



Public Health
England

Equality analysis

Heatwave plan for England 2013

About Public Health England

We work with national and local government, industry and the NHS to protect and improve the nation's health and support healthier choices. We address inequalities by focusing on removing barriers to good health.

We were established on 1 April 2013 to bring together public health specialists from more than 70 organisations into a single public health service.

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Introduction

The general equality duty that is set out in the Equality Act 2010 requires public authorities, in the exercise of their functions, to have due regard to the need to:

- eliminate unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act;
- advance equality of opportunity between people who share a protected characteristic and those who do not;
- foster good relations between people who share a protected characteristic and those who do not.

The general equality duty does not specify how public authorities should analyse the effect of their existing and new policies and practices on equality, but doing so is an important part of complying with the general equality duty. It is up to each organisation to choose the most effective approach for them.

Policy context

The Heatwave Plan has been published by the Department of Health annually since 2004. It was initially published in response to the heatwave of 2003 during which over 2000 (mostly elderly) people died – significantly more excess deaths than is normally expected at that time of year.

On 1 April 2013, Public Health England was established under the terms of the Health and Social Care Act 2012. PHE is the expert national public health agency that fulfils the Secretary of State for Health's statutory duty to protect health and address inequalities, and executes his power to promote the health and wellbeing of the nation.

In line with the changes in roles and responsibilities for delivering Ministerial priorities, DH now takes a strategic lead rather than an operational lead as previously. As such it has been agreed that PHE will provide a Heatwave Plan (and other related plans in response to extreme climate events such as the Cold Weather Plan for England). Such plans are to be developed in collaboration and involvement of key stakeholders, especially including NHS England, as the key authority taking an operational lead with the NHS. The Heatwave Plan also links into wider cross-government stakeholders to support implementation of the objectives of the National Adaptation Programme.¹

¹ <https://www.gov.uk/government/policies/adapting-to-climate-change/supporting-pages/national-adaptation-programme>

PHE's role is to ensure there are effective arrangements in place nationally and locally for preparing, planning and responding to health protection concerns and emergencies, including the future impact of climate change.

PHE supports local authorities, and through them clinical commissioning groups, by providing evidence and knowledge on local health needs, alongside practical and professional advice on what to do to improve health, and by taking action nationally where it makes sense to do so.

The Heatwave Plan is thus a key element of the wider set of plans that PHE will be producing to support local NHS organisations and local government to help build resilience and strengthen their preparations and response to extreme climate events. The Heatwave Plan will help PHE meet a number of its key priorities as identified in its recent publication *Our priorities for 2013/14*², especially in protecting the country from environmental hazards.

What are the intended outcomes of this work?

Many of the deaths as a result of excessive heat exposure are preventable if a few very simple and sensible precautions are taken. The purpose of the Heatwave Plan is to reduce excess summer deaths by raising awareness and triggering actions in the NHS, social care and other community organisations to support vulnerable people who have health, housing or economic circumstances that render them at risk. The plan is also intended to mobilise communities and neighbours and civil society to help their neighbours, friends, and relatives to protect against avoidable harm to health due to excessive heat in summer. This, in turn, could help to reduce pressures throughout the health and social care system.

The Heatwave Plan has been reshaped this year to make it more consistent with the Cold Weather Plan for England, which itself was drafted to take into account the views of stakeholders. The main body of the text is an action plan giving individuals, professionals and organisations advice on how to prepare for, and respond to, a spell of severe heat to protect vulnerable people.

A companion document *Making the Case* is being published, which describes the detailed impacts of severe heat on health (with reference to vulnerable groups) and includes longer-term advice about heatwaves and some of the planning that can be done to ameliorate their impact. As in previous years, three supporting documents are also being made available aimed at the general public; health and social care organisations and professionals; and care home managers. These are drawn directly from the Heatwave Plan and have been updated to make them consistent with the main plan, especially to take account of changes that have taken place across the health and care system since April 2013.

² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/192676/Our_priorities_final.pdf

Who will be affected?

