PHASE project

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PHASE – Public Health Adaptation Strategies to Extreme weather events

PHASE three year EU-funded project with the scope of:

- defining a framework of tools to improve preparedness and help mitigate the impact of EWEs (heat, cold, floods, forest fires and synergies between extreme temperatures and air pollution) on health.

- to increase institution (and population) awareness on the health risk associated to EWEs

- to identify vulnerable subgroups most at risk of the health impact of EWEs
PHASE common approach for defining public health actions for each EWE

1. Literature review to identify research gaps and at risk subgroups
2. Estimate health effects (risk) related to exposure to extreme temperatures, forest fires and the synergies between temperatures and air pollution
3. Survey public health plans for EWEs at European level
4. Define Public health actions targeted to high-risk subgroups (susceptibles)
5. Identify who is at risk

Public Health Adaptation Strategies to Extreme weather events
WP4 To improve preparedness/response to heat waves and cold spells

- Public Health tools for Heat/cold
- Health effects preventions

Period comparison in the effect of heat/cold on mortality/hospital admissions

Temporal variation (by year) in health effects of temperature

Case studies on susceptibles to heat/cold effects
WP4 and WP8
WP5 To improve preparedness/response to floods (Partner: HPA, UK)

- Tools for flood response and health resilience at EU level
- UK\PHE experience: national framework for flood emergencies
- Evaluation of public health flooding guidance
- Health effects of flooding
  - Review of health impacts of flooding (PHE+WHO)

Factors Increasing Vulnerability to Health Effects before, during and after Floods

Dianne Lowe 1,2,*, Kristie L. Ebi 1 and Bertil Forsberg 1
Floods in the WHO European Region: Health Effects and Their Prevention

Guidance Plans for the Health Impact of Flooding

World Health Organization Regional Office for Europe
and
Health Protection Agency UK
WP6: To improve preparedness/response to forest fires

(Partner: UPMC, France)

Literature review

Non-Accidental Health Impacts of Wildfire Smoke


Public Health tools for health

WP6

Case study on the health effects of forest fires in Marseilles, France and Athens, Greece

Wildfire inventory of burnt areas in Europe using satellite maps and modelling (wildfire emissions, concentrations,
WP7. Synergistic effect of urban air pollution/heat and cold/air pollution from forest fires.

*(Partner: UNKUA, Greece)*

Summary for Public Health on health effects

Literature review on how extreme weather events and wild fires change the composition of air pollution

Update dataset of all cities (WP4 and WP7)

Analysis on possible synergy between air pollution and forest fires: case study in Athens

Analysis on the interaction between heat and air pollutants on daily mortality in 9 EU cities
WP8 Susceptible subgroups
(Partner: UmU, Sweden)

Children (WP4 and WP8)
- health effects of heat/cold and air pollution
- Health effects related to flooding: respiratory and gastrointestinal disease)

Preterm births (WP4 and WP8)
Case studies: Analysis of effects of heat/cold in Rome and other Italian cities; Stockholm and Valencia

Literature review/survey on susceptibles and vulnerable subgroups to EWEs

Analysis of the effects of heat/cold in cohort of pathologies (Rome, Stockholm)
Tools for Public Health

The PHASE project provides a framework of tools for the preparedness for and response to extreme weather events (EWE) (heat waves, cold spells, flooding) and their environmental consequences (wildfires, air pollution) in order to reduce their impacts on health.

Tools aim to provide knowledge on health risks, and identify subgroups vulnerable to EWE in order to target public health actions, improve prevention efforts, and optimize resources.

Tools for Air Pollution

Tools for Flooding

Tools for Wildfires

Public Health Tools for Heat

Public Health Tools for Cold
Scientific summary for policy makers:

• What is known on the health effects of EWEs
• Subgroups of the population most at risk
• What the PHASE project adds
• Key public health messages
• Preparedness and response tools
• References\links
SCIENTIFIC SUMMARY for Public Health on Floods

What is known on the health effects of floods:

Floods are the most common natural hazard in the European Region. In recent years, member states have experienced some of the largest events in their history. The effects of flooding on health and injuries resulting from the clean-up process are complex and require a holistic approach.

The health effects of floods are mediated by factors such as exposure to floodwater and the subsequent need for food and water supply. The rapid onset of floods can lead to increased stress, anxiety, and mental health problems.

Public health Adaptation Strategies to extreme weather events

SCIENTIFIC SUMMARY for Public Health on Wildfires

What is known on the health effects of wildfires:

Wildfires take a heavy toll on human health worldwide, which is expressed in main risk factors for wildfires - high temperatures, drought, and ecosystem changes caused by climate change. Accidental effects of wildfires involve in fires, fire hazards, and local residents, which face severe health risks. The health effects of wildfires are complex and require a multidisciplinary approach.

Public health Adaptation Strategies to extreme weather events

SCIENTIFIC SUMMARY for Public Health on the synergy between extreme temperatures, heat waves, air pollution and forest fires

What is known on the synergistic health effects of extreme temperatures, heat waves, air pollution and forest fires:

Every year, high temperatures and heat waves during summer and low temperatures and cold spells in the winter are associated with large increases in mortality. Climate change is expected to result in a further rise in temperature but also in more extreme events. Indirect effects of extreme events (e.g., flooding, drought) can further compound the health risks.

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PHASE partners

DIEP Lazio
Dipartimento di Epidemiologia del Servizio Sanitario Regionale - Regione Lazio

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