

## PHASE Kick-off meeting Minutes

10-11 May 2011 Luxembourg

### **1. Introduction Paola Michelozzi, DEP.ASLRME (see attached presentation)**

The phase project will focus on the development of tools for preparedness and prevention measures of the impact of extreme weather events on health. In particular the PHASE project will develop a common methodology for the identification of specific susceptible subgroups most at risk to the impact of extreme weather events.

Specific objectives will include:

- improve preparedness to EWEs (heat waves and cold spells, wild fires and flooding)
- evaluate synergistic effect of air pollutants with EWEs
- identify vulnerable subgroups
- develop science-policy interface

Common approach for each EWE (coppia lucido)

1. Identify research gaps on health effects of EWEs, prevention (warning systems, surveillance systems, response activities)
2. Through case-studies, evaluate the impact of EWEs on health, and evaluate the performance of warning systems and effectiveness of prevention activities, where available evidence is scarce
3. Identify population subgroups vulnerable to specific EWEs
4. Develop a framework of tools and guidelines for the prevention of health effects of EWEs

Overall expected outcomes:-

- To provide key information for the development of guidelines for prevention of health effects of EWEs based on results in terms of effect estimates, the identification of vulnerable subgroups and at risk areas, and from case-study evaluation of warning systems and prevention activities
- To provide measures to improve best practice of emergency and public health prevention actions on the basis of the political, social and cultural context, as well as the organization and management of health and environmental institutions, and in the long term, mitigate the expected EWE health impacts due to future climate change
- To set the foundations for development of a network between local and international institutions (Research Units, Civil Protection, Ministry of Health, Environmental Agency, local health and social services) for reducing the impact on health of extreme events in the EU
- To reduce EWEs-related health impact based on the identification of vulnerable subgroups, the definition of local risk maps and exposure patterns
- To improve, citizens health standards and quality of life by tailoring prevention activities towards individuals at high risk in the EU

- interaction with other EU projects, international organizations (WHO, health protection agencies outside Europe, especially in the US) and the project officer
- To promote a Science-policy Interface

### **Discussion**

**Anna Paldy.** Test the applicability of CEHAPIS heat wave indicator to other cities. (bearing in mind weaknesses due to simplified formulation of indicator constructed to be used in all countries)

**Klea Katsouyanni:** Important to define dataset for each WP to be considered as case studies in this meeting.

**Timo Lanki:** We should also define Scientific papers for each WP and which partners will collaborate.

**D. Baker:** Publication of peer-reviewed papers give academic credibility

**M. Pascal:** France and INVS also have information on overseas territories where EWEs such as storms are common and have a significant health impact (Emergency Psychological Units after storms). France has a direct responsibility on its overseas territories.

**B. Forsberg:** problem of drinking water after floods and heavy storms

**Timo Lanki:** Important to acknowledge risk perception in order to raise awareness.

**Klea Katsouyanni:** Some EWEs have a more immediate effect on the psychology of the population as they perceive an immediate threat. The health effect associated to panic of population (eg. Of increase in CVD during fires in Athens which was not directly explainable) We should provide better evidence of indirect effects.

### **2. Paloma Martin, EAHC (see presentation)**

The PHASE project is included in the second Health Program. EAHC is not involved in the policy but in execution. The presentation was structured as follows:

**Part I:** What is EAHC?

**Part II:** Background on Climate Change and Health Adaptation

**Part III:** Technical and financial aspects of the Grant management.

The mandate of the EAHC includes:

- the completion of the **old programme** (2003-2008) and the implementation of the **new programme** (2008-2013) the of Community action in the field of **Public Health**.
- the implementation of the **Consumer policy programme** for 2007-2013.
- financial and administrative tasks related to the **food safety training measures** covered by Regulation (EC) N° 2004/882 and Directive 2000/29/EC.

Paloma Martina describes the

PM gave an overview of what is currently underway considering the preparation of the EU Climate Adaptation Strategy by 2013:

- Clearing House + Working Group on Knowledge Base (WGKB): This year. Clearing House which is a product of DG Clima that will collect all information regarding the multiple aspects of climate change and ongoing projects in terms of data, outcomes, evaluation etc...
- Indicators Working sub-group (process towards policy-relevant and regularly updated indicators on climate change impacts, vulnerability and adaptation): Purpose EU assessment and impact assessment of the Strategy.
- Report EEA 2012 (report on climate change impacts, vulnerability, and adaptation of climate change in Europe )+ Advisory group: By mid-2012
- Task force on the implementation of the CSWD

An overview of ongoing EU projects in the Health program related to climate and the technical/financial aspects of PHASE were illustrated (*see presentation*).

