

**Emergency Preparedness, Resilience and Response (EPRR) Practice Guidance Note**

**Heatwave Plan – V01**

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**Appendices – attached to Practice Guidance Note**

Appendix No:	Description	Issue No:	Issue Date	Review Date
Appendix 1	Example of Heat-Health Watch Alert	3	Jan 18	Jul 20

## **Issue Notes**

This Heatwave Plan is operative for 12 months in line with the guidance issued annually by the Public Health England and NHS England.

This guidance may be subject to modification at short notice. The most up to date version will always be available on the Trust intranet.

## **1 Introduction**

- 1.1 Northumberland, Tyne and Wear NHS Foundation Trust's (the Trust / NTW) Heatwave Plan is based on the Heatwave Plan for England.
- 1.2 A Heat-Health Watch System will operate in England annually from 1st June until 15th September. The System comprises four levels of response based on threshold day and night time temperatures as defined by the Met Office.
- 1.3 Over this period the Met Office will release forecasts of the temperatures likely over the next week. The threshold temperatures for the North East are 28°C during the day and 15°C at night.
- 1.4 The National Plan comprises 5 levels of activity numbered 0 to 4.
- 1.5 The Trust action plan comprises 5 levels, correlating to the national levels, using the standard Trust colour system – Green for preparing, Amber for standby and Red for action.
- 1.6 This PGN contains action cards indicating trigger and action points corresponding with the levels of response indicated above.

## **2 Additional Information**

- 2.1 Three other documents are linked to this Heatwave Plan and are available on the Trust intranet. These are:
  - Heatwave Plan for England: Supporting vulnerable people before and during a heatwave - Advice for health and social care professionals
  - Heatwave Plan for England: Supporting vulnerable people before and during a heatwave - Advice for care home managers and staff
  - Heatwave Plan for England: Looking after yourself and others during hot weather - The latest advice
  - Beat the heat: staying safe in hot weather leaflet
  - Beat the heat poster
  - Beat the heat: keep cool at home checklist
- 2.2 In addition, Heatwave Care Plans are available to help staff manage individual service users. These are available on RiO.

### **3 Climate Change and the effect on Temperature**

- 3.1 Climate change has already begun to have an impact, meaning that heatwaves are likely to become more common in England.
- 3.2 In 2003 there were 15,000 excess deaths in France due to high temperatures.
- 3.3 The current risk of an episode similar to that experienced in France in 2003 happening in England is less than 0.1% but by 2080 similar events will happen in England every year.
- 3.4 As the temperature rises deaths occur very quickly. Therefore, by the time a heatwave starts the window of opportunity for effective action is very short.

### **4 The effects of Heat on Health**

- 4.1 The body normally cools itself using four mechanisms:
- Radiation in the form of infrared rays
  - Convection via water or air crossing the skin
  - Conduction by a cooler object being in contact with the skin and
  - Evaporation of sweat
- 4.2 When the ambient temperature is higher than skin temperature the only effective heat-loss mechanism is sweating. Therefore, any factor that reduces the effectiveness of sweating such as dehydration, lack of breeze, tight-fitting clothes or certain medications can cause the body to overheat
- 4.3 Additionally, thermoregulation, which is controlled by the hypothalamus, can be impaired in the elderly and the chronically ill, and potentially in those taking certain medications, rendering the body more vulnerable to overheating.
- 4.4 Young children produce more metabolic heat, have a decreased ability to sweat and have core temperatures that rise faster during dehydration.
- 4.5 Older women appear to be more vulnerable to the effects of heat than older men, possibly due to having fewer sweat glands and being more likely to live on their own.

## 5 High Risk Patients

### 5.1 Factors that increase an individual's risk during a heat wave include:

- Older age: especially women over 75 years old, those living on their own, or in a care home
- Chronic and severe illness: including heart conditions, Diabetes, Respiratory or Renal Insufficiency, Parkinson's Disease or severe Mental Illness. Medications that potentially affect Renal function, the body's ability to sweat, thermoregulation or electrolyte balance can make this group more vulnerable to the effects of heat
- Inability to adapt behaviour to keep cool: having Alzheimer's, a disability, being bed bound, too much alcohol, babies and the very young
- 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
- Psychotropic medication: due to effects on thermoregulation and sweating. People who fall into the preceding groups who are also taking psychotropic medication are at particular risk

5.2 In a moderate heat wave, it is mainly the high-risk groups mentioned above who are affected. However, during an extreme heat wave such as the one affecting France in 2003, normally fit and healthy people can also be affected.

