

DIALOGUE SESSION

Health and climate change



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The International Scientific Conference *Our Common Future under Climate Change* took place at UNESCO and UPMC (Paris) in July 2015. This four-day conference was the largest forum for the scientific community to come together ahead of the 21st UNFCCC Conference of the Parties (COP21) hosted by France in December 2015 (Paris Climat 2015). Building on the results of IPCC 5th Assessment Report (AR5), the Conference addressed key issues concerning climate change in the broader context of global change. The conference was a major opportunity for scientists, stakeholders and the larger public, to take stock of existing knowledge, explore and identify innovative solutions, discuss them, and prepare for an ambitious post 2015 climate governance regime. To strengthen the dialogue between scientists and the actors involved in the fight against climate change and to feed the future agenda of research, the Conference also offered a venue for scientists, policy-makers, businesses and NGOs to dialogue about specific topics.

www.commonfuture-paris2015.org

The Scientific Conference *Our Common Future under Climate Change* explored all the dimensions of climate change and aimed at bridging the science – policy gap to promote solutions for adaptation and mitigation. Human health was addressed by several parallel sessions during the conference, underlining the growing interest and the scientific progress made in this field. Climate change is a serious threat to human health and well-being, but health can also be at the heart of the solutions. Smart mitigation strategies may indeed improve the health and quality of life of billions of citizens through improvements in air quality, physical activity, urban health and nutrition, for example. In the long-run, mitigation strategies could also alleviate existing environmental disparities, resulting in a healthier and fairer world.

Human health is directly relevant to four key aspects of current climate negotiations; mitigation, adaptation, financing, and capacity development, but seldom discussed as such. Science provides one set of tools that can advance this discussion, but so do other key sectors of civil society. An outreach session on health and climate change was organized during the conference. During two hours, invited scientists, decision-makers and representatives of non-governmental organizations examined the impacts of climate change, adaptation and mitigation through the lens of human health and well-being, and exchanged views on the scientific, social and ethical implications. Key messages from this session are summarized hereafter.

RECOMMENDATIONS

- The impacts of climate change on health, and also the effects on health of responses to climate change, need to be explicitly considered when developing adaptation and mitigation strategies.
- Public health professionals should propose a vision of a healthier climate-friendly world, and strive to make stronger connections with other disciplines and stakeholders.
- Epidemiology and public health need to devote energy towards developing study designs relevant to investigation of the health consequences of climate policies.
- Health researchers and others must develop appropriate health indicators that may be integrated into the follow-up and evaluation of adaptation and mitigation plans.
- No-one should overlook the relevance of community-based adaptation and empowerment since these are key to both effective responses to climate change and sustained health gain.
- Research and training need to be reinforced.

Reframe climate change, adaptation and mitigation as public health questions

The purpose of the session was not to sum up the health impacts of climate change. This has been done by others, including the Intergovernmental Panel on Climate Change (IPCC), the Lancet commission on climate change, the World Health Organization (WHO) and many national and regional assessments. The common message is that climate change seriously threatens human health, and that increasing impacts will be observed in the future, their magnitude depending on the intensity of the warming. In addition, climate change is likely to increase inequalities between and within countries and to hamper development. In a more unequal world, many health threats will be amplified, including those sensitive to poverty and political instability. The existence of profound but frequently unpredictable impacts from climate change reinforces the need for a precautionary approach to the problem, and demonstrates furthermore that climate change is not an issue that will be easily managed through incremental improvements in infrastructure, planning and governance. A major coordinated response across all sectors of society is required to both mitigate and adapt.

Climate change is still commonly seen as principally an environmental issue, not as a social or health issue. Health has been barely addressed by climate change policies, and is seldom included in adaptation and mitigation plans. By failing to state explicitly that human health and well-being are core reasons to limit climate change, policies are missing key opportunities. Human health and well-being are the end results of complex interactions between the environment and the society. Taking this into account can lead to better integrated policies. Health is also known to be a key motivator for people to act, and could be used to promote climate-friendly behaviors.

