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Press information note on the WHO Heat–Health Action Plans Guidance, second edition

What are heat–health action plans (HHAPs)?

HHAPs are a core public health response to extreme heat (including heatwaves, unusually hot days and other hazardous heat exposures). When well designed and implemented, they help to anticipate and prepare for heat–health impacts, protect populations at increased risk, strengthen health system resilience, and reduce avoidable illness and deaths.

Why do we need HHAPs and why now?

Heat is among the most immediate and direct health threats posed by climate change. Rising global temperatures, rapid urbanization and demographic ageing are converging to increase both exposure to heat and vulnerability to its impacts. Urban environments with limited green and blue spaces can also intensify heat through the urban heat island effect. Together, these trends increasing heat-related illness and deaths, especially among populations and communities at increased risk. HHAPs are an important public health tool to prepare for and respond to extreme heat.

Who is at risk from extreme heat?

Over just the past four years, heat has claimed more than 200,000 lives across the EU and its associated countries. Anybody can be at risk of threats to health from extreme heat. Heat can trigger exhaustion and heat stroke, and can exacerbate existing medical conditions, including diabetes and cardiovascular, respiratory and cerebrovascular diseases, and aggravate mental health conditions. Populations at increased risk include older people, infants and young children, pregnant women, people with chronic conditions, people with restricted mobility or cognitive impairment, outdoor workers, athletes and people exercising, tourists and people attending mass gatherings, migrants, refugees, and people with limited resources, inadequate housing or reduced access to services.

Are heat-related illnesses and deaths preventable?

Many heat-related illnesses and deaths are preventable through good public health practice. Timely warnings, clear communication, targeted support for populations at increased risk, and preparedness in health and social care services can all help reduce the health impacts of extreme heat.

Prevention also requires longer-term action to reduce exposure to heat. This includes improving housing and buildings, increasing access to cool spaces, adapting workplaces and schools, and designing cities to reduce heat risks. HHAPs help bring these short-term and longer-term actions together.

This is why heat–health action planning is not only about responding once temperatures are already high. It is also about preparing in advance, reducing avoidable risks, and making sure that people, services and communities are better protected before, during and after periods of extreme heat.

How do HHAPs protect people?

The ultimate aim of a HHAP is to reduce avoidable illness and deaths. The adverse health effects of hot weather are largely preventable through good public health practice. Thus, a key component of an HHAP is a heat–health communication strategy to enhance heat–health literacy to drive behaviour change towards protective actions during periods of extreme heat at an individual, community, institutional, regional and national level. Proactive outreach and community support

should particularly be targeted at populations at increased risk of threats to health from extreme heat, such as facilitating access to cooling, maintaining continuity of care and targeted communication, with particular attention to populations facing barriers to protection.

In many areas, both media and specialist weather news outlets and mobile phone apps play a critical role in reaching people with timely and accurate information on heat risks and services available: what is happening, who is most at risk, what actions they should take, and where they can find help or services locally. Many people may notice messages in public spaces – such as posters on public transport – or local initiatives to encourage hydration and to provide places to cool down.

What is the WHO Heat–Health Action Plans Guidance?

The Guidance provides an implementation-oriented framework for HHAP design and delivery across eight core elements (see below for further detail), spanning preparedness, activation and response during extreme heat events, and between-seasons learning and improvement. The guidance is tailored to the WHO European Region, while recognizing that many of the challenges and approaches are relevant in other world regions. The guidance does not prescribe a single model but is intended to be adaptable to different national, subnational and local contexts.

The guidance encourages users to adapt its content to their local context, reflecting specific needs, institutional capacities and available resources. It promotes a stepwise implementation approach, whereby users can begin with essential, context-appropriate actions, and can expand, deepen and institutionalize these efforts progressively over time, as capacities and resources develop.

What is new in this Guidance? What is the structure of the Guidance? What does it contain?