5.3 Within this Trust the high risk areas which care for patients who are at higher risk of developing heat related problems are:

- Older Persons Services (patients with e.g. Dementia, physical frailty)
- Learning Disabilities Services
- Secure Services (access to outdoor space may be limited)
- Mother and Baby Unit
- Eating Disorder Unit
- Neuropsychiatry Units
- Neuro-rehabilitation Units

- 5.4 These service areas will be prioritised for the establishment of cool rooms / areas.
- 5.5 There may be other individuals who are at higher risk and where cool room / areas cannot be provided currently in the location they are being cared consideration should be given to identifying a cool room / area in another facility that can be used on a temporary basis.
- 5.6 Service users with respiratory problems are susceptible to the effects of higher levels of ozone which occur during the day in a heatwave. They should remain in a cool and shaded room with the windows closed whenever the outside is hotter than inside. They should open windows to promote cooling when it is cooler outside than inside. They should remain inside during the hottest part of the day.

## **6 Heat Related Illness**

6.1 Heat-related illnesses, in order of severity include:

- Heat Cramps – caused by dehydration and loss of electrolytes, often following exercise
- Heat Rash – small, red, itchy papules
- Heat Oedema – mainly in the ankles, due to vasodilatation and retention of fluid
- Heat Syncope – dizziness and fainting, due to dehydration, vasodilatation, cardiovascular disease and certain medications
- Heat Exhaustion – is more common. It occurs as a result of water or sodium depletion, with non-specific features of malaise, vomiting and circulatory collapse, and is present when the core temperature is between 37 and 40°C. Left untreated, heat exhaustion may evolve into heatstroke
- Heatstroke – can become a point of no return whereby the body's thermoregulation mechanism fails. This leads to a medical emergency, with symptoms of confusion; disorientation; convulsions; unconsciousness; hot dry skin; and core body temperature exceeding 40°C for between 45 minutes and eight hours. It can result in cell death, organ failure, brain damage or death. Heatstroke can be either classical or exertional (e.g. in athletes)

- 6.2 However, the main causes of illness and death during a heatwave are respiratory and cardiovascular diseases. Part of this rise in mortality may be attributable to air pollution, which makes respiratory symptoms worse.
- 6.3 The other main contributor is the effect of heat on the Cardiovascular System. In order to keep cool large quantities of extra blood are circulated to the skin. This causes strain on the heart, which for elderly people and those with chronic health problems can be enough to precipitate a cardiac event.
- 6.4 Sweating and dehydration affect electrolyte balance. For people on medications that control electrolyte balance or cardiac function, this can also be a risk.
- 6.5 Medicines that affect the ability to sweat, thermoregulation or electrolyte imbalance can make a person more vulnerable to the effects of heat. Such medicines include anticholinergics, vasoconstrictors, antihistamines, drugs that reduce renal function, diuretics, psychoactive drugs and antihypertensives.
- 6.6 Whatever the underlying cause of heat-related symptoms, the treatment is always the same – move the person to somewhere cooler and cool them down.

# HEAT WAVE ACTION CARD 0

## NATIONAL LEVEL 0 - LONG TERM PLANNING

### GREEN LEVEL – GREEN 0

#### TRIGGER:

This level will operate all year round.

Long-term planning includes year-round joint working to reduce the impact of climate change and ensure maximum adaptation to reduce harm from heatwaves. This involves influencing urban planning to keep housing, workplaces, transport systems and the built environment cool and energy efficient.

#### ACTION REQUIRED:

##### CORPORATE

- For all new builds and refurbishments consideration is given to how the environment will be kept cool in summer, and cool rooms / areas where the temperature can be maintained below 26°C will be provided in clinical areas.
- Consideration is given to greening the built environment, shading and insulating buildings, increasing energy efficiency and reducing carbon emissions. Examples include use of trees, green spaces, reflective paint (see National Heatwave Plan for details).

##### CLINICAL SERVICES

- For existing clinical areas consideration is given as to how the environment will be kept cool in summer, and cool rooms / areas where the temperature can be maintained below 26°C will be provided, particularly in higher risk clinical areas. This should be done as part of the Servicetrak assessment.
- Consideration is given as to how service users and staff would have access to cool water during an amber alert phase. This could be through the installation of plumbed in water coolers (not standalone units), storage of bottled water in fridges or access to ice that will be available from catering departments (not from ice making machines).
- Where air conditioning is being considered (either built in or temporary) consideration is given to infection prevention and control issues, particularly the risk of Legionella infection.



# HEAT WAVE ACTION CARD 1

## NATIONAL LEVEL 1 - SUMMER PREPAREDNESS

### TRUST LEVEL – GREEN 1

#### TRIGGER:

This level will operate between 1st June and 15th September.