We don't have a control planet!

Several reasons can explain the low penetration of climate change and health-related issues in the population, in science and in policies. Some are to be found in the methodological limits of current epide

miological methods, and barriers to interdisciplinary collaborations. The study of climate change has been historically driven by disciplines like physics, in which assessment of evidence and attribution differs in some respects from the approaches taken in epidemiology and other public health sciences.

Being a planetary issue, with everybody exposed and no possibility for a control population, with the impacts depending on the complex relationships between human society and the environment, climate change is pushing the frontiers of traditional epidemiology. There are two difficulties: firstly reliable health records do not stretch back far into the past – there are no epidemiological equivalents of ice core data! Secondly there are many other influences, apart from climate that affect human health. Indeed health is so highly buffered by social responses, especially in developed countries where most studies are performed, that it is difficult to identify direct relationships between climate change per se and recent changes in health status. In the last decades, health has improved in many places due to social and economic improvements, while temperatures were increasing. On this basis, some have suggested that it may be possible with technology to avoid the negative impacts of climate change on human health in the future. However, there are plenty of instances of vulnerability of human health to weather, even in highly developed countries where adaptation is supposed to be at its maximum. In addition, no one can predict the level of adaptation that would be needed to cope with a much warmer world, nor if such adaptation would be economically and technically possible, let alone whether such protection would be available to all. Many people think in terms of a linear relationship between climate change and health, but non-linear responses should also be considered and scenarios with tipping points leading to potentially catastrophic outcomes explained to the decision makers and the public.

None of these issues are insoluble. A way to overcome the problem is to reframe climate change, adaptation and mitigation as public health questions.

Connect health, climate, and ways of life to reduce the risks to health

A first step in reframing the question is to develop a narrative that connects health, climate, ways of life, and the amplifying impacts of climate change on risks to health, in order to involve the health community. Initially climate change attracted little interest from the health community, but this is changing. Health professionals working on climate change should make the effort to better explain both the relationships between health and climate change and the health co-benefits of climate change mitigation, as well as their policy-relevance. They need to underline the issues on which there is a reasonable consensus, and to acknowledge uncertainties. It is a mistake to exaggerate or to extrapolate further than can be justified, leading to unsubstantiated connections between some health outcomes and climate change, and impairing the credibility of the whole topic.

Imagine the worst-case scenario

Another way of reframing climate change as a public health question can be found in the recent climate change risk assessment initiated by the UK Foreign and Commonwealth Office (www.csap.cam.ac.uk/projects/climate-change-risk-assessment/) The authors led by Sir David King considered the health impacts of climate change using a paradigm common in public health risk assessments: what is the worst-case scenario, the one where the health consequences would be catastrophic, and what would be its probability under different climate scenarios? An example of a worst-case scenario is one in which outdoor temperatures rise to the point that conditions are unbearable even for healthy adults, making unprotected outdoor activity physically impossible. This way of reframing the question allowed the authors to couple state-of-the-art climate and epidemiological knowledge to provide useful information to policy-makers.

A key opportunity: link adaptation strategies and health prevention

Adaptation should also be considered as a public health issue, although so far few adaptation strategies are explicitly mentioning and involving

health. In many cases, adaptation strategies and health prevention are overlapping. A way to bring health considerations into adaptation strategies is to be involved in the development of the strategies at the community level. Public health professionals can rely on epidemiological evidence to propose relevant interventions. They can also follow and assess the health consequences of adaptation strategies that are being developed in many places in the world. There are unique opportunities to do more experimental, interventional studies, to observe, compare and assess the effectiveness and efficiency of different adaptation options. Public health professionals also need to think of health indicators, accessible to communities, easily measured, and understandable by different sectors that could be integrated into the follow-up and evaluation of adaptation plans. Such indicators need to be developed for physical health, mental health, and other areas such as nutrition and health systems.