The plan sets out a series of clear actions to be taken by the NHS, social care and other public agencies; professionals working with vulnerable people; as well as by individuals and local communities themselves designed to minimise the effects of exposure to severe heat on health.

It provides strategic guidance and a framework that local authorities, the NHS and other local networks and organisations such as local resilience forums and healthcare providers can incorporate into their summer planning arrangements. The plan is consistent with other emergency plans and duties under the Civil Contingencies Act (2004) to warn and inform the public before, during and after an emergency.

Evidence

In preparing for the Heatwave Plan 2012, we undertook an extensive literature search and reviewed the available evidence on the effects of hot weather and heatwaves on health. For the Heatwave Plan 2013, we have undertaken a further search for new literature on the effects of hot weather on health, published in the past year. Our recent review of the evidence has not altered the findings that we highlighted in last year's Heatwave Plan and equality impact analysis.

The following evidence has been considered:

1. Abrahamson, V. et al (2008), *Perceptions of heatwave risk to health: interview-based study of older people in London and Norwich, UK*, Journal of Public Health (2008) 31 (1) 119-126 <http://tinyurl.com/perception-heat-risk>
- Astrom, C. et al (2013), *Heat related respiratory hospital admissions in Europe in a changing climate: a health impact assessment*, BMJ Open (2013) 24; 3 (1) <http://tinyurl.com/heat-admissions-Europe>
2. Bouchama, A. et al (2007) *Prognostic factors in heat wave-related deaths: A meta-analysis*, Archives of Internal Medicine (2007) 167 (20)
3. Carers UK (2004), *In Poor Health: The Impact of Caring on Health*, <http://tinyurl.com/carers-in-poor-health>
4. Centre for Analysis of Social Exclusion (2004), *Minority Ethnic Groups in Britain*, <http://tinyurl.com/ethnic-minority-geo-distrib>
5. Cusack, L. et al (2011) *Heatwaves and their impact on people with alcohol, drug and mental health conditions: a discussion paper on clinical practice considerations*. Journal of Advanced Nursing. 2011 67 (4) 915-22.
6. Dear, K. et al (2005), *Effects of temperature and ozone on daily mortality during the August 2003 heat wave in France*, Archives of Environmental & Occupational Health (2005) 60 (4) 205-212

7. D'Ippoti, D. et al (2010), *The impact of heat waves on mortality in 9 European cities: results from the EuroHEAT project*, Environmental Health (2010) 9 (37)
<http://tinyurl.com/heatwave-mortality-women>
8. European Commission (2011) *Eurostat*, <http://tinyurl.com/european-population>
9. Gasparri, A. et al (2011), *The effect of high temperatures on cause-specific mortality in England and Wales*, Occupational and Environmental Medicine (2012) 69 56-61
10. Greater London Authority (2006), *London's Urban Heat Island: A Summary for Decision Makers* <http://tinyurl.com/heat-island-effect>
11. Green, H. et al (2012), *Rapid estimation of excess mortality: nowcasting during the heatwave alert in England and Wales in June 2011*, Journal of Epidemiology & Community Health, (October 2012) 66 (10) 866-868 <http://tinyurl.com/heatwave-nowcasting>
12. Holstein, J. et al (2005), *Were disabled patients the most affected by the 2003 heat wave in nursing homes in Paris?*, Journal of Public Health (2005) 27 (4) 359-365
<http://tinyurl.com/institution-mortality-heatwave>
13. Johnson, H. et al (2005), *The impact of the 2003 heatwave on daily mortality in England and Wales and the use of rapid weekly mortality estimates*, Eurosurveillance (2005) 10 (7) <http://tinyurl.com/heatwave-mortality-Eng-Wales>
14. Joseph Rowntree Foundation (2010), *Demographic Issues, Projections and Trends: Older People with High Support Needs in the UK*,
<http://tinyurl.com/older-people-high-support-need#>
15. Harlen, et al. (2013) *neighborhood effects on heat deaths: social and environmental predictors of vulnerability in Maricopa County, Arizona*, Environmental Health Perspectives (2013) 121 197-204 <http://tinyurl.com/heat-social-enviro-predictors>
16. Lowe, D. et al (2011) *Heatwave Early Warning Systems and Adaptation Advice to Reduce Human Health Consequences of Heatwaves*, International Journal of Environmental Research and Public Health 8 4623-4648
17. Lin, S. et al (2008), *Chronic exposure to ambient ozone and asthma and hospital admissions among children*, Environmental Health Perspectives (2008) 16 (12) 1725-1730 <http://tinyurl.com/heat-ozone-children>
18. Michelozzi, P. et al (2005), *The impact of the summer 2003 heat waves on mortality in four Italian cities*, Eurosurveillance (2005) 10 (7)
<http://tinyurl.com/heatwave-mortality-Italy>
19. Page, L. et al (2012), *Temperature-related deaths in people with psychosis, dementia and substance misuse*, British Journal of Psychiatry (2012) 200 (6) 485-490
20. Pirard, P. et al (2005), *Summary of the mortality impact assessment of the 2003 heatwave in France*, Eurosurveillance (2005) 10 (7)
<http://tinyurl.com/heatwave-mortality-France>
21. Rodriguez, C. et al (2007), *The relationship between outdoor air quality and respiratory symptoms in young children*, International Journal of Environmental Health Research (2007) 17 (5) 551-360