During the summer months, healthcare and social services need to ensure that awareness and background preparedness are maintained by the measures set out in the Heatwave plan.

#### ACTION REQUIRED:

##### CORPORATE

- The forecast produced by the Met Office will be cascaded through the Trust by issuing a CAS alert and all user email
- Current Trust status is displayed on the Trust intranet
- Resource material to support this PGN is available on the Trust intranet
- Supplies of ice are stored in catering departments
- Estates maintain a list of areas monitored by building management systems

##### CLINICAL SERVICES

- Staff are made aware of the National and Trust Heatwave plans and guidance available on the Trust intranet
- All patients are given the information leaflet “Looking after yourself and others” available on the Trust intranet
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- All patients are advised that certain psychotropic medication can affect thermoregulation and sweating and so make them more vulnerable to the effects of heat
- All high risk patients have a heat wave care plan implemented to guide the actions that need to be taken for each individual at each level of response. A care plan to complement this Practice Guidance Note is available on RiO.
- There are systems in place to monitor the indoor temperature of areas in which patients spend significant periods of time (bedrooms, dining rooms, lounges). This could be through fixed thermometers in each room, use of a portable temperature probe or through building management systems
- Clinical areas where high risk patients are cared for are prioritised for the establishment of cool rooms / areas where the temperature can be maintained below 26°C through the use of shading, ventilation, fans, plants and, if necessary, air conditioning (bearing in mind the risks of Legionella, infection and the high energy and carbon emission costs involved)

# HEAT WAVE ACTION CARD 2

## NATIONAL LEVEL 2 - ALERT AND READINESS

### TRUST LEVEL - AMBER

#### TRIGGER:

Level 2 is triggered as soon as the Met Office forecasts threshold temperatures for at least three days ahead in any one region, or forecasts that there is an 60 per cent chance of temperatures being high enough on at least two consecutive days to have significant effects on health. Within the North East the threshold temperatures are 28°C by day or 15°C by night. As death rates rise soon after temperature increases, with many deaths occurring in the first two days, this is an important stage to ensure readiness and swift action to reduce harm from a potential heatwave.

**Notification that this level has been triggered will be cascaded through the Trust by issuing a CAS alert and relevant action card.**

#### ACTION REQUIRED:

##### CORPORATE

- Actions at level 1 continue, if appropriate
- Catering services deliver ice to clinical areas when requested
- Estates monitor temperatures of clinical areas with building management systems

##### CLINICAL SERVICES

- Actions at level 1 continue, if appropriate
- The temperature of each area in which patients spend significant periods of time (bedrooms, lounges, dining rooms) will be monitored and recorded four times each day, or the area is continuously monitored by building management systems
- Clinical areas confirm an adequate supply of cooled water is available either through water coolers, or local stocks of refrigerated bottled water and ice. Ice will be available to order from the catering department
- Staff on in-patient wards will identify patients who are at higher risk of developing heat related problems (see Trust plan) and prioritise them for a move into a cool room or area when national level 3 is activated
- Staff working with community based patients will identify higher risk patients (for example, those with severe mental illness, living alone or without regular contact with a carer) and arrange to contact them either in person or by telephone to check on their health and preparedness for a heatwave
- Managers will ensure that staffing levels over the period are sufficiently high to cover anticipated additional demands

# **HEAT WAVE ACTION CARD 3**

## **NATIONAL LEVEL 3 - HEATWAVE ACTION**

### **TRUST ALERT – RED 1**

#### **TRIGGER:**

National level 3 is triggered as soon as the Met Office confirms that threshold temperatures have been reached in any one region of more and requires action targeted at high-risk groups.

**Notification that this level has been triggered will be cascaded through the Trust by issuing a CAS alert and relevant action card.**

#### **ACTION REQUIRED:**

##### **CORPORATE**

- Actions at level 1 and 2 continue as appropriate

##### **CLINICAL SERVICES**

- Actions at level 1 and 2 continue as appropriate
- Implement appropriate protective factors, including ensuring regular supplies of cold drinks and use of sun screen products where applicable. Ice will be available to order from the catering department and delivered with meals
- Ensure that there are sufficient staff on duty to provide adequate supply of cool drinks to patients who are unable to provide their own, for example, patients who need assistance with drinking
- Move higher risk patients into cool rooms/areas which are consistently below 26°C, where this is available
- Ensure that discharge planning takes into account the temperature of the accommodation and the level of daily care during the heatwave period. This may involve a health professional undertaking a pre-discharge visit
- Seek early medical advice if it appears that a patient is becoming unwell
- Consider moving ward visiting times to mornings or evenings to reduce the afternoon temperature arising from increased number of people
- Reduce internal temperatures by turning off unnecessary lights and electrical equipment
- Continue with phone calls or face to face visits to vulnerable patients in the community
- Consider rescheduling clinics, community visits and meetings from the afternoon to the morning
- Consider flexible working hours with earlier starts and / or later finishes, and breaks in the afternoons

