



Prevention and management of heat-related illness at mass gatherings

Developing evidence-based communication messages

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**World Health
Organization**

Prevention and management of heat-related illness at mass gatherings: developing evidence-based communication messages

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Declaration of interest

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Abderrezak Bouchama is currently a “co-inventor of patent(s) related to (i) a molecular diagnostic assay for heatstroke and (ii) a thermoregulatory cooling system conceptually described as an ‘artificial hypothalamus’. These technologies are designed for potential use in clinical heatstroke management settings, including severe heat exposure contexts.” This may be perceived as a conflict of interest and therefore, he did not comment on heatstroke diagnostics and clinical heatstroke management.

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Abbreviations

SMS	short message service
UN	United Nations
WHO	World Health Organization
WMO	World Meteorological Organization

1. Introduction and scope

Extreme heat is an important environmental and public health hazard. Exposure to high heat can cause heat-related illnesses and injuries and worsen underlying health conditions. The health impacts of heat are predictable and largely preventable when timely, feasible protective actions are taken by individuals, communities and organizations. As the frequency and intensity of heat events increase due to climate variability and change, organizers of major sport events and mass gatherings must transition from reactive crisis management to proactive risk mitigation.

Mass gatherings, such as major sport events as well as large religious, cultural and festival events, can increase heat-related risks because they often involve one or more of the following conditions:

- prolonged outdoor heat exposure (including queues, transport routes and fan zones)
- physical exertion (attendees, event organizers and staff)
- crowd density and limited opportunities to rest or cool down
- limited access to cooling areas, ventilation, drinking-water points and medical services at peak times
- travel, unfamiliarity with local climate and language barriers for visitors.

The present document provides standardized, evidence-informed content for communication messages to help prevent heat-related illnesses and injuries and mitigate heat stress during major sport events and other mass gatherings (for example, religious events, cultural events and festivals). Based on previous World Health Organization (WHO) and World Meteorological Organization (WMO) guidance (3), the message content is intended to support event organizers and partners to:

- reduce harmful heat exposure for attendees (e.g. pilgrims, spectators) as well as event organizers and staff;
- enable early action when heat risk increases (e.g. when forecasts or local heat alerts indicate higher risk); and
- strengthen on-site preparedness and response through clear, consistent public messages and staff briefings.

Box 1

Ambient heat and heat stress are two important terms used throughout this document. They are defined here according to the WHO publication *Prevention and management of heat-related illness at mass gatherings – considerations for implementation* (4) Additional important definitions are provided in Table 4.3.1.

- “Ambient heat” describes environmental conditions, including air temperature, humidity, radiant heat and wind.
- “Heat stress” describes the thermal load imposed on the body, which is shaped by ambient heat as well as activity level (metabolic heat) and clothing.

Clear risk communication is a core part of planning and response, as mass gatherings can place additional demands on health and emergency services (5). By operationalizing technical guidance into actionable information, this document supports the broader goal of enhancing the capacity of event organizers to protect population health in an unstable climate. Moreover, the present document complements broader planning and preparedness guidance for mass gatherings (5-9). It is not meant to replace national or local policies, heat-health action plans, occupational safety and health requirements or clinical guidance. Instead, the proposed content forms the communication component of a wider Heat-Health Action Plan and aligns with established Heat-Health Warning Systems (3, 5, 10, 11).

1.1 Purpose and intended use

The purpose of this document is to provide ready-to-adapt, action-oriented message content that can be used by mass gathering event communications and operations teams before and during heat-risk conditions. The message content is designed to be:

- practical and action-oriented: focused on what people should do, when to do it and where to get help;
- applicable across event types and phases: usable for sports tournaments and other mass gatherings (with adaptation to local context) before, during and after events, where relevant;
- audience-segmented, recognising that attendees, event organizers, staff, volunteers and health services have different risks and roles;
- modular and translation-ready: written for adaptation into multiple languages and formats; and
- adaptable to local systems: aligning with national heat alert systems, local protocols and event-specific arrangements.

The document addresses communication needs across common mass-gathering contexts, including:

- stadium and venue environments (including entry points, seating areas, concourses and exits)
- fan zones and public viewing areas
- outdoor event sites (e.g. festival grounds, pilgrimage routes, markets and cultural spaces)
- transport and queuing environments associated with events.

The intended uses of the message content include:

- public announcements, including in-venue announcements and public address systems;
- signage and visual prompts at venues and along routes (e.g. entrances, queuing areas, fan zones, transport hubs);
- paper-based solutions (e.g. tickets, flyers, information sheets);
- digital channels, including event websites, ticketing communications, social media and messaging applications;
- staff and volunteer briefings, including supervisors, stewards, security and first aid teams; and
- media and broadcaster coordination on consistent protective messages.

Typical use cases include:

- in pre-event preparedness, adapting messages to local heat alert levels, local services and event logistics, as well as integrating message triggers into event operations;
- in during-event delivery, deploying short, practical messages via multiple channels (e.g. public address, screens, signage, steward/volunteer briefings, mobile and social channels) to reduce exposure and promote early help-seeking;
- in post-event delivery, deploying short, practical messages – primarily using mobile and social channels – to exposed audiences to ensure they continue to monitor their health and reduce heat exposure, as heat-related illnesses often develop after consecutive days of heat exposure;
- for coordination and consistency, ensuring that organizers, health services and authorities use consistent terminology and advice, aligned with local protocols;
- in training and briefings, using message modules to orient staff and volunteers on their role in heat risk reduction (e.g. hydration access, rest breaks, identifying and supporting unwell people); and
- In post-event learning, supporting after-action review of communication performance and identifying updates needed for future events.

The message content provided in this document should be adapted and approved through established event and public health coordination mechanisms, including alignment with local health authorities. Readers of this document should apply the message content as templates, not as fixed text. Each message should be localized to the event context and public health system. Event organizers and communication teams should use the steps for adaptation and deployment of the provided messages outlined in Table 1.1.

Table 1.1 Steps for adapting and deploying communication messages provided in this document

Step 1. Align with local systems and thresholds

- Confirm how heat risk is communicated locally (e.g. local alerts or forecasts) and adapt trigger wording accordingly

Step 2. Localize operational details

Insert local references such as:

- where to get safe and free drinking water
- where cooling areas are located
- how to reach first aid
- local emergency contact information.

Step 3. Use audience-specific versions

Adapt tone and content for:

- attendees (simple protective actions and help-seeking)
- event organizers, staff and officials (pacing, cooling, recovery)
- staff and volunteers (work-rest, hydration, supervisor checks, escalation pathways).

Step 4. Coordinate for consistency

- Ensure that messages used by organizers, partners and service providers are consistent and mutually reinforcing.

Step 5. Plan for multiple channels

- Combine digital messaging with on-site announcements and signage to reach people with limited connectivity or different language needs.

Step 6. Update based on conditions and observations

- Increase message frequency and specificity when heat risk rises (e.g. longer queues, high sun exposure, increased first aid presentations)

Step 7. Adhere to minimum message quality

Before using a message, confirm that it:

- clearly states who it is for
- tells people what action to take now
- includes where to find support (safe water points, cooling areas, first aid)
- uses plain language and avoids unexplained technical terms
- is feasible to act on in the event setting
- is consistent with local guidance and event operating procedures.

1.2 Targeted mass gathering contexts

Mass gatherings are defined by the concentration of large numbers of people at a specific location for a specific purpose over a set period, which has the potential to strain the response resources of a community or nation. Heat can be a significant risk during mass gatherings because many events involve conditions that can increase heat exposure and reduce the ability to cool down, including:

- long periods outdoors, direct sun exposure and limited cooling areas
- crowd density that reduces airflow and increases radiant heat
- prolonged standing or exertion, including dancing, cheering or walking long distances
- queuing, travel, and access constraints that restrict/delay hydration or cooling
- alcohol use and other factors that may increase dehydration risk and impair judgement
- work tasks carried out by staff and volunteers during the hottest parts of the day.

Environmental health hazards, such as heat stress, should be integrated into the event safety and public health approach. As described in Sections 1.2.1 and 1.2.2, the present document addresses two primary mass gathering contexts where heat represents a significant health hazard: major sporting events and religious, cultural and festival events. Importantly, while Fédération internationale de Football Association/Confederation of African Football tournaments and other mass gatherings differ in structure, both commonly require:

- clear public messages that support protective actions (e.g. hydration, cooling, pacing and help-seeking)
- staff messages that clarify roles, triggers for action, and escalation pathways
- consistency across channels to reduce confusion and support rapid decision-making when heat risk increases.

Major sport events and other mass gatherings thus have shared communication needs, especially in relation to heat risk.

1.2.1 Major sporting events

Sport events and tournaments involve unique risk signatures. Key factors include:

- crowd dynamics: high-density seated or mobile crowds in stadiums, where infrastructure may restrict airflow or limit access to cooling areas;
- physical activity: risks of hyperthermia and dehydration for active attendees and staff performing in extreme heat; and
- psychosocial factors: Intense emotions, stress or crowd pressure can influence audience behaviour, potentially increasing the risk of injuries or leading attendees and staff to ignore physiological heat signals.

1.2.2. Religious, cultural and festival events

Other mass gatherings, such as pilgrimages, music festivals or political rallies, present different risk profiles:

- **Vulnerable demographics.** These events often involve a higher proportion of older adult attendees, children or individuals with pre-existing medical conditions who are more sensitive to heat.
- **Event duration and setting.** Multiday events held in temporary or rural venues often lack permanent infrastructure for cooling, safe drinking water and adequate sanitation.
- **Compound hazards.** Heat stress is often exacerbated by high humidity, solar ultraviolet radiation and poor air quality.



Health preparation for the hajj pilgrimage in the Kingdom of Saudi Arabia. © WHO / Fadela Chaib

1.3 Intended users

This document is designed for a diverse group of stakeholders responsible for the health and safety of people present at the event and the host community, as outlined in Tables 1.3a–b.

Table 1.3a Intended users of this document

User group	Intended use of content
National and local health authorities	To integrate standardized messages into national heat-health action plans and disease surveillance reporting
Event organizers and safety officers	To provide clear, action-oriented instructions via stadium public address systems, signage and digital platforms
First aid and emergency medical services	To facilitate rapid triage and educate attendees as well as event organizers and staff on symptom recognition and self-care
Communication and media professionals	To ensure consistent messaging across traditional and social media channels to reduce rumours and misinformation
Occupational health managers	To protect event staff and volunteers by communicating work–rest ratios and hydration requirements

Table 1.3b Groups for which the message content in this document has been designed

User group	Intended use of content
Attendees (e.g. pilgrims, spectators), including people arriving early and those queuing for entry	To empower individuals with self-efficacy through clear, action-oriented instructions on hydration, appropriate clothing and recognizing early symptoms of heat stress
Officials	To support physiological readiness through locally approved acclimatization advice, structured hydration and regular rest breaks in cooled or cooling areas
Event staff	To support occupational safety arrangements, including defined work–rest cycles, hydration and clothing guidance, as well as peer-monitoring "buddy systems" to detect early signs of heat illness
Support services (e.g. first aid providers and on-site medical services)	To ensure operational efficiency and consistent clinical advice by using standardized definitions for triage and managing heat-related illnesses
Event leadership and supervisors	To operationalize command, control and communication through clear escalation triggers and the coordination of multisectoral risk mitigation measures

2. Process and methods

This document was developed as an evidence-informed synthesis and communication product within the WHO Beat the Heat initiative, a WHO flagship initiative to mount action to safeguard the health and safety of high-risk individuals from extreme heat and the related occupational and environmental hazards and impacts in the context of climate change. The project focuses on workers, health-care providers and first aid responders, personnel and attendees of major sport events and mass gatherings. The present document was prepared after completion of the companion systematic review report titled *Prevention and management of heat-related illnesses at mass gatherings: systematic review (12)*. This report is hereinafter referred to as the evidence review.

The present document was also informed by *Prevention and management of heat-related illness: considerations for implementation (4)* published by WHO as well as the associated *Prevention and management of heat-related illness at mass gatherings: risk assessment tools (13)*.

The present document translates the evidence review findings, together with relevant WHO and WMO guidance on heat-health warning systems, emergency risk communication and mass gathering preparedness, into ready-to-adapt communication messages for the prevention and management of heat-related illness in major sport events and mass gatherings.

This document is not a WHO guideline and does not use a formal recommendation grading process. However, quality-control principles from the WHO handbook for guideline development (14) were followed, including structured scoping, review by WHO technical staff, external expert review, external stakeholder review and consensus-based resolution of comments. The purpose of the methods process was to ensure that the communication messages and operational statements in this document are traceable to the best available evidence, consistent with WHO guidance, operationally feasible for mass gathering settings and clearly distinguished from areas where direct evidence remains limited. Specifically, the Steering Group for the review comprised WHO and relevant United Nations staff expertise in the technical areas of mass gatherings, heat-related illness, disaster medicine and communication as well as WHO regional office representatives. An External Experts Group is a group of experts selected in their personal capacity following WHO rules and protocols to ensure their independence and impartiality when reviewing the draft document. When establishing the External Experts Group to review this document, WHO selected members to ensure a global geographical representation, gender balance and appropriate technical and clinical expertise. An External Review Group was also established, consisting of stakeholders who are interested in the subject and/or may be affected by the publication, to review the document and provide feedback to reflect the “real-world setting” at mass gatherings. The Steering Group, External Experts Group and External Review Group were consulted to review a draft manuscript by e-mail, and their feedback was incorporated by the author. Differences of view were resolved by consensus. The work started in January 2026 and concluded in April 2026.

2.1 Evidence base informing this document

The conceptual and evidentiary starting point for this document was the WHO publication *Heat, air pollution and solar ultraviolet radiation: mass gathering-specific considerations and research gaps* (9), which identified key knowledge gaps and research priorities for heat, air pollution and solar ultraviolet radiation in mass gathering settings. Based on those gaps, *Prevention and management of heat-related illness at mass gatherings: systematic review* (12) was conducted before development of this synthesis document. The evidence review was designed to identify, appraise and synthesize the available peer-reviewed evidence on prevention and adaptation of heat stress and heat-related illnesses in major sport events and mass gatherings.

The evidence review was organized into three systematic reviews using Population, Intervention, Comparator and Outcome frameworks:

- **Systematic review 1** – cooling infrastructure, shaded and cool rest zones, cooling breaks and hydration practices. This review examined structural, environmental, clinical and operational measures, including cooling infrastructure, shaded and cool rest zones, cooling breaks, hydration support, on-site medical infrastructure and active cooling protocols.
- **Systematic review 2** – integrated early warning, crowd/capacity management, mobile applications and dynamic heat sensing. This review examined early-warning and real-time heat-risk management systems, including integration with crowd management, ticketing or registration platforms, mobile applications, dynamic heat sensing or mapping, surveillance systems and operational response protocols.
- **Systematic review 3** – visitor knowledge, behaviour, vulnerability identification and wearable alerts. This review examined tailored heat-risk communication, vulnerability identification, visitor knowledge and behaviours, digital messaging, wearable alert tools and response pathways for vulnerable groups.

Across the three reviews, 54 studies were included. These covered major sport events, religious pilgrimages, music festivals, exhibitions and other large public gatherings, with cumulative attendance exceeding 70 million people.

2.2 How the systematic review informed this synthesis document

The present document was developed after the evidence review had been drafted and was directly informed by the systematic review evidence. The translation process involved four steps.

First, the findings of the three systematic reviews were mapped to the communication needs of mass gathering event systems. Evidence from systematic review 1 showed that heat protection in mass gatherings depends on structural and clinical readiness, including safe water access, cooling spaces, on-site medical care, rapid cooling capability and operational surveillance. This finding informed the decision that messages in this document should not provide generic advice alone. Instead, they should direct people to actual services, such as safe water points or cooling areas, first-aid locations and staff assistance.

Second, evidence from systematic review 2 showed that heat risk communication is most useful when linked to early warning, real-time surveillance, crowd management and operational decision-making. This finding informed the use of heat risk levels, trigger-based escalation, rapid update protocols, message schedules and internal leadership prompts. The document therefore treats communication as part of an operational heat-health system, rather than as a separate public information activity.

Third, evidence from systematic review 3 showed that culturally and linguistically tailored messages can be acceptable and useful, but that knowledge does not always translate into protective behaviour. The review also found limited direct evidence on formal pre-event vulnerability screening and individualized wearable alert systems in mass gathering settings. These findings informed the emphasis on audience segmentation, plain language, accessibility, repeated prompts, “where to go now” instructions, staff and volunteer scripts, and message adaptation for vulnerable or constrained groups. They also informed the cautious approach taken in this document: digital messaging and emerging technologies are presented as useful tools where feasible, but they are not treated as substitutes for accessible safe water, cooling, clinical care and operational controls.

Fourth, the evidence review findings were combined with relevant WHO and WMO guidance, WHO emergency risk communication principles, mass gathering guidance, occupational heat-stress guidance and established heat-health warning system practice. This additional guidance was used where the systematic review identified indirect evidence, limited mass gathering-specific evidence or implementation gaps. In these cases, the resulting text was framed as evidence-informed good practice rather than as a formal graded recommendation.

2.3 Development of the communication framework and message content

The communication framework in this document was designed to convert evidence into practical, ready-to-adapt messages. The following design principles were applied.

- **Audience segmentation.** Messages were developed separately for attendees, officials, staff and volunteers, first-aid and emergency medical services, organizers and event leadership. This reflects the evidence that different groups have different exposures, autonomy, vulnerabilities and roles during mass gatherings.
- **Temporal alignment.** Messages were organized by event phase: pre-event, arrival and queuing, during the event, departure and post-event review. This reflects the need for communication to occur when action is possible, such as before travel, during heat-risk periods, at crowd bottlenecks and after exposure.
- **Risk-tiered escalation.** Message intensity was linked to qualitative heat risk levels, from normal/seasonal heat to increased, high and extreme risk. This reflects the need for communication to become more frequent, specific and directive as forecast conditions, on-site observations or medical/surveillance indicators worsen.