Connect with all stakeholders

Stakeholders, e.g. Non-Governmental Organisations involved in adaptation should be assisted to better understand the health consequences of their actions. MOOCs (Massive Open Online Courses) and other internet based teaching methods may be valuable in reaching and training many people on the health impacts of climate change, and the opportunities for adaptation and mitigation.

A last example of connecting adaptation to health is to question the absorptive capacity of current health systems facing extreme weather events, to document the susceptibility factors that increase the vulnerability of the population, and to propose interventions to reduce this vulnerability.

To limit the warming to +2°C below the pre-industrial era, our world will have to undertake profound changes. Mitigation will rely on new behaviors, e.g. more efficient energy use, transformation to a 'low carbon' economy with an increasing role for renewable energy, sustainable, low emission transport systems that encourage active travel (walking and cycling) particularly in urban areas, and consumption of healthy low environmental impact diets. Many mitigation strategies result in

major benefits to health e.g. through reduced fine particulate air pollution exposure, increased physical activity and improved diets. Studies that take into account the adverse health and other effects of current patterns of energy use show that frequently we are not paying the full economic costs of fossil fuels and suggest that valuing the resulting health co-benefits of mitigation strategies can offset the costs. For example one study suggests that global average marginal benefits of avoided mortality from reductions in air pollution are substantial, exceeding marginal abatement costs by 2030 and 2050.

As for adaptation, public health needs to be connected with mitigation at the community level, especially in urban communities that are often more vulnerable to climate risks, but may also have a greater potential for change. However, health co-benefits are frequently not well explained and disseminated, and the added-value of developing together environmental, health and urban policies is not made clear. Bottom-up and co-construction of knowledge through local experience-based assessments of community conditions is needed. Community-based adaptation (CBA) has entered the literature recently, in particular, following the recognition that poor communities, generally living in degraded environments, are the ones that already suffer disproportionately and will increasingly continue to do so from climate-related hazards. Empowerment can be proposed as a common goal for adaptation and health promotion strategies in these settings. Furthermore, adaptation initiatives should explore the use of social and environmental determinants of health, constituting another area of synergy.

Public health professionals should also collaborate with new partners, e.g. trade unions. Health policies are succeeding only when they cross with interests and powers of decision-makers and stakeholders. Going further, public health professionals should reconnect with their historical tradition of interventions and collaborations with policy-makers to contribute to the shaping of new sustainable and climate-friendly societies. They need to have visions of a world that would ensure the health

and well-being of more than 7 billion people, while limiting greenhouse gases emissions and preserving biodiversity. They need to think about how they can contribute to the new paradigm for societal development, not only driven by economic gain, but taking into account equity, health, values, and environmental sustainability.

What world for our children? A transgenerational health issue

Reframing mitigation as a transgenerational health issue is also a way to motivate and to engage people. Mental health is today on the top of diseases faced by people in developing countries, and one of the major health risks that could be enhanced by climate change. Acting positively for climate and health may reduce this burden. In turn, people in good physical and mental health with strong social bonds will be more resilient, illustrating that mitigation, adaptation and improving the overall health in a population are all connected.

Human health and well-being, biodiversity and the natural environment are deeply connected. A world sustaining only humans does not represent a healthy or desirable future.

Promote interdisciplinary, innovative research

Research is needed as climate change raises new health questions. A growing number of universities, health agencies and foundations are now investing in the field, but there is still limited research capacity, sparse funding, and lack of data in many places. New research should include innovative, multidisciplinary approaches. For instance, the applicability of the exposome concept to investigate the impacts of climate change should be explored. Non-linear relationships and tipping points need to be taken into account. Susceptibility and vulnerability need to be explored more deeply. Interdisciplinarity and transdisciplinarity connect health not only with climate sciences, but also with social, ecological and political sciences, helping to build a foundation for science that will meet the expectations of a changing world.

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This document was prepared by Mathilde Pascal and summarizes the outcomes of the dialogue session and it does not necessarily express the views of each individual participant.