



Public Health  
England

Protecting and improving the nation's health

# Heat-health risks and COVID-19: Actions to prevent harm

Heatwave and summer preparedness 2020

# Heat-health risks and COVID-19: Actions to prevent harm

**Date of issue: May 2020**

**Version: 01.00**

**Author: Extreme Events and Health Protection, PHE**

**Amendment History:**

<b>Version</b>	<b>Date</b>	<b>Amendments made</b>

# Background:

- **Refer to the current Heatwave Plan for England, and associated resources for specific information on heat-health risks.** The plan recommends a series of steps to reduce the risks to health from prolonged exposure to severe heat for:
  - The NHS, local authorities, social care, and other public agencies
  - Professionals working with people at risk
  - Individuals, local communities and voluntary groups
- Broken hyperlinks have been fixed in the Heatwave Plan for England and are correct as of 20 May 2020 but the text has not been updated and will remain extant until a full scale review is complete as part of the National Adaptation Programme commitment to develop a single adverse weather plan for England.
- The Heatwave Plan for England is underpinned by the Heat-Health alerting system which runs annually from June 1<sup>st</sup> to 15<sup>th</sup> September. To sign up for the alerts, please email the Met Office at: [enquiries@metoffice.gov.uk](mailto:enquiries@metoffice.gov.uk) with subject “Hot weather alerts”.

# Outline

- **Health impacts of hot weather**
- **Heat-health risks and COVID-19**
- **Heatwave Plan for England: Additional actions for summer 2020**
  - Commissioners of health and social care (all settings) and local authority Directors of Public Health
  - Providers – health and social care staff in all settings (community, hospitals and care homes)
  - Community and voluntary sector and individuals
- **Key messages**
- **Resources**

# Health impacts of hot weather

# Health impacts of hot weather

- The past decade was the warmest on record and the past five years were the warmest in the 170-year series<sup>1</sup>
- There are around 2000 heat-related deaths per year in the UK
- A range of mild to severe health impacts can result from exposure to high temperatures
- There are specific heat-related health effects and illnesses including:
  - Heat cramps, heat rash, heat oedema, heat syncope, heat exhaustion, heatstroke
  - increased numbers of admissions to hospital and consultations with GPs, and additional demands placed on the emergency services
  - fatalities, particularly among the vulnerable and older people
- The main causes of illness and death during a heatwave are **exacerbation of respiratory and cardiovascular illness**

# Heat related illnesses

*Heat syncope* – dizziness and fainting, due to dehydration, vasodilation, cardiovascular disease and certain medications

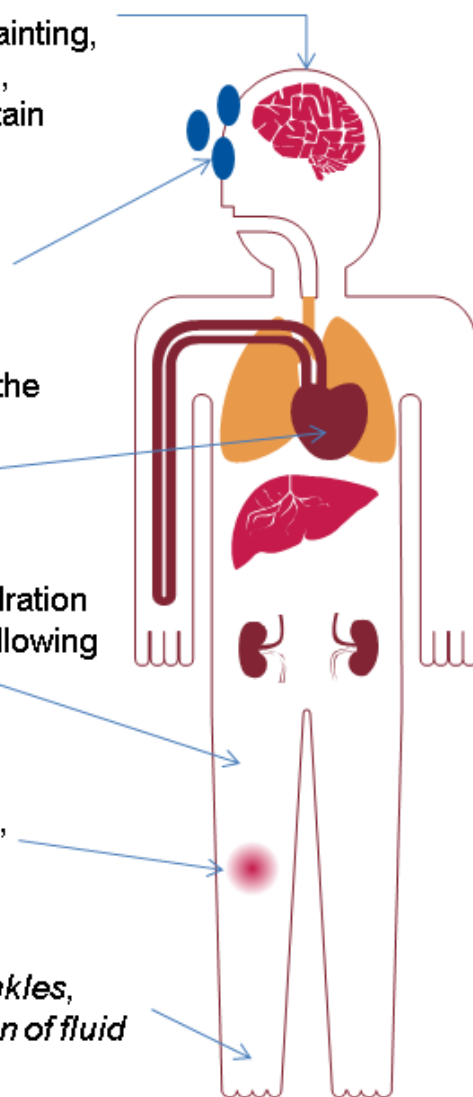
Excessive sweating can deplete fluid and salts