- **Actionability and service linkage.** Each public-facing message was designed to include one or more feasible actions and, where relevant, a location or pathway for support. Messages that instruct people to drink water, use cooling areas, go to a cooling area or seek first aid should only be used when those services are available, accessible and operational.
- **Plain language and translation readiness.** Messages were written to support adaptation into multiple languages and delivery through multiple channels. The text avoids unnecessary technical terminology, uses short sentences and includes placeholders for local services, emergency contacts, heat alert levels and official information channels.
- **Operational integration.** The document includes not only public messages but also staff scripts, leadership prompts, approval workflows, monitoring tools and debrief templates. This reflects the evidence that communication is more effective when integrated with operations, surveillance, crowd management, clinical readiness and after-action learning.



Togo: vaccination campaign in response to yellow fever outbreak - 2007. © WHO / Olivier Asselin

2.4 Basis for normative and operational statements

The normative and operational statements in this document are evidence-informed and were developed using a hierarchy of evidence and applicability. Where direct evidence from major sport events and mass gatherings was available, it was used as the primary basis for the communication content and operational framing. For example, evidence on heat-related illness presentations, on-site medical care, hydration support, cooling provision, risk communication and surveillance directly informed the messages on safe water access, cooling, symptom recognition, first aid and escalation.

Where direct mass gathering evidence was limited, evidence from related fields was used cautiously. This included heat-health warning system practice, emergency risk communication, occupational heat-stress management, environmental health and clinical descriptions of heat-related illness. Such evidence was used only where the underlying mechanism or operational principle was applicable to mass gathering settings. Examples include the emphasis on plain language, early help-seeking, use of cooling areas, hydration access, protection of workers and volunteers, and escalation linked to heat-risk triggers.

Where evidence was emerging, indirect or uncertain, the document avoids over-claiming. In these areas, the text uses conditional language such as “where feasible”, “where available”, “should be adapted locally” or “should be aligned with local guidance”. This is particularly relevant to digital tools, wearable alerts, vulnerability screening, predictive systems and highly context-specific operational measures. The intention is to provide practical communication support while remaining transparent about the limits of the evidence.

2.5 Adaptation and intended use

The aim of this document is to be used as a template library and operational communication framework. It should not be applied as fixed text without local adaptation. Event organizers and public health authorities should adapt the messages to the local heat alert system, event footprint, available safe water and cooling services, first-aid locations, emergency numbers, approved terminology, priority languages and communication channels. Messages should be pre-approved where possible, tested with intended audiences where feasible, updated when risk conditions change and reviewed after the event as part of communication-monitoring and after-action learning.

3. Risk characterization in high-density environments

Effective communication strategies for mass gatherings must be grounded in an understanding of the specific risk environment. Risk in this context is a function of the hazard (extreme heat), exposure (the physical presence of people in hot conditions) and vulnerability (the susceptibility of individuals and systems to harm). The heat stress risk assessment approach used in the present document is described in detail in *Prevention and management of heat-related illness: considerations for implementation (4)* published by WHO, which also provides “Prevention and management of heat-related illness in the context of mass gatherings: risk assessment tools (13)”. To ensure consistency across the document, the following sections provide relevant working definitions.

3.1 Environmental and compound hazards

Heat rarely acts in isolation during mass gatherings. Communication must address how heat interacts with other environmental determinants to create compound risks.

- **Humidity.** High humidity restricts the body's ability to dissipate heat through sweat evaporation, making heat conditions with high humidity particularly hazardous, even at lower air temperatures.
- **Solar and ultraviolet radiation.** Solar radiation contributes to direct radiant heat gain (when people are under the sun) and indirect radiant heat gain (via reflective radiation and increasing the temperature of surrounding surfaces such as asphalt and sand), while ultraviolet radiation increases the risk of sunburn and other health effects. At outdoor mass gatherings, sun safety outreach should be integrated with heat advice.
- **Air quality.** Heat events can coincide with elevated ozone and particulate matter. In urban mass gathering settings, poor air quality can worsen respiratory and cardiovascular conditions, particularly among sensitive populations.
- **WASH (water, sanitation, hygiene) considerations.** Inadequate access to safe drinking water and sanitation increases the risk of food- and water-borne diseases, which can further dehydrate attendees and staff and exacerbate heat-related illnesses.

3.2 The “risk signature” of mass gatherings

Mass gatherings possess inherent characteristics that introduce or enhance threats to public health beyond routine daily operations. These characteristics create a unique “risk signature” that must inform the design and urgency of communication messages.

3.2.1 *Crowd density and mobility*

Heat build-up: High crowd density, whether seated or mobile, can lead to a cumulative build-up of heat load. In stadiums or contained venues, restricted airflow and the heat generated by thousands of people in close proximity significantly increase local ambient temperatures.

Delayed response: Large crowds can create physical barriers to emergency medical services, potentially delaying medical response times for critical heatstroke cases.

Crowd dynamics: High density increases the risk of mass casualty incidents, such as crowd surges or other mass-casualty incidents. During extreme heat, the psychological stress on a dense crowd can exacerbate risky behaviours or hinder safe evacuation.

3.2.2 *Event duration and setting*

Cumulative stress: Multiday events, such as religious pilgrimages or week-long sports tournaments, increase the duration of strain on both the human body and the host country's public health system.

Infrastructure variability: Temporary or rural venues often lack permanent cooling systems or established safe water distribution networks, placing greater emphasis on the need for early and clear communication regarding self-care.



Extreme heat in Spain 2023. © WHO / Uka Borregaard

3.3 Vulnerability and health sensitivity mapping

Not all attendees and event staff face the same level of risk. Effective messaging must be segmented according to the heat vulnerability profile of the audience, which is described in Table 3.3

Table 3.3 Heat vulnerability profile of the audience in mass gatherings

High-risk segment	Primary sensitivity factors
Older adults	Reduced thermoregulatory responses (primarily sweating) (15), higher prevalence of chronic cardiovascular or respiratory diseases and potential use of medications that affect thermoregulation (16).
Pregnant people	Increased physiological demands and potential heat sensitivity; may require easier access to safe water, cooling areas, rest and medical support, consistent with local guidance (17).
Infants and young children	Reliance on caregivers for hydration, faster rates of dehydration and physiological susceptibility to extreme temperatures (3, 10).
Individuals with medical conditions	Pre-existing conditions such as diabetes, kidney disorders, and mental illness increase susceptibility to core temperature elevations (1, 2).
Individuals taking specific medications	Some medications and/or supplements may make increase the risk for heat-related illnesses by affecting the body's thermoregulatory system (e.g. inhibiting sweating) (1, 16).
Staff and volunteers	When the obligation to work in physiologically unsafe conditions is combined with high heat exposure and, especially, high metabolic heat production from physical work, the risk for heat-related illness is significantly increased (1, 2, 16, 18).
International/non-acclimatized visitors	Lack of physiological adaptation to local climate conditions and unfamiliarity with the host country's health-care system (19-21).

4. Strategic principles for heat-health communication

Risk communication is a core capacity under the International Health Regulations and is defined as the real-time exchange of information, advice and opinions between experts, officials and people at risk (11). In the context of the “Beat the Heat” project, effective communication enables attendees and event staff to take informed decisions to protect their health against extreme heat stress. The following sections outline principles that support effective risk communication and community engagement in operational settings. These principles should guide all message development for major sport events and mass gatherings, as described in Table 4.

Table 4. Guiding principles for heat risk communication messages

Actionable and specific

Messages should clearly state:

- what to do (e.g. “drink water regularly”)
- when to do it (e.g. “start now”, “before you arrive”, “during the next hour”)
- where to do it (e.g. “use the cooling areas”, “go to the cooling point”, “ask staff for safe water”)
- what to do if symptoms occur (for example, “seek help immediately at first aid”).

Timed to risk levels and operational triggers

Messages should be linked to:

- forecasts and local heat alerts, where available, and
- pre-agreed operational triggers, such as changes to scheduling, additional safe water distribution, opening cooling areas, increased staff checks or pausing high-intensity activities.

Consistent across channels and teams

Consistency reduces confusion and supports compliance. Event organizers should coordinate message timing and wording across:

- venue announcements
- signage
- digital channels
- staff briefings
- partners (including local authorities and health services, where relevant).

Inclusive and equity-oriented

Messages should be designed so that they can be understood and acted on by people with different languages, literacy levels and access to technology. This includes:

- using plain language and short sentences
- avoiding technical terms unless defined
- providing alternatives to digital-only messaging (e.g. announcements and visible signage)
- ensuring messages reach people at higher risk, including those who may need more frequent cooling or assistance.

Supportive and non-stigmatizing

Messages should encourage protective behaviour and help-seeking without blame. Use clear and respectful language, especially when addressing alcohol use, physical exertion or high-risk behaviours.

4.1 Building trust and credibility

Establishing and maintaining trust is the most critical component of effective risk communication. Interventions will fail if the target audience does not trust the information source. For sport events as well as religious and cultural gatherings, trust is built by ensuring that health messages are coordinated between different authorities and the media to provide a uniform, consistent voice. To maintain credibility, risk communication should adhere to the following standards:

Link to services. Messages must be linked to functioning and accessible services, such as clearly identified cooling stations or first-aid posts. Harms occur when authorities promote actions such as seeking medical help that cannot be fulfilled because services are unresponsive or difficult to access.

Transparency and timeliness. Information should be disseminated quickly and transparently. This includes the transparent communication of verified health information to prevent rumours from eroding public confidence.

Fairness and equity. Communication must be fair in its treatment of all population segments. Authorities should prioritize the needs of vulnerable groups, including children, older adults or those with pre-existing conditions to ensure equitable health protection.

Engagement. Identifying and building relationships with people the community already trusts is essential to ensure communication is community-owned and culturally appropriate.

4.2 Communicating uncertainty

During rapidly evolving heatwaves or mass gatherings, information regarding the duration of extreme heat or the exact number of people affected may be incomplete. Authorities must explicitly communicate what is known and what is not known at any given time to avoid a loss of trust when situations change. Key practices for managing uncertainty include:

Consistency. Authorities should avoid providing contradictory or inconsistent information, which can lead to confusion among health-care workers and the public.

Contextual accuracy. Mass media coverage often emphasizes conflicting information. Authorities should actively monitor media trends to identify and correct misconceptions immediately.

Interim guidance. When final data are unavailable, advice should be labelled as interim to manage public expectations.

4.3 Behavioural framing vs technical jargon

To influence behaviour and increase self-efficacy, risk should never be explained in purely technical terms. Technical jargon regarding biometeorological indices (e.g. «Wet-Bulb Globe Temperature») or medical physiology (e.g. «thermoregulatory impairment») is not helpful for promoting risk-mitigation behaviours among the general public. Instead, communication should focus on behavioural framing through:

Actionable messaging. Messages should promote specific, realistic actions that individuals can perform to protect themselves. Examples include «drink water regularly, even if not thirsty, according to local guidance» or «wear light-coloured, loose clothing».

Simplicity. Content must be easy to understand and use plain language suitable for global, multilingual audiences.

Pretesting. All messages should be pretested with intended audiences (e.g. sports fans or event volunteers) to ensure they are adapted to the specific cultural and social context of the event.

Visuals. The use of simple visual aids, such as symptom recognition charts or «Do/Don't» infographics, is often more effective than text-heavy instructions, especially for populations with low health literacy.

4.3.1 Consistent understanding of key terms and definitions

Effective risk communication requires consistency across messages and adaptations by all attendees and event staff. The key terms used in this document are outlined in Table 4.3.1.

Table 4.3.1 Key terms used in this document

Term	Working definition for this document
Heat hazard	Environmental conditions (e.g. high temperature, high humidity, direct sun, limited airflow) that can cause harmful heat exposure.
Heat exposure	Contact with the heat hazard (e.g. time spent in hot conditions, in queues or during physical activity)
Heat stress	The strain on the body when it cannot cool itself adequately during heat exposure, which can affect physical and cognitive performance and can lead to illness. Heat stress is determined by the ambient conditions (air temperature, humidity, radiant heat and wind), the activity level (metabolic heat) and the clothing worn (1, 2).
Physiological strain	The body's response to heat stress, including increases in core and skin temperature, heart rate and sweating (1, 2, 16, 18, 22).
Heat-related illnesses	Health conditions caused or worsened by heat exposure. As described in previous reports (1, 2), this includes milder conditions (e.g. heat cramps or heat exhaustion) and severe conditions (e.g. heatstroke).
Major sport events and mass gatherings	Sport and non-sport mass events that bring together large numbers of people at a specific location for a defined period and that may strain local planning and response capacity, including settings with substantial outdoor exposure, constrained movement and diverse attendee and workforce populations
Event organizers and staff	People with an assigned role in the event, including personnel, volunteers, contractors, supervisors, stewards, security and other staff. Where precision is needed, this document distinguishes across these groups.
Attendees	Spectators, pilgrims, visitors
Heat-health warning system	A system that links heat forecasts/alerts to public health actions and communications, often as part of a broader heat-health action plan

5. Message development and implementation framework

This section describes how to develop, adapt, approve and deploy heat risk communication messages for mass gatherings, using the message content provided in this document. It is designed for event organizers and partners who need an operational approach that can be applied in different settings and levels of resource availability. The approach reflects principles and terminology established in Sections 1–4, including actionability, consistency across channels, inclusiveness, and alignment with local heat alerts and operational triggers. Risk communication is a core function in mass gathering preparedness, response and recovery and should be integrated into the event safety and public health approach. In heat contexts, communication is most effective when linked to early warning and pre-agreed actions.

5.1 Audience segmentation and tailoring

Messages must be adapted for the audience group most likely to require the information for immediate use. For the purpose of this framework, five operational audience groups are used: attendees; officials; event staff, including personnel, volunteers and contractors; health, first aid and emergency services; and organizers/event leadership. While protective actions often overlap, the framing of messages must reflect the differing exposures, responsibilities, autonomy and decision-making roles of each group.

Attendees generally require simple, direct protective actions and clear navigational guidance to essential services like safe water points, shaded cooling areas and first aid stations. In contrast, active attendees and event staff require performance-relevant guidance focused on pacing, recovery strategies and adherence to specific occupational safety and health considerations, including hydration schedules, mandatory rest breaks and peer-monitoring “buddy checks”. Finally, support services as well as event leadership and supervisors require concise decision prompts linked to pre-defined triggers and established escalation pathways.

5.2 Temporal alignment by event phase

The timing of risk communication is as critical as the message content itself. Standardized messaging must be delivered across a predefined timeline, aligned with the mass gathering event phase to ensure information reaches audiences when it is most actionable (Table 5.2). At the pre-event phase, communication should focus on expectation setting, travel planning and awareness of symptoms. As attendees arrive and begin queuing, the focus should shift to immediate hydration prompts, queue management and support for high-risk individuals. During the event itself, messaging should transition to repeated prompts for protective actions and clear directions for seeking medical help. Following the conclusion of the event, guidance should cover safe travel home, continued cooling and advice on when to seek care if symptoms persist. Internally, a post-event phase should be dedicated to debriefing and operational improvements based on communication performance.

Table 5.2 Communication focus by audience and event phase

Audience group	Pre-event	Arrival and queuing	During the event	Post-event
Attendees	Prepare (bring water, sun protection; plan travel)	Reduce exposure (cooling areas; drink water; slow down)	Maintain protective actions; recognise symptoms; seek help early	Continue hydration/cooling; seek care if symptoms persist
Officials	Follow event heat plan; recovery strategies	Warm-up pacing; hydration	Follow medical / event guidance; recognise danger signs	Recovery guidance; follow event protocols
Event staff (personnel, volunteers, emergency medical staff)	Staffing plan; breaks; hydration schedule; buddy checks	Queue and crowd support; direct people to safe water / cooling areas; monitor risk signals	Continue breaks and monitoring; escalate concerns	Continue workforce protections; stand-down safely
Organizers / Leadership	Confirm triggers and approvals; align channels	Activate measures; redeploy staff; coordinate with medical services and partners	Adjust operations; increase messaging; consider escalation decisions	Capture lessons learned; update plan

5.2.1 *Pre-event: seasonal awareness and preparedness*

Communication activities should begin well in advance of the event to build a foundation of knowledge and trust with attendees, event staff and the host community. This phase focuses on long-lead education and systemic readiness before the onset of the “heat season” (i.e. the period when extreme heat events are statistically most likely to occur) and should include:

- **Strategic planning and coordination.** Early engagement with stakeholders, including event organizers and meteorological services, is essential to establish clear lines of communication and agree on standard operating procedures for message approval and release.
- **Public education campaigns.** Informational products should be disseminated to raise awareness of heat-related health risks, promote self-care practices and explain the Heat-Health Warning System levels.
- **Capacity-building.** Training and simulation exercises for event staff should be conducted regularly to test the ability to coordinate across agencies and ensure that staff can implement the communication plan during an actual crisis.

5.2.2 *During-event: real-time alerts and crisis response*

During the mass gathering event delivery phase, communication should shift to real-time information exchange and active risk mitigation based on current biometeorological conditions:

- **Monitoring and early warning.** Health authorities should continually collect and interpret meteorological data and epidemiological trends to anticipate changing risks.
- **Rapid dissemination.** Once a heat stress threshold is exceeded, warnings must be issued immediately via multiple converged platforms – including stadium public address systems, mobile alerts (SMS) and social media – to maximize reach and adoption of protective behaviours.
- **Responding to incidents.** In the event of heat-related casualties, authorities should proactively release factual information to manage public reactions and counter rumours that could lead to confusion or panic.
- **Adaptive management.** Communication strategies should remain flexible, allowing for periodic reviews and reshaping of messages as the heat emergency evolves or new information becomes available.

5.2.3 *Post-event: recovery and documentation*

The post-event phase is used to maintain relationships with the community and capture lessons learned to improve future mass gathering preparedness and includes the following elements:

- **Continued surveillance.** Monitoring of heat-related health outcomes should continue for an appropriate period after the mass gathering ends to account for any delayed health effects among attendees and event staff.
- **After-action reviews.** Stakeholders should conduct a qualitative assessment of the communication response within three months of event closure. This process identifies best practices and challenges to ensure the communication plan is updated for future mass gatherings.
- **Legacy documentation.** Host authorities should document and share findings regarding improvements in health system capacity and public infrastructure that resulted from the event's heat-safety planning.

