ERA-ENVHEALTH NEWSFLASH

1st Semester 2023

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SAVE THE DATE

25-29 September, Bonn, Germany

5th Session of the International Conference for Chemicals Management (ICCM5)

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EDITORIAL

If we are to achieve goals that have been set at the regional and global level and especially the goal to protect human health so that our well-being is maintained, we have to step up our efforts and ensure, inter alia, that the science-policy transfer is working properly.

We are glad that both areas recently received and will soon receive attention. Firstly, the 7th WHO Ministerial "Environment and Health" took place in Budapest, Hungary from 5th to 7th July. It brought together scientists and policy-makers from the wider European region and adopted an ambitious declaration. You can read about its main outcomes on page 2.

As for the upcoming events, the Annual Open Conference of ERA ENVHEALTH will take place in Aveiro, Portugal on 18th October 2023. It will focus on the increasingly pressing issue of forest fires. They are not only a direct consequence of a warming planet but also a huge health burden as large quantities of carbon dioxide, carbon monoxide and fine particulate matter are released into the atmosphere, resulting in respiratory and cardiovascular problems. Another significant health effect of wildfires is on mental health and psychosocial well-being. The current forest fires in Canada whose dire impact was felt in New York, is a reminder how grave this problem is. Last but not least, the 5th "Chemicals Conference" (ICCM-5) will take place in Bonn, Germany at the end of September 2023 and will focus on the challenge of chemicals management beyond 2020.

In the section focusing on scientific work of our partners, you will find intriguing contributions on the secrets of the exposure to chemicals and the ensuing impacts on health in Portuguese indoor swimming pools and on the tools used in Italy to promote research on environment and health.

We wish you relaxing vacations!

7th Environment and Health Ministerial Conference (MCEH7)

(Budapest, 5 – 7 July 2023)

On 5 – 7 July 2023, the World Health Organization (WHO) organised already 7th Ministerial Conference on Environment & Health in Budapest, Hungary. Environmental & health crises put a serious burden on our region's health systems. Therefore, it is essential that we find solutions for our health & for future generations and the 7th edition of the WHO Ministerial Conference on Environment and Health has tried to do exactly that.

The WHO ministerial conferences have a long tradition going back as far as 1989 when the first such conference took place in Frankfurt, Germany. There a framework was created, the European Environment and Health Process (EHP), under which policy-makers and scientists come together to tackle the most pressing issue at the environment and health nexus. The 7th conference in Budapest, as a follow-up to the previous Ostrava conference, has focused on the root causes of the staggering 1,4 million deaths per year in the Region that are still attributable to environmental risk factors. The conference was divided into 7 sessions, each contributing to the quest for finding solutions to major environmental problems. The areas of health and environment were looked at in a synergistic manner with distinguished scientists and policy-makers as key-note speakers. **Harry Rutter**, Professor of Global Public Health at the University of Bath, UK, spoke on the ways to tackle the "triple environmental crisis", epidemiologist **Paolo Vineis** from Imperial College London introduced the concept of exposome and shed light on the diverse environmental determinants of health and **Karin Pittel**, Director of the ifo Centre for Energy, Climate and Resources, Munich, Germany talked about the need for a fundamental shift in environment and health policies towards a more holistic cross-sectoral approach.

Furthermore, the conference launched 5 new partnerships addressing major environment and health concerns (see p. 7 for more information about the HBM Partnership launched by Germany and Georgia) and adopted a negotiated ministerial declaration. Through the declaration, Member States committed to pursue decision that will reverse current unsustainable trends. Specifically, Member States committed to:

- accelerate just transition towards resilient, healthy, equitable and sustainable societies
- prioritize action on health challenges related to the triple planetary crisis, including by strengthening the engagement of the health sector in environmental protection
- while implementing the needed measure, to use the "Roadmap for healthier people, a thriving planet and sustainable future 2023-30

An integral part of the conference was the participation of public and specifically youth representatives.

