

OPINION

Three priorities for evidence-based governance of heatwave events in Europe

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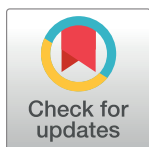
Introduction

In this opinion piece, we establish some key priorities for evidence-based governance to address the increasing threat of heatwave events in Europe, particularly for human health. According to the European Environment Agency (EEA) [1], Europe is warming faster than the global average. The year 2020 was the warmest year in Europe since the instrumental records began, with the range of anomaly between 2.53°C and 2.71°C above the pre-industrial levels. Particularly high warming has been observed over eastern Europe, Scandinavia and the eastern part of the Iberian Peninsula. Climate change-related heatwaves are becoming a significant threat to human health and necessitate early action [2]. While financial resources and technological capacities are crucial to aid (local) governments in adapting to and proactively mitigating the threats posed by heatwaves, they are not enough [3]. Akin to flood responses, European countries must prepare for large-scale evacuations of vulnerable citizens (especially older adults living alone) from their homes.

Here, we outline three priorities for Europe in the governance domain. These priorities encompass developing and rolling-out heat-health action plans, a stronger role for European Union institutions in regional heatwave governance, and creating a sense of urgency by developing innovative ways of communicating research findings to relevant policy makers and citizens.

The development and roll-out of national and local heat-health action plans

In the wake of the 2003 summer heat wave which is estimated to have killed 70,000 people (with the older adults being most affected), European governments have increasingly recognized the need for comprehensive heat-health action plans (HHAPs). National HHAPs were developed in France, Italy, the UK, and several other countries [4–6]. These national HHAPs, alongside other preventive measures, have generally contributed to a decrease in heat-related health impacts [4]. According to a recent study [7] based on 17 WHO European region member states who reported having a HHAP, five out of eight core elements in the 2008 WHO/Europe guidance for HHAP design were at least partially implemented in all plans. These included agreement on a lead body, accurate and timely alert systems, heat-related health information plans, strategies to reduce health exposure and care for vulnerable groups. Alert systems were implemented most often. The least effective or missing aspects included the lack



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of harmonisation of actions taken by the regional levels, and of real-time surveillance to measure heat-related health outcomes and inform responders on the current situation so they could adjust their response and emergency plans. Moreover, the study found low preparedness or involvement of hospitals and social care institutions. Finally, there was a lack of long-term urban planning and integration of climate change considerations and mitigation measures [7, p. 5].

Indeed, while there are various initiatives to protect at-risk workers (such as those working in the construction or agriculture sectors; see, for example, [8]), less work has been done to identify and protect other vulnerable groups such as senior adults, people suffering from cardiovascular diseases and other chronic conditions, taking into account intersecting characteristics such as low socio-economic status (limiting access to sun shades and air conditioning, for example), housing status (owning, renting, or homeless) and the natural environment, all of which influence vulnerability levels. Effective protection of such groups also requires working across different municipal departments (health, urban planning, and design, social work, etc), which is still a challenge in many local governments in Europe (see [9] for the example of The Hague). The participatory development of local HHAPs can be a useful process to help in this task, building trust between different stakeholders and getting strong commitments from the various parties (e.g., private sector and community-based organisations providing cooling spaces). Given the urgency, we advocate for the roll-out of local-level HHAPs in all local governments in Europe. National governments should consider stimulating this by making such plans legally mandatory and providing subsidies for their implementation.

A stronger role for European Union institutions in regional heatwave governance

Heatwaves generally extend beyond national boundaries; thus solely relying on national HHAPs is insufficient. The European Green Deal and the European Climate Law (under Article 5) make adaptation to climate change a legal obligation for EU institutions and Member States, requiring them to ‘*ensure continuous progress in enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change* [...]’ [10]. However, as Saling and Bergh [11] write, the EU as a regional body lacks a clear role, as heatwaves and climate change generally fall under several different policy arenas, including climate mitigation, adaptation, social policy, and health. The current policy and legal framework does not explicitly address health-related aspects given national sovereignty over the health domain. Hence, there is currently no institution within the EU responsible for monitoring the HHAPs or heat-health policies of member states more generally.

There are nevertheless some promising developments, with the European Climate and Health Observatory providing valuable tools and knowledge resources, including best practices. In addition, the European Commission and the European Environment Agency are preparing the first European Climate Risk Assessment (EUCRA). Planned to be published in spring 2024, it will assess major climate change-related impacts and risks—including those for public health—in Europe [10]. It will be important to make sure that the EUCRA translates into concrete proposals for a stronger role for EU institutions in heatwave governance in order to coordinate activities across borders, and if necessary, enforce the national HHPAs.

Creating a sense of urgency through innovative communication tools

We also advocate for the EUCRA to be shared widely and translated into communication tools that can reach a larger audience. As researchers, we should also develop more innovative ways

to communicate our research results, in order to create a sense of urgency and awareness of heatwaves as ‘silent killers’ among policy makers and citizens. An example of such a tool is the ‘climate story’ developed in The Netherlands, called ‘unprecedentedly hot’ [12] (‘ongekend heet’, an English version will follow soon). Using storytelling and attractive visuals as well as audio sources, it helps professionals to better imagine the risks of unprecedented heat and start discussions as well as preparations.

We see it as our role as researchers to document and communicate relevant (governance) solutions that have been found elsewhere, and to explain how they could be adapted in a European context. For example, in Portland, ‘no-turn-away cooling centres’ were set up, and public transport to travel to these cool places was free. In addition, misting stations were set up which were a great success in parks. Mobile air conditioners will be issued to vulnerable residents in the future if there are no other options to keep their homes cool. Finally, a ‘right to cooling’ law is being considered that would require landlords, among others, to keep temperatures at bearable levels [13].

Both Australia and the MENA (Middle East and North Africa) region have a longer experience in dealing with heat than Europe, and have adopted some creative strategies. For example, the healthcare sector in Australia has introduced heat action plans, enhanced emergency response protocols, and increased public awareness campaigns [14]. In the MENA region, a concentrated effort has been made to create heat-resistant infrastructure and adopt adaptive urban design techniques using smart city technology, creating shaded public places, and incorporating sustainable building materials [15].

Recognising the urgency of effective heatwave governance, there is a growing imperative for enhanced knowledge exchange across regions, including the European Union. The role of researchers in facilitating this exchange should be recognized and facilitated.

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