5.3 Heat risk levels and communication intensity

The intensity and frequency of communication should align with the local heat alert system or real-time on-site observations, such as prolonged queuing in direct sunlight or rising first aid presentations (Table 5.3). A key principle is to link qualitative heat risk levels – ranging from normal seasonal heat to extreme risk – to pre-agreed actions. As risk escalates from “increased” to “high”, messaging should become more frequent and directive, utilizing short instructions and consistent “where to go now” guidance. Under extreme risk conditions, messaging should be paired with operational changes, such as queue rerouting or additional safe water distribution, using clear escalation language for immediate help-seeking.

Table 5.3 Qualitative heat risk levels and recommended communication approach

Heat risk level (align to local system)	Typical operational signs	Communication approach
Normal/ seasonal heat	Heat is expected but manageable with routine measures	Standard reminders (safe water, cooling, pacing) at planned intervals; clear location information
Moderate risk	Forecast/alert indicates higher risk; heat is rising earlier or lasting longer	Start earlier and repeat more often; add directions to cooling areas; reinforce help-seeking and checking on others
High risk	Sustained heat; crowd pressure points; first aid presentations increasing	Increase frequency; use short, direct instructions; ensure messages are
consistent across channels; provide clear “where to go now” guidance	Adjust operations; increase messaging; consider escalation decisions	Capture lessons learned; update plan
Extreme risk	Conditions likely to cause serious harm without rapid actions; operational strain visible	Very frequent, directive messaging; paired with operational changes (for example queue rerouting, additional safe water distribution); clear escalation language and instructions for immediate help-seeking

Table 5.3 is intentionally qualitative. Users should insert the appropriate local alert terminology and thresholds (for example, [LOCAL HEAT ALERT SYSTEM NAME] and [ALERT LEVEL]) and align messaging to local guidance. Examples are provided in Section 6.

To support consistent adaptation, event organizers may align qualitative heat risk levels (normal/seasonal, moderate risk, high risk, extreme risk) to simplified behaviour prompts for public messaging. At routine levels, communication should emphasize preparation and general protective behaviours. At increased or high risk, messages should promote more active behaviour change, including earlier hydration, reduced exertion, and checking on others. Under extreme risk conditions, messaging should prioritize urgent protective action and immediate help-seeking, aligned with operational measures in place. Where local authorities use defined biometeorological thresholds or alert levels, communication should refer to the locally recognized system and pre-agreed operational triggers rather than standalone temperature values.

5.4 Message types

To support operational use, message content can be treated as four practical types:

- **protective action messages:** what to do now (drink water, use cooling areas, pace activity).
- **location and access messages:** where to find safe water points, cooling areas, first aid and staff support.
- **symptom recognition and help-seeking messages:** when to seek help and what danger signs to treat as urgent; and
- **action prompts for officials and staff:** reminders for protections, monitoring and escalation.

For major sport events, messages should be coordinated with venue operations and medical teams so that public advice aligns with what is available on site (for example, the location and opening hours of cooling areas and first aid points).

5.5 Message adaptation and formatting standards

To ensure global usability and translation readiness, all messages should follow a standardized structure. This structure should include an optional situational trigger, a mandatory action, and specific details on where or how to access support. Safe localization should be achieved through the use of standard placeholders for event names, venue-specific safe water points and emergency contact numbers. Operational accuracy is paramount: authorities should avoid instructing actions that cannot be completed on-site, such as directing attendees to cooling areas that do not exist. Readability rules prioritize short sentences, common words and the avoidance of technical jargon to ensure that instructions can be understood by people with varying literacy levels.

The messages provided in this document are designed to be “ready to adapt”. Adaptation should be completed before deployment to ensure accuracy, feasibility and consistency, using the principles outlined in Sections 5.5.1–3.

5.5.1 Standard message template

To support translation and consistent quality, messages should follow a standard structure. A recommended template is as follows:

1. situation/trigger (optional): why the message is being issued (for example “Heat is increasing today”)
2. action (required): what people should do now
3. where/how (required when relevant): where to get support (safe water, cooling areas, first aid)
4. escalation/when to seek help (when relevant): what symptoms require immediate help-seeking
5. reassurance and clarity (optional): short, supportive phrasing that encourages action and reduces confusion.

This proposed structure supports emergency risk communication practice by prioritizing clear, actionable guidance, delivered consistently.

5.5.2 *placeholders*

To enable safe and accurate local adaptation, messages should include specific operational details using standard placeholders. Examples include:

- [EVENT NAME], [VENUE NAME], [DATE], [TIME]
- [LOCAL HEAT ALERT SYSTEM NAME], [ALERT LEVEL]
- [SAFE WATER POINT LOCATIONS], [COOLING AREA LOCATIONS], [FIRST AID LOCATIONS]
- [EMERGENCY NUMBER], [ON-SITE HELP NUMBER], [INFORMATION DESK LOCATION]
- [ACCESSIBILITY SUPPORT LOCATION] (for people needing assistance).

Message adaptation should confirm that the referenced services are available and accessible. Messages that instruct actions that cannot be completed on site (for example “go to the cooling area” if no cooling area exists) should be avoided.

5.5.3 *Length and readability rules*

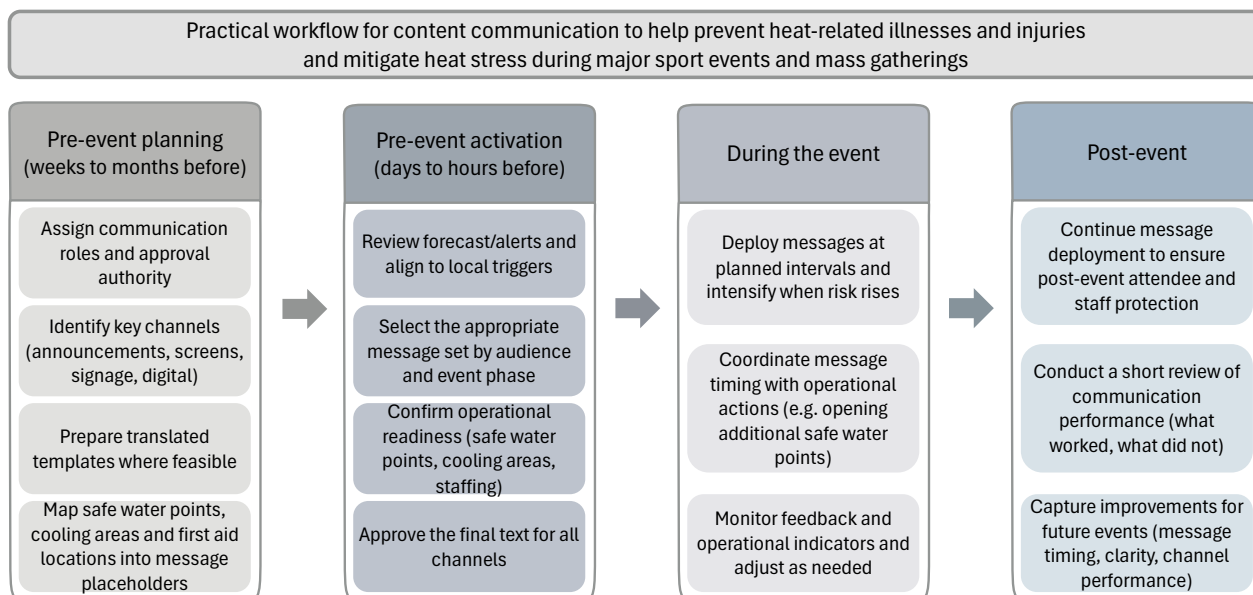
Good practice principles for global usability and translation readiness include:

- preferring short sentences and common words;
- limiting each public message to one or two actions;
- avoiding technical terms and acronyms in public-facing messages; and
- using consistent terms across all channels (“heat stress”, “heat-related illness”, “cooling area”, “first aid”). Where messages must be delivered quickly (for example, public address announcements), organizers should use shorter versions that can be repeated frequently without losing clarity.

5.6 **Implementation workflow and responsibilities**

A structured approval and delivery workflow is necessary to prevent contradictory messaging or operational delays (see Fig. 5.1). During the pre-event planning phase, organizations should assign specific communication roles, identify key channels and map service locations into message templates. Critical functions that should be covered include a communications lead to ensure consistency, an operations lead to confirm the feasibility of instructions and a medical lead to validate symptom-based messaging. To facilitate rapid response, authorities should pre-approve standard protective action messages, reserving rapid review processes for high-risk announcements or schedule changes.

Fig. 5.1 Practical workflow for content communication during major sport events and mass gatherings



The roles and titles vary by event and country. It is proposed that the following functions should be covered:

- **event communications lead:** coordinates messaging across channels; maintains message schedule; ensures consistency;
- **safety/operations lead:** confirms feasibility of public instructions (e.g. safe water availability, queue routing);
- **medical/first aid lead:** validates symptom and help-seeking messages; ensures escalation instructions are correct;
- **public health liaison:** aligns messaging with local health authority guidance and heat alerts;
- **staff coordination lead:** ensures that protection messages for staff, volunteers, and officials are integrated (breaks, hydration, monitoring); and
- **translation/accessibility support:** ensures priority languages, accessible formats, and non-digital channels are covered.

Clear assignment of message ownership supports the broader coordination required for mass gathering risk management.

To reduce delays during heat conditions, approval procedures should support rapid action while maintaining message accuracy and consistency. To this end, it is important to define in advance:

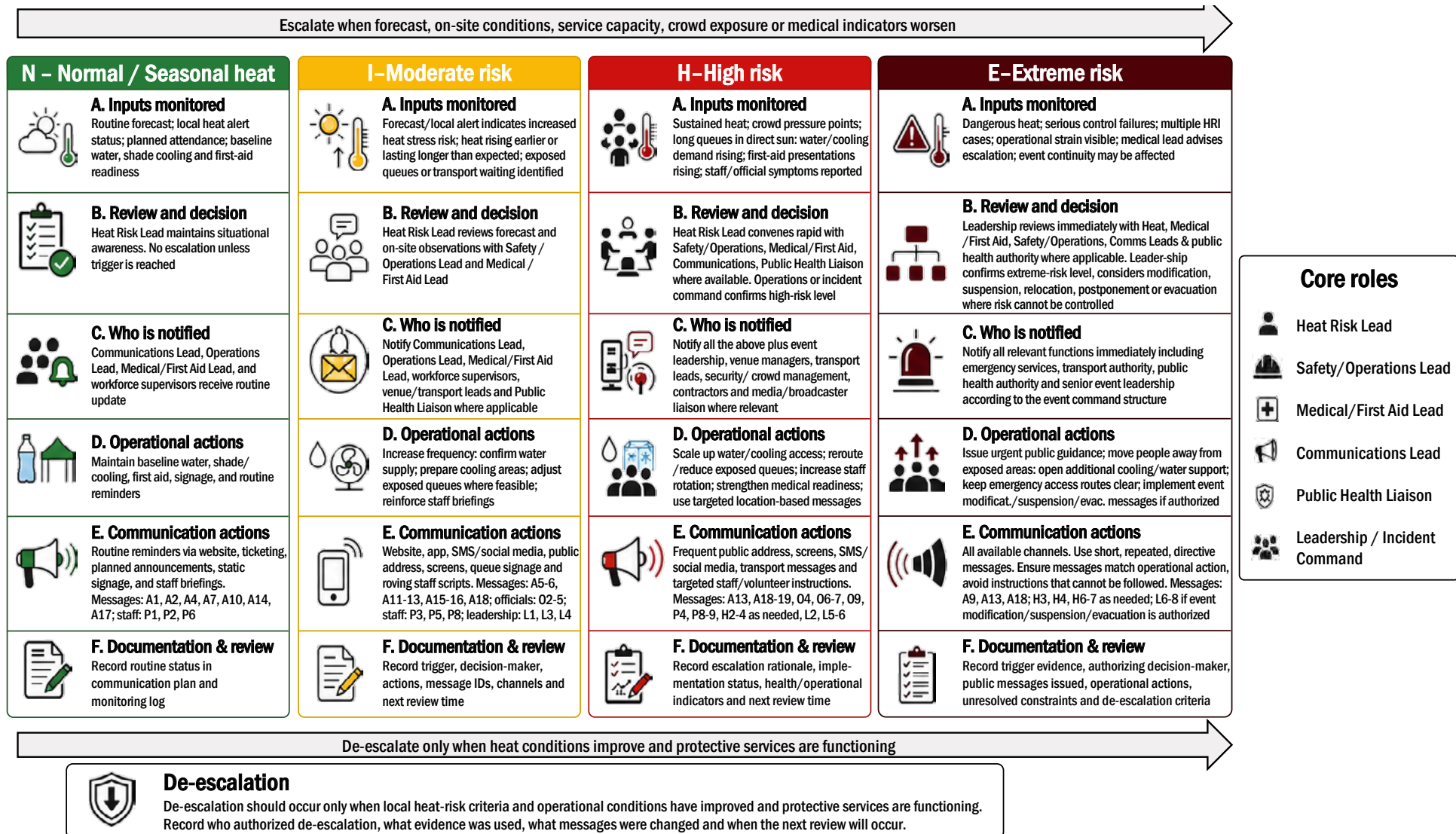
- **who** can approve messages for each channel (public announcements, signage, digital updates);
- **which** messages can be pre-approved (standard protective actions and location information); and
- **what** requires rapid review (e.g. changes to escalation instructions, event schedule changes or high-risk announcements).

Fig. 5.2 defines an escalation pathway showing how heat risk information and on-site observations are reviewed by operations, medical, public health and communications leads, leading to increased communication intensity, operational controls and escalation decisions as heat risk increases from normal/seasonal heat to extreme risk. This one-page escalation pathway should be adapted before the event and displayed in the operations centre, medical coordination point and communications workspace. Local heat thresholds, job titles, contact details and approval authorities should be inserted before use.



33rd Southeast Asian Games (SEA Games), Closing ceremony, Rajamangala Stadium, Bangkok, Thailand, 20 December 2025. © WHO / Chanakarn Laosarakham

Fig. 5.2 Heat communication escalation pathway for event operations. From monitoring inputs to risk-tier decision, notification, action, communication and documentation



5.7 Multichannel deployment and monitoring

Effective emergency risk communication during mass gatherings requires a multiplatform approach to ensure the convergence of verified, accurate information (11). Messages should be deployed through multiple channels to ensure reach across diverse technology and literacy levels. On-site channels, such as public address announcements, large video screens and static signage, should be prioritized for immediate actions. Digital and off-site channels, including ticketing communications and social media, should be used to support preparation and travel decisions. Continuous monitoring of heat information, operational indicators (e.g. queue length) and health data (e.g. increases in first aid presentations) should inform timely message adjustments. After the event, organizers and authorities should conduct a review to determine message timeliness and effectiveness, ensuring that captured lessons are integrated into future preparedness efforts through simulation exercises and after-action reviews.

5.8 Channel strategy and contextual adaptation

Strategically selecting and adapting communication channels ensures that life-saving advice reaches diverse audiences, including attendees and event staff, across varied technological and resource environments.

5.8.1 *Digital media and social media integration*

Digital platforms, especially social media, should be integrated with traditional media to achieve information convergence and build public trust. These channels allow for the real-time exchange of information necessary for dynamic mass gathering environments. Key principles include:

- **Real-time situational awareness.** Social media should be used to monitor public reactions, identify emerging concerns and facilitate local-level responses during a heat emergency.
- **Myth-busting and rumour response.** Authorities should utilize social media to monitor and respond rapidly to rumours, misinformation, malinformation and disinformation. Official accounts should use hashtags that have developed organically within the community to increase the visibility of verified health protection information.
- **Peer-to-peer communication.** Locally and internationally popular platforms should be leveraged to engage the public and facilitate peer-to-peer sharing of verified health recommendations.
- **Professional staffing.** To maintain credibility, government agencies and partners should employ dedicated social media officers trained to build relationships and communicate consistently before, during and after heat-related emergencies.

5.8.2 *On-site physical communication*

In controlled environments such as sports stadiums or temples, physical communication assets are essential for reaching dense crowds where digital networks may experience congestion. These include:

- **Stadium infrastructure.** Organizers should utilize public address systems, large video screens and static signage to disseminate time-critical heat warnings and safety instructions.
- **Information hubs.** Clearly marked information kiosks and first-aid stations should provide physical materials, such as leaflets, that detail symptom recognition and the location of cooling facilities.
- **Mobile messaging.** When cellular capacity allows, location-specific SMS alerts should be sent to attendees and event staff to provide urgent updates on changing biometeorological conditions.

5.8.3 *Adaptation for low-resource and remote settings*

In settings with limited technological infrastructure, such as certain rural festivals or temporary pilgrimages, emergency risk communication must rely on high-reach, low-cost channels to ensure equity. These include:

- **Traditional media.** Radio remains a primary tool for reaching large audiences rapidly, especially when power supplies are interrupted. Broadcasts should feature trusted spokespersons and be delivered in local languages.
- **Community engagement.** Relationships should be established with trusted local leaders, religious figures, and volunteers who can disseminate health messages directly to their communities.
- **Low-technology solutions.** In areas with poor literacy or language barriers, visual aids, storytelling and role-playing should be used to communicate heat risks and protective behaviours.
- **Mobile health tools.** Simple mobile technologies, such as basic SMS or automated voice calls, can bridge gaps in health-care delivery by providing symptom advice to those in remote locations.

6. Core communication content: audience-segmented messages

This section provides ready-to-adapt message templates for use before and during major sport events and other mass gatherings. Messages are structured to align with the operational framework in Sections 1–5 (audience group, event phase, heat risk level and message type). Message themes and recommended actions are consistent with WHO guidance on mass gatherings, emergency risk communication and heat-health warning systems and with occupational safety and health considerations for protecting the event workforce.

How to use Section 6 in operations

Messages in this section are formatted for rapid selection under operational pressure. Each message uses the same structure.

