**EDITORIAL**

**MULTIPLE EXPOSURES IN ENVIRONMENTAL HEALTH - AN INTEGRATED APPROACH FOR SUSTAINABLE DEVELOPMENT: THE DIGITAL EVENT IS AVAILABLE ON-LINE**

On October 7th, the Public Health Agency of Sweden and the Swedish Environmental Protection Agency jointly organised the 2020 ERA-ENVHEALTH Open Conference, this time online. The digital event presented ongoing research and policy work on multiple exposures in environmental health, with a special focus on equity.

The three-hour conference presented ongoing research and policy work on multiple exposures in environmental health, with a special focus on equity. It was broadcast from a studio in Stockholm with presenters live in the studio as well as via link. Interaction with the conference participants was enabled through an app.

The aim of the conference was to provide an arena for knowledge exchange between academia and the public sector, and to develop and promote national and international collaboration in environmental health. We discussed how to address exposures to several environmental factors that affect health and wellbeing in an integrated way, both from a policy and a research perspective.

The conference was structured around four main themes:

- Interdisciplinary collaboration
- Agenda 2030 as a tool for collaboration
- Mainstreaming equity in environmental health
- Tools and examples of multiple exposure assessments

See: [https://www.folkhalsomyndigheten.se/2020-era-envhealth-open-conference/](https://www.folkhalsomyndigheten.se/2020-era-envhealth-open-conference/)

The event was a real success, particularly because of its very dynamic format, mixing interviews, presentations, films and on-set discussions. Around 350 participants registered to the conference, which has also been made available to watch online. To date, the conference has had over 700 visits.

**You can watch the event online with subtitles in English and Swedish via this link:** [https://www.youtube.com/watch?v=a7Quv1FoMYI&feature=youtu.be](https://www.youtube.com/watch?v=a7Quv1FoMYI&feature=youtu.be)
INTRODUCTION INTERVIEW WITH ADRIENNE PITTMAN CHAIR OF ERA-ENVHEALTH
Assistant Director, European and International Affairs Department, French agency for food, environmental and occupational health & safety (ANSES)

ERA-ENVHEALTH is a unique network for Environment and Health research in Europe implemented initially to join forces and resources to increase the relevance and efficiency of environment and health research in Europe.

It stems from a European Commission co-funded ERA-NET (2008-2012) under the 7th research an innovation framework programme with the aim c providing targeted support to the coordination an mutual opening of national and regional research programmes. The goal of the scheme was also to establish long-term cooperation between the national programmes in order to achieve joint transnational research programmes. The ERA-ENVHEALTH project brought dynamism to environmental health research in Europe by promoting collaboration and innovative ideas, and increasing the visibility of environment and health as a key area for research. Despite the discontinuation of European funding end of 2012, some of the members chose to maintain the network and its activities and to continue focusing on information exchange, communication and implementation of joint activities such as the annual open conference on specific topics of interest and disseminating a biannual newsletter.

The ERA-ENVHEALTH consortium is an active transnational network including stakeholders in the Environment and Health field (currently 11 organisations from 9 countries). It is also a forum to discuss challenges, visions and emerging issues in the environment and health domain and facilitates better communication and deeper understanding of the drivers and priorities in E&H for both scientists and policy-makers. In this respect, access to, sharing and communicating information is a crucial success factor, and joint activities are essential to promote exchange and collaboration and foster new ideas to enhance the uptake of environment and health issues and co-benefits in different sectors and provide valuable support in tackling the future challenges for better health and well-being.

The network brings value to its members through this active information sharing and has also led to a number of its members participating together in, or contributing to, other initiatives in the environment and health area. Two major initiatives to which the network is currently contributing include:

- The HERA project (2019-2021) who’s overall aim is to set the priorities for an environment, climate and health research agenda in the EU by identifying through a holistic, systemic and inclusive approach both the environmental opportunities for health improvements, and the major environmental problems and challenges that need to be addressed. The preparation of a European Partnership for the Assessment of Risks from Chemicals under Horizon Europe to facilitate the transition to next-generation risk assessment in order to better protect human health and the environment, in line with the ambitions set out by the EU Green Deal for a toxic-free environment. It will serve as a catalyst for the “EU chemicals strategy for sustainability”. If accepted, it will advance research, share knowledge and improve expertise on chemical risk assessment.

The structure of the ERA-ENVHEALTH network is based on “contributing and sharing” and involves no centralised budget; each organisation participates on a voluntary basis.