The EHP Partnership on Human Biomonitoring

Rosa Lange, Aline Murawski, German Environment Agency

At the 7th Ministerial Conference on Environment and Health of the European Region of the World Health Organisation (WHO) a new mechanism within the European Environment and Health Process (EHP) was presented: The EHP Partnerships. The EHP Partnerships are a platform that bring together countries and other partners to expedite the commitments made at the Ministerial Conference to improve human health and well-being. The EHP Partnerships are established by decisions of the European Environment and Health Task Force (EHTF) and operate in accordance with the Terms of Reference of the Partnerships.

One of these EHP Partnerships is the EHP Partnership on Human Biomonitoring (HBM) that was launched at the 7th Ministerial Conference, held in Budapest (see p. 8 for more information). HBM has been identified as a measure to reduce adverse effects of chemicals on human health and the environment already at the 6th Ministerial Conference held in Ostrava in 2017.

The EHP Partnership on Human Biomonitoring will be led by the Federal Ministry of Environment, Nature Conservation, Nuclear Safety and Consumer Protection from Germany and co-lead by Georgia. HBM, the measurement of chemicals in human body fluids (such as blood and urine), is useful tool to intertwine health and environmental policies. Identifying critical levels of chemicals within populations and investigating possible exposure sources and exposure pathways help to prioritise the needs for policy action in both the human health and environmental sector.

The EHP Partnership on Human Biomonitoring aims to extend the application of human biomonitoring as a scientific tool to inform policy decisions, to share experience and to build capacity in the Region in use of human biomonitoring in regulating hazardous chemicals and protecting public health. It will serve as a platform for regular exchanges of experience, examples of good practice and enhanced opportunities for bilateral and multilateral cooperation that facilitate initiation or extension of national human biomonitoring programmes. The development of a common political agenda and coordinated action will increase acceptance of data from human biomonitoring as an instrument to guide policies on hazardous chemicals.

Several research projects on HBM have been conducted within the European Union, however, the EHP partnership on Human Biomonitoring is the first common initiative for HBM for the entire WHO European Region. There is an increasing interest among the Member States and Austria, Belgium, France, Hungary, Lithuania, and Spain already committed themselves to this new EHP Partnership, that is set up as a permanent platform exchange and collaboration in the field.

Unlocking the secrets of chemical´s exposure and health in Portuguese indoor swimming pools

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A multidisciplinary research team composed by exposure scientists, toxicologists and risk assessors specialists from Portugal and Spain, has successfully completed a study that aimed to estimate attributable lifetime cancer risk (LCR) and hazard index (HI) of trihalomethanes´ (THMs) exposure in 10 Portuguese public indoor swimming pools (SP) (https://doi.org/10.1016/j.scitotenv.2021.151790). The probabilistic approach based on Monte Carlo simulations was built on chronic daily intake (CDI) estimates of four THMs (chloroform, bromodichloromethane, dibromochloromethane and bromoform) in 238 non-competitive attendees, considering multiple exposure routes (oral ingestion, dermal contact and inhalation).

The public indoor SPs located in the North of Portugal were randomly selected, and had chlorination as the main water disinfection method, either alone (n=6) or in combination with ultraviolet radiation (n=4). SP attendees were invited to participate in the study on a voluntary basis and those enrolled (238 non-competitive attendees) provided relevant physiological information (e.g. sex, age, and body height and weight) and SP exposure parameters (e.g. duration of the activity, practice frequency and exposure duration; i.e., number of years of non-competitive practice) through a self-administered questionnaire.