When blood temperature rises, the body stimulates sweat glands, dilates blood vessels and increases the heart rate

*Heat cramps* – caused by dehydration and loss of electrolytes, often following exercise

Increased blood flow to the skin cools the body by radiating heat, leading to heat rash (small, red itchy papules)

*Heat oedema* – mainly in the ankles, due to vasodilation and retention of fluid



## Health effects of heat

*The main causes of illness and death during a heatwave are respiratory and cardiovascular diseases. Additionally, there are specific heat-related illnesses including:*

### Heat Exhaustion

- Nausea or irritability
- Dizziness
- Muscle Cramps or weakness
- Feeling faint
- Headache
- Fatigue
- Heavy sweating
- High body temperature

### Heatstroke

- Hot, dry skin or profuse sweating
- Confusion
- Loss of consciousness
- Seizures
- Very high body temperature

# Heat-health risks and COVID-19



# Heat & COVID-19: Headlines

COVID-19 **amplifies** the risks of hot weather

**Fear** of COVID-19 should not prevent action to tackle the risks from hot weather and heatwaves

It is **critical** that actions to prevent health harms from high temperatures **continue**, with necessary adaptations in line with coronavirus guidance to keep everyone **safe**

# Heat & COVID-19: Potential risks

- **Potential increase in adverse outcomes amongst the same population groups affected by both high temperatures and COVID-19** For example, older people and those with comorbidities such as cardio-respiratory diseases
- **Increase in exposure to indoor overheating due to COVID-19 restrictions.** For example, people who have been advised to stay at home
- **Reduced access to cool public spaces** for respite due to COVID-19 restrictions
- **System-level risks related to concurrency of impacts** For example, increased demand on social care services to prevent both heat and COVID-19 related harms

# Heat: Individual vulnerability

**EVERYBODY** can be affected by high temperatures, but there are certain factors that increase an individual's risk during a heatwave. These include:

- **older age**: especially those over 75 years old, or those living on their own and who are socially isolated, or those living in a care home
- **chronic and severe illness**: including heart or lung conditions, diabetes, renal insufficiency, Parkinson's disease or severe mental illness
- **inability to adapt behaviour to keep cool**: babies and the very young, having a disability, being bed bound, consuming too much alcohol, having Alzheimer's disease
- **environmental factors and overexposure**: living in a top floor flat, being homeless, activities or jobs that are in hot places or outdoors and include high levels of physical exertion

# Heat/COVID-19: Individual vulnerability

We still have much to learn about how coronavirus (COVID-19) affects the body, but both heat and COVID-19 infections put a strain on the heart and lungs, the kidneys and are linked with inflammation in the body.

**Clinical vulnerabilities that have been linked with worse outcomes from COVID-19 that are also risks for heat related harms are:**

- high blood pressure
- chronic obstructive pulmonary disease
- heart and lung conditions (cardiovascular disease)
- conditions that affect the flow of blood in the brain (cerebrovascular disease)
- kidney disease

# Heat: Environmental risks

Environmental risk factors for increased exposure to heat<sup>1</sup> include:

- **Living in urban areas**
  - This is due to the urban heat island effect and is important for those with limited green space nearby
- **Dwelling types prone to overheating** such as south-facing top-floor flats.
  - 1 in 5 homes in England are prone to overheating
  - Few (~ 1-3%) have air conditioning
- **Local air pollution** (i.e. particulate matter) may exacerbate the health impacts of heat