### ***3. WHO Perspective - Bettina Menne. (see presentation)***

- The WHO activities in the EU region include:
- Prevention and preparedness
- Action during emergency
- Recovery

WHO main functions include:

1. Develop norms and standards
2. Strengthen national emergency and preparedness plans
3. Emergency response
4. Enable MS to develop timely response to natural disasters, conflicts, environmental and health emergencies etc.

*WHO International Health Regulations (IHR) Operational framework*

- Emergency and trans-national concern announced by WHO
- Verification and assessment carried out
- An international assessment panel/team is defined ad hoc
- Public health advisory is issued
- Climate change and extreme weather events are trans-boundary phenomena and

WHO requests evidence of assessment protocol, evidence based guidance, effective public health measures provided by science policy interface in order to plan and prevent.

In terms of extreme weather events and health WHO has developed a multiagency platform on disaster preparedness, prevention and response as well as technical advisories and technical systematic reviews on floods, fires, heat, cold-waves, and health indicators for floods and heat (CEHAPIS).

From a WHO point of view PHASE can contribute to the development of guidelines, address unanswered questions and aspects (effectiveness of warning systems, temporal change of extreme events what will be the impact on health, combined effects of environmental hazards) develop a common approach to respond to different extreme events building on what is already available.

Importance of focusing on what is missing and build on what is available.

### **WP5 – Flooding Prof. D. Baker, HPA**

WP5 is coordinated by Health Protection Agency, UK which among its core roles includes coordination of investigations and outbreak control, laboratory services, Advise Government and respond to international health alerts.

In particular Dr. Baker illustrated HPA's Extreme Events and Health Protection area of the website, specifically on topics flooding, heatwaves, cold etc.

For WP5 an overview on current work carried out by HPA in the UK and for WHO Regional Office for Europe was shown.

Gaps in the knowledge on the impact of flooding on health were illustrated, in particular:

- Health should be integrated into the main stream of **emergency plans** as a high priority
- **Communication** of public health messages to the public in a time of no electricity and population movement should be addressed but this is a complex area and further work would be beneficial
- The provision of emergency and longer-term **mental health** care in planning, response and recovery has a vital role and further work to develop good practice embedded in health and all hazard plans requires further development
- The delivery of **health care** and continuity of care during a flood should be planned for and enhancing this would be beneficial
- Continuity of care for those with **pre-existing chronic disease** requires further understanding
- Identification of who is **vulnerable**, how to identify them and what specific health needs these groups require would be beneficial
- Planning and implementation of flood protection measures for **health facilities** buildings and access would be beneficial in facilitating health care
- Planning for the supply of **wholesome drinking water** during floods and recovery requires enhancing
- **Tools** to provide effective surveillance and monitoring systems would facilitate better understanding of health impacts on populations at risk and so facilitate targeted care
- **Population displacement** via evacuation and relocation is complex and tools to facilitate clearer understanding would be beneficial

- **Early warning systems** exist and the need to consider how to change institutional and public behaviour to these warnings to reduce health impacts would be beneficial

Work undertaken in WP5 will include:

To develop actions to promote resilience and reduce health risks associated to flooding, building on work carried out by the WHO Regional Office and other international networks.

A comprehensive literature review will help to identify information gaps. The work will involve new extensive literature research on health impacts, resilience structures and emergency planning.

Epidemiological methodology (surveys/interviews) to understand existing emergency planning, guidance and health impacts will be applied.

A series of case-studies will be included as examples of local preparedness and response measures and methodologies for assessment of intervention strategies.

When available, information on flooding in participating countries will be collected and will include:

- A review of the breadth and comparative importance of health impacts of flooding.
- To define health indicators, criteria and procedure to monitor the health effects of floods
- Development and definition of a network of experts on the health effects of flooding to provide advice on protecting the health of community, particularly from microbiological and chemical hazards
- Overview the existing tools for flood response and health resilience to set up specific guidelines for preparedness and response to the impact of floods. A series of case-studies will be included as examples of the local preparedness and response measures and the methodologies for the assessment of intervention strategies.

#### ***WP4 Heat waves and cold spells - Paola Michelozzi , DEP.ASLRME (see presentation)***

A review of the work carried out on other EU projects and in the most recent scientific publications in terms of the impact of heat and Heat attributable deaths, and cold on health was illustrated. In particular results from PHEWE and EUROHEAT projects.

