United Nations University
Institute for Water, Environment and Health

POLICYBRIEF
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Strengthening England's Heat Resilience: From Warnings to Long-Term Adaptation

Executive Summary

Extreme heat is becoming one of England's most significant climate risks. While England has strengthened preparedness through the Adverse Weather and Health Plan (AWHP) and Heat Health Alerts (HHAs), persistent gaps remain in public awareness, risk perception, and behavioural responses to warnings.

This policy brief draws on a mixed-methods study comprising a national survey of 1,097 adults in England and semi-structured interviews with 29 heat risk communicators. The findings reveal a persistent warning–behaviour gap: despite widespread exposure to HHAs, many people did not take protective action because of low perceived risk, poor recognition of alerts, and uncertainty about appropriate responses. Interviews further showed that heat risk communication is primarily focused on institutional coordination and emergency preparedness, with comparatively less emphasis on public engagement, behaviour change, and addressing structural drivers of vulnerability, such as housing conditions and socioeconomic inequalities.

As heatwaves become more frequent and severe, strengthening England's resilience will require moving beyond a reliance on HHAS alone. This means strengthening risk communication while embedding longer-term adaptation measures, particularly housing adaptation, into national heat resilience policy. Without addressing the structural drivers of vulnerability, England's response to extreme heat will remain reactive and insufficient for a warming climate.

Context

Extreme heat is becoming more frequent, intense, and prolonged across the globe, driven by accelerating climate change[1]. In Europe, it is already recognised as the deadliest weather and climate-related hazard, with approximately 95% of fatalities associated with weather and climate extremes between 1980 and 2023 attributed to heatwaves[2,3]. This escalating burden reflects a wider pattern of increasing heat risk across the continent, with compounding impacts on health systems, infrastructure, and vulnerable populations.

England is increasingly experiencing the impacts of this broader trend, with extreme heat emerging as one of its most pressing climate risks[4]. As heatwaves become more frequent and severe, safeguarding public health will require sustained and coordinated action to strengthen preparedness, reduce vulnerability, and enhance resilience[1,5].

The 2026 Heatwave

Following the record-breaking summer of 2025[6], England entered the 2026 heat season unusually early. In May, the UK Health Security Agency (UKHSA) issued yellow and amber Heat-Health Alerts, signalling elevated health risks to vulnerable populations well before the traditional summer period[7]. As temperatures continued to rise, amber HHAs were reissued across parts of England in June, culminating in only the second Red HHA ever issued under the Weather-Health Alerting system, reflecting the highest level of health risk[7,8,9].

The June heatwave was unprecedented in both its intensity and persistence. On 26 June, England recorded a provisional maximum temperature of 37.7°C at Lingwood, Strumpshaw Hill, surpassing the previous June record of 35.6°C, which had stood since 1976, with hundreds of weather stations across the UK also recording their highest-ever June temperatures, demonstrating the widespread nature of the event[10].

Alongside the extreme daytime temperatures, the heatwave was characterised by exceptionally warm overnight conditions, commonly referred to as tropical nights, where temperatures remain above 20°C. England also recorded a new June minimum temperature record of 23.2°C at Hastings, exceeding the previous record of 22.7°C set in 1976[10]. The combination of extreme daytime heat and persistently warm nights significantly increases health risks by limiting overnight recovery, particularly for older adults and other vulnerable populations[10].

The consequences were immediately evident across emergency services. On 26 May, the London Ambulance Service recorded 8,121 emergency calls in a single day, its busiest day since the COVID-19 pandemic[11]. Demand increased further during the June heatwave, reaching 8,869 emergency calls, including 688 life-threatening incidents, underscoring the growing pressure that increasingly severe heat events place on England's health and emergency care systems[12].

The Policy Problem

England's approach to managing extreme heat is organised through the Adverse Weather and Health Plan (AWHP), supported by the Weather-Health Alerting (WHA) system[13]. Within this system, Heat Health Alerts (HHAs) are jointly issued by the UKHSA and the Met Office to support preparedness and response among health, social care and emergency response organisations during periods of extreme heat[14].

International guidance highlights that effective Heat Health Action Plans (HHAPs) require combining short-term measures, such as alerts and behavioural advice, with longer-term strategies to reduce vulnerability, including improvements to housing, urban environments, and social resilience[15]. In England, however, the current framework remains heavily reliant on the Heat-Health Warning System (HHWS), the alerting component of an HHAP, while placing comparatively less emphasis on addressing the broader structural factors that shape heat vulnerability, including housing conditions, socioeconomic inequalities, and environmental exposures.

Findings on England's Heat Risk Communication Landscape

Key findings from a national survey of 1,097 adults in England and interviews with 29 heat risk communicators show:

1. Heat risk communication is more institution-facing and less public-facing

Heat risk communication in England is strongly oriented towards institutional coordination and emergency preparedness. Communication plays a central role in coordinating action across national agencies, local authorities, health services, emergency responders, infrastructure providers, and community organisations. While public-facing communication remains important, it is secondary to this coordination function, reinforcing a system focused on managing heat risks once they emerge.

