HEALTH and CLIMATE CHANGE: Impacts and a framework for health protection

Hamed Bakir
Coordinator, Climate & Environmental Health Interventions
WHO/EMRO/CEHA
18 May 2018
4 Key Messages

- Climate change is a serious threat to health – now and in the future
- Tackling climate change is a global health opportunity
- The global health community mobilized to respond to climate change
- Protecting health is a collective undertaking:
  - Mitigation is good for the planet and is very good for health
  - Adaptation within the health sector and within health supporting sectors
The global public health community mobilized

2014: WHO 1st Global conference on health and climate change

2016 WHO 2nd Global conference on health and climate change

2016: COP22 Ministerial Declaration on Health, Environment and Climate Change

2017: WHO current Director General elected. Climate change one of his 4 priorities

2017: COP23 WHO launched the SIDS Health and Climate Change Initiative.

2018: WHO 3rd Global Conference on health and climate change

WHO’s 4 priorities
- Health for all
- Health emergencies
- Women, children and adolescents
- The health effects of climate and environmental change
23% of global deaths (12.8 M) is linked to modifiable environmental conditions.
23% of annual global deaths (12.6 million deaths) are linked to modifiable environmental conditions, all of which will be adversely impacted by climate change.
23% of annual global deaths (12.6 million deaths) are linked to modifiable environmental conditions, all of which will be adversely impacted by climate change.
WHO IS AT RISK OF CLIMATE CHANGE?

Those living in poverty, as well as women, children and the elderly.

Outdoor workers and people living with chronic medical conditions.

Children are the most vulnerable due to long exposure to environmental risks.

Those living in megacities, small island developing states and other coastal, mountainous and polar regions.

Countries with weak health systems will be least able to prepare and respond.
Impact of Climate Change on Human Health

- Injuries, fatalities, mental health impacts
- Asthma, cardiovascular disease
- Heat-related illness and death, cardiovascular failure
- Malaria, dengue, encephalitis, hantavirus, Rift Valley fever, Lyme disease, chikungunya, West Nile virus
- Forced migration, civil conflict, mental health impacts
- Respiratory allergies, asthma
- Severe Weather
- Changes in Vector Ecology
- Extreme Heat
- Increasing Allergens & Sandstorms
- Environmental Degradation
- Increasing CO2 Levels
- Water and Food Supply Impacts
- Water Quality Impacts
- Malnutrition, diarrheal disease
- Cholera, cryptosporidiosis, campylobacter, leptospirosis, harmful algal blooms

Source: CDC
Health, climate change, and water scarcity

- **Water scarcity**
  - Cities run dry: insufficient water for health protection & intermittent supplies
  - Compromised drinking water safety
  - Lower-quality water source
  - Wastewater systems malfunction
  - Reduced water for food production
  - Wastewater used for food production
  - Food insecurity
  - Malnutrition
  - Waterborne and foodborne disease
Flooding & Dust
Storms in the Mediterranean

Dust Storms
• More frequent
• Longer duration
• More intense
Heat Waves

- More frequent.
- Last longer.
- More extreme
Vector-borne diseases in the Mediterranean

**Mosquito-borne**
- Dengue fever
- Chikungunya
- Malaria
- West Nile fever (WNF)

**Sandfly-borne**
- Leishmaniasis

**Tick-borne**
- Lyme disease
- Tick-borne encephalitis (TBE)
- Crimean–Congo haemorrhagic fever

- 77,000 Europeans on average fall sick from vector-borne diseases every year.
- Mosquito species, such as *Aedes aegypti*, are re-emerging, and *Ae. albopictus* is emerging.
- Source: WHO/EURO/ECEH
Climate Change and Health: Pathways

1. Direct exposures
   (e.g. Heat waves, floods)

2. Indirect exposures
   (e.g. water, food, air quality, chemicals, vectors, allergens)

3. Socioeconomic disruption
   (e.g. conflicts, population movement)

4. Damage to health infrastructure

Health impacts
   - Death
   - Illness
   - Injuries
   - Malnutrition
   - Mental health

Climate change
   - Rising Temp.
   - Changed precipitation
   - Extreme weather
   - Sea level rise
Adaptation: resilient health determining services and conditions

Climate-resilient health system and infrastructure to respond to health effects

Mitigation: reducing GHG emissions

Framework for Action to Protect Health from Climate Change

Climate change
- Rising Temp.
- Changed precipitation
- Extreme weather
- Sea level rise

Health impacts
- Death
- Illness
- Injuries
- Malnutrition
- Mental health

Direct exposures (e.g. Heat waves, floods)

Indirect exposures (e.g. water, food, air quality, chemicals, vectors, allergens)

Socioeconomic disruption (e.g. conflicts, population movement)

Adaptation to interrupt the exposure and reduce vulnerability of health
Mitigation to curb climate change emissions
Clean air is good for health

Our transport systems are inefficient, polluting and drive CO2 into the atmosphere, which directly harms the environment and our health.

The same can be said of our energy and food systems. The livestock sector is responsible for significant greenhouse gas emissions.

CLEAN ENERGY
Cleaner, more efficient energy choices will go a long way to reducing emissions.

SUSTAINABLE TRANSPORT
Instead, we should walk, cycle and use public transit. This will clean the air, increase physical activity, and reduce additional diseases like obesity.

SUSTAINABLE FOOD SYSTEMS & HEALTHY DIETS
Cutting down on red and processed meat and increasing fruit and vegetable intake in high-consuming populations will reduce emissions and diseases like cancer and heart disease.
Health systems can lead by example! Reduce its contribution to GHG.

**Global Green and Healthy Hospitals | Agenda Goals**

- **Leadership**: Prioritize environmental health as a strategic imperative.
- **Chemicals**: Substitute harmful chemicals with safer alternatives.
- **Waste**: Reduce, treat and safely dispose of healthcare waste.
- **Energy**: Implement energy efficiency and clean, renewable energy generation.
- **Water**: Reduce hospital water consumption and supply potable water.
- **Transportation**: Improve transportation strategies for patients and staff.
- **Food**: Purchase and serve sustainably grown, healthy food.
- **Pharmaceuticals**: Prescribe appropriately, safely manage and properly dispose of pharmaceuticals.
- **Buildings**: Support green and healthy hospital design and construction.
- **Purchasing**: Buy safer and more sustainable products and materials.
Climate–resilient health systems

- Utilizing green funds
- Advocacy for action by other sectors
- Climate-informed health programmes
- Early warning system and information on climate-sensitive health outcomes
- Trained workforce on predicting and managing climate-sensitive health outcomes
- New medicines and technology to manage emerging health outcomes

Health system

- Leadership and governance
- Health information system
- Essential medical products and technology
- Health workforce
- Service delivery
- Financing

World Health Organization
Turn the climate challenge into a health opportunity by building resilience within the health supporting sectors—

- Air pollution: including indoors and outdoors
- Inadequate water, sanitation, and hygiene
- Chemicals and biological agents
- Radiation: ultraviolet and ionizing
- Community noise
- Occupational risks
- Built environments: including housing and roads
- Agricultural practices: including pesticide-use, waste-water reuse

World Health Organization
#EnvironmentalHealth
Thank you