Trigger conditions and audience	Message text
Use when: heat risk level, event phase and operational trigger Audience: attendees, officials; staff/ volunteers/contractors; health/ first aid/ emergency services; or organizers/ leadership Primary channels: public address, screens, signage, digital channels, staff briefing, internal coordination	Message code and title Standard version: for websites, apps, ticketing information, briefings or longer announcements Short version: for public address, screens, signage, SMS or urgent repetition (includes character count).

6.1 Public messages for event attendees

Communication for the general public should focus on increasing self-efficacy by promoting specific and realistic actions. Messaging for mass gathering attendees (spectators, pilgrims, visitors) must prioritize physiological readiness and rapid symptom recognition. These messages are designed for people attending the event, including those travelling, arriving early, queuing and staying for long periods (see Table 1.3b). They prioritize simple protective actions, clear directions to support and early help-seeking.

6.1.1 Pre-event messages (days to hours before)

R ¹	Trigger conditions and audience	Message text
N	Use when: normal/seasonal heat; increased risk; high risk Audience: attendees and accompanying persons Primary channels: ticketing, website/app, email/SMS, social media, pre-event briefings	A1. Plan for heat before you travel Standard version: “Heat is expected at [EVENT NAME] on [DATE]. Plan ahead. Drink water regularly, take breaks in cooling area and pace your activity. If you are travelling with children or someone who needs assistance, plan extra stops for cooling and drinking water. For event support, ask staff or go to [INFORMATION POINT LOCATION].” Short version (public announcement): “Heat is expected today. Drink water often, take breaks in cooling areas and slow down if you feel unwell.” (97 characters)
N	Use when: normal/seasonal heat; increased risk; high risk Audience: attendees and accompanying persons Primary channels: ticketing, website/app, email/SMS, social media, pre-event briefings	A2. What to bring (adapt these based on local permissions) Standard version: “To reduce heat exposure, bring what you can. Bring a refillable water bottle (omit if not permitted). Wear sun protection (for example a hat). Use light, breathable clothing if possible. Bring any regular medicines you may need. Follow local guidance for people with health conditions.” Short version: “Bring sun protection and a refillable water bottle.” (68 characters) (omit “a refillable water bottle” if not permitted)

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions; especially relevant for visitors and physically active attendees Audience: attendees and accompanying persons Primary channels: ticketing, website/app, email/SMS, social media, pre-event briefings	A3. Allow time to adjust to heat (where feasible) Standard version: “If you are arriving from a cooler climate, allow time for your body to adjust to the local heat before engaging in strenuous activity. Increase activity gradually and use cooling areas during breaks.” Short version: “Arriving from a cooler place? Increase activity gradually and use cooling areas.” (80 characters)
N	Use when: all heat conditions Audience: attendees and accompanying persons Primary channels: ticketing, website/app, email/SMS, social media, pre-event briefings	A4. Know where to find help Standard version: “If you feel unwell, seek help early. First aid is available at [FIRST AID LOCATIONS]. Safe water points are at [WATER POINT LOCATIONS]. cooling areas are at [COOLING AREA LOCATIONS].” Short version: “If you feel unwell, go to first aid at [FIRST AID LOCATION].” (40+ characters)
I	Use when: increased risk or high risk (based on [LOCAL HEAT ALERT SYSTEM NAME] or forecast) Audience: attendees and accompanying persons Primary channels: ticketing, website/app, email/SMS, social media, pre-event briefings	A5. Increased risk notice (trigger-linked) Standard version: “Heat risk is increasing today. Start protective actions now: drink water regularly, take breaks in a cooling area and check on people around you. If you feel dizzy, weak, confused or faint, go to first aid immediately at [FIRST AID LOCATIONS].” Short version: “Heat risk is increasing. Drink water, use cooling areas and seek help early if unwell.” (86 characters)

¹Risk code indicating the heat stress risk level at which or beyond which a message should be considered:

N = Normal/seasonal heat

I = Increased risk

H = High risk

E = Extreme risk

6.1.2 Arrival and queuing messages

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions; prioritize for increased risk or higher Audience: attendees and accompanying persons Primary channels: public address, screens, queue signage, roving staff scripts, app/SMS	A6. Queue safety Standard version: “If you are queuing, aim to reduce heat exposure. Use cooling areas where available. Keep space for airflow where possible. Drink water regularly. If you feel unwell, tell a staff member or go to first aid at [FIRST AID LOCATIONS].” Short version: “In queues: use cooling areas, drink water and tell staff if you feel unwell.” (76 characters)
N	Use when: all heat conditions Audience: attendees and accompanying persons Primary channels: public address, screens, queue signage, roving staff scripts, app/SMS	A7. Directions to support (location-based) Standard version: “Safe water is available at [SAFE WATER POINT LOCATIONS]. Cooling areas are at [COOLING AREA LOCATIONS]. First aid is at [FIRST AID LOCATIONS]. If you need assistance, ask event staff.” Short version: “Water: [WATER POINT]. Cooling: [COOLING AREA]. First aid: [FIRST AID].” (34+ characters)
N	Use when: all heat conditions; prioritize for increased risk or higher Audience: attendees and accompanying persons Primary channels: public address, screens, queue signage, roving staff scripts, app/SMS	A8. Care for children and people needing assistance Standard version: “Children and people who need assistance may be affected by heat sooner. Offer water regularly, use cooling areas and take breaks. If a child or an older adult is unusually sleepy, confused or not responding normally, take them to first aid immediately.” Short version: “Children and older adults may overheat quickly. Use cooling areas, drink water and seek help early.” (93 characters)

R ¹	Trigger conditions and audience	Message text
E	Use when: extreme risk Audience: attendees and accompanying persons Primary channels: public address, screens, queue signage, roving staff scripts, app/SMS	A9. Extreme risk instruction (paired with operational measures) Standard version: “Heat conditions are dangerous today. Follow staff instructions. Move to the nearest cooling area now if you are in direct sun. Drink water regularly. If you feel confused, faint or unwell, go to first aid immediately at [FIRST AID LOCATIONS].” Short version: “Dangerous heat. Go to a cooling area now. Drink water. Seek first aid if unwell.” (82 characters)

¹Risk code indicating the heat stress risk level at which or beyond which a message should be considered:

N = Normal/seasonal heat

I = Increased risk

H = High risk

E = Extreme risk

6.1.3 During the event messages

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions; repeat more often when risk increases Audience: attendees and accompanying persons Primary channels: public address, screens, signage, app/SMS, roving staff scripts	A10. Regular protective actions (repeat message) Standard version: “Protect yourself from heat during [EVENT NAME]. Drink water regularly. Take breaks in a cooling area. Reduce physical activity if you feel hot or tired. Check on people near you.” Short version: “Drink water, use cooling area and take breaks.” (47 characters) <i>For attendees who plan prolonged physical activity (e.g. walking long distances or participating in route-based events), organizers may reinforce structured rest breaks in cooled areas and encourage the use of appropriate hydration strategies consistent with local public health guidance. Where electrolyte-replacement beverages are recommended locally, this advice should align with national guidance and event policy.</i>

R ¹	Trigger conditions and audience	Message text
I	Use when: increased risk or high risk Audience: attendees and accompanying persons Primary channels: public address, screens, signage, app/SMS, roving staff scripts	A11. Reduce exertion and pace activity Standard version: “When it is hot, reduce physical effort. Walk slowly, avoid rushing and take more breaks. If you feel dizzy, weak or nauseated, stop your activity and go to a cooling area. Seek first aid if symptoms continue.” Short version: “Slow down in the heat. Stop if you feel unwell.” (47 characters)
I	Use when: increased risk or high risk; where relevant to event context Audience: attendees and accompanying persons Primary channels: public address, screens, signage, app/SMS, roving staff scripts.	A12. Alcohol and heat (supportive, non-stigmatizing) Standard version: “Alcohol can increase dehydration and heat-related illness risk. If you choose to drink alcohol, drink water regularly and take breaks in a cooling area. Seek help early if you feel unwell.” Short version: “Alcohol increases heat risk. Drink water and use a cooling area.” (63 characters)
I	Use when: increased risk or higher; especially in crowd pressure points or high-exposure areas Audience: attendees and accompanying persons Primary channels: public address, screens, signage, app/SMS, roving staff scripts	A13. “Where to go now” instruction (time-limited, location-based) Standard version: “If you are feeling too hot, go now to [COOLING AREA LOCATION] or a cooling area nearby. Safe water is available at [SAFE WATER POINT LOCATION]. If you feel unwell, go to first aid at [FIRST AID LOCATION].” Short version: “Too hot? Go to [COOLING AREA]. Water: [WATER POINT]. First aid: [FIRST AID].” (76 characters)

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6.1.4 Departure and travel home messages

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions; prioritize for increased risk or higher Audience: attendees and accompanying persons Primary channels: exit signage, public address, transport announcements, screens, app/SMS	A14. Continue protection when leaving Standard version: “Heat can affect you after the event. Continue to drink water and cool down as you travel home. Use a cooling area where possible. If you feel unwell during travel, seek assistance from staff or local services.” Short version: “Keep drinking water and cooling down as you leave.” (50 characters)
I	Use when: increased risk or higher; crowding at transport hubs Audience: attendees and accompanying persons Primary channels: exit signage, public address, transport announcements, screens, app/SMS	A15. Transport and waiting areas Standard version: “If you are waiting for transport, use a cooling area and drink water regularly. Avoid crowding in direct sun where possible. If you feel faint or confused, seek help immediately.” Short version: “While waiting: a cooling area, safe water and seek help if unwell.” (52+ characters)
I	Use when: increased risk or higher; optional in normal heat Audience: attendees and accompanying persons Primary channels: exit signage, public address, transport announcements, screens, app/SMS	A16. When to seek care after leaving Standard version: “If you continue to feel unwell after leaving (for example dizziness, weakness, confusion or fainting), seek medical care according to local guidance. In an emergency, call [EMERGENCY NUMBER].” Short version: “If symptoms continue after you leave, seek medical care. Emergency: [EMERGENCY NUMBER].” (87 characters)

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6.1.5 Heat illness recognition and help-seeking messages

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions; repeat more often when risk increases Audience: attendees and accompanying persons Primary channels: public address, screens, signage, staff prompts, app/SMS.	A17. Early signs: take action Standard version: “Early signs of heat-related illness can include headache, dizziness, nausea, cramps or unusual tiredness. If you have symptoms, stop any activity, move to a cooling area, drink water and seek help if you do not improve.” Short version: “Headache, dizziness, nausea, cramps: stop, cool down, drink water, seek help if needed.” (87 characters)
I	Use when: increased risk or higher; keep available for all conditions Audience: attendees and accompanying persons Primary channels: public address, screens, signage, staff prompts, app/SMS	A18. Danger signs: seek urgent help Standard version: “Danger signs include confusion, collapse, seizures or not responding normally. This is an emergency. Call for help immediately and contact event staff or first aid at [FIRST AID LOCATIONS] and move person to cooling areas if possible.” Short version: “Confusion or collapse is an emergency. Get help now: [FIRST AID LOCATION].” (53+ characters)
I	Use when: increased risk or higher Audience: attendees and accompanying persons Primary channels: public address, screens, signage, staff prompts, app/SMS	A19. Help others (bystander prompt) Standard version: “If someone looks unwell in the heat, do not leave them alone. Move them to a cooling area if possible and call event staff or first aid. First aid is at [FIRST AID LOCATIONS].” Short version: “If someone is unwell, move to a cooling area and call staff or first aid.” (64 characters)

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6.2 Messages for event officials

These messages are intended for officials in mass gatherings. Officials may face heat risk profiles that differ from both attendees and general event staff. In major sport events, some officials are physically active, exposed to direct sun or radiant heat required to wear specific/protective clothing and maintain concentration and decision-making accuracy and unable to leave the field of play or operating area without formal replacement or authorization. Therefore, messages for officials should emphasize pre-participation readiness, acclimatization where relevant, structured hydration and cooling before and during breaks, half-time or interval recovery, early symptom reporting and clear procedures for removal or replacement when safe continuation is in doubt.

Messages for officials should be coordinated with competition management, team medical staff where applicable, event medical services and the event command structure. They should be adapted to existing protocols and event rules. Where officials are physically active, heat protection should be treated as a performance and safety issue, not only as a welfare message.

6.2.1 Before event participation

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions; especially increased risk or higher Audience: event officials/active officials. Primary channels: officials briefing, competition coordination, email/app, team/officials channels	O1. Follow the heat plan Standard version: "Heat risk is expected during [EVENT NAME]. Follow the event heat plan. Start work/activity well hydrated. Use a cooling area before activity where available. Report symptoms early to event medical services." Short version (briefing line): "Follow the heat plan. Hydrate early. Use cooling and report symptoms." (69 characters)
I	Use when: increased risk or high risk Audience: event officials/active officials Primary channels: officials briefing, competition coordination, email/app, team/officials channels	O2. Adjust expectations and pacing Standard version: "When it is hot, physical effort feels harder. Plan for slower pacing and more recovery. Use cooling areas during breaks. Do not ignore early symptoms." Short version: "In heat: pace slower and recover more." (38 characters)

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions; especially increased risk or higher; before match, shift, ceremony, route duty or other active participation; especially for officials arriving from cooler climates or assigned to exposed areas Audience: event officials/active officials. Primary channels: officials briefing, competition coordination, email/app, team/officials channels	O3. Pre-participation heat readiness check Standard version: “Before participation, complete the heat readiness check: confirm you have received the heat briefing, know the current heat risk level, know where cooling and medical support are located, have access to drinking water before and during scheduled breaks and know how to report symptoms or request replacement. If you have not acclimatized to local heat or you feel unwell before starting, inform [OFFICIALS’ COORDINATOR / MEDICAL CONTACT] before going on duty.” Short version: “Before starting: know the heat level, hydrate, use cooling, and report symptoms before duty.” (92 characters)
N	Use when: all heat conditions; especially increased risk or higher; during half-time, formal breaks, rotations, or interval periods Audience: event officials/active officials. Primary channels: officials briefing, competition coordination, email/app, team/officials channels	O4. Half-time or interval recovery protocol Standard version: “Use half-time or scheduled intervals to cool down and recover. Move to a cooling area where available, drink according to event guidance, reduce unnecessary exertion and use approved cooling measures such as airflow, cooling towels or other locally approved options. Report dizziness, unusual weakness, confusion, cramps or inability to continue safely to [MEDICAL CONTACT / OFFICIALS’ COORDINATOR] immediately.” Short version: “At half-time or breaks: cool down, drink, recover, and report symptoms early.” (77 characters)

R ¹	Trigger conditions and audience	Message text
I	Use when: increased risk, high risk, extreme risk; field-of-play officials, route officials, security/competition officials or others who cannot freely leave post Audience: event officials/active officials. Primary channels: officials briefing, competition coordination, email/app, team/officials channels	O5. Officials who cannot easily leave the field or operating area Standard version: “If you cannot easily leave the field or operating area, report heat symptoms early through the agreed channel. Do not wait until symptoms become severe. If you feel dizzy, confused, faint, unusually weak or unable to continue safely, request replacement or medical review according to the event protocol. Continuing while unwell can put you and others at risk.” Short version: “If you cannot leave your post, report symptoms early and request replacement if needed.” (87 characters)

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6.2.2 During event participation

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions Audience: event officials/active officials Primary channels: officials briefing, break-area reminders, coordinator/medical contact, internal channels	O6. Hydration and cooling during breaks Standard version: “Drink according to the event guidance and local conditions. Use available cooling strategies during breaks (for example a cooling area, airflow, cooling towels or other approved measures).” Short version: “Hydrate and cool during breaks.” (31 characters)
N	Use when: all heat conditions; especially increased risk or higher Audience: event officials/active officials Primary channels: officials briefing, break-area reminders, coordinator/medical contact, internal channels	O7. Stop and report symptoms early Standard version: “If you feel dizzy, weak, confused, unusually hot or unable to continue safely, stop any activity and report immediately to [MEDICAL CONTACT / OFFICIALS’ COORDINATOR] or event medical services.” Short version: “Experience symptoms? Stop and report immediately.” (49 characters)

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6.2.3 After event participation

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions; especially increased risk or higher Audience: event officials/active officials Primary channels: post-participation briefing, recovery area, staff coordination	O8. Cool down and recover Standard version: “After your participation, cool down and rehydrate according to the event guidance. Use cooling areas. Continue monitoring for symptoms after leaving the event.” Short version: “After participating, cool down, rehydrate and monitor symptoms.” (64 characters)

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6.2.4 When to seek urgent help

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions Audience: event officials/active officials Primary channels: officials briefing, medical protocol, internal coordination channels	O9. Danger signs are an emergency Standard version: “Confusion, collapse, seizures or not responding normally are danger signs. Treat as an emergency. Call for medical support immediately and follow local protocols.” Short version: “Confusion or collapse: emergency – get medical help now.” (56 characters)

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6.3 Messages for event staff (personnel, volunteers, contractors)

Occupational safety and health guidance generally aims to prevent excessive rises in core body temperature during physical work in heat (1, 2, 23). To achieve this, mass gathering event organizers should communicate evidence-based guidance clearly to all event staff (e.g. personnel, volunteers, supervisors, stewards, security).

These messages are designed for event staff (personnel, volunteers, contractors) working before, during and after the event. They should be integrated into occupational safety and health arrangements, shift planning and supervisor briefings.

Box 1. Operational considerations for staff heat protection (optional enhancement).

Event organizers may align staff protection messaging with established occupational safety and health guidance (1, 2). In high or extreme heat conditions, this may include:

- shorter, more frequent rest breaks in cooled areas
- scheduled hydration access and supervisory monitoring
- buddy systems to detect early signs of heat-related illness
- rotation of staff assigned to high-exposure posts.

Any numerical work–rest schedules or hydration quantities should be determined according to national occupational safety guidance and local risk assessment and should not be inserted into public-facing messaging unless formally approved.