2. Communication prioritises informing over motivating action

Informing audiences was the dominant communication objective (76%), with practitioners frequently emphasising the need to "warn and inform" the public about heat risks. However, informing alone may be insufficient in a context where only 18.1% of the public report a high perception of heat risk and around 30% report limited or no knowledge of effective protective actions[16]. Current communication places greater emphasis on awareness raising than on strengthening risk perception, supporting behaviour change, or enabling protective action.

3. Structural drivers of vulnerability are widely recognised but insufficiently addressed

Participants consistently highlighted that vulnerability to heat is shaped by housing conditions, socioeconomic disadvantage,

environmental exposures, existing health conditions, and access to resources. These findings reinforce the need to integrate housing, planning, and wider adaptation measures into heat resilience strategies. However, current arrangements remain heavily focused on warning and communication systems rather than addressing the underlying conditions that create vulnerability.

4. Gaps in information reach

Approximately 30% of the public reported not encountering HHAs or heat protection information. Key factors contributing to this gap include:

a. Heavy reliance on digital communication

Digital channels were used by 90% of participants and support rapid dissemination, but they do not reliably reach all vulnerable populations. Social media was also identified as the least trusted source of heat information, particularly among older adults[16]. The mismatch between the channels through which heat risk information is primarily delivered and those most trusted and accessible to vulnerable populations reinforces the need for non-digital and community-based approaches alongside digital communication to improve accessibility, reduce digital exclusion, and strengthen information reach.

b. Accessibility barriers

Limited translation support, insufficient accessible formats, and a lack of inclusive design processes reduce the reach and effectiveness of communication among diverse communities.

These factors risk widening existing inequalities in exposure to heat risk information.

5. Persistent warning-behaviour gap remains

Among those exposed to HHAs (70%), 41% reported not taking protective action. Reasons included:

- Low perceived personal risk (19%)
- Not recognising the alert (9%)
- Uncertainty about what action to take (7%)
- Difficulty understanding the alert (5%)

These findings suggest that exposure to alerts alone does not guarantee behavioural response.

6. Limited evaluation and evidence gaps hinder improvement and adaptation

Most organisations monitor communication through website traffic, social media engagement, and media coverage. However, few assess public understanding, behavioural responses, or impacts on vulnerable groups.

Evidence gaps also limit communication tailoring, as organisations often lack insight into how different communities perceive heat risks, interpret messages, and respond to advice. As a result, communication frequently defaults to generic approaches despite recognition that different groups have different needs.

Policy Recommendations

England's heat resilience strategy should move beyond a predominantly warning-based approach towards a more comprehensive HHAP that combines effective risk communication with building adaptation and urban environment adaptation. The recommendations below respond directly to the challenges identified in this study.

1. Strengthening heat risk communication

a. Improve information reach

- Strengthen institutional capacity, particularly within local authorities and community organisations, to support tailored communication, outreach, and coordination.
- Utilise trusted intermediaries, including community organisations, voluntary groups, libraries, social care providers, and faith organisations, to reach vulnerable populations and improve trust.
- Adopt inclusive and accessible communication approaches through

expanded translation support, accessible formats, easy-read materials, and inclusive design processes.

b. Enhance behavioural engagement

- Shift communication objectives beyond awareness-raising towards motivating and enabling protective action.
- Use hybrid gain-loss framing that raises the salience of heat risks while providing practical and achievable actions.
- Integrate empathy more consistently into message design to strengthen trust and engagement.
- Apply behavioural insights to improve message relevance, risk perception, and uptake of protective actions.

2. Strengthen monitoring and evaluation

- Develop robust evaluation frameworks that assess public understanding, behavioural responses, and outcomes among at-risk groups.
- Evaluate message clarity, warning lead times, institutional coordination, and the extent to which alerts prompt protective action.
- Improve collection and reporting of heat-related health impacts to support evidence-based communication and adaptation planning.

3. Integrate building adaptation into heat resilience policy

- As housing conditions strongly influence both exposure to heat and the capacity to respond to heat-related risks, housing should become a core component of England's heat adaptation strategy.
- Strengthen implementation and enforcement of Part O of the Building Regulations.
- Integrate overheating risk reduction into housing retrofit programmes.
- Embed heat resilience within housing standards, planning policies, and asset management strategies.
- Prioritise adaptation investments in communities where poor housing conditions, deprivation, and environmental exposures combine to increase vulnerability.

Final Remarks

England has strengthened its capacity to respond to extreme heat through the AWHP; however, current approaches remain heavily weighted toward the warning component of a HHAP. The findings show that heat risk communication remains largely institutionally oriented and reactive, institutional capacity is uneven, and the structural drivers of vulnerability, particularly housing conditions, remain insufficiently addressed.

As heatwaves become more frequent and severe, building resilience will require moving beyond alerts and short-term behavioural advice towards measures that reduce vulnerability and exposure over time. Strengthening institutional capacity, addressing gaps in information reach, improving public engagement, and developing robust evaluation frameworks will be essential to support this transition.

Crucially, integrating longer-term adaptation measures, particularly building adaptation, alongside the existing warning system would create a more balanced and durable approach to heat resilience, ensuring that immediate protective actions are reinforced by structural interventions that reduce risk at its source.

Without addressing the underlying drivers of vulnerability and improving the effectiveness of the current warning system, England risks becoming better prepared to respond to heatwaves than to prevent their impacts.

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