# Heat/COVID-19: Indoor overheating

## **Many more people will be at home this summer**

- to reduce the transmission of coronavirus (COVID-19) many people be will be working from home
- anyone with symptoms of COVID-19 will need to stay at home for at least 7 days, others may be advised to stay at home if they have been in close contact with someone who has COVID-19 or they are living in the same household as someone with COVID-19
- people who are extremely clinically vulnerable have been advised to limit their contact with others and to stay at home to limit their risk

# Heat/COVID-19: Higher risk groups

Specific populations at increased risk of exposure to heat due to the context in which they live include:

- **Homeless people** (whether sleeping rough or in shelters)
- **People resident in specific institutional settings** (e.g. prisons, barracks, inpatient psychiatric units)
- **Some occupations, workplaces and schools** - particularly those involving significant manual exertional, heat generation (e.g. cooking, some manufacturing roles) and in buildings prone to overheating and without air conditioning.

**Many of these settings have restrictions in place to reduce COVID-19 transmission – additional considerations will be needed to ensure that plans are in place should a heatwave occur**

# Heatwave Plan for England: Additional actions for summer 2020



# COVID-19: Hot weather preparedness and response

- The guidance and good practice recommendations in the Heatwave Plan for England set out in Figures 3.1 to 3.4 should **continue to be followed** with some additional considerations to mitigate and manage the concurrent COVID-19 risks.
- The following slides detail specific considerations for:
  - Commissioners of health and social care (all settings) and local authority Directors of Public Health
  - Providers – health and social care staff in all settings (community, hospitals and care homes)
  - Community and voluntary sector and individuals
  - NHS England, PHE, DHSC, Met Office
- All actions should also consider current COVID-19 specific guidance: <https://www.gov.uk/coronavirus>

## Commissioners of health and social care (all settings) and local authority Directors of Public Health (1)

- In addition to the actions set out in Page 20 of the Heatwave Plan for England:
  - work with partner agencies, providers and businesses to raise awareness about the concurrent risk of hot weather and COVID-19
  - encourage partners to sign up to the heat-health alert system
  - ensure care homes and hospitals are aware of the heatwave plan and are preparing for heatwave as a concurrent risk with COVID-19
  - engage the community and voluntary sector to support communities to help those most at risk, especially those who are socially isolated
  - ensure other institutional establishments (i.e. prisons, schools) are aware of heatwave guidance
  - work with local partners to facilitate equitable and flexible access to green public spaces during hot weather

## Commissioners of health and social care (all settings) and local authority Directors of Public Health (2)

- Local Health Resilience Partnerships may wish to satisfy themselves that there is adequate review across local health and social care systems of usual plans for surge capacity in hot weather in light of possible COVID-19 related staff absence and to ensure staff welfare
- Local Resilience Fora should consider the impact of hot weather on the existing operational response to COVID-19 and vice versa
- continue to communicate the public messages around heat if hot weather is forecast

## Providers – health and social care staff in all settings (community, hospitals and care homes) (1)

In addition to the actions set out in Page 22 of the Heatwave Plan for England:

- more residents of care homes and people receiving personal care than usual may be at risk from heat due to COVID ill-health and COVID restrictions. **Review who may be at high risk**
- people receiving care may need additional support to cope with the hot weather. Review your usual plans for surge capacity in hot weather in light of possible COVID-19 related staff absence and to ensure staff welfare
- communicate alerts to staff and ensure they know what to do when the weather gets hot – use the [PHE COVID-19 ‘Beat the Heat’ leaflet and checklist for Care Homes](#)

## Providers – health and social care staff in all settings (community, hospitals and care homes) (2)

- care home managers may wish to remind staff that face masks should be changed when they get damp, staff may need to change their masks more often in hot weather
- fans should only be used in single rooms for residents who do not have COVID-19 and have not been a close contact of a confirmed case