22. Ramin B, Svoboda T (2009) *Health of the Homeless and Climate Change*, Journal of Urban Health: Bulletin of the New York Academy of Medicine (2009), 86 (4) 654-664
23. Stollberger, C. et al (2009), *Heat related side-effects of neurological and non-neurological medication may increase heatwave fatalities*, European Journal of Neurology (2009) 16 879-882
24. World Health Organization Europe (2005), *Effects of air pollution on children's health and development: a review of the evidence*, <http://tinyurl.com/air-pollution-children>

Disability

There is a general lack of evidence on the impact of hot weather on people with disabilities, but there is some evidence to suggest that disabled people are vulnerable to the effects of heatwaves, particularly if they suffer from conditions associated with heat-related mortality such as respiratory, cardiovascular or renal disease³, or if their disability is such that it limits their adaptive responses.

During the 2003 heatwave in France, there was a fivefold increase in the number of deaths among highly dependent older people in residential care⁴. The evidence points to an association between the level of dependency and the likelihood of suffering adversely from heatwaves. It seems that the more dependent a person is, the less able they are to cope with extreme temperatures. The available evidence suggests that disabled people who are confined to bed, unable to leave home daily, and who are unable to care for themselves, are more likely to be adversely affected by heatwaves⁵.

Disabled people may also be at increased risk of suffering from the adverse effects of high temperatures if they are on medication, because there is some evidence to suggest that certain drugs may impede thermoregulation and thirst regulation, thus making people more vulnerable to harm from heatwaves⁶.

Sex

The increased number of deaths observed during heatwaves in a number of European countries shows that hot weather has a significant impact on women, particularly those aged 75 and over^{7 8}.

³ Gasparrini, A. et al (2011) *The effect of high temperatures on cause-specific mortality in England and Wales*, Occupational and Environmental Medicine (2012) 69 56-61

⁴ Holstein, J. (2005), *Were disabled patients the most affected by the 2003 heat wave in nursing homes in Paris?*, Journal of Public Health (2005) 27 (4) 359-365

⁵ Bouchama, A. et al (2007) *Prognostic factors in heat wave-related deaths - A meta-analysis*, Archives of Internal Medicine (2007) 167 (20)

⁶ Stollberger, C. et al (2009), *Heat related side-effects of neurological and non-neurological medication may increase heatwave fatalities*, European Journal of Neurology (2009) 16 879-882

⁷ D'Ippoti, D. et al. (2010), *The impact of heat waves on mortality in 9 European cities: results from the EuroHEAT project*, Environmental Health (2010) 9 (37) <http://tinyurl.com/heatwave-mortality-women>

⁸ European Commission (2011) *Eurostat*, <http://tinyurl.com/european-population>

While gender in itself is not a predictor of suffering adversely from hot weather, women tend to live longer than men, so that there are proportionately more women than men in older age-groups. Older people in general are more likely to experience limiting long-term illness or disability, and are at potentially greater risk of being socially isolated⁹. Both of these factors hinder individual ability to adapt to hot weather. The greater number of women at older age-groups means that, overall, women may suffer more harm during heatwaves than men.