The first HHAP Guidance was published in 2008 in response to the devastating heatwaves across much of Europe in 2003. It was the first resource of its kind to support national, regional and local authorities in developing HHAPs. Since the publication of the first edition, important progress has been made, and a wealth of scientific evidence and implementation experience has been gained. Many countries have established HHAPs but adoption and implementation is uneven across the WHO European Region.

This updated guidance particularly addresses common weaknesses by providing more operational, action-oriented direction. Such areas are on surveillance and evaluation systems, and guidance on longer-term preventive measures to reduce heat exposure in urban settings. It also strengthens and expands the evidence-based actions for the core elements of an HHAP that are already well developed and widely implemented, thereby supporting coordinated action across sectors and levels of governance.

The Guidance provides a full overview of HHAP development, implementation and improvement across eight core elements.

- *Core element 1 – Governance* sets out arrangements for political commitment, institutional roles and accountability, cross-sector coordination, and multilevel delivery.
- *Core element 2 – Heat–health warning system* guides the development of locally appropriate warning systems that use weather and climate information and services and trigger alerts.
- *Core element 3 – Populations at increased risk* supports identification of populations and settings at higher risk to facilitate development of targeted measures and monitoring.
- *Core element 4 – Communication* strengthens risk communication so that warnings translate into protective action.
- *Core element 5 – Health system resilience* focuses on delivering a strategy supported by operational plans and business continuity arrangements that protect core health system functions.

- *Core element 6 – Reducing heat exposure* outlines immediate and longer-term prevention measures across household, building and urban scales.
- *Core element 7 – Heat–health surveillance* describes approaches to timely surveillance that can guide responses during events and support learning between seasons.
- *Core element 8 – Monitoring, evaluation and learning* sets out how to refine triggers, strengthen delivery and improve HHAP performance over time.

The new guidance also contains two novel sections.

- *User action briefs* for priority sectors (including health and social care, occupational, educational and childcare, and the urban and built environment) to translate priorities into operational actions.
- A *public health message bank* with short, ready-to-use messages tailored to key audiences and settings to support timely, consistent and locally-adapted communications.

How has this Guidance been developed? Who has written it? How was the development funded?

This second edition of the Guidance has been coordinated by the WHO European Centre for Environment, Climate Change and Health in Bonn, Germany. It was developed in accordance with the requirements for creating a WHO normative operational product, which includes defined governance arrangements for steering and supervising the production of the guidance, expert oversight, and external peer review.

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By whom can this Guidance be used?

This Guidance can be used by any national, regional or local authorities who wish to develop, implement or improve a HHAP. The second edition follows the 2008 edition, which has been the point of reference for guiding national and local heat–health action across the Region, for example in Croatia, Belgium, Germany, Lithuania, Netherlands, North Macedonia, Spain, Sweden, Switzerland, Tajikistan, Turkmenistan, the United Kingdom (England), and also globally (e.g. Canada, India, South Africa). Thus, this Guidance can be used by any national, regional or local authorities who wish to develop, implement or improve a HHAP.

For examples in practice, HHAPs in France and Italy show how weather warnings trigger health surveillance and practical response measures, helping authorities anticipate risks and act before heat turns into a health emergency. As a local-level example, Barcelona’s Heat Plan shows how local data can identify the neighborhoods and groups most exposed to heat, so that measures such as climate shelters, outreach and support for people at increased risk can be targeted where they are needed most.

Who should use this Guidance?

Given the central focus on protecting population health, the initial steps are usually led by health authorities; however, the body responsible for initiating and leading the HHAP may vary. The Guidance is intended for national, regional and local authorities that are developing, implementing or updating heat–health action plans. Because protecting health from heat requires coordinated action, the Guidance is relevant not only for health authorities and public health institutes, but also for meteorological services, civil protection, social care, occupational health, education, urban planning, local governments and other sectors. National plans can provide the overall framework and

strategic direction, while regional and local actors tailor and implement measures according to local risks, capacities and community needs.