The 2020 annual ERA-ENVHEALTH Open Conference, innovatively organised by Sweden as a virtual event, is a great example of the aim and impact the network can have to increase knowledge with regards to specific environmental and health topics, develop new ideas and broaden approaches, and promote interdisciplinarity and collaboration. Don’t hesitate to join us in the future and contribute to building up this innovative discussion forum.
BROAD RANGE OF PARTICIPANTS

The majority of participants came from national agencies (40%) or academia (36%), while a tenth of the participants represented local and regional governments. Out of the remaining 14%, approximately half represented different ministries, consulting agencies or research funding agencies and the other half an unspecified “other”. When asked to describe area of work in one word, a range of disciplines were represented, but most could be divided into either, not surprisingly, the health sector or the environmental sector. The word cloud presents the answers from the participants:

THE BENEFITS OF INTERDISCIPLINARY COLLABORATION

When asked what the benefits of interdisciplinary collaboration are, the participants presented a range of answers. Most agreed that it provides a better understanding and greater knowledge, as it enables to see all parts of an issue as a whole. Collaboration is required to understand interactions, to co-construct solutions and better interventions, and to incorporate these into new areas and improved decision-making. It was also highlighted as a means of method development through learning about concepts and methods from other fields, including cultural and societal context. Collaboration was also viewed as a driver for public engagement and stakeholder input, by for example promoting synergistic use of green space in urban settings for climate adaptation, health and biodiversity.

THE AGENDA 2030 THEME OF THE CONFERENCE

The participants were asked which of the 17 SDGs they primarily worked towards. Not surprisingly, the most common answer was SDG 3 on Good Health and Wellbeing, which nearly a third (31%) of the participants stated they worked towards. The second most common SDG was Sustainable Cities and Communities (SDG 11) with almost 15% of the respondents indicated working towards, followed by Climate Action (9.4%), Reduced Inequalities (8.9%) and Clean Water and Sanitation (6.6%). The figure indicates all answers, which show that all 17 SDGs are actually included in the work of environmental health.
DG FORUM – SWEDISH GOVERNMENT AGENCIES IN JOINT FORCES IMPLEMENTING THE 2030 AGENDA
By Cristina Mattson-Lundberg, Swedish Ministry of Health and Social Affairs and Lotta Lagerberg, Swedish Environmental Protection Agency

The "DG Forum – Swedish government agencies in joint collaboration for the 2030 Agenda" comprises hitherto of nearly 80 government agencies. Through a joint letter of intent and with due respect for the various missions and activities, the agencies within the DG Forum signal the importance of a closer partnership in the implementation of the 2030 Agenda. With less than ten more years to go, the DG Forum acknowledges the need to accelerate progress and step up for action and deliveries in order to fulfil the goals set by the world leaders in September 2015.

In September 2019, the Swedish government stated: "Our generation is the first that can end poverty around the world and the last that can end global warming. Sweden must be at the vanguard for the 2030 Agenda". The peaceful and democratic conditions that have long characterized our country and an openness to collaboration and cooperation, at home and abroad, has created a strong foundation for sustainable development and welfare. Sweden is well positioned to reach the 17 goals and the 169 targets, and has undertaken concrete policy measures in several areas to deliver.

In addition, in several policy areas the national objectives adopted by the Riksdag (Swedish Parliament) are more ambitious and far-reaching than the targets in the 2030 Agenda – including parliamentary goals on the environment, public health and Sweden’s policy for global development.

However, despite these efforts, Sweden is facing challenges. Statistics Sweden has identified that Sweden’s major challenges to reach the SDGs first and foremost are rising inequalities, mental health, bullying, threats and violence.

After the adoption of the 2030 Agenda in September 2015, a number of Swedish government agencies came together in joint forces to implement the 2030 Agenda. The “DG Forum – Swedish government agencies in joint collaboration for the 2030 Agenda” comprises hitherto of nearly 80 government agencies. Through a joint letter of intent and with due respect for the various missions and activities of public agencies, the agencies within the DG Forum signal the importance of a closer partnership in the implementation of the 2030 Agenda.