Race

There is currently a lack of evidence on the impact of heatwaves on people from minority ethnic groups. Race and ethnicity, in themselves, are not predictors of suffering adversely from heatwaves. However, ethnic minority groups may be at increased risk of suffering harm in hot weather as significant proportions of these groups live in urban environments¹⁰.

There is evidence to show that when there is a heatwave the urban 'heat island' effect increases mortality rates. During the England heatwave of 2003, the maximum temperature difference between urban and rural locations reached 9°C¹¹ and mortality rates in London increased by 42%¹². The heat island effect and high concentrations of people from ethnic minorities living in towns and cities suggests that minority ethnic groups may be at increased risk of suffering from the adverse effects of hot weather.

Age

The age groups most affected by heatwaves are the old and the young, but excess mortality during heatwaves affects all age groups.

Older People

Older people tend to experience limiting long-term illness and disability, which limits their capacity to adapt to high temperatures¹³. There is clear evidence to show that heatwaves have the greatest impact on older people, particularly those aged 75 and over. During the 2003 heatwave in England and Wales there was a 22% increase in mortality amongst the over 75s,

⁹ Joseph Rowntree Foundation (2010), *Demographic issues, projections and trends: Older people with high support needs in the UK*, <http://tinyurl.com/older-people-high-support-need>

¹⁰ Centre for Analysis of Social Exclusion (2004), *Minority Ethnic Groups in Britain*, <http://tinyurl.com/ethnic-minority-geo-distrib>

¹¹ Greater London Authority (2006), *London's Urban Heat Island: A Summary for Decision Makers* <http://tinyurl.com/heat-island-effect>

¹² Johnson, H. et al (2005), *The impact of the 2003 heatwave on daily mortality in England and Wales and the use of rapid weekly mortality estimates*, *Eurosurveillance* (2005) 10 (7) <http://tinyurl.com/heatwave-mortality-Eng-Wales>

¹³ Joseph Rowntree Foundation (2010), *Demographic issues, projections and trends: Older people with high support needs in the UK*, <http://tinyurl.com/older-people-high-support-need>

and in London there was a 59% increase in deaths¹⁴. Mortality rates amongst the old were significantly high across a number of European countries and cities during the 2003 heatwave¹⁵.

It is clear from the mortality figures that because of the urban heat island effect, older people living in towns and cities are at particular risk of suffering from the adverse effects of hot weather. The evidence suggests that assessments of risk vulnerability need to consider both person-level risk as well as environmental predictors¹⁶.

Whilst the evidence shows that heatwaves have the greatest impact on the very old and the very dependent, there is some evidence to suggest that interventions to reduce the harm from heat should not just focus on those aged 75 and over who are very dependent, but on all older people. A study of excess mortality in nursing homes in France during the 2003 heatwave revealed that of those who died, the majority were not considered to be among the most frail. The study concluded that the reason that fewer very dependent people died in residential care settings, was because care and support were specifically directed at them, thus limiting the number of deaths. More of those who were less dependent died because they received less attention¹⁷.

A study of the perceptions of heatwave risks amongst older people in London and Norwich in 2008 highlights the challenges of providing information to the elderly about the harmful effects of heat¹⁸. Interviews with older people revealed that a significant proportion do not perceive themselves as vulnerable, and many think that “state intervention is unnecessary, intrusive and unlikely to be effective”. The findings from the study suggest that in order to achieve changes in behaviour that will mitigate against the harmful effects of heat, innovative ways of getting messages across to older people need to be developed.

Adults

Adults are among the least affected by heatwaves because they are generally better able to adapt in hot weather. However, those with existing health conditions, particularly conditions associated with heat-related mortality such as cardiovascular, respiratory and renal disease, are likely to be at increased risk of suffering from the adverse effects of hot weather.