Although developed for the WHO European Region, it specifically recognizes that many of the challenges and approaches are also relevant in other world regions and settings and has thus been written with this global relevance in mind. All countries can adapt the operational parameters, such as heat thresholds and triggers, timing/seasonality, and intervention packages to local climatic conditions, epidemiological risk relationships and system capacities.

What do we expect from national, regional and local authorities?

Many countries across the European Region and globally have already developed and are implementing HHAPs, which have substantially reduced the heat-related health burden. However, several countries still have no plans in place, leaving their people and health systems at risk.

National, regional and local authorities are encouraged to use the Guidance to develop, update, implement and evaluate heat–health action plans that are adapted to their specific contexts. Countries and local authorities without plans can use the Guidance as a starting point, while those with existing plans can use it to review and strengthen preparedness, response, communication, surveillance and evaluation.

WHO Member States committed to the development, update and implementation of HHAPs in the 2023 Budapest Declaration on Environment and Health, which was further reinforced in the Call to Action of the Pan-European Commission on Climate and Health. The urgent need for more robust strategies to protect vulnerable populations also prompted the United Nations Secretary-General to issue a global “Call to action on extreme heat” in 2024.

How do HHAPs help health systems?

Heat–health action plans help health systems prepare for increased demand during periods of extreme heat. They support hospitals, primary care, emergency services, public health authorities, long-term care facilities, and social care providers in anticipating risks, protecting staff and patients, and maintaining essential services.

HHAPs also help health systems identify people and patients at increased risk, communicate clearly with the public and with professionals, and coordinate action across services and sectors. This is important because extreme heat can worsen existing health conditions, increase emergency visits and place additional pressure on health and social care systems that may already be under strain.

How is the WHO Regional Office for Europe going to take this work forward?

The WHO Regional Office for Europe will take this work forward by supporting Member States in translating the Guidance into practice. The focus will be on supporting countries to develop, update and implement heat–health action plans that are adapted to their national and local contexts, helping to prevent avoidable illness and deaths from heat.

WHO Regional Office for Europe will develop training materials and practical resources, making them available online, and providing bilateral technical support and capacity building to countries upon request. It is also promoting the uptake of the Guidance in policy and practice through regional and country-level meetings, webinars, technical workshops and other European and global public health and climate change platforms.

Why doesn't the WHO just recommend wider use of air conditioning?

Air conditioning (AC) is not a sustainable (in time or environmentally) societal solution for reducing hazardous heat exposure. It is inequitable and unaffordable for those with low incomes; it increases energy demands and heightens the risk of blackouts; it may promote individual and societal

dependency and overcooling, and may impair heat acclimatization; and it contributes to both the urban heat island effect and climate change, thus worsening heat exposures in the medium and long term.

Despite these drawbacks, AC remains crucial to protect populations at increased risk from high temperatures, as well as for refrigerating essential medicines and other health-protecting technologies. In the absence of other options, AC – or another equally effective active cooling technology – should be available to those who need it most as if it were a medical necessity.

A nuanced approach towards the use of AC can equitably ensure its protective benefits for groups at increased risk, while promoting stronger sustainability requirements in AC technologies and prioritizing passive and sustainable cooling measures, such as shading, ventilation, insulation, cool or green roofs, heat-resilient buildings and urban cooling interventions.

How does heat–health action planning also support climate action?

Heat is among the most immediate and direct health threats posed by climate change and heat stress is the leading cause of climate-related death in the Region. The frequency, intensity and duration of heatwaves, as well as other extreme weather events, are all expected to increase in the coming decades. This makes it even more important to understand the risks and to be prepared, and for health systems and societies to adapt to the changing climate.

The adverse health effects of hot weather are largely preventable through good public health practices, so if we are better prepared for a hotter Region, we will save many lives, both now and in the future. By supporting countries in towards this aim, this Guidance provides a robust public health framework that goes hand-in-hand with the broader efforts on climate adaptation and resilience, while promoting measures that reduce heat exposure and deliver wider benefits, such as greener cities, cooler buildings, reduced energy demand and greater equity.

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