# **HEAT WAVE ACTION CARD 4**

## **NATIONAL LEVEL 4 – EMERGENCY SITUATION**

### **TRUST LEVEL – RED 2**

#### **TRIGGER:**

National level 4 is reached when a heatwave is so severe and / or prolonged that its effects extend outside health and social care, such as power or water shortages, and/or where the integrity of health and social care systems is threatened. At this level, illness and death may occur among the fit and healthy, and not just in high-risk groups. A red emergency level 4 may be declared locally, regionally or nationally.

**Notification that this level has been triggered will be cascaded through the Trust by issuing a CAS alert and relevant action card.**

#### **ACTION REQUIRED:**

All level 1, 2 and 3 actions should continue, as appropriate, but may be supplemented with additional actions.

The Trust Incident Response Plan will be activated and further information made available.

## **8 Communications - Key Messages**

### **8.1 Stay out of the heat:**

- Keep out of the sun between 11.00 a.m. and 3.00 p.m.
- If you have to go out in the heat, walk in the shade, apply sunscreen and wear a hat and light scarf
- Avoid extreme physical exertion. If you can't avoid strenuous outdoor activity, like sport, DIY or gardening, keep it for cooler parts of the day, like early morning or evening
- Wear light, loose-fitting cotton clothes

### **8.2 Cool yourself down**

- Have plenty of cold drinks, and avoid excess alcohol, caffeine and hot drinks
- Eat cold foods, particularly salads and fruit with a high water content
- Take a cool shower, bath or body wash
- Sprinkle water over the skin or clothing, or keep a damp cloth on the back of your neck

### **8.3 Keep your environment cool**

- Keeping your living space cool is especially important for infants, the elderly or those with chronic health conditions or those who can't look after themselves
- Keep windows that are exposed to the sun closed during the day, and open windows at night when the temperature has dropped
- Close curtains that receive morning or afternoon sun. However, care should be taken with metal blinds and dark curtains, as these can absorb heat – consider replacing or putting reflective material in-between them and the window space
- Place a thermometer in your main living room and bedroom to keep a check on the temperature
- Turn off non-essential lights and electrical equipment – they generate heat

- Keep indoor plants and bowls of water in the house as evaporation helps cool the air
- If possible, move into a cooler room, especially for sleeping
- Electric fans may provide some relief, if temperatures are below 35°C. At temperatures above 35°C fans may not prevent heat related illness and may cause dehydration. The advice is not to aim the fan directly on the body and to have regular drinks. This is especially important in the case of sick people confined to bed
- If you, or somebody you know, find your home to be uncomfortably hot and you have concerns about it affecting yours or someone else's health, seek medical advice about the person, and seek advice from the environmental health department within your local authority about the home

#### 8.3.1 In the Longer term:

- Consider putting up external shading outside windows
- Use pale, reflective external paints
- Have your loft and cavity walls insulated – this keeps the heat in when it is cold and out when it is hot
- Grow trees and leafy plants near windows to act as natural air-conditioners

#### 8.4 **Look out for others:**

- Keep an eye on isolated, elderly, ill or very young people and make sure they are able to keep cool
- Ensure that babies, children or elderly people are not left alone in stationary cars
- Check on elderly or sick neighbours, family or friends every day during a heatwave
- Be alert and call a doctor or social services if someone is unwell or further help is needed

#### 8.5 **If you have a health problem:**

- Keep medicines below 25°C or in the refrigerator (read the storage instructions on the packaging)

- Seek medical advice if you are suffering from a chronic medical condition or taking multiple medications

#### **8.6 If you or others feel unwell:**

- Try to get help if you feel dizzy, weak, anxious or have intense thirst and headache; move to a cool place as soon as possible and measure your body temperature
- Drink some water or fruit juice to rehydrate
- Rest immediately in a cool place if you have painful muscular cramps (particularly in the legs, arms or abdomen, in many cases after sustained exercise during very hot weather), and drink oral rehydration solutions containing electrolytes
- Medical attention is needed if heat cramps last more than one hour
- Consult your doctor if you feel unusual symptoms or if symptoms persist

#### **8.7 Seek advice if you have any concerns:**

- Contact your doctor, a pharmacist or NHS 111 if you are worried about your health during a heatwave, especially if you are taking medication, if you feel unwell or have any unusual symptoms
- Watch for cramp in your arms, legs or stomach, feelings of mild confusion, weakness or problems sleeping
- If you have these symptoms, rest for several hours, keep cool and drink water or fruit juice
- Seek medical advice if they get worse or don't go away

#### **If you suspect someone has heatstroke:**

Remember, heatstroke can kill. It can develop very suddenly, and rapidly lead to unconsciousness. If you suspect someone has heatstroke, call 999 immediately.