Climate change and the temporal variation in the summer season (anticipation of summer) was accounted for to stress the potential impact this could have in terms of health. It has been shown that the first heat wave episodes have a greater impact due to limited adaptation of local populations to high temperatures.

There is also a heterogeneous impact of high temperatures throughout the summer season which is influenced by the socio-demographic conditions.

WP4 will focus on:

- knowledge gaps

- the effect of heat waves and cold spells will be estimated through an episode analysis following methodology developed in previous EU projects and using a time-series approach taking into account lag, intensity and duration of exposure
- Case study approach: studies will be performed in a selected number of cities with focus on specific aspects (i.e. demographic characteristics, specific causes, harvesting effect)
- Development of heat wave and cold spell indicators (link with EU CEHAPIS project). A comparative analysis of the applicability of different temperature indices for HW/Cold spells and effect indicators in different climatic areas of Europe using data from different cities in Europe
- Overview heat/cold prevention plans in Europe (HHWWS, prevention measures and guidelines, identification of susceptible subgroups)
- evaluate the effectiveness of warning systems and prevention programs through case-study examples

**Mathilde Pascal** the Socioeconomic degradation especially within urban areas and urban heat island effect has to be considered as risk factors. Urban planning is also important. The change in temperatures and summer season has also been observed in France, eg. Marseilles.

**Bertil Forsberg** important to consider cohorts of the population to evaluate vulnerability factors.

**WP7 – Interaction between temperatures, air pollution and wild fires. – Klea Katsouyanni NKUA (see presentation)**

The objective of this WP is to investigate and quantify the synergistic effects of extreme temperatures, wild fires and high pollutant concentrations.

Work will include a literature review to identify gaps in knowledge. Database collection for case-city studies will be compiled and analyzed through the time series approach.

Background evidence shows that in summer the effects of PM10 and Ozone are stronger. For ozone this can be attributed to the fact the Ozone concentrations are higher and outdoor exposure of local populations is greater.

Evidence of synergistic effect between temperature and ozone on total and CVD mortality.

Phewe and EUROHEAT projects considered the interaction between temperatures, heat waves and ozone and PM10. Results showed no interaction between low temperatures and pollutants. While for high

temperatures an interaction was found for ozone on total and cause-specific mortality. Similarly a synergistic effect was observed between ozone, PM10, and heat waves and mortality. Finally the CIRCE project, just concluded on the Mediterranean showed similar synergistic effects in the northern Mediterranean countries, while for southern Med cities (N. Africa) doesn't show evidence of such an effect.

Forest Fires case study conducted in Athens and results suggest that forest fires have an immediate effect on total and cardio vascular mortality while respiratory mortality has a lagged effect.

### **Discussion**

**T. Lanki** suggests to carry out a common analysis on a selection of cities.

**D. Baker** suggest to include morbidity and primary intervention data to analysis of impact of fire episodes.

Possible case studies could be the Canary Island which are also affected by Saharan dust episodes ( F. Ballester), Paris and S. France (M. Pascal). Sweden would like to define warning system which integrate heat waves and pollution. Rome and S. Italy ( P. Michelozzi)

### ***WP8 – Identification of vulnerable subgroups B. Forsberg, UMU (see presentation)***

This WP will focus on identifying vulnerable to groups to each extreme weather events. Susceptibility factors include age, health conditions, socioeconomic status, housing types and residential area.

A review of the susceptibility factors will be carried out together with research procedures to study susceptibility to extreme weather events. Case studies of existing cohorts will be considered and protocols for the identification of susceptibility.

An example of work done on susceptibility factors to heat waves was illustrated. In particular work carried out by Forsberg and his group.

### ***Interaction with ongoing EU projects:-Francesca de'Donato, DEP. ASLRME (see presentation)***

Ongoing and recent EU project dealing with extreme events and the impact on health were shown. In particular those regarding heat (PHEWE, EUROHEAT, CIRCE; CLIMATE TRAP etc)

The idea is that the PHASE project will build on:

- updating results from other EU projects and filling knowledge gaps where necessary
- on existent database to develop innovative analyses

A **case study approach** will be used to :

- **to estimate the effect** of each specific EWE and their environmental consequences on health considering appropriate and innovative **epidemiological studies**
- evaluate the **performance of warning systems** in terms of sensitivity, timeliness, reliability of forecast, adequacy of information network (1-4).
- evaluate the **effectiveness of the prevention activities** already in place

*HEIDI - Health in Europe: Information and Data Interface* this platform is a comprehensive search tool for European health information and data.