The forum is a platform through which the heads of government agencies can conduct a strategic dialogue at the management level, while simultaneously creating opportunities for collaboration and concrete partnerships. The starting point is the forum’s collaboration plan from which participants work on solving common challenges and identifying the opportunities for implementing the agenda. The agencies behind the declaration are committed to contributing to the implementation of the 2030 Agenda by integrating the three dimensions of sustainable development into their activities based on their respective core missions.
THE EQUITY IN ENVIRONMENTAL HEALTH THEME OF THE CONFERENCE

When asked which socioeconomic factors have the greatest impact on equity in environmental health, almost half of the respondents chose “education”, which is also the most determining factor for health. A third of the respondents picked income as having the greatest impact on equity in environmental health while the remaining 20% stated location. All of these three determinants of health are possible to change. However, age and gender also affect an individual’s susceptibility to environmental health risks and need to be considered together with the above factors when assessing health impacts. Surprisingly, none of the respondents chose either one of those factors.

ENVIRONMENTAL HEALTH INEQUALITIES ACROSS EUROPE: EVIDENCE FOR ACTION
By Matthias Braubach, WHO European Centre for Environment and Health

The key findings of recent WHO work on environmental health inequalities were presented, focusing on the unequal distribution of environmental risks within countries and exploring how equity-sensitive monitoring of environmental conditions can support the mitigation of health inequalities.

Environmental conditions are a major determinant of health and well-being, but they are not shared equally across the population. Higher levels of environmental risk are often found in disadvantaged population subgroups. Recent work of the WHO Regional Office for Europe has explored the unequal distribution of environmental risks and injuries within countries and shows that undue disparities in environmental conditions, risk exposures and related health outcomes affect citizens daily in all settings where people live, work, travel and spend their time.

The magnitude of environmental health inequalities within countries is documented by 19 inequality indicators on urban, housing and working conditions, basic services and injuries. Inequalities in risks and outcomes occur in all countries in the WHO European Region, and the latest evidence confirms that socially disadvantaged population subgroups are those most affected by environmental hazards, causing avoidable health effects and contributing to health inequalities.

In many cases, socially disadvantaged groups are five times more likely to be exposed to environmental hazards, but environmental disadvantage can also be associated with sex, age, ethnicity, location of residence or household composition.

The data compiled prove that environmental health inequalities have not been managed and addressed successfully in many European countries, as there are several environmental risks for which exposure inequalities have been increasing over recent years. This is especially the case for energy poverty, thermal comfort, damp homes and noise perception, for which exposure inequalities have grown in most countries in the Region and thus represent a common concern. However, another concern shared across the WHO European Region is the lack of data on inequalities in environmental conditions, restricting a more detailed assessment of environmental justice issues in many countries.

The results of this work call for more environmental and intersectoral action to identify and protect those who already carry a disproportionate environmental burden. The availability of stratified data on exposure to environmental risks is a pre-condition for addressing inequalities in environmental risk, and fundamental for the mitigation of health inequalities and the establishment of fairer and more socially cohesive societies.
In Germany, people living in socially deprived neighborhoods are more affected by multiple health-related environmental burden than better-offs. Even so, there are hardly no strategic approaches to tackle environmental health inequalities at the local level. In a research project of the German Institute of Urban Affairs (Difu), three pilot municipalities tested how the integrated approach of environmental justice can be implemented in municipal practice, funded by the German Environment Agency. The findings have been incorporated into the online toolbox "Environmental Justice" (www.toolbox-umweltgerechtigkeit.de, in German). It provides practical information on environmental justice, especially for those in local government and politics.

In many German municipalities, environmental health risks are concentrated in socially deprived neighborhoods. People living in those neighborhoods are affected by multiple health-related environmental burden and have poorer access to environmental benefits than better-offs. Even so, there are hardly no strategic approaches to tackle environmental health inequalities at the local level. Measures for implementing environmental justice in municipalities (and municipal planning) are still widely lacking.
Health Effects of Combined Exposure to Surrounding Green, Air Pollution and Traffic Noise

By Jochem Klompmaker, Harvard T.H. Chan School of Public Health

Background: Evidence is emerging that poor mental health is associated with the environmental exposures of surrounding green, air pollution and traffic noise. Most studies have evaluated only associations of single exposures with poor mental health.

Objectives: To evaluate associations of combined exposure to surrounding green, air pollution and traffic noise with poor mental health.

Methods: In this cross-sectional study, we linked data from a Dutch national health survey among 387,195 adults including questions about psychological distress, based on the Kessler 10 scale, to an external database on registered prescriptions of anxiolytics, hypnotics & sedatives and antidepressants. We added data on residential surrounding green in a 300m and a 1000m buffer based on the Normalized Difference Vegetation Index (NDVI) and a land-use database (TOP10NL), modeled annual average air pollutant concentrations (including particulate matter (PM10, PM2.5), and nitrogen dioxide (NO2)) and modeled road- and rail-traffic noise (Lden and Lnight) to the survey. We used logistic regression to analyze associations of surrounding green, air pollution and traffic noise exposure with poor mental health.