Using the Swimmer Exposure Assessment Model (SWIMODEL) version 3.0, conceived by the U.S. EPA, this study indicated that chloroform is the predominant THM, and that inhalation is the most relevant exposure route in non-competitive attendees. Indeed, the highest levels of risk were associated to exposure to chloroform through inhalation, as the estimated LCR and HI were higher than the acceptable risk level (1×10^{-6} and 1, respectively). In the scenarios examined (central tendency exposure and reasonable maximum exposure) the health risks for females were slightly higher than for males. In addition, sensitivity analysis showed that practice frequency and exposure duration play an important role on total risk estimates. Altogether, this work suggested that it is crucial to define and implement effective regulatory and other mitigation measures to reduce human health risks in indoor SP environments, without compromising the microbiological quality of SP water. The novelty and interest of this study has captured the attention of the research community having received an IACOBUS Paper Award in 2023.

All data were collected within the scope of the SWAN cross-sectional study (NORTE-01-0145-FEDER-000010) which aimed to assess the influence of the SP environment on respiratory symptoms and diseases and on genotoxicity outcomes among SP attendees. This work has received approval for research ethics from the Ethics Committee of Centro Hospitalar de São João/Faculty of Medicine University of Porto, Porto, Portugal (reference number 296/16) and was conducted according to the Declaration of Helsinki; written informed consent was obtained from all participants.

Italian funds to promote research on environment and health

Liliana Cori, National Research Council, Italy

The Italian Ministry of Health is mandated to use EUR 21 million to promote applied research with multidisciplinary approaches in the fields of health, environment, biodiversity and climate, as part of the National Recovery and Resilience Plan (National Law 101/2021).

14 projects were approved in 2022 and will work from the beginning of 2023 to the end of 2026.

The aim is to develop a new institutional structure able to manage health-environment-climate issues, to strengthen the National Health System, using a holistic One Health approach. The main novelty is the focus on the involvement of citizens and non-governmental organisations as key actors in health protection activities with regard to currently known risks and upcoming environmental-climatic challenges.

One of the projects, called 'One Health Citizen Science' for short, will address 'Exposure and health assessment using the integrated One Health approach with the involvement of communities living in areas of high environmental pressure in Italy'. The challenge is to involve lay communities in identifying the problem, producing data, interpreting the results and developing actions and recommendations for intervention.

The project deals with contaminated areas or with the management of municipal solid waste (MSW) in 6 different Italian regions. One Health Citizen Science will practice and provide recommendations along a cycle of activities: characterizing the state of environmental quality in contaminated areas; assessing the exposure of the population to specific pollutants; investigating the association between environmental risk factors and health outcomes; measuring the impacts associated with contamination and remediation scenarios; envisaging the activation of participatory pathways at each stage of the process, together with appropriate risk communication strategies.

In each area, during an initial exploration phase, the inclusion of stakeholders and a series of intervention modules will be tested. The activities to be developed over four years will begin with the identification and updating of environmental data and the definition of community health conditions in the different intervention areas. This initial review will allow research questions to be discussed with citizens and associations, in order to decide how to proceed, e.g. by strengthening epidemiological surveillance activities such as disease registers, active surveillance systems, updating residential cohorts to study the association between exposure to environmental risk factors and selected health outcomes. It will also be crucial to: assess human, animal and environmental exposure to pollutants; recognise the association between human exposure and selected health outcomes; assess integrated impacts; identify useful data to be produced to consolidate existing knowledge and produce preventive actions.

Risk communication activities will be crucial, and the intention to work with a participatory methodology should help to overcome several problems of understanding often encountered in the field of environmental epidemiology. The possibility of working in partnership with citizens, citizens' associations, health and environmental professionals and policy-makers will allow for different points of view and multiple times and levels of action.

Prevention measures, for example, could be implemented at the personal level, with immediate effects, by avoiding the consumption of polluted water or contaminated food, or at the community level, by planning remediation, surveillance and prevention measures.

The consequences will be significant in terms of the configuration of the network of services and care processes, in order to reconnect primary prevention and health promotion functions in a homogeneous framework. Together with the needs for knowledge and participation in the decision-making processes of the communities involved, there is in fact a need to improve the framework of risk governance at the institutional level, making responsibilities, decision-making levels and administrative requirements clear.