### **WP3 Dissemination – D. Baker, HPA**

WP 3 Dissemination will:

- coordinate the dissemination of data and publications resulting from the project
- identify key stakeholders
- identify the needs of the stakeholders

These three aspects were described and examples of modes of communication (eg. PLOS – Scientific Library of Science, peer reviewed journals etc, workshop)

### **Wednesday 11 May 2011**

Financial Aspects of PHASE project – Klara Kasnyik, EAHC

EAHC financial officer gave a brief review of financial aspects of the project. Change in voices is not possible, financial activity is based on real costs (eg. Travel costs are based on real expenses, personnel have to be regularly employed by the institute) Other costs include travel and expenses for experts and collaborating partners.

Budget cost categories can be modified within +/-20% from 1 section to another without modifying total budget of those proposed in Annex 2 of Grant agreement do not require communication. All extra changes need to be communicated to EAHC and are very timely, so try to reduce these to minimum.

Payments are in Euro so those countries which do not have Euro currency may have some variation in reimbursement due to exchange rates considered. Exchange rates are calculated 3 times throughout the project: for interim and final report. Important to spend all eligible costs first.

Please compile timesheets and keep copy of all receipts, that have to be sent to coordinator.

The coordinator will send copy of signed Grant agreement to all.

Payment:

30% advanced payment within 40 days of contract signature. It is important to spend at least 70% of the advanced payment (30%) in order to get following quotas.

30% after Y 1 reporting

20% after Y2 reporting

20% end of project final report

Important to specify to both coordinator and EAHC which travel/subsistence rates are applied as this was not always specified in Annex. (Greece, Finland, Sweden and Hungary will use national rates)

### ***French Heat prevention plan - Mathilde Pascal INVS***

INVS is a public body that has to deal with all emergencies and the possible impact on health.

After 2003 in France HHWWS (june-august) , syndromic surveillance system were develop. Heat prevention plan includes, protection, identification of at risk groups, development of warning systems and communication plan. At both national and local level these aspects are adopted.

HHWWS warnings are issued after consensus is reached from meteorological and epidemiological experts. The warning is issued by the Prefect.

### ***Italian Heat prevention plan - Anna Maria Bargagli DEP.ASLRME***

The Italian plan is based on: city-specific HHWWS, real time mortality surveillance system, Identification of susceptible subgroups (based on information systems, GP and social worker notification) and local prevention plans based on national guideline.

GP active surveillance example for the Lazio region was illustrated. When a warning is issued GPs schedule closely monitor susceptible patients via phone calls and home visits.

### ***Hungarian heat prevention plan - Anna Paldy NIEH***

Hungary has an emergency plan for the public health service during heat waves. There is a preparation phase before the summer and then during the summer a HHWWS is activated by Met Office and the model developed within Euroheat is also considered. HHWWS has a three level graded warning and prevention measures are at local and national level and include health and social services.

NIEH also issues smog and UV alerts.

### ***Spanish Heat prevention plan - Ferran Ballester, CSISP***

National prevention and control plan of the effects of extreme temperatures was established in 2004 by interministerial Commission ( DG Ministry of Environment, Ministry of Environment and Ministry of PA. Public health)

HHWWS based on maximum and minimum temperatures 5-day forecast, for 52 capitals of provinces from June-September. 3-level graded warning. Actions taken are graded on the level of risk issued. There is a mortality and morbidity surveillance system.

Valencian region has a different HHWWS which has smaller geographical units and prediction for 3 days.

### **Forest Fires and air pollution - Timo Lanki THL**

Timo Lanki showed the risks of forest fires and long range transport of air pollution, in particular studies carried out in Finland. A panel study on cardiopathic patients showed that personal exposure measures of PM<sub>2.5</sub> correlates with outdoor exposure. The KATSU-2 project was illustrated and objectives include:

To develop science-based solutions that reduce the PM<sub>2.5</sub> exposure and health hazards of the Finnish population originating from episodic transnational transport of wildfire smoke:

- *Prototype of an operative early warning and situation awareness system* that offers common real-time information
- *Considerable improvement of PM<sub>2.5</sub> filtration* in large buildings with complete mechanical ventilation system

### **General points**

Proposal of next meeting October 24-25th. Last week of November WHO meeting in Bonn. Probably to be moved to end of November beginning of December

A DROPBOX folder will be created to share all presentation material and future PHASE documents.

Datasets will further be decided on the basis of what was discussed in each WP meeting.