¹⁴ Johnson, H. et al (2005), *The impact of the 2003 heatwave on daily mortality in England and Wales and the use of rapid weekly mortality estimates*, Eurosurveillance (2005) 10 (7) <http://tinyurl.com/heatwave-mortality-Eng-Wales>

¹⁵ D'Ippoti, D. et al (2010), *The impact of heat waves on mortality in 9 European cities: results from the EuroHEAT project*, Environmental Health (2010) 9 (37) <http://tinyurl.com/heatwave-mortality-women>

¹⁶ Harlen, et al. (2013) *neighborhood effects on heat deaths: social and environmental predictors of vulnerability in Maricopa County, Arizona*, Environmental Health Perspectives (2013) 121 197-204 <http://tinyurl.com/heat-social-environ-predictors>

¹⁷ Holstein, J. (2005), *Were disabled patients the most affected by the 2003 heat wave in nursing homes in Paris?*, Journal of Public Health (2005) 27 (4) 359-365 <http://tinyurl.com/institution-mortality-heatwave>

¹⁸ Abrahamson, V. et al (2008) *Perceptions of heatwave risk to health: interview-based study of older people in London and Norwich, UK*, Journal of Public Health (2008) 31 (1) 119-126 <http://tinyurl.com/perception-heat-risk>

There is some evidence to suggest that there is a relationship between low socioeconomic status and education levels, and heat-related mortality. The relationship was observed in Italy during the 2003 heatwave when the greatest excess mortality was registered among those with low economic status in Rome (+17.8%) and low education levels in Turin (+43%)¹⁹.

The available evidence suggests that those with existing health conditions, low economic status and levels of education, and who live in urban environments are at increased risk of suffering from the adverse effects of heatwaves.

Children and young people

There is evidence of the impact of global climate change on the health of children and young people generally, but there is currently a lack of evidence on the direct health impact of heatwaves on the health of children and young people in developed countries such as the UK.

During the 2003 heatwave in Europe, high temperatures were accompanied by high levels of ozone^{20 21}. High ozone levels are known to increase incidences of asthma and respiratory conditions in children^{22 23}. Respiratory disease is one of the main causes of heat-related mortality so children may be at increased risk of suffering from the adverse effects of heatwaves.

Children may also be at increased risk of suffering from the harmful effects of heat because they are dependent on adults, especially the very young, and are less capable of adopting adaptive behaviours during periods of hot weather. For example, there have been reports in the literature of significant risks to children when left unattended in vehicles during hot weather²⁴. Children may be more susceptible to heat stress if adults do not support them to mitigate the harmful effects of heat.

¹⁹ Michelozzi, P. et al (2005), *The impact of the summer 2003 heat waves on mortality in four Italian cities*, *Eurosurveillance* (2005) 10 (7) <http://tinyurl.com/heatwave-mortality-Italy>

²⁰ Dear, K. et al (2005), *Effects of temperature and ozone on daily mortality during the August 2003 heat wave in France*, *Archives of Environmental & Occupational Health* (2005) 60 (4) 205-212

²¹ Johnson, H. et al (2005), *The impact of the 2003 heatwave on daily mortality in England and Wales and the use of rapid weekly mortality estimates*, *Eurosurveillance* (2005) 10 (7) <http://tinyurl.com/heatwave-mortality-Eng-Wales>

²² Rodriguez, C. et al (2007), *The relationship between outdoor air quality and respiratory symptoms in young children*, *International Journal of Environmental Health Research* (2007) 17 (5) 551-360

²³ Lin, S. et al (2008), *Chronic exposure to ambient ozone and asthma and hospital admissions among children*, *Environmental Health Perspectives* (2008) 16 (12) 1725-1730

²⁴ McLaren, C. et al (2005) *Heat stress from enclosed vehicles: moderate ambient temperatures cause significant temperature rise in enclosed vehicles*. *Pediatrics* (2005) 116 2004-2368

Gender reassignment (including transgender)

There is no evidence to suggest that transgender or transsexual people are adversely affected by heatwaves because of their gender status.

Sexual orientation

There is no evidence to suggest that heterosexual, gay, lesbian or bisexual people are adversely affected by heatwaves because of their sexual orientation.