6.3.1 Shift-start briefing (short script)

R ¹	Trigger conditions and audience	Message text
N	Use when: at shift start; repeat when heat risk increases Audience: staff, volunteers and contractors Primary channels: shift huddle, supervisor script, staff radio/app, printed briefing sheet	P1. Supervisor script (2 minutes) Script template: “Today heat risk is [NORMAL / INCREASED / HIGH / EXTREME], based on [LOCAL HEAT ALERT SYSTEM NAME] and on-site conditions. Your protective actions: drink water regularly, take scheduled breaks in a cooling area and use buddy checks. Your operational focus: watch for long queues in direct sun, crowding and people who look unwell. Direct people to safe water points at [SAFE WATER POINT LOCATIONS] and cooling areas at [COOLING AREA LOCATIONS]. If someone is unwell: contact first aid at [FIRST AID LOCATIONS] immediately. For danger signs (confusion, collapse, seizures), treat as an emergency and follow the escalation pathway. If you feel unwell, tell your supervisor and go to a cooling area. Do not continue working when unwell. Inform your supervisor immediately.”

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6.3.2 On-duty protective actions (staff and volunteers)

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions Audience: staff, volunteers and contractors Primary channels: supervisor briefing, staff radio/app, post instructions	P2. Hydration and breaks Standard version: “While on duty, drink water regularly and take scheduled breaks in a cooling area. Remind your buddy to do the same. If you cannot take breaks as planned, tell your supervisor.” Short version: “Drink water and take breaks. Tell your supervisor if you cannot.” (64 characters)
I	Use when: increased risk or higher Audience: staff, volunteers and contractors Primary channels: supervisor briefing, staff radio/app, post instructions	P3. Buddy checks Standard version: “Use buddy checks during heat. Look for signs of heat-related illness (for example dizziness, weakness, headache, nausea). If your buddy is unwell, stop work and seek support.” Short version: “Buddy checks: look for symptoms and act early.” (46 characters)
I	Use when: increased risk or higher Audience: staff, volunteers and contractors Primary channels: supervisor briefing, staff radio/app, post instructions	P4. Protecting staff assigned to queues and outdoor posts Standard version: “For outdoor posts and queue support, rotate staff more often where possible. Use a cooling area, safe water and breaks. Report areas with direct sun exposure and long waiting times to your supervisor for action.” Short version: “Outdoor posts: rotate, use a cooling area and report long queues in sun.” (63 characters)

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6.3.3 Monitoring and reporting signals (operational)

R ¹	Trigger conditions and audience	Message text
I	Use when: increased risk or higher Audience: staff, volunteers and contractors Primary channels: staff radio/app, operations channel, roving staff scripts	P5. What to report early Standard version: "Report these heat risk signals early: long queues in direct sun, safe water shortages, crowded areas, and multiple people feeling unwell. Early reporting helps prevent emergencies." Short version: "Report: queues in sun, safe water issues, crowding, repeated illness." (64 characters)
N	Use when: all heat conditions Audience: staff, volunteers and contractors Primary channels: staff radio/app, operations channel, roving staff scripts	P6. Standard phrase for directing attendees Standard version (staff phrase): "Safe water is available at [SAFE WATER POINT LOCATION]. A cooling area is at [COOLING AREA LOCATION]. If you feel unwell, first aid is at [FIRST AID LOCATION]." Short version: "Water: [WATER POINT]. Cooling: [COOLING AREA]. First aid: [FIRST AID]." (70 characters)

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6.3.4 Response and escalation prompts

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions Audience: staff, volunteers and contractors Primary channels: staff radio/app, first-aid escalation channel, supervisor briefing	P7. Early symptoms (staff instruction) Standard version: “If a person has early symptoms (headache, dizziness, nausea, cramps), help them move to a cooling area and encourage drinking water only if they are fully alert and able to swallow safely. If symptoms do not improve, take them to first aid.” Short version: “Symptoms: move to a cooling area, give safe water if alert and refer to first aid.” (68 characters)
N	Use when: all heat conditions Audience: staff, volunteers and contractors Primary channels: staff radio/app, first-aid escalation channel, supervisor briefing	P8. Danger signs (staff instruction) Standard version: “Danger signs (confusion, collapse, seizures, not responding normally) require urgent action. Call first aid immediately and follow the escalation pathway. Do not delay.” Short version: “Confusion or collapse: emergency – call first aid now.” (54 characters)
I	Use when: increased risk or higher Audience: staff, volunteers and contractors Primary channels: staff radio/app, first-aid escalation channel, supervisor briefing	P9. Staff self-care (permission to stop) Standard version: “If you feel unwell from the heat, stop work and tell your supervisor. Move to a cooling area and drink water. Seek medical support if symptoms continue.” Short version: “If unwell: stop, cool down and inform your supervisor.” (54 characters)

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6.4 Messages for health, first aid and emergency services

These messages support consistent triage, escalation, surge awareness, public reassurance and coordination with event operations. They should be adapted to local clinical protocols, ambulance procedures, hospital referral pathways and the event command structure. They are not clinical treatment guidelines. They provide standardized communication prompts to help medical, first-aid, safety and communications teams act consistently during heat stress risk conditions.

R ¹	Trigger conditions and audience	Message text
N	Use when: all heat conditions; particularly increased risk or higher Audience: health, first aid and emergency services Primary channels: medical radio, first-aid coordination, operations centre, incident command	H1. Triage consistency: heat-related illness severity Standard version: “Apply standardized definitions for heat-related illness severity in triage. Patients with altered mental status, collapse, seizures, not responding normally and/or signs consistent with severe heat illness require immediate priority management according to local clinical protocols. Ensure that suspected severe heat-related illness is communicated rapidly to the medical lead and event operations centre.”
I	Use when: increased risk or higher or when clinical demand changes Audience: health, first aid and emergency services; operations centre Primary channels: medical radio, first-aid coordination, operations centre, incident command	H2. Resource status update Standard version: “Report current clinical capacity to the operations centre at agreed intervals. Include first-aid utilization, heat-related presentations, suspected severe cases, cooling capacity, ambulance availability, hospital referral pathway status and any zones where repeated heat-related presentations are occurring.”
N	Use when: any heat-related presentation with danger signs; symptoms not improving; suspected severe heat illness; local protocol requires transfer Audience: health, first aid and emergency services; operations centre Primary channels: medical radio, first-aid coordination, operations centre, incident command	H3. Escalation from on-site first aid to hospital transfer Standard version: “Escalate from on-site first aid to Emergency Medical Services or hospital transfer according to local clinical protocols when a person has danger signs and symptoms such as confusion, collapse, seizures, not responding normally, suspected severe heat illness, persistent or worsening symptoms despite initial care, or other clinical concerns. Notify the medical lead and operations centre of the transfer, location, route/access needs and any operational barriers affecting response.”

R ¹	Trigger conditions and audience	Message text
N	Use when: Multiple heat-related presentations occur in a short period, in the same zone, queue, route, transport node or staff group; or when medical resources are approaching capacity. Audience: medical lead, operations centre, safety/operations lead, communications lead Primary channels: medical radio, first-aid coordination, operations centre, incident command	H4. Heat illness cluster or surge alert Standard version: “Heat illness cluster/surge alert: multiple heat-related presentations have been reported at [LOCATION/ZONE] at [TIME]. Current clinical capacity is [STATUS]. Recommended actions: increase cooling and safe water support at [LOCATION], review queue or crowd flow, issue targeted public message A13 and – if extreme risk or urgent protective action is required – L6, deploy additional staff or first-aid support where feasible, and reassess within [TIME INTERVAL].”
N	Use when: rumours, public concern or visible medical activity may cause confusion Audience: public; media/ broadcaster liaison if needed Primary channels: official channel, public address if needed, media liaison, health/operations channel	H5. Public reassurance statement Standard version: “Health services are actively monitoring heat-related conditions. Medical teams are in place and responding. Please follow official updates from [OFFICIAL CHANNEL], use safe water and cooling areas and seek first aid at [FIRST AID LOCATIONS] if you feel unwell.”
N	Use when: A serious heat incident or medical response is occurring in view of a crowd. Audience: nearby attendees and staff Primary channels: public address, screens, steward/security scripts, staff radio, medical radio/first-aid coordination, operations centre/ incident command and media liaison if needed	H6. Bystander message during a visible serious heat incident Standard version: “Medical teams are helping someone who is unwell. Please give them space and keep access routes clear. Do not crowd around the person. Move to a cooling area if you are hot, drink water and tell staff or first aid immediately if you or someone near you feels unwell.” Short version: “Please give medical teams space. Keep access clear. Move to a cooling area and seek help if unwell.” (98 characters)

R ¹	Trigger conditions and audience	Message text
N	Use when: ambulance, stretcher, medical cart or emergency team access is required through a crowd Audience: nearby attendees, staff, security and stewards Primary channels: public address, screens, steward/security scripts, staff radio, medical radio/first-aid coordination, operations centre/incident command and media liaison if needed	H7. Emergency access route message Standard version: “Emergency medical access is needed. Please move calmly to the side, keep [ROUTE/ACCESS POINT] clear and follow staff instructions. Continue to use a cooling area and safe water points where available. If you feel unwell, tell staff or go to first aid at [FIRST AID LOCATION].” Short version: “Keep the medical route clear. Move calmly and follow staff instructions.” (72 characters)

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6.5 Messages for organizers and event leadership

These messages are designed as short prompts to support decision-making, coordination, and consistent communication. They should be adapted to the event's command structure and approval chain (see Section 5.6).

6.5.1 Trigger-based activation statements

R ¹	Trigger conditions and audience	Message text
I	Use when: increased risk (based on [LOCAL HEAT ALERT SYSTEM NAME] or forecast) Audience: organizers and event leadership Primary channels: operations centre, incident command, leadership briefing, internal channels	L1. Activate increased measures (internal statement) Template: "Heat risk is increasing today. Activate the minimum package measures now: confirm safe water resupply, expand cooling options where feasible, adjust queue management and increase message frequency across channels. Confirm first aid readiness and staffing."
H	Use when: high risk Audience: organizers and event leadership Primary channels: operations centre, incident command, leadership briefing, internal channels	L2. Activate high-risk measures (internal statement) Template: "Heat risk is high and sustained. Increase operational controls (safe water distribution, cooling access, staff rotation). Increase public announcements and location-based messages. Monitor first aid presentations and crowd pressure points. Prepare escalation decisions if conditions worsen."
H	Use when: pre-event planning and high-risk conditions Audience: organizers and event leadership Primary channels: operations centre, incident command, leadership briefing, internal channels	L3. Confirm escalation thresholds (internal coordination) Template: "Confirm that pre-agreed local biometeorological thresholds and operational triggers are understood by all decision-makers. Ensure communication escalation aligns with the designated heat alert system and command structure."

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6.5.2 Operational action prompts (queue and crowd safety)

R ¹	Trigger conditions and audience	Message text
N	Use when: queues in direct sun; high crowd density Audience: Organizers and event leadership Primary channels: operations centre, incident command, leadership briefing, internal channels	L4. Queue pressure point prompt Template: “Queue exposure is increasing. Implement immediate queue actions: add cool routing where feasible, increase staffing at the queue, deploy safe water support and reduce waiting time (for example, open additional lanes). Issue a targeted queue safety message with clear directions to safe water and cooling.”
N	Use when: high demand or water shortages reported Audience: organizers and event leadership Primary channels: operations centre, incident command, leadership briefing, internal channels	L5. Safe water access prompt Template: “Safe water demand is high. Confirm resupply and redeploy safe water distribution resources. Update messages to direct people to functioning safe water points. Ensure staff can direct attendees to the nearest safe water point.”

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6.5.3 Communication escalation statements (public-facing)

R ¹	Trigger conditions and audience	Message text
E	Use when: extreme risk; paired with visible operational measures Audience: organizers and event leadership Primary channels: public address, screens, official channel, social media/SMS, staff scripts	L6. Extreme risk safety instruction Template (public): “Heat conditions are dangerous. Move to cooling area now. Drink water regularly. If you feel unwell, go to first aid immediately at [FIRST AID LOCATIONS]. Follow staff instructions.”

R ¹	Trigger conditions and audience	Message text
H	Use when: high or extreme risk; event schedule, routes, activities, ceremonies, warm-ups, queues or exposed components are being modified because of heat Audience: organizers and event leadership Primary channels: public address, screens, official channel, social media/SMS, staff scripts	L7. Event activity modification notice Template (public): “Due to heat conditions, some event activities or timings are being adjusted for safety. Follow staff instructions and check [OFFICIAL CHANNEL] for updates. Continue protective actions: drink water regularly, use a cooling area and seek first aid at [FIRST AID LOCATIONS] if you feel unwell.” Short version: “Heat safety update: some activities are being adjusted. Follow staff instructions and use safe water points and cooling areas.” (114 characters)
E	Use when: extreme risk; partial or full event suspension, relocation, postponement, cancellation or evacuation is authorized due to heat risk or heat-related operational strain Audience: organizers and event leadership Primary channels: public address, screens, official channel, social media/SMS, staff scripts	L8. Partial or full event suspension, relocation or evacuation notice Template (suspension/relocation): “For safety, [EVENT NAME / ACTIVITY / AREA] is temporarily suspended because of heat conditions. Please follow staff instructions. Move calmly to [COOLING AREA / SAFE AREA / TRANSPORT ROUTE]. Drink water where available. If you feel unwell, go to first aid at [FIRST AID LOCATIONS] or call [EMERGENCY NUMBER]. Updates will be provided through [OFFICIAL CHANNEL].” Template (evacuation): “For safety, we are evacuating [AREA / VENUE] because of heat conditions. Leave calmly by [EXIT ROUTES] and follow staff instructions. Do not run. Use cool routes where possible. Keep drinking water and help children, older people and anyone needing assistance. First aid is available at [FIRST AID LOCATIONS]. Emergency:

¹Risk code indicating the heat stress risk level at which or beyond which a message should be considered:

N = Normal/seasonal heat

I = Increased risk

H = High risk

E = Extreme risk

6.5.4 -event improvement prompts (internal)

R ¹	Trigger conditions and audience	Message text
N	Use when: end of event day; within 24–72 hours Audience: organizers and event leadership Primary channels: after-action review, operations debrief, meeting notes	L9. Rapid debrief prompt Template: “Conduct a short debrief on heat communications and actions: what worked, what did not, where risk were concentrated and what to change for the next event. Record two priority improvements with owners and deadlines.”

¹Risk code indicating the heat stress risk level at which or beyond which a message should be considered:

N = Normal/seasonal heat

I = Increased risk

H = High risk

E = Extreme risk

7. Operational message packs and deployment examples

This section provides practical tools to help event organizers and partners assemble and deploy the templates in Section 6 under real operational conditions. It focuses on (i) minimum message sets by heat risk level, (ii) example message schedules for common mass gathering contexts (including football match days and multihour events) and (iii) channel-ready packaging to support consistent, timely delivery. Messages should be aligned with the event command structure and approval workflow described in Section 5.6, and adapted to local heat alerts, forecasts and on-site observations.

7.1 Minimum message sets by heat risk level

The minimum message sets below operationalize the heat risk levels described in Section 5.3. They are intended as a starting point. Event organizers may add more messages from Section 6 depending on context, audience needs and heat risk.

Table 7.1 Quick reference of minimum message set by heat risk level (message IDs from Section 6)

Heat risk level	Attendees	Officials	Event staff	Health, first aid and emergency services	Organizers / Leadership
Normal/ seasonal heat	A1, A2, A3, A4, A7, A8, A10, A14, A17	O1, O3, O4, O6, O8	P1, P2, P6, P7	H1, H3, H5 if public reassurance is needed	L9 (post-event)
Increased risk	A5, A6, A11, A12, A13, A15, A16, A18	O2, O3, O4, O5, O6, O7	P1, P3, P5, P8	H1, H2, H3	L1, L3, L4
High risk	A13, A18, A19, repeat A5 where relevant	O4, O5, O6, O7, O9	P1, P4, P8, P9	H2, H3, H4, H5/6/7 as needed	L2, L5, L7
Extreme risk	A9, A13, A18, A19	O4, O5, O6, O7, O9	P1, P8, P9	H2, H3, H4, H6, H7, H5 if public reassurance is needed	L6, L7, L8

7.1.1 Normal/seasonal heat (routine measures)

Purpose: Establish protective actions early and ensure people know where to access safe water, cooling areas and first aid.

Minimum message set (recommended; message IDs from Section 6):

Group	Message
Attendees	A1. Plan for heat before you travel A2. What to bring A3. Allow time to adjust to heat A4. Know where to find help A7. Directions to support A8. Care for children and people needing assistance A10. Regular protective actions A14. Continue protection when leaving A17. Early signs: take action
Officials	O1. Follow the heat plan O3. Pre-participation heat readiness check O4. Half-time or interval recovery protocol O6. Hydration and cooling during breaks O8. Cool down and recover
Event staff	P1. Shift-start briefing script P2. Hydration and breaks P6. Standard phrase for directing attendees P7. Early symptoms
Health, first aid and emergency services	H1. Triage consistency: heat-related illness severity H3. Escalation from on-site first aid to hospital transfer H5. Public reassurance statement
Organizers	L9. Rapid debrief prompt post event

Suggested communication intensity:

- Pre-event: at least one message in ticketing/website communications (where used)
- On-site: repeated short reminders at planned intervals, with clear location directions

7.1.2 Increased risk (forecast/alert indicates higher risk)

Purpose: Activate protective actions earlier, increase repetition and reinforce early help-seeking..

Minimum message set (recommended; message IDs from Section 6):

Group	Message
Attendees	A5. Increased risk notice A6. Queue safety A11. Reduce exertion and pace activity A12. Alcohol and heat A13. "Where to go now" instruction where cooling areas exist A15. Transport and waiting areas A16. When to seek care after leaving A18. Danger signs: seek urgent help
Officials	O2. Adjust expectations and pacing O3. Pre-participation heat readiness check O4. Half-time or interval recovery protocol O5. Officials who cannot easily leave the field or operating area O6. Hydration and cooling during breaks O7. Stop and report symptoms early
Event staff	P1. Shift-start briefing script with "increased risk" language P3. Buddy checks P5. What to report early P8. Danger signs – urgent action
Health, first aid and emergency services	H1. Triage consistency: heat-related illness severity H2. Resource status update H3. Escalation from on-site first aid to hospital transfer
Organizers	L1. Activate increased measures L3. Confirm escalation thresholds L4. Queue pressure point prompt
<u>Suggested communication intensity:</u>	
• Start earlier (for example, at venue opening and before peak arrival times). • Increase repetition in queues and crowded outdoor areas. • Use consistent "what to do now + where to go" wording across channels	

7.1.3 High risk (sustained heat, operational strain visible)

Purpose: Deliver frequent, directive messages paired with visible operational measures (safe water distribution, cooling access, queue changes).

