, and human influence on the global climate is likely to make what would currently be considered a “very wet winter” in the United Kingdom, or a “very wet summer” in the South Asian monsoon region, about five times more frequent by the second half of this century.*²

Why is this important?

Globally, the number of reported weather-related natural disasters is increasing.³

- Reports of extreme weather events and natural disasters have more than tripled since the 1960s.
- In 2007, 14 out of 15 appeals for emergency humanitarian assistance were for floods, droughts and storms – five times higher than in any previous year.³

The last few decades have seen rapid growth in populations living in flood plains and coastal areas, particularly in cities in developing countries.

Climate change has driven extreme high temperatures and has probably contributed to more frequent and extreme precipitation events and more intense tropical cyclone activity. Together, these trends will increase the risk of weather-related hazards to human health.³

What are the health risks?

Climate change is happening now and it inevitably affects the basic requirements for health: clean air and water, sufficient food and adequate shelter.

Each year, about 3.5 million people die from malnutrition, 2.2 million from diarrhoea, 800 000 from causes attributable to urban air pollution, and 60 000 in climate-related disasters, mostly in low resource settings and also frequently in humanitarian emergency situations.²

Climate change brings new challenges and costs to the control of infectious diseases as some are highly sensitive to temperature and rainfall, including cholera and the diarrhoeal diseases, as well as vector borne diseases including malaria, dengue and schistosomiasis.³

Climate change threatens to reverse the progress that the global public health community has been making against many diseases, and increase the challenges for the humanitarian community to respond to natural, biological and social emergencies.³

Risk management considerations

Governments and communities can protect public health from climate-related risks, including climate change, by:

Strengthening health systems to manage climate risks.⁴

- Strengthening partnerships between emergency management actors, NGOs, private sector, and national health systems to address the health risks of any emergency in a community.
- Enhancing capacity of health systems for managing climate-related risks, including health risk assessment, early warning and enhanced emergency preparedness for rapid response and recovery from extreme weather events.
- Protecting critical health infrastructure from extreme weather events, and ensure functioning of core public health services during emergencies - i.e. "climate proofing".
- Building evidence of impacts and monitoring changes in vulnerability and hazard/risk trends over time.

Strengthening surveillance and control of infectious disease against climate risks.⁴

- Effective disease surveillance and control become even more important under conditions of rapid environmental change and movement of people, disease vectors and infections.
- Rapid and accurate disease notification at local, national and international levels, in compliance with the International Health Regulations, is the essential basis for planning disease control.
- Approaches such as Integrated Vector Management, which make the best use of proven interventions, such as bed nets, insecticide spraying and environmental management, to control malaria, dengue and other vector-borne tropical diseases, protect against climate risks.



Risk of sea-level rise, Caribbean Sea (B. Carby)

Developing forecasting for extreme weather and public health tailored early warning systems.

Developing heat-health action plans which use meteorological information to enhance early warning and effective response over a range of time scales:^{1,5}

- from hours or days (for flood or heat wave warnings),
- to weeks (for seasonal epidemics of vector-borne disease),
- to months (seasonal forecasts of precipitation anomalies allowing planning for flooding or drought),
- to years (for drought and associated food insecurity).

Implementing local public health interventions to build community resilience.⁴

- Action on environmental and social determinants of health is critical to protecting populations from climate change.
- Improving social welfare in emergency situations, particularly educating and empowering women in developing countries, is a fundamental requirement for improving health. It is also essential to strengthening community resilience to disasters and to climate change.

Strategies need to be flexible enough to take into account the diverse composition of modern communities, and include migrants and people from different ethnic and cultural groups, and with different health-seeking behaviour.

References and further reading

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