



Not so simple as it seems: tackling climate change and implementing the sustainable development goals in the Americas

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Human activities are causing unprecedented changes in the climate, and threatening environmental processes.

This may seem a simple statement, but in order to make it, a great amount of scientific information was necessary. There is overwhelming evidence of the burden of disease from environmental risks (1). This burden is expected to increase with the changing climate. Anthropogenic drivers have been detected throughout the climate system and are extremely likely to be the dominant cause of the observed warming since the mid-20th century (2). This rapid changing climate poses direct human health challenges, and also indirect health effects due to disruptions and shifts in the services provided by the ecosystems (3).

The “business-as-usual” approach has proven to fail to tackle those complex problems; thus, a new systemic approach is necessary, one that deals not only with those issues, but that is inclusive, universal, and that promotes health equity.

The year 2015 was marked by the launching of two global agreements that set the scene for action in the next 15–20 years. The 21st Conference of the Parties of the United Nations Framework on Climate Change Convention (UNFCCC COP21), held in Paris, came to a final agreement which includes an ambitious commitment of keeping global warming well below 2°C above pre-industrial levels, with an aspirational target of 1.5°C (4).

The “Paris Agreement” is much more than an “environmental treaty”. It clearly recognizes that all aspects of human life are intrinsically connected with the environment. The document acknowledges the huge differences between the richest and developing nations regarding emissions, and on their capacity to respond to the needs for mitigation and adaptation to the effects of climate change. It provides a framework for action, but also recognizes that even with actions in place the most vulnerable populations will suffer significant impacts of climate change. Moreover, of particular interest for public health is the fact that the right to health is explicitly mentioned as an overarching concept, recognizing the opportunities for health co-benefits from mitigation actions.

In the same year, world leaders had adopted the 2030 Agenda for Sustainable Development along with its 17 goals and 169 targets. Later, in March 2016 it unfolded to more than 230 indicators (5). A key feature of the 2030 agenda is the integration of the economic, social and environmental dimensions of sustainable development and the interlinkages existing within and across the goals and sectors.

In line with those global movements, the Special Program on Sustainable Development and Health Equity (SDE) of the Pan American Health Organization (PAHO) organized the symposium “Climate-smart sustainable societies: addressing public health vulnerabilities and promoting sustainable adaptation now.” This meeting of SDE’s network of World Health Organization Collaborating Centers of the Americas was held in September 2015, in Montreal, Canada. It aimed for the exchange of research, technologies, policies and practices in themes related to sustainable development and health equity, and to address knowledge and implementation gaps to meet PAHO’s Strategic Plan 2014–2019 and to respond to the recently approved global agendas.

In this context, scientific evidence is needed to inform public policies and to promote innovative health strategies. The articles included in this Special Section of the *Pan American Journal of Public Health* are based on presentations and discussions from the aforementioned symposium, and they underline the complexity of this theme. The manuscript by Ebi et al. highlights some of the key drivers of climate

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change, such as consumption and production patterns, which may further increase health inequities that make systems less resilient to disasters and more prone to new diseases. Riojas et al. presents a regional status of air quality and discusses the need to reduce emissions, particularly of short-lived climate pollutants, that will help not only to contain the change in climate, but also produce direct health benefits.

In addition to those main drivers, some direct and indirect effects of climate change were debated during the workshop, such as sea-level rise, which affects first the most vulnerable populations and small island states; severe droughts and desertification, which may compromise production systems, especially food and water supplies, leading to social struggles and displacements; increased temperatures ranges that may influence species distribution, including vectors and reservoirs, potentially spreading diseases to new areas; increased temperature fluctuations, such as cold waves (which directly influence health and increase the demand for energy and resources) and heat waves that may compromise further the production systems and impact on worker's and children's health—a novel approach that requires special attention in adaptation and mitigation plans. Kiefer et al. argue that adverse events impacts on workers may be among the first indicators of the health effects of climate change, and discuss the challenges to establish plans for mitigating, responding, and adapting to current and predicted impacts. Beaudoin et al. present the results of an assessment of different methods used to reduce urban heat islands in the city of Québec, Canada, which could be useful to other cities aiming at reducing the impact of heat waves.

As a way to cope with this number of intertwined effects, it is crucial to develop and make available surveillance systems and new tools for vulnerability assessment and early warnings, based on scientific evidence. Countries should be ready to implement and measure the effectiveness of prevention, mitigation, preparedness, response and recovery plans directed to increase resistance and resilience of cities and societies to climate change. Some of these tools and concrete actions aiming to identify and tackle multiple stressors and effects are also addressed in this supplement, and a review of the experience in the region with health-care facilities, including the PAHO SMART tool, is presented by Balbus et al.

In order to develop a new approach, new tools are necessary. Science, technology and innovation, a multi-stakeholder partnership and cooperation mechanisms among countries, are fundamental for the achievement of the Sustainable Development Goals. In a globalized world with information being continuously generated, it is paramount to have systems that act as platforms to collect, concentrate and disseminate technologies. The manuscript by Barcelos et al. presents an observatory of health-related effects of environmental and climate changes, that works as a repository of information to allow the analysis of trends, and on the prediction of risk of new chronic and acute disasters.

Although there is a wide recognition that climate change effects will affect virtually all sectors of society, mitigation and adaptation policies, plans and actions must not be blind to inequities. Population groups in situations of social and economic vulnerabilities will suffer the most, and their needs must be timely and properly addressed. Knowing their needs and connecting them to a broader array of solutions is a *sine qua non* condition for a solidary and peaceful survival. The 2030 Agenda states clearly that a sustained systemic change cannot be achieved through single-sector goals and approaches. Therefore, implementing the 2030 Agenda will entail breaking down traditional silos for more cross-sectoral participation towards joint decision-making and proposals of solutions. Buss et al. introduces the "Health in All Policies" approach that was designed as a general framework for more integrated action, and as a useful tool for the health sector to negotiate health as a goal and as a measure of the success of public policies.

Protecting human health from climate change, while implementing the sustainable development agenda in a heterogeneous region like the Americas, is not a simple task. There are huge social, cultural, economic, environmental and health-related differences and inequities between and within the countries. The urgency presented by climate change puts an unprecedented pressure for integrated and intersectoral action at all levels, targeting human health and well-being as achievable objectives. Some of the reflections brought to light by the papers in this Supplement set the scene and point toward a new approach. Much more still needs to be done and we have no time to waste. We hope that this special supplement of the *Pan American Journal of Public Health* represents a contribution in this direction.

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