Minimum message set (recommended; message IDs from Section 6):

Group	Message
Attendees	Use A5 frequently A13. "Where to go now" instruction targeted to pressure points A18. Danger signs: seek urgent help A19: Help others
Officials	O4. Half-time or interval recovery protocol O5. Officials who cannot easily leave the field or operating area O6. Hydration and cooling during breaks O7. Stop and report symptoms early O9. Danger signs are an emergency
Event staff	P1. Shift-start briefing script plus mid-shift repetition when risk increases P4. Outdoor posts and queue support rotation P8: Danger signs – urgent action P9. Staff self-care
Health, first aid and emergency services	H2. Resource status update H3. Escalation from on-site first aid to hospital transfer H4. Heat illness cluster or surge alert H6. Bystander message during a visible serious heat incident H7. Emergency access route message
Organizers	L2. Activate high-risk measures L5. Safe water access prompt L7. Event activity modification notice

Suggested communication intensity:

- Increase frequency and shorten messages (public address, screens).
- Use location-based messages repeatedly in the highest-exposure areas (queues, transport hubs, fan zones).
- Reinforce help-seeking and rapid escalation for danger signs.

7.1.4 *Extreme risk (dangerous heat; urgent protective actions required)*

Purpose: Support urgent protective actions and escalation decisions using clear, consistent instructions that match what is available on site and what is being operationally implemented).

Minimum message set (recommended; message IDs from Section 6):

Group	Message
Attendees	A9. Extreme risk instruction
	A13. "Where to go now" instruction with specific locations
	A18. Danger signs: seek urgent help
Officials	O4. Half-time or interval recovery protocol
	O5. Officials who cannot easily leave the field or operating area
	O6. Hydration and cooling during breaks
	O7. Stop and report symptoms early O9. Danger signs are an emergency
Event staff	P1. Shift-start briefing plus repeated supervisor reminders
	P8. Danger signs – urgent action; P9. Staff self-care
Health, first aid and emergency services	H2. Resource status update
	H3. Escalation from on-site first aid to hospital transfer
	H4. Heat illness cluster or surge alert
	H5 if public reassurance is needed
	H6. Bystander message during a visible serious heat incident
	H7. Emergency access route message
Organizers	L6. Extreme risk safety instruction
	L7. Activity modification notice if event schedules or activities are changed
	L8. Partial or full event suspension, relocation or evacuation notice (if authorized)

Suggested communication intensity:

- Issue very frequent short messages, repeated across all major channels.
- Pair with operational changes (for example: queue rerouting, additional safe water distribution, opening additional cooling areas, increased staff rotations).
- Ensure messaging supports early recognition and urgent response to danger signs, consistent with event medical protocols.

7.2 Example message schedules

The following schedules illustrate how to sequence messages across event phases. As noted in previous sections, the proposed schedules should be adapted to local heat risk levels, event timing and the specific channel mix available.

7.2.1 Example schedule: football match day (stadium and surrounding areas)

This example is designed for a match with a defined kick-off time and predictable arrival peaks. Messages should be integrated with venue operations (safe water points, cooling areas, first aid locations) and should align with competition and event medical arrangements.

Table 7.2.1 Example message schedule: football match day (adaptable; message IDs from Section 6)

Time point	Primary operational focus	Recommended messages	Suggested channels
24 to 6 hours before	Prepare people before travel; set expectations	A1, A2, A4 (and A5 if increased risk)	Ticketing/website, social media, SMS/messaging apps (where used)
3 hours before venue opening)	Early arrival; prevent early exposure	A7, A10	Public address, screens, entrance signage, staff scripts (P6)
2 to 1 hours before (arrival peak)	Queue safety; reduce crowd heat exposure	A6, A7, A13 (targeted), A8 (where relevant)	Public address (short), queue signage, staff roving messages
30 minutes to kick-off	Final entry; reinforce help-seeking	A10, A17, A18	Public address, screens, staff reminders
During match and half-time	Maintain protective actions; direct to support	A10, A13 (as needed), A18 (as needed); O4/O6/O7 for officials where relevant; L7 or L8 if event modification, suspension, relocation or evacuation is authorized	Screens, concourse signage, announcements during breaks
Full-time to 90 minutes after full-time	Exit crowd; transport waiting areas	A14, A15, A16 (if increased risk or higher)	Public address at exits, transport hub signage, digital updates
End of event day (internal)	Capture improvements	L9	Internal debrief (operations + communications + medical)

Notes for implementation:

- Queue and transport messaging should be prioritized because exposure can be prolonged and crowd density may reduce airflow.
- If heat risk increases during the day, shift to the “increased risk” or “high risk” minimum message set (Table 7.1) and increase message frequency.

7.2.3 Example schedule: all-day festival or multihour mass gathering

This example is designed for events with a long operating period and continuous movement between locations (for example, festival sites, cultural events).

Table 7.2.2 Example message schedule: multihour event (adaptable; message IDs from Section 6)

Event phase	Primary operational focus	Recommended messages	Suggested channels
Pre-event (days to hours)	Plan travel; bring permitted items; identify support	A1, A2, A4 (and A5 if increased risk)	Website/ticketing, community outreach, social media, SMS
Arrival and early peak	Queue safety; direct to safe water/cooling areas	A6, A7, A8	Public address, signage, staff roving messages (P6)
Midday peak heat period	Increase frequency; reinforce cooling and pacing	A10, A11, A13, A17	Public address, screens, targeted messages in high-exposure zones
Late afternoon/evening	Sustain protective actions; monitor fatigue	A10, A17, A19	Public address, staff prompts; continued signage visibility
Departure	Heat risk continues; transport waiting	A14, A15, A16 (as relevant)	Public address, transport messaging, digital updates
Post-event (internal)	Debrief and improve	L9	After-action review and updates

Notes for implementation:

- For long-duration events, messages should be repeated at predictable intervals and intensified during the highest heat exposure period.
- Provide repeated location-based directions to safe water points and cooling areas, because people may enter from different points and move between sites.

Important limitation: This multihour event schedule is intended for festivals, cultural events and other gatherings where attendees generally have some ability to move between areas, pause participation, leave the site or change activity. It should not be used as the primary schedule for pilgrimage or route-based religious events. Pilgrimage settings may involve multiday continuous exposure, route-based movement, constrained timing, limited infrastructure, older or medically vulnerable attendees, non-acclimatized visitors and limited ability to opt out. For pilgrimage and route-based religious events, use the dedicated schedule in Section 7.2.3.

7.2.3 *Example schedule: pilgrimage or route-based religious event*

This example is designed for pilgrimage or route-based religious events where attendees may move along routes or between sites over multiple days, often during periods of prolonged outdoor exposure. A pilgrimage differs from other mass gatherings because exposure may be continuous, attendees may be older or have chronic conditions, many may be non-acclimatized visitors, and individuals may have limited ability or willingness to leave the event or change the timing of participation. Therefore, messages should be repeated frequently, delivered through trusted channels and linked to safe water points, cooling areas, transport, medical support and route-management actions.

Table 7.2.3 Example message schedule: pilgrimage or route-based religious event (adaptable; message IDs from Section 6)

Event phase	Primary operational focus	Recommended messages	Suggested channels
Before travel/ registration/ arrival in host location	Prepare pilgrims and group leaders; identify high-risk attendees; explain heat risk and available support.	A1, A2, A3, A4, A5 where increased risk is forecast; A17, A18	Official pilgrimage portals, registration materials, travel operators, religious/ community leaders, SMS, social media, pre-travel briefings, multilingual printed materials
Daily pre-movement briefing	Reinforce the day's heat risk level, route conditions, safe water/ cooling locations and help-seeking instructions.	A5 if increased risk; A7, A10, A11, A17, A18; P1/P6 for staff and volunteers	Group-leader briefings, accommodation/tent announcements, route apps, public address, radio, SMS, printed route cards
Route departure and movement between sites	Reduce exertion, prevent crowding in direct sun, direct people to safe water/cooling areas and identify early symptoms.	A6, A7, A8, A10, A11, A13, A17, A19; P5/ P6 for stewards and volunteers	Route signage, loudspeakers, roving staff/ volunteers, transport announcements, SMS/app alerts, community/religious leader prompts

Event phase	Primary operational focus	Recommended messages	Suggested channels
Peak heat period/ midday exposure/ exposed ritual or queue	Intensify protective messaging; reduce time in direct sun; encourage cooling breaks; direct urgent help-seeking.	A9 if extreme risk; A10, A11, A13, A18, A19; L4/L5 where queue or safe water access issues occur	Public address, cooling-point announcements, route screens where available, staff scripts, mobile teams, targeted messages in high-exposure zones
Transport, return to accommodation or tented areas	Prevent delayed illness during waiting, crowding or transport queues; continue hydration/cooling after exposure.	A14, A15, A16, A17, A18	Transport hub signage, bus/metro announcements, accommodation/ tent announcements, SMS, staff/volunteer reminders
Heat illness cluster or extreme-risk escalation	Provide urgent public instructions; support medical access; reduce crowding around incidents; trigger operational changes.	A9, A13, A18, A19, H3, H4, H5, H6, H7, L6, L7, L8 as needed	Operations centre, public address, official SMS/app, staff radios, route managers, transport authorities, trusted leaders, media/broadcaster liaison
End-of-day internal review	Capture issues and update next-day messaging and operations.	H2, L9, Template Worksheet 4, Template Worksheet 6	Internal debrief with operations, medical, public health, transport, communications and group-leader representatives

Notes for implementation:

Messages for pilgrimage settings should be multilingual, culturally appropriate and delivered through trusted messengers where possible. They should not rely only on individual behaviour. Communication should be paired with operational measures such as safe water access, cooling areas, reduced queue exposure, transport support, medical access and welfare checks for older adults, people with chronic conditions and non-acclimatized visitors.

7.3 Channel-ready packaging guidance (examples)

This subsection provides practical packaging rules to help apply Section 6 templates consistently across different channels, while keeping messages translation-ready and operationally feasible.

7.3.1 Public address announcements (short, repeatable)

Event phase	Example (normal/seasonal heat)	Recommended messages	Suggested channels
- One clear instruction + one location direction + one help-seeking prompt (when relevant) - Avoid long lists. Repeat the same instruction more often rather than adding multiple instructions at once.	“Drink water regularly and take breaks in cooling areas. Safe water points are at [SAFE WATER POINT LOCATIONS]. If you feel unwell, go to first aid at [FIRST AID LOCATIONS].”	“Heat risk is high. Go to a cooling area now if you are in direct sun. Safe water is at [SAFE WATER POINT LOCATIONS]. If you feel dizzy or confused, go to first aid immediately.”	“Dangerous heat conditions are affecting [EVENT NAME]. Move to a cooling area if you are in direct sun. Drink water where available. If you feel confused, faint, very weak or unwell, go to first aid immediately at [FIRST AID LOCATIONS]. Follow staff instructions.”

7.3.2 Screens and variable message displays

Recommended format	Example (normal/seasonal/extreme heat)
- Use very short lines and clear direction cues. - Always include “where” when asking people to move (for example: “Cooling area: [LOCATION]”). - If using icons, pair icons with text labels (do not rely on colour alone).	“QUEUE SAFETY: Use cooling areas • Drink water • Feeling unwell? FIRST AID: [LOCATION].” “DANGEROUS HEAT Go to cooling area now: [COOLING AREA LOCATION] Safe water: [SAFE WATER POINT LOCATION] Confusion, collapse or fainting? First aid: [FIRST AID LOCATION]”

7.3.3 Social media, SMS, and messaging applications

Recommended format	Example (normal/seasonal/extreme heat)
• Use plain language and minimal punctuation. • Provide one or two actions and a clear “where to go” instruction. • Where possible, include a link to an official event page that lists water, cooling areas and first aid locations (if available).	“Heat risk is increasing at [EVENT NAME] today. Drink water regularly, use a cooling area and slow down if you feel unwell. First aid: [LOCATIONS]. Water: [LOCATIONS].” “Extreme heat risk at [EVENT NAME]. Move to a cooling area, drink water where available and check on people with you. Confusion, collapse, fainting or not responding normally is an emergency. First aid: [FIRST AID LOCATIONS]. Emergency: [EMERGENCY NUMBER]. Follow official updates: [OFFICIAL CHANNEL].”

7.3.4 Signage and wayfinding micro-text

Recommended format	Example (normal/seasonal/extreme heat)
• Use consistent location names across all materials (for example • “cooling area” rather than multiple different terms). • Use large, high-contrast text and arrows; avoid dense paragraphs.	“FREE DRINKING WATER → [DIRECTION]” “COOLING AREA → [DIRECTION]” “FIRST AID → [DIRECTION]” “FEELING UNWELL FROM HEAT? ASK STAFF OR GO TO FIRST AID” “DANGEROUS HEAT — COOLING AREA → [DIRECTION]” “WATER NOW → [DIRECTION]” “CONFUSED, FAINT OR COLLAPSED? FIRST AID → [DIRECTION]” “KEEP MEDICAL ACCESS CLEAR” “FOLLOW STAFF INSTRUCTIONS”

7.4 Heat illness cluster or emergency: communication actions (operational guidance)

This subsection describes how to use the templates in Section 6 when there are multiple heat-related illness presentations or when an emergency occurs. Communication should support rapid protective action while avoiding confusion and ensuring instructions match the operational response across different channels, while keeping messages translation-ready and operationally feasible.

7.4.1 Immediate public safety message (protective actions and help-seeking)

When to use	Recommended actions	Template (public)	Minimum content checklist
- Multiple heat-related illness cases in a short period and/or - visible crowd distress in high-exposure areas (queues in direct sun, crowd congestion) and/or - medical teams advise urgent public messaging escalation	Issue a short, direct public message prioritizing: - moving to a cooling area - drinking water - urgent help-seeking for danger signs	Use L6 (Extreme risk safety instruction) or A9 (Extreme risk instruction), plus A13 (Where to go now) for specific locations	“What to do now” (move to a cooling area; drink water) “Where to go” (specific safe water points, cooling areas, first aid) “Danger signs” and “get help now” instruction (confusion/collapse as emergency)

7.4.2 Internal coordination message (staff and supervisor prompts)

When to use	Recommended actions	Template (internal)
- Escalation decisions are being considered or implemented (for example queue rerouting, schedule changes, opening additional cooling areas) - Staff require immediate alignment on what to say and what actions to take	Use P1 (shift-start script) as a base and provide a short update: - current heat risk level - immediate operational actions to implement - what staff should say (use P6 standard phrase) - escalation reminders for danger signs (P8).	"Heat risk is [HIGH/EXTREME]. Implement: [OPERATIONAL ACTIONS]. Use this standard phrase with attendees: [P6 adapted]. Escalate danger signs immediately (confusion, collapse, seizures)."

7.4.3 Visible serious heat incident, emergency access or heat illness surge

When to use	Recommended actions	Template (internal)
Multiple heat-related illness presentations occur in a short period, in the same zone, queue, route, transport node or staff group.	Notify the medical lead and operations centre. Review safe water points, cooling areas, queue exposure and medical capacity. Increase targeted public messages where needed.	Use H4 for the internal heat illness cluster or surge alert. Pair with A13 and L6 if public protective action is required.
A serious heat incident or medical response is visible to the crowd.	Reduce crowding around the person. Keep access routes clear. Provide calm, factual reassurance. Direct nearby attendees to cooling areas and first aid if they feel unwell.	Use H6 for the bystander message. Use H5 if broader public reassurance is needed.
Ambulance, stretcher, medical cart or emergency team access is required through a crowd.	Keep the access route clear. Coordinate with stewards, security, transport and operations. Repeat short instructions until the route is clear.	Use H7 for the emergency access route message.

8. Implementation tools (checklists and templates)

This section provides practical tools to support adaptation, quality assurance, and day-to-day implementation of the message templates in Sections 6 and 7, consistent with the operational framework in Sections 1–5. These tools are designed to be:

- easy to use under time pressure
- compatible with different resource settings
- suitable for translation and local adaptation.

Event organizers should integrate these tools into established mass gathering planning and coordination processes, including public health, medical services and safety/operations functions. Risk communication should be linked to early warning and pre-agreed actions and updated as conditions change.

8.1 Pre-event message readiness checklist

The checklist provided in Table 8.1 supports preparation and rapid deployment. It should be completed before the event and reviewed again when forecasts or local heat alerts indicate increased risk.



Extreme heat in Spain 2023. © WHO / Uka Borregaard

Table 8.1 Time-banded message readiness checklist

Checklist item	Weeks before event	24–48 hours before event	Day of event/ operating period	Owner	Status/ Notes
Heat risk information source confirmed	Confirm [LOCAL HEAT ALERT SYSTEM NAME], forecast source, meteorological contact and decision points.	Review current forecast and alert status; confirm expected peak-risk periods.	Monitor forecast updates and on-site observations at agreed intervals.		
Risk levels, triggers and actions aligned	Map local alert levels to normal/ increased/high/extreme risk and message intensity.	Confirm which risk level applies and which messages are pre-selected.	Escalate/de-escalate messages when triggers are reached.		
Vulnerable groups identified and considered	Identify older adults, children, pregnant people, people with chronic disease/disability, non-acclimatized visitors, pilgrims, staff/volunteers in exposed posts and people with limited mobility or access needs.	Confirm targeted messages, accessibility support and welfare/ check-in arrangements for these groups.	Monitor whether vulnerable groups can access safe water, cooling areas, first aid, transport and assistance.		
Message sets selected	Select minimum message sets by risk level from Section 7.1.	Confirm final message set for the forecast risk level and event type.	Activate additional messages if heat risk increases or operational issues emerge.		
Placeholders completed	Draft all placeholders: safe water points, cooling areas, first aid, emergency numbers, official channels, event/venue names.	Confirm locations, opening hours and contact numbers are still accurate.	Update messages immediately if a safe water point, cooling area, route or first-aid location changes.		