Results: In single exposure models, surrounding green was inversely associated with poor mental health. Air pollution was positively associated with poor mental health. Road-traffic noise was only positively associated with prescription of anxiolytics, while rail-traffic noise was only positively associated with psychological distress. For prescription of anxiolytics, we found an odds ratio [OR] of 0.88 (95% CI: 0.85, 0.92) per interquartile range [IQR] increase in NDVI within 300 m, an OR of 1.14 (95% CI: 1.10, 1.19) per IQR increase in NO2 and an OR of 1.07 (95% CI: 1.03, 1.11) per IQR increase in road-traffic noise. In multi-exposure analyses, associations with surrounding green and air pollution generally remained but attenuated. Joint odds ratios [JOR], based on the Cumulative Risk Index (CRI) method, of combined exposure to air pollution, traffic noise and decreased surrounding green were higher than the ORs of single exposure models.

Associations of environmental exposures with poor mental health differed somewhat by age.

Conclusions: Studies including only one of these three correlated exposures may overestimate the influence of poor mental health attributed to the studied exposure, while underestimating the influence of combined environmental exposures.
Transferring the transport sector for everyone
By Kilian Frey, German Environment Agency

In December 2020, the German Environment Agency has published a position paper on how to achieve more socially just and environmentally friendly mobility.

The transport sector is the only sector in Germany where greenhouse gas emissions have remained virtually unchanged, and it is one of those areas of everyday life in which equal participation for all is often not guaranteed. In other words, the German transport system is in urgent need of reform, both from an ecological and social point of view.

The current equality gap in transport is large and has many facets: people on low incomes tend to be more affected by transport-related air pollutants and noise than those who are socially better off. Women, children or elderly people for whom pedestrian travel plays an important role are disadvantaged in our car-dominated cities. The specific environmental costs of car transport are to a large extent not borne by the polluters but passed on to society. Prices for public transport have risen twice as much as the cost of buying and maintaining cars. Company car privileges, mileage allowance and energy tax rebate for diesel fuel have negative distributional effects and they cost German taxpayers billions every year.

Transport transition makes an essential contribution to closing the equality gap. However, care must be taken to ensure that transport transition does not create new social imbalances, for example through rising fuel prices. Policy makers must take this concern seriously and find targeted simultaneous solutions for a socially just and ecologically effective organisation of transport transition.

The position paper is available here: https://www.umweltbundesamt.de/publikationen/transforming-the-transport-sector-for-everyone

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Upcoming Events

International Symposium on "Credibility of scientific expertise and public decision-making" - New challenges for the governance of health risks in a changing world
Due to the health context, the symposium initially planned for July 2020 will now take place in 2021 as a virtual event:
- the afternoon of 20 January, framing presentations
- the afternoon of 21 January, initial lessons learned from the COVID-19 crisis
- a series of 10 thematic webinars held on the afternoons of 26 January, 2 February, 8 February and 9 February.

Programme and Registration
Most sessions will be in English with simultaneous translation into French.
The European Environment and Health Action Plan for 2004-10 pointed to a need to strengthen networks between researchers, policy-makers and stakeholders. The FP7 ERA-ENVHEALTH project was set up to bring together European organisations planning research in the Environment and Health (E&H) arena with the objective of providing policy support. ERA-ENVHEALTH's task was to mobilise scientific research in support of European and national policies on E&H issues.

Goals and activities
ERA-ENVHEALTH facilitates better communication and deeper understanding of the drivers and priorities in E&H for both scientists and policy-makers. ERA-ENVHEALTH is a unique active transnational network in the E&H field. ERA-ENVHEALTH has shown that transnational collaboration in E&H fills an important niche and the network is an innovative forum to discuss challenges, visions and emerging issues. In this respect
- access to, sharing and communicating information is a crucial success factor, and
- joint activities are essential to promote exchange and collaboration and foster new ideas to enhance the uptake of environment and health issues and co-benefits in different sectors and provide valuable support in tackling the future challenges for better health and well-being.

The structure of the network is based on “contributing and sharing” and involves no centralised budget, each organisation participates on a voluntary basis.

Join us!
- Become a member: signature of the MoU, contribution on a voluntary basis
- Register for the ERA-ENVHEALTH newsflash: with regular up-to-date information on E&H activities
- Participate in its annual conferences and help build up this innovative discussion forum

THE ERA-ENVHEALTH MEMBERS

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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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