## Community and voluntary sector and individuals

- In addition to the actions set out in Page 24 of the Heatwave Plan for England:
  - have plans in place to be able to check on others safely in advance of the hot weather (i.e. over the phone)
  - follow the advice on the PHE resource ‘Coping with heat and COVID-19’
  - encourage those who may find it more difficult to cope in hot weather to request help through the volunteer networks, for example, <https://www.goodsamapp.org/home>
  - advise those at risk that they should continue to seek medical help if they are feeling unwell and that plans are in place to deliver services safely despite COVID-19

## National Level: NHS England, PHE, DHSC, Met Office (1)

In addition to the actions set out in Page 26 of the Heatwave Plan for England:

- ahead of hot weather, NHS England should consider the impact of hot weather on workforce capacity and wellbeing, particularly with regard to PPE use in higher temperatures
- NHS England should satisfy themselves that alerts are cascaded widely, including to patient-facing and clinical staff
- PHE Regions should be aware of the Heatwave Plan and note the new resources on heat and COVID-19, and provide support Directors of Public Health and other local stakeholders as appropriate

## National Level: NHS England, PHE, DHSC, Met Office (2)

- PHE surveillance systems to provide early warning of the potential health impacts of hot weather will continue throughout summer 2020; however, the wider impact of the COVID-19 pandemic on the surveillance systems routinely used to monitor the health impact of heatwaves adds complexity to the surveillance outputs making their interpretation difficult this year
- PHE and the Met Office will be hypervigilant within the heat-health warning system to ensure the earliest possible issuing of heat health alerts and the maximum possible warning time
- Situational awareness will be supported through tri-weekly updates with the Met Office. Cross-Government coordination will be provided through the National Summer Resilience Network chaired by the Civil Contingency Secretariat, Cabinet Office



# Key messages

In light of the guidance and good practice recommendations made in the Heatwave Plan for England, and the current COVID-19 risks, there are 3 key messages:

1. All local authorities, NHS commissioners and their partner organisation, including health and social care providers, should consider the Heatwave plan for England and satisfy themselves that the suggested actions and the heatwave alert service are understood across their locality.
2. People at risk from high temperatures may also be vulnerable to COVID-19 infection and vice versa. This can be due to concurrence of both clinical and environmental/socio-economic factors.
3. Hot weather actions and decisions should also take into account risks from COVID-19 and related policies (i.e. shielding and self-isolation advice).

# Resources

- **Heatwave Plan for England:**

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/801539/Heatwave plan for England 2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/801539/Heatwave_plan_for_England_2019.pdf)

- **Beat the Heat – Coping with heat and COVID-19 (Poster):**

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/888247/Beat the Heat 2020.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/888247/Beat_the_Heat_2020.pdf)

- **Beat the Heat – Coping with heat and COVID-19 (Leaflet):**

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/888252/Beat-the-Heat Leaflet Coping with heat and COVID-19.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/888252/Beat-the-Heat_Leaflet_Coping_with_heat_and_COVID-19.pdf)

- **Beat the Heat – Keep residents safe and well during COVID-19:**

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/888249/Heat flier Residents 2020.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/888249/Heat_flier_Residents_2020.pdf)

- **Specific advice and guidance on coronavirus (COVID-19):**

<https://www.gov.uk/coronavirus>

# About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-leading science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health and Social Care, and a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the NHS in a professionally independent manner.

Public Health England, Wellington House, 133-155 Waterloo Road, London SE1 8UG

Tel: 020 7654 8000 [www.gov.uk/phe](http://www.gov.uk/phe) Twitter: [@PHE\\_uk](https://twitter.com/PHE_uk) Facebook: [www.facebook.com/PublicHealthEngland](https://www.facebook.com/PublicHealthEngland)

For enquiries relating to this document, please contact: [extremeevents@phe.gov.uk](mailto:extremeevents@phe.gov.uk)



© Crown copyright 2018

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v3.0. To view this licence, visit: [www.nationalarchives.gov.uk/doc/open-government-licence/version/3/](http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/) Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

Published: May 2020.

PHE publications gateway number: GW-1289