Checklist item	Weeks before event	24–48 hours before event	Day of event/ operating period	Owner	Status/ Notes
Operational feasibility confirmed	Confirm planned safe water points, cooling areas, first-aid and accessibility services.	Confirm services are staffed, supplied, signposted and accessible.	Monitor outages, crowding, queues or access barriers; adjust messages to functioning services only.		
Channel plan confirmed	Identify public address, screens, signage, website/app, social media, SMS, staff scripts and media/broadcaster channels.	Test channels and confirm who can deploy each message.	Deploy messages at planned intervals; intensify frequency when risk increases.		
Priority languages confirmed	Identify languages for attendees, staff, officials and high-risk groups.	Confirm translation approval and interpreter/ community messenger arrangements.	Use translated messages and non-digital channels where needed.		
Accessibility plan confirmed	Check readability, audio options, accessible formats and alternatives to digital-only messaging.	Confirm accessible routes to safe water points, cooling and first aid are reflected in messages.	Monitor whether people with access needs can follow the instructions.		
Staffing for communications confirmed	Assign drafting, approval, deployment, monitoring and update authority.	Confirm shift coverage and backup contacts.	Ensure a named person is responsible for each active message update.		
Staff briefing materials ready	Adapt P1 supervisor script and P6 standard phrase.	Confirm briefing schedule and supervisors responsible.	Brief each shift; repeat when risk changes.		
Approval rules established	Pre-approve routine and increased-risk messages; define rapid approval for high/extreme risk.	Confirm approval chain and emergency approval authority.	Use rapid approval process for urgent updates, suspension or evacuation messages.		

Checklist item	Weeks before event	24–48 hours before event	Day of event/ operating period	Owner	Status/ Notes
Monitoring inputs agreed	Define heat, operational and health indicators to monitor.	Confirm who reports queue, safe water, cooling, medical and crowd-pressure issues.	Record observations in Template Worksheet 4 and feed findings into message updates.		
Escalation contacts confirmed	Confirm medical, safety/ operations, public health, transport, venue and communications contacts.	Test contact list and radio/phone groups.	Notify according to escalation pathway when triggers are reached.		
Post-event review planned	Schedule debrief process and data sources.	Confirm who will collect logs and feedback.	Capture issues for rapid debrief within 24–72 hours.		

8.2 Message adaptation and approval templates

To support consistency, version control and timely approvals, the present document provides relevant templates designed to reduce delays and prevent contradictory messages across channels.

8.2.1 Message adaptation worksheet (single message)

The template worksheet 1 is proposed for use when adapting any message from Section 6.

Template worksheet 1. Message adaptation worksheet (copy/paste and complete)

Message ID (from Section 6):	[A1 / A5 / P1 / etc.]
Audience group:	[Attendees/Officials/Event staff/Health, first aid and emergency services/ Organizers and event leadership]
Event phase:	[Pre-event/Arrival and queuing/During event/ Departure/Internal]
Heat risk level:	[Normal/seasonal risk/Increased risk/High risk/ Extreme risk] (align to local system)
Channel(s):	[Public address/Screen/Signage/Social media/SMS/ Staff briefing]
Draft message (adapted):	[Insert final wording here]
Required placeholders completed:	
Safe water points	[Yes/No]
Cooling areas:	[Yes/No]
First aid locations:	[Yes/No]
Emergency number:	[Yes/No]
Official channel for updates:	[Yes/No]
Operational feasibility checked by:	[Name/role] (date/time)
Medical review completed (if symptoms/escalation included):	[Name/role] (date/time)
Final approval by:	[Name/role] (date/time)
Languages available:	[List]
Distribution plan:	[Where/when/how often]

8.2.2 Message approval and version control log (event-wide)

The log in Template Worksheet 2 is proposed for tracking which messages are active, in which channels, and which version is current.

Template worksheet 1. Message adaptation worksheet (copy/paste and complete)

Date/time approved	Message ID	Version	Audience	Heat risk level	Channel	Approved by	Notes (what changed and why)
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Version control rules (recommended):

- Use a simple version format (e.g. V1, V2, V3) and update it whenever wording, locations or instructions change.
- Keep older versions archived to prevent accidental reuse.
- If a message is updated in one channel, update it across all relevant channels to maintain consistency.

8.2.3 Rapid update protocol (when risk increases)

When heat risk increases, messages often need faster review and deployment. A simplified protocol, such as that proposed in Template Worksheet 3, can support rapid action while maintaining accuracy and trust.

Template worksheet 3. Rapid update protocol (adapt and use locally)

Trigger identified:	[Local alert level / Forecast / On-site observations / Medical advice]
Decision to increase message intensity:	[Name/role, time]
Operational actions confirmed (safe water/cooling areas/queue changes):	[Name/role, time]
Message update drafted using Table 7.1 minimum message set:	[Name/role, time]
Medical/safety review (as needed):	[Name/role, time]
Final approval:	[Name/role, time]
Deployment:	[Channels + frequency + locations]
Monitoring assigned:	[Who reports what, by when]

8.3 Monitoring feedback and improvement tools

Mass gathering guidance emphasizes that monitoring and after-action learning support continuous improvement and preparedness (5, 9-11). Monitoring and evaluation are fundamental to ensuring that heat-health communication effectively reaches target audiences and achieves intended protective behaviours. A systematic monitoring and evaluation programme allows event organizers and health authorities to determine if the Heat-Health Warning System and broader Heat-Health Action Plan are meeting their objectives. This section provides a framework for integrating continuous feedback tools into the operational delivery of heat-health messaging. The tools provided support practical monitoring of message performance and operational relevance during the event and structured learning after the event.

8.3.1 Rapid behavioural assessments

During a mass gathering event, standardized messaging must be continually assessed to ensure it remains relevant and actionable for event staff and attendees. Rapid behavioural assessments provide real-time insights into how at-risk populations are perceiving heat risks and adopting protective behaviours. Key elements include:

- **Methods for data gathering.** Monitoring should utilize a mix of qualitative and quantitative tools tailored to the event's pace. Key methods include media and social media monitoring to track rumours or misinformation, as well as rapid surveys and key informant interviews at first-aid stations or information kiosks.
- **The feedback loop.** Findings from behavioural assessments must be integrated immediately into communication strategies. For instance, if the available information indicates low compliance with hydration advice or confusion regarding the location of cooling stations, authorities should adjust message content and delivery channels within the next broadcast cycle.
- **Measuring effectiveness.** Potential indicators include accurate knowledge about heat stress symptoms, self-reported or observed use of protective measures, improved ability to locate safe water points/cooling areas/first aid, and trends in heat-related first-aid presentations interpreted alongside exposure, attendance and operational conditions.

8.3.2 Integrating simulation exercises and after-action reviews

Monitoring and evaluation extend beyond the event itself through the use of standardized evaluative activities designed to build institutional memory and long-term event legacy. These include:

- **Simulation exercises.** Prior to the "heat season", health authorities and event organizers should conduct discussion-based or operations-based exercises. These exercises test communication flows, clarify roles and responsibilities between stakeholders and identify potential bottlenecks in message approval chains before a real-life emergency occurs.
- **After-action reviews.** Within three months of event closure, a structured after-action review should be conducted to evaluate the value and effectiveness of the heat-health communication strategy. The review should assess whether messages were timely, simple

and acceptable to the target groups and whether the information cascade reached the necessary event staff and attendees in the field.

- **Documentation and legacy.** Evaluation findings should be used to update national heat plans and standard operating procedures. By documenting what worked and what did not, host countries can ensure that the expertise gained – particularly in intersectoral coordination and risk communication – is retained for future sporting tournaments, religious gatherings and public health emergencies.

8.3.3 Day-of-event communication-monitoring log

The log in Template Worksheet 4 is proposed to capture what was communicated and where and what was observed. This helps adjust messages and improves the post-event review.

Template worksheet 4. Communication-monitoring log (day of event)

Time	Location/ zone	Heat risk level	Message delivered (ID/ version)	Channel	Observed issue ¹	Action taken	Follow-up needed
<i>Example: 14:10</i>	<i>East Gate queue</i>	<i>High</i>	<i>A6 + A13</i>	<i>Public address + roving staff script</i>	<i>Queue in direct sun for >30 minutes; two attendees reported dizziness; safe water point queue long</i>	<i>Opened additional entry lane; sent safe water support; repeated A13 with nearest cooling location; notified first aid and operations lead</i>	<i>Recheck at 14:30. If queue remains >20 minutes or more symptoms occur, escalate to L4 and increase announcement frequency</i>

Recommended monitoring inputs to support timely adjustment of message intensity and content (Section 5):

- heat information: local heat alert, forecast, on-site conditions;
- operational indicators: queue length, time in direct sun, crowd congestion, safe water supply issues, crowded cooling areas, transport waiting times;
- health indicators: increases in first-aid presentations for heat-related symptoms, reports of collapse, confusion, fainting or multiple people unwell in the same zone; and
- communication indicators: whether messages were heard/seen, whether staff used the correct wording and whether public instructions matched services actually available on site.

Select one or more: describe queues in sun/safe water shortage/crowded cooling area/multiple people unwell/other.

8.3.4 Quick feedback questions

Feedback should be used to adjust messages and operational supports in real time where possible and to inform post-event improvements. Where feasible, event organizers should collect brief feedback to improve clarity and reach. Feedback methods should be appropriate to the setting (e.g. short staff huddles, simple survey questions or observation-based checks). Template Worksheet 5 is proposed for use for quick feedback collection.

Template worksheet 5. Quick feedback questions (choose 3–5)

Reach and clarity:

"Did you hear or see heat safety messages today?"	[Yes/No/Not sure/Did not notice]
"Was it clear what to do?"	[Yes/No/Not sure/Did not notice]
"Was it clear where to find safe water and first aid?"	[Yes/No/Not sure/Did not notice]

Feasibility:

"Could you access safe water when you needed it?"	[Yes/No/Not sure/Did not notice]
"Could you find a cooling area?"	[Yes/No/Not sure/Did not notice]

Staff perspective:

"Did staff know what to say to attendees?"	[Yes/No/Not sure/Did not notice]
"Were there times when messages did not match what was available on site?"	[Yes/No/Not sure/Did not notice] (describe)

8.3.5 Rapid debrief form (heat messaging and operations)

After-action reviews and structured debriefs help strengthen preparedness for future events and improve coordination and implementation. Template Worksheet 6 is proposed for use for short debriefs to capture actionable improvements. It should be conducted with communications, operations/safety, medical/first aid and workforce leads.

Template worksheet 5. Quick feedback questions (choose 3–5)

1. What worked well (messages, channels, timing, coordination):

2. What did not work well (confusion, inconsistent terms, gaps in reach):

3. Where heat risk concentrated (times/locations; queues, transport, fan zones):

4. Operational constraints that affected messaging (safe water supply, cooling capacity, staffing):

5. Priority improvements (choose 2–3):

- | | |
|-----------------|--|
| • Improvement 1 | [Action] Owner: [Name/role] Deadline: [Date] |
| • Improvement 2 | [Action] Owner: [Name/role] Deadline: [Date] |
| • Improvement 3 | [Action] Owner: [Name/role] Deadline: [Date] |

6. Updates needed to templates (use Section 6 message text, placeholders, location names):

9. Translation and localization guidance

This section provides practical guidance to help event organizers and partners translate and localize the message templates in Sections 6 and 7 while maintaining clarity, accuracy and actionability. The guidance supports consistent implementation across channels and settings, including low-connectivity environments.

Messages should remain aligned with the framework in Sections 1–5 (audience group, event phase, heat risk level and message type) and should use the implementation tools in Section 8 (adaptation worksheets, approval logs and monitoring forms). Risk communication should be coordinated, consistent and adapted to context and should prioritize messages that people can understand and act on.

9.1 Translation-ready writing for heat risk messages

Translation-ready writing reduces misunderstanding and supports consistent delivery across languages and channels. Messages should be written and adapted so that the intended action remains clear after translation. To achieve this, event organizers should follow the principles below.

Use plain language and sentence structure. When adapting messages from Section 6, event organizers should:

- use short sentences and one idea per sentence
- prefer the active voice and direct instructions (for example, “Drink water regularly.”)
- use common words and avoid technical terms in public messages
- put the most important action first
- avoid long lists; if multiple actions are needed, split into two messages delivered separately.

Avoid ambiguity and maintain actionability. Translations can introduce ambiguity if the original message is unclear. To reduce this risk event, organizers should:

- avoid double negatives and complex conditional phrasing;
- avoid words that have multiple meanings across languages (e.g. “cool” as a state versus “cool down” as an action); use “cool down” or “move to a cooling area” consistently;
- not rely on implied meaning but instead specify what to do, when to do it and where to go (when relevant), consistent with the standard message template in Section 5.5.1; and
- ensure that messages are feasible (e.g. do not instruct people to go to a cooling area if none exists).

Appropriately use numbers, time, and units. To support global use, organizers should:

- use local time formats (e.g. 24-hour clock where standard locally) and avoid culturally specific time expressions;
- avoid temperature thresholds in public messages unless they are part of the local heat alert system and widely understood; and
- if numerical guidance is used, confirm it aligns with local public health guidance and is appropriate for the channel (e.g. a short public announcement may not be suitable for numerical detail).

Use placeholders and align with local systems. Trigger wording should match the local heat alert system or forecast language used by authorities. Communication is most effective when linked to early warning and pre-agreed actions. Therefore, all placeholders in [SQUARE BRACKETS] should be completed before use and checked for accuracy:

locations: [SAFewaterPOINT LOCATIONS], [COOLING AREA LOCATIONS], [FIRST AID LOCATIONS]

contacts: [EMERGENCY NUMBER], [ON-SITE HELP NUMBER]

triggers: [LOCAL HEAT ALERT SYSTEM NAME], [ALERT LEVEL]

official source: [OFFICIAL CHANNEL] (where people can verify updates).



9.2 Terminology and controlled vocabulary (for consistent translation)

Consistent terminology supports comprehension and reduces confusion, especially when messages are repeated across channels and delivered by staff and volunteers. Event organizers should agree on a controlled vocabulary, such as the one presented in Table 9.2, and apply it across public messages, signage and staff briefings.

Table 9.2 Recommended terminology for consistent translation (adapt locally)

Use consistently	Avoid (unless locally standard)	Notes for translators and implementers
heat stress	“overheating” (as a substitute term)	“Heat stress” is the defined term used in this document. Avoid terms that may be interpreted as fever or infection
heat-related illness	“heat sickness”	Use a single term consistently. If a local term is widely used, align carefully and keep consistent
cooling area	“air-conditioned area” (unless confirmed available)	“Cooling area” can include shade, airflow, seating and safe water. Do not imply air conditioning unless it is available
cool shade	“cool spot”	Use concrete terms that are easy to locate and signpost
first aid	“clinic” or “hospital”	Use “first aid” for on-site services unless the event has a different official term
danger signs	“serious symptoms”	“Danger signs” can be translated as “urgent warning signs” if needed. Keep the instruction to seek urgent help
seek help/go to first aid	“do not hesitate”	Use direct instructions. Avoid phrases that may not translate clearly
drink water regularly	“drink plenty” (without context)	“Regularly” can be translated as “often” or “frequently” depending on local language norms. Confirm messages do not encourage unsafe drinking for those unable to swallow safely

Implementation note: Location names should be standardized (e.g. “Cooling Area A”) and used consistently on maps, signs, screens and announcements to avoid confusion.

9.3 Accessibility and inclusive communication

Messages should reach people with different languages, literacy levels, hearing or vision impairments, mobility limitations and access to technology. Accessibility should be planned across channels and formats, not added late. To achieve this, event organizers should follow the principles below.

Multichannel delivery in low-connectivity settings. To ensure access for people without smartphones or reliable internet, organizers should:

- use public address announcements, large screens and clear signage at high-exposure points (queues, entrances, transport waiting areas);
- ensure staff and volunteers can deliver consistent short instruction using standard phrasing (e.g. P6 in Section 6.3.3); and
- avoid dependence on QR codes or websites alone for safety-critical information.

Disability inclusion and accessible formats. Event organizers should ensure messages are accessible to people with disabilities, including those with low vision, blindness, hearing impairment and cognitive or communication limitations. Accessibility measures that may be adopted by event organizers include:

- high-contrast signage with large text and clear arrows;
- audio announcements paired with visible text on screens;
- the venue's built-in assistive listening technologies (where available), such as hearing loops/ audio induction loops, infrared or FM (radio frequency) assistive listening systems and accessible audio channels in stadiums and other venues;
- captioning and transcripts for video messages;
- alt text for images in digital channels and accessible document formats where materials are shared online;
- keeping digital files small where possible to support access in low-bandwidth environments; and
- where feasible, involve local disability organizations and people with lived experience in reviewing key message content and channel plans.

Reaching people at higher risk and those needing assistance. Organizers should ensure that messages explicitly support people at higher risk (as described in Section 3.3) and those needing assistance by:

- including practical caregiver prompts (e.g. offering water regularly to children or helping someone reach a cooling area)
- providing clear instructions on how to get help ("Ask staff" and "Go to first aid at [LOCATION]")
- using supportive, non-stigmatizing language that encourages early help-seeking.

Staff communications in multilingual environments. The event staff may include personnel, contractors and volunteers with varied language proficiency. Therefore, messages to event staff should be:

- delivered at shift start and repeated when heat risk increases (see P1 and P2 in Sections 6.3.1–2)
- available in priority staff languages where feasible
- clear about staff rights and expectations regarding safe water access, breaks and reporting symptoms or hazards
- coordinated with occupational safety and health arrangements.



Angola: Walk the Talk during World Health Day-6 April 2024. © WHO / João Carlos Domingos

9.4 Message testing and quality assurance (translated and localized versions)

Emergency risk communication guidance emphasizes credibility, transparency and coordination as foundations for effective communication (5, 9-11). Quality assurance helps ensure translated messages remain accurate, actionable and consistent with services on site. This process should include the following elements:

1. Rapid comprehension checks. Before deployment, organizers should conduct a quick check of each translated message:

- Ask two or three people from the intended audience group (e.g. staff or volunteers who speak the language) to explain:
- what the message is telling them to do, and
- where they would go for safe water, cooling and first aid.
- If the explanation does not match the intended action, revise the message.

