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EDITORIAL

Mitigating and adapting to climate change: a call to public health professionals

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In December 2015, representatives of 196 countries will meet in Paris for the United Nation Framework Convention on Climate Change's Conference (UNFCC) to sign a new climate change treaty that will come into force in 2020. It perhaps represents the last opportunity to shape the zero-carbon society by 2050 that might limit global warming to below 2 °C, which is considered the tipping point for irreversible changes (http://earthstatement.org).

Experts in the public, international and global health arena have been instrumental in changing the paradigm on the impacts of climate change. From an initial threat that focussed exclusively on the environment, climate change is now understood to also have diverse and interconnected consequences for health (McMichael 2013). As epidemiologists and public health professionals, can we stop here? Can we pass to other pressing issues and let others decide on the course of actions? Public health professionals can and must continue to play a crucial role in the climate change debates. Here is why.

Climate change is real (Gleick et al. 2010). Although direct health impacts of climate change are, on average, expected to be only modest in countries of the Northern hemisphere, specific population groups might be affected disproportionally (OcCC/ProClim 2007). We know that people with pre-existing disease and the elderly are particularly vulnerable to extreme heat waves, which will occur more often in the future (Grize et al. 2005; Pascal et al. 2012). People who suffer from allergies are at elevated risks with prolonged pollen seasons. The invasion and reproduction of the Asian tiger mosquitos (*Aedes albopictus*) across Europe that carry dengue and chikungunya represents a new risk for disease outbreaks, likely to have more serious consequences for those with poorest health and access to care. Hence, mapping and prediction of health vulnerabilities is urgently needed to design adaptation strategies for the foreseeable future. The strategies adopted after the 2003 heat wave that hit parts of Europe have been remarkable in preventing subsequent health impacts, and thus demonstrate the resilience of developed countries on that matter (Fouillet et al. 2008). Nonetheless, new research is needed to ensure that adaptation strategies do not counteract with long-term mitigation actions. For example, reliance in air conditioning—as some governments have proposed—to avoid public health impacts during heat waves could increase energy demand and potential toxic emissions with consequences for health and also for the climate in the long run.

Public health considerations should be part of all climate change strategies because there is a large synergy between those and health promotion. In fact, most of the mitigation measures are beneficial for both climate and human health (Cheng and Berry 2013; Yip et al. 2013). For instance, changes in the transport infrastructure aimed at reducing CO_2 emissions result in a reduction of short-lived pollutants such as black carbon (soot) or increased physical activity eventually beneficial for health. To date, these synergies are still largely unknown, even among health professionals. We applaud the initiative of the Swiss Public Health Conference for selecting climate change and health the main theme for this year's annual conference, to take

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place in Geneva on September 17–18, 2015. We look forward to the scientific debates and policy dialogues.

Mitigating the consequences of climate change in the future will largely depend on the capacity and will of key emitters in reducing their greenhouse gas (GHG) emissions. Hence, Switzerland and other high-income countries must drive innovations to reduce GHG emissions and thus minimize their global footprint. They have an important share in the consequences of global warming that have and will primarily materialise in low- and middle-income countries. Indeed, the most recent Intergovernmental Panel on Climate Change (IPCC) report shows—once again—that poorest people will be hit the hardest by the impact of climate change due to their high dependence on ecosystem goods (e.g. food and clean air) and the services they provide (e.g. freshwater purification, protection from natural hazards, climate regulation and sequestration of pollutants) (IPCC 2014; Jackson et al. 2013; Patz et al. 2007). To respond to an increase in illnesses related to more frequent extreme weather events, water pollution, emergence and re-emergence of infectious diseases, food shortage and population migration—to name a few of human-induced climate changes over the next decades—it is crucial that public health experts participate actively and in a timely manner.

Public health professionals need and have the responsibility to be at the forefront in shaping strategies tailored to specific social–ecological settings to reduce impact and vulnerability of climate change and increase resilience. Here, we call for a strong representation and leadership of public health professionals to the coming UNFCC in Paris to ensure the message gets reinforced: health matters are at stake.

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