UPCOMING EVENTS

5th session of the International Conference for Chemicals Management (ICCM5)

When: 25 – 29 September 2023

Where: Bonn, Germany

The fifth session of the International Conference for Chemicals Management (ICCM5) will be organized in Bonn, Germany, 25 - 29 September 2023. The Strategic Approach to International Chemicals Management (SAICM) is a policy framework to promote chemical safety around the world and ICCM is its highest decision making body. The overall SAICM`s objective is the achievement of the sound management of chemicals throughout their life cycle so that by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health. Nowadays, intersessional process (IP) has been launched to negotiate a successor to SAICM for strengthening the sound management of chemicals and waste (SMCW) for a just and resilient world beyond 2020. The meeting in 2023 should renew the commitment enshrined in the Dubai Declaration from 2006 but also reinforce actions to promote sound and sustainable chemicals management globally.

Annual open conference of ERA ENVHEALTH Network

When: 18 October 2023, 14:00 – 17:30

Where: University of Aveiro, Portugal and online

Forest Fires – Climate change and Health impacts

Wildfires are often caused by human activity or a natural phenomenon such as lightning, and they can happen at any time or anywhere. Every year, forest fires burn millions of hectares worldwide, colouring the skies red and orange and leading to a deterioration of the air quality, and loss of property, crops, resources, animals and people.

Due to climate change, the size and frequency of fires are growing. Hotter and drier conditions are drying out ecosystems and increasing the risk of wildfires. Wildfires also simultaneously impact weather and the climate by releasing large quantities of carbon dioxide, carbon monoxide and fine particulate matter into the atmosphere. The resulting air pollution can cause a range of health issues, including respiratory and cardiovascular problems. Another significant health effect of wildfires is on mental health and psychosocial well-being.

Wildfires cause episodes of the worst air quality that many people will ever experience. Fine particulate matter can be inhaled deep into the lungs, where it may lead to systemic inflammation that affects other parts of the body. On smoky days, more people visit emergency rooms, more people are admitted to hospital and some people will die because of the smoke exposure.

High-intensity forest fires destroy flora and fauna. The destruction this leads to is undeniable. Swathes of forest and peatland are destroyed. Countless animals caught up in the flames and smoke perish. When the flames reach areas inhabited by people, many human lives and homes are lost. Forest fires can also impact the economy as many families and communities depend on the forest for food and fuel.

The 2023 Open Conference of the ERA ENVHEALTH network will address the effects of forest fires on the environment and health, including occupational health, and the mitigation and adaption strategies for policy decision support, to control those impacts in a future under climate change. Recognised researchers in the field will present their recent projects and outcomes to better tackle forest fires and climate change for the protection of our health.

If you´re interested in participating, please contact Joana Ferreira (jferreira@ua.pt)

The ERA-ENVHEALTH Network

What?

ERA-ENVHEALTH is an active transnational network including stakeholders in the Environment and Health field, stemming from a previous European-funded project, which ended in 2012. It is a forum to discuss challenges, visions and emerging issues.

Why?

The main purposes for the network are to share and exchange information and promote networking and joint activities (such as the annual open conference on specific topics of interest).

Join us!

The structure of the network is based on "contributing and sharing"; each organisation participates on a voluntary basis.

CONTACTS

https://www.anses.fr/en/content/era-envhealth-network

Do not hesitate to get in touch with the network either through your national contact point and member of the network or by contacting:

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NETWORK MEMBERS

	Acronym	Name	Country
anses	**ANSES**	French Agency for Food, Environmental and Occupational Health & Safety	France
	CNR	Italian National Research Council	Italy
epa	**EPA**	Environmental Protection Agency	Ireland
service public fédéral SANTE PUBLIQUE, SECURITE DE LA CHAINE ALIMENTAIRE ET ENVIRONNEMENT	**FPS HFCSE**	Federal Public Service Health, Food Chain Safety and Environment	Belgium
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	RIVM	National Institute for Public Health and the Environment	Netherlands
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