For high-risk or extreme risk messaging, a rapid check should be prioritized even under time pressure, because misunderstandings can cause harm.

2. Back-translation and consistency checks (priority messages). For a small number of high-priority messages (for example A9/A13/A18, P8, H3, H6, H7 and L8), event organizers should:

- use back-translation or bilingual review to confirm that “danger signs,” “seek help” and location directions

remain correct; and

- confirm that the same term is used consistently across:
- public address scripts
- screen text
- signage
- staff briefing notes.

3. Correction and update process. If errors are identified (e.g. incorrect location, outdated instruction or translation issue), event organizers should:

- correct the message centrally and update the version in the approval log (Template Worksheet 2);
- replace the message across all channels where it is in use to maintain consistency; and
- where a correction affects safety instructions, issue an updated public message promptly and ensure staff know the corrected wording.

Communication about changing conditions should be transparent and linked to the local heat risk information source (e.g. a change in alert level), consistent with the intensity/trigger-based approach described in Section 5.3.

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Annex 1

Message ID index (quick selection guide)

Use this index alongside Section 6 to select and adapt messages quickly. Message IDs refer to templates in Section 6.

Risk code indicating the heat stress risk level at which or beyond which a message should be considered:

N = Normal/seasonal heat	I = Increased risk	H = High risk	E = Extreme risk
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Annex 1.1 Attendees (public messages)

Pre-event (days to hours before)

- **A1** Plan for heat before you travel
- **A2** What to bring (where permitted)
- **A3** Allow time to adjust to heat (where feasible)
- **A4** Know where to find help
- **A5** Increased risk notice (trigger-linked)

Arrival and queuing

- **A6** Queue safety
- **A7** Directions to support (location-based)
- **A8** Care for children and people needing assistance
- **A9** Extreme risk instruction (paired with operational measures)

During the event

- **A10** Regular protective actions (repeat message)
- **A11** Reduce exertion and pace activity
- **A12** Alcohol and heat (supportive, non-stigmatizing)
- **A13** “Where to go now” instruction (time-limited, location-based)

Departure and travel home

- **A14** Continue protection when leaving
- **A15** Transport and waiting areas
- **A16** When to seek care after leaving

Heat illness recognition and help-seeking

- **A17** Early signs: take action
- **A18** Danger signs: seek urgent help
- **A19** Help others (bystander prompt)

Annex 1.2 Officials

Before event participation

- **O1** Follow the heat plan
- **O2** Adjust expectations and pacing
- **O3** Pre-participation heat readiness check
- **O4** Half-time or interval recovery protocol
- **O5** Officials who cannot easily leave the field or operating area

During event participation

- **O6** Hydration and cooling during breaks
- **O7** Stop and report symptoms early

After event participation

- **O8** Cool down and recover

When to seek urgent help

- **O9** Danger signs are an emergency

Annex 1.3 Event staff (personnel, volunteers, contractors)

Shift-start briefing

- **P1** Supervisor script (2 minutes)

On-duty protective actions

- **P2** Hydration and breaks
- **P3** Buddy checks
- **P4** Protecting staff assigned to queues and outdoor posts

Monitoring and reporting signals

- **P5** What to report early
- **P6** Standard phrase for directing attendees

Response and escalation prompts

- **P7** Early symptoms (staff instruction)
- **P8** Danger signs (staff instruction)
- **P9** Staff self-care (permission to stop)

Annex 1.4 Health, first aid and emergency services

Triage and escalation

- **H1** Triage consistency: heat-related illness severity
- **H3** Escalation from on-site first aid to hospital transfer

Resource monitoring and surge response

- **H2** Resource status update
- **H4** Heat illness cluster or surge alert

Public reassurance, bystander management and emergency access

- **H5** Public reassurance statement
- **H6** Bystander message during a visible serious heat incident
- **H7** Emergency access route message

Annex 1.5 Organizers and event leadership

Trigger-based activation statements

- **L1** Activate increased measures (internal statement)
- **L2** Activate high-risk measures (internal statement)
- **L3** Confirm escalation thresholds (internal coordination)

Operational action prompts

- **L4** Queue pressure point prompt
- **L5** Safe water access prompt

Communication escalation statements

- **L6** Extreme risk safety instruction
- **L7** Event activity modification notice
- **L8** Partial or full event suspension, relocation or evacuation notice

Post-event improvement prompts

- **L9** Rapid debrief prompt

Annex 2

Localization placeholder catalogue

Use this placeholder catalogue when adapting messages in Sections 6 – 8 and Annex 3. Replace all [SQUARE BRACKETS] before deployment and confirm that any referenced safe water point, cooling area, first-aid location, emergency number or official channel is available and accurate.

Annex 2.1 Mandatory placeholders (safety-critical)

These placeholders should be completed for any event using the templates.

Implementation note: If the event does not provide a cooling area, do not use wording that directs people to a cooling area. Adapt messages to refer to “cooling area” and other available measures.

Event identifiers

- [EVENT NAME]
- [DATE]
- [TIME] (where time-specific)

Support locations

- [SAFE WATER POINT LOCATIONS] (or nearest safe water point per zone)
- [COOLING AREA LOCATIONS] (or shaded and cool locations if no dedicated cooling area exists)
- [FIRST AID LOCATIONS]

Emergency contact

- [EMERGENCY NUMBER] (or local equivalent)

Official update source

- [OFFICIAL CHANNEL] (where people can verify event updates)

Heat risk trigger language (if used)

- [LOCAL HEAT ALERT SYSTEM NAME]
- [ALERT LEVEL] (or locally used phrasing)

Annex 2.2 Optional placeholders (context-specific)

Use these placeholders when relevant to the event context and audience:

Venue and zone identifiers

- [VENUE NAME]
- [ZONE NAME] (for multisite events)
- [ENTRANCE NAME] (for queue and wayfinding messages)

On-site help contact

- [ON-SITE HELP NUMBER] (if used)
- [INFORMATION POINT LOCATION]

Staff/team identifiers

- [TEAM MEDICAL CONTACT] (for staff messages)

Accessibility support

- [ACCESSIBILITY SUPPORT LOCATION] (for people needing assistance)

Venue and zone identifiers

- [SAFE WATER POINT LOCATION], [COOLING AREA LOCATION], [FIRST AID LOCATION]
- [DIRECTION], [EXIT ROUTES], [ROUTE/ACCESS POINT]
- [LOCATION/ZONE], [STATUS], [TIME INTERVAL]
- [OPERATIONAL ACTIONS]
- [MEDICAL LEAD CONTACT], [MEDICAL CONTACT / OFFICIALS' COORDINATOR], [OFFICIALS' COORDINATOR / MEDICAL CONTACT]
- [LOCAL TRANSFER PATHWAY], [COOLING RESOURCES]
- [COOLING AREA / SAFE AREA / TRANSPORT ROUTE], [SAFE/COOLING AREA]

Annex 3

Copy-ready microcopy (for rapid deployment)

Use this copy-ready microcopy for rapid deployment on screens, signage, public address announcements, SMS or social media. Adapt all placeholders before use.

Annex 3.1 Public microcopy (attendees and officials)

Routine (normal/seasonal heat)

- “Drink water regularly. Use a cooling area. First aid: [FIRST AID LOCATION].”
- “Free drinking water: [SAFE WATER POINT LOCATION].”
- “Feeling unwell from heat? Ask staff or go to first aid: [FIRST AID LOCATION].”

Increased risk/high risk

- “Heat risk is increasing. Drink water. Use a cooling area. Slow down.”
- “Too hot? Go to [COOLING AREA LOCATION]. Water: [SAFE WATER POINT LOCATION].”
- “Headache, dizziness, nausea, cramps: stop, cool down, drink water, seek help if needed.”

Extreme risk

- “Dangerous heat. Go to a cooling area now.”
- “Confusion or collapse is an emergency. Get help now: [FIRST AID LOCATION].”

Departure and travel home

- “Keep drinking water and cooling down as you leave. If symptoms continue, seek medical care. Emergency: [EMERGENCY NUMBER].”
- “Waiting for transport? Use cooling areas, drink water and tell staff if you feel faint, confused or unwell.”
- “Heat can affect you after the event. Keep using a cooling area and safe water points during travel. First aid: [FIRST AID LOCATION].”
- “If someone near you becomes confused, collapses or does not respond normally, get help immediately. Emergency: [EMERGENCY NUMBER].”

Annex 3.2 Staff microcopy (personnel, volunteers, contractors)

Shift-start reminder (workforce)

- “Heat risk today: [LEVEL]. Drink water. Take breaks. Use buddy checks. Report concerns early.”
- Standard phrase to direct attendees
- “Water: [SAFE WATER POINT]. Cooling: [COOLING AREA]. First aid: [FIRST AID].”

Escalation prompt

- “Danger signs (confusion, collapse, seizures): emergency. Call first aid immediately and follow the escalation pathway.”

Annex 4

Minimum practical templates

Use these minimum practical templates to document heat-risk communication, monitoring and decisions. Risk tiers should be aligned with Section 6 and with the event's local heat alert system, escalation pathway and approval process.

Heat risk register and scenario profile (minimum fields)

Event name and dates:

Locations and zones (venues, routes, transport nodes):

Expected attendance profile (by day/peak periods):

Primary heat metric(s) and data sources (forecast and on-site):

Key exposure scenarios (where, when, for whom):

Vulnerable groups and constraints (including accessibility):

Capacity assumptions (safe water, cooling area, clinical readiness, transport/referral):

Risk tiers and triggers in use (see Section 5.3):

Planned control package by tier (engineering, administrative, behavioural supports, clinical):

Decision authority and owners:

Key uncertainties and assumptions (forecast uncertainty, microclimates):

Version/date and approval:

Environmental monitoring log (minimum fields)

Date/time:

Monitored by (name/role):

Zone/location:

Metric(s) recorded (for example Wet-Bulb Globe Temperature, Universal Thermal Climate Index, air temperature with humidity and radiation context):

Conditions (sun/shade, crowd density, wind constraints, indoor hot spot notes):

Instrument/source and any data gaps:

Trigger exceeded (yes/no) and tier implication:

Approved by (name/role) and time reported:

Due by:

Heat decision log (trigger-to-action traceability)

Date/time of trigger:

Trigger evidence (forecast/on-site values and location):

Current tier and proposed tier change:

Decision-maker and authorizing body:

Decision taken (escalate/de-escalate/maintain tier):

Actions authorized (what, where, when):

Rationale and constraints:

Time implemented and confirmation of implementation:

Outcome reviewed at next planning cycle (Yes/No):

Implementation-tracking log (coverage and functionality)

Date/time of check:

Control type (safe water, cooling, queue management, staffing, communications, clinical readiness):

Zone(s) covered:

Planned capacity vs delivered capacity:

Functionality issues (outages, queues, access barriers):

Corrective actions taken and time:

Equity/access notes (mobility access, language access, constrained zones):

Heat situation report (routine reporting cycle)

Reporting period:

Forecast summary and uncertainty:

Observed conditions and hotspots:

Current tier and rationale:

Actions deployed and key constraints:

Health and service indicators (brief):

Planned adjustments for next period:

After-action review of communication: summary (minimum fields)

Conditions encountered (by tier/time):

What worked (with evidence stream):

What did not work and why (constraints and contributing factors):

Equity/access findings:

Priority corrective actions (owner and timeline):

Legacy elements to retain (owner, resourcing, maintenance):

Annex 5

Heat illness clinical quick-reference card for on-site first aid staff

Use this card at first aid posts, mobile medical teams, exposed queues, transport hubs, fan zones, route points and other high-exposure areas. It is intended to support rapid recognition, immediate first aid, escalation and consistent communication. It must be adapted to local clinical protocols, ambulance procedures, hospital referral pathways and the event command structure before use.

- Insert before deployment:
- Emergency number: [EMERGENCY NUMBER]
- Medical lead contact: [MEDICAL LEAD CONTACT]
- Nearest first aid/medical post: [FIRST AID LOCATION]
- Hospital transfer pathway: [LOCAL TRANSFER PATHWAY]
- Cooling resources available: [COOLING RESOURCES]

Field rule: If unsure whether a person has severe heat illness, treat as potentially serious: stop exposure, start cooling, call the medical lead or emergency medical services and do not leave the person alone.

Severity/ triage category	What first aid staff may see	Immediate response actions	Escalation trigger
At risk/ exposed but not currently ill	Hot environment; prolonged standing, walking, queuing, dancing or working; thirsty, tired or overheated but no clear symptoms. Higher-risk person may be older, a child, pregnant, non- acclimatized, taking relevant medication or living with chronic disease or disability.	Move or direct the person to a cooling area where available. Encourage regular drinking water. Reduce exertion. Check whether they are with others and can safely continue. Give clear directions to safe water points, cooling areas and first aid.	Escalate if symptoms develop, if the person is high-risk and cannot access cooling/safe water or if multiple exposed people are becoming unwell in the same zone.

Severity/ triage category	What first aid staff may see	Immediate response actions	Escalation trigger
Early heat-related symptoms/ mild heat illness	Headache, dizziness, light-headedness, nausea, cramps, unusual tiredness, irritability, thirst, heavy sweating, feeling very hot. Person is alert, responding normally and able to swallow safely.	Stop activity or remove from exposure. Move to cooling area or first aid post. Remove unnecessary clothing or equipment. Cool skin with water spray, wet cloths, cooling towels, ice packs wrapped in cloth and airflow where available. Provide cool water or oral rehydration drink only if fully alert and not vomiting. Observe and reassess.	Escalate to first aid or medical lead if symptoms persist, worsen, recur or occur in a high-risk person. Do not return the person to duty, officiating or activity until assessed and recovered.
Heat exhaustion/ needs first aid assessment	Persistent headache, dizziness, weakness, nausea, vomiting, cramps, fainting or near-fainting, rapid pulse or breathing, pale/clammy or hot sweaty skin, marked fatigue, difficulty continuing, reduced urine output. Mental status remains normal.	Manage at first aid or medical post. Keep in a cool area. Remove unnecessary clothing. Lie or sit safely; raise legs if faint or near-faint and local protocol allows. Start active cooling. Provide fluids only if alert, able to swallow and not vomiting. Monitor symptoms and vital signs if trained and equipped. Do not allow return to activity, duty or field of play during the same exposure period unless cleared by the medical lead.	Escalate to emergency medical services or hospital transfer if symptoms worsen, repeated vomiting occurs, the person cannot drink, fainting occurs with injury or persistent symptoms, the person is high-risk or there is no clear improvement after approximately 30 minutes of cooling, rest and fluids.

Severity/ triage category	What first aid staff may see	Immediate response actions	Escalation trigger
Severe heat illness/ suspected heatstroke/ emergency	Any altered mental status, confusion, agitation, slurred speech, loss of coordination, collapse, seizure, loss of consciousness, not responding normally or very high body temperature if measured. Skin may be hot and dry or hot and sweating. Severe weakness or inability to stand may occur.	Activate emergency response immediately. Call [EMERGENCY NUMBER] and notify [MEDICAL LEAD CONTACT]. Move out of heat if safe. Start rapid cooling immediately while awaiting transfer. Use cold-water immersion if available, locally approved and safe. If not available, wet the skin and clothing, apply cold wet cloths or ice packs to neck, armpits and groin and use airflow where available. Remove outer clothing/equipment. Monitor airway and breathing. Place in recovery position if unconscious and breathing. Do not give oral fluids if altered, unconscious, vomiting or unable to swallow safely. Keep emergency access routes clear.	Emergency medical services/ hospital transfer is required. Do not delay emergency escalation to complete documentation or obtain a temperature. Continue cooling and monitoring until care is handed over.
Cluster/ surge/ operational trigger	Multiple heat-related presentations in the same zone, queue, route, transport node, staff group or short time period; repeated collapse/ danger signs; first aid or cooling capacity approaching limits.	Notify medical lead and operations centre. Activate H4 Heat illness cluster or surge alert. Deploy additional first aid, safe water, cooling areas or crowd-flow support where feasible. Use H6 for bystander management and H7 to keep emergency access routes clear. Consider targeted public messages A13 and L6.	Escalate through the event command structure if medical capacity, cooling capacity, transport or crowd management is under strain. Consider operational modification, suspension, relocation or evacuation messages where authorized.

Hospital transfer/Emergency medical services trigger

Escalate from on-site first aid to emergency medical services or hospital transfer immediately if any of the following are present:

- confusion, altered mental status, agitation, slurred speech, loss of coordination or not responding normally;
- collapse, seizure, loss of consciousness, or inability to stand or walk safely;
- suspected heatstroke or very high body temperature if measured;
- persistent or worsening symptoms despite initial cooling and rest;
- no clear improvement after approximately 30 minutes of cooling, rest and fluids;
- repeated vomiting, inability to drink or unsafe swallowing;
- fainting with injury, persistent symptoms or high-risk context;
- chest pain, severe breathlessness, signs of shock or another non-heat emergency concern;
- high-risk person with concerning symptoms, including an older adult, child, pregnant person, non-acclimatized visitor, person with disability or person with significant chronic disease; and
- local protocol, medical lead or ambulance service requires transfer.

Communication links for first aid teams

Use the Section 6.4 messages as follows:

- **H1** for triage consistency and severity classification
- **H2** for regular resource status updates
- **H3** when escalating from on-site first aid to emergency medical services or hospital transfer
- **H4** when multiple cases or a surge pattern is detected
- **H5** when public reassurance is needed
- **H6** when a serious heat incident is visible to the crowd
- **H7** when emergency medical access through a crowd is needed.

Risk code indicating the heat stress risk level at which or beyond which a message should be considered:

N = Normal/seasonal heat

I = Increased risk

H = High risk

E = Extreme risk

Documentation minimum

Record: time, location, symptoms, severity category, immediate actions, cooling method used, fluids given or withheld, escalation decision, transfer pathway, communication messages used and handover time.