#### **8.8 While waiting for the ambulance**

- If possible, move the person somewhere cooler

- Increase ventilation by opening windows or using a fan
- Cool them down as quickly as possible by loosening their clothes, sprinkling them with cold water or wrapping them in a damp sheet
- If they are conscious, give them water or fruit juice to drink
- Do **not** give them aspirin or paracetamol



### Example of Heat-Health Watch Alert

#### Heatwave Warning

For more information visit [www.nhs.uk](http://www.nhs.uk)

**With (peak) 1000h**

Forecast issued on Saturday, 18 August 2018 at 09:00

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#### Heat-Health Watch

**Level 1 - Alert & Readiness**

[www.gov.uk/government/news/heat-health-watch-level-1-issued](http://www.gov.uk/government/news/heat-health-watch-level-1-issued)

The probability of heatwave conditions in part of England between 1800 on Sunday and 0600 on Wednesday is 60%.

So people will be alerted when the additional changes in one region. Alerts are issued once a day by GCH if regions are at risk of an event or a significant condition. Maximum forecast lead time for the issue is the forecast issued and such as the time of issue that may change over the period that an alert remains in force. These alerts will not be updated here when the operational changes are made (forecast lead time for details of the following link).

[www.metoffice.gov.uk/forecast/heat-health-watch](http://www.metoffice.gov.uk/forecast/heat-health-watch)

Regional Risk Assessments For Occurrence of Heatwave Conditions between 1800 Local Time on Sunday and 0600 Local Time on Wednesday:

The areas that are likely to be affected are:

Region	Risk	Comments
North East England	60%	Under heat watch
North West England	60%	Under heat watch
Yorkshire and the Humber	60%	Under heat watch
East of England	60%	Under heat (Level 1) watch
East Midlands	60%	Under heat watch
West Midlands	60%	Under heat watch
London	60%	Under heat watch
South East England	60%	Under heat watch
South West England	60%	Under heat watch

**General Comments:** High overnight rain forecasts will give very slight relief to people in the affected regions. The weather conditions will be similar to those in England, up to the above maximum (60%) and the maximum forecast lead time is 1800 on Sunday and 0600 on Wednesday. The maximum forecast lead time is 1800 on Sunday and 0600 on Wednesday. The maximum forecast lead time is 1800 on Sunday and 0600 on Wednesday.

Co-ordinators providing health and social care should be aware of the risks and planning set out in the Heat-Health Watch Plan (see [www.nhs.uk](http://www.nhs.uk)) and the Heat-Health Watch Plan for England, as well as the current emergency plans and contingency plans. The maximum forecast lead time is 1800 on Sunday and 0600 on Wednesday. The maximum forecast lead time is 1800 on Sunday and 0600 on Wednesday.

These alerts are sent in the GCH of every problem of 1000 operational hours. Local Authority and Social Care Departments in England and in Health Board (GCH) Local Authority, Directors of Health Services in Wales. If you are a health care professional or a health care provider, please contact the GCH of your local authority or health board. If you are a health care provider, please contact the GCH of your local authority or health board. If you are a health care provider, please contact the GCH of your local authority or health board.

For England: [emergency.health@nhs.uk](mailto:emergency.health@nhs.uk)  
 For Wales: [emergency.health@nhs.uk](mailto:emergency.health@nhs.uk)

#### Heat-Health Watch

**Level 1 - Alert & Readiness**

The maximum forecast lead time is 1800 on Sunday and 0600 on Wednesday.

Region	Sub-Region	Local Authorities
North	North East England	North East England North East England North East England
	Yorkshire and the Humber	Yorkshire and the Humber Yorkshire and the Humber Yorkshire and the Humber
	North West England	North West England North West England North West England
Midlands	East Midlands	East Midlands East Midlands East Midlands
	West Midlands	West Midlands West Midlands West Midlands
	East of England	East of England East of England East of England
South	South East England	South East England South East England South East England
	South West England	South West England South West England South West England
London	London	London
Wales	Wales	Wales Wales Wales