Religion or belief

There is no evidence to suggest that religious groups are adversely affected by heatwaves because of their religious beliefs.

However, Muslims who observe Ramadan and do not eat and drink during daylight hours may find it difficult to keep hydrated in very hot weather, especially the old and the very young. While there is no evidence to suggest that the Muslim community is particularly vulnerable to the adverse effects of hot weather, it is reasonable to assume that those who fast are, and it is important to raise awareness amongst the Muslim community of the risks to health of fasting during heatwaves, and the mitigating actions they can take. The Muslim Council of Britain has confirmed that under such conditions, breaking fast is allowed under Islamic law.

Pregnancy and maternity

There is currently a lack of evidence on the direct health impact of high temperatures on pregnant women and there is no evidence to suggest that pregnant women are a particularly vulnerable group in terms hot weather. However, they may be at increased risk of suffering from the adverse effects of heat if they have a low socioeconomic and low education status, if they live in an urban environment and /or if they have an existing health condition, particularly a condition associated with heat -related mortality such as cardiovascular or respiratory disease.

While pregnant women do not appear to be particularly vulnerable to heatwaves, there is emerging evidence to infer a causal relationship between air pollution and low birth weight, suggesting that the high levels of ozone which often accompany heatwaves may adversely affect the unborn children of pregnant women²⁵.

²⁵ World Health Organization Europe (2005), *Effects of air pollution on children's health and development: a review of the evidence*, <http://tinyurl.com/air-pollution-children>

Carers

There is currently a lack of evidence on the direct health impact of hot weather on carers and there is no evidence to suggest that carers are particularly vulnerable to heatwaves. However, carers may be at increased risk of suffering from the harmful effects of heat if they are old, if they have a low socioeconomic and low education status, if they live in an urban environment and/or if they have an existing health condition, particularly one associated with heat-related mortality such as cardiovascular or respiratory disease.

It is known that carers often suffer from poor health because of the stresses and strains of their caring role²⁶. It may be the case that if the health of the person they are caring for suffers as a consequence of high temperatures, the carers own health may also suffer as a result of the additional pressure of caring for someone whose health has deteriorated because of the heat.

Other identified groups

People with mental illness

There is some evidence to suggest that people with mental health disorders may be vulnerable during hot weather. Conditions such as dementia can alter risk perception and protective behaviours, meaning that those with mental health disorders may not be able to cope with extreme heat or alter their physical environment when hot²⁷. The available evidence also suggests that psychological conditions such as schizophrenia may directly affect temperature regulation through underlying physical pathologies; and medications such as lithium, various neuroleptic and anticholinergic drugs can alter the body's ability to cope with heat. Such factors infer that people with mental health conditions are at increased risk of suffering from heat-related illness during heatwaves²⁸.

Homeless people

There is evidence to suggest that those who are homeless are at increased risk to the health impacts of heatwaves due to the high rate of underlying health conditions²⁹. Those with drug and alcohol dependencies may also be at increased risk as they often have poorer overall health, increased social isolation, and may be unable to adapt their surroundings.

²⁶ Carers UK (2004), In Poor Health: *The Impact of Caring on Health*, <http://tinyurl.com/carers-in-poor-health>

²⁷ Cusack, L. et al (2011) *Heatwaves and their impact on people with alcohol, drug and mental health conditions: a discussion paper on clinical practice considerations*, Journal of Advanced Nursing, 2011 67 (4) 915-22.

²⁸ Page, L. et al (2012), *Temperature-related deaths in people with psychosis, dementia and substance misuse*, *British Journal of Psychiatry* (2012) 200 (6) 485-490

²⁹ Ramin, B. et al (2009) *Health of the Homeless and Climate Change*. Journal of Urban Health: Bulletin of the New York Academy of Medicine (2009), 86 (4) 654-664

Large public events

Summer is a time for people to get outside and enjoy themselves. Large-scale public events, such as music and arts festivals, sports events and celebrations are held up and down the country every summer, providing enjoyment to millions of people.

A recent review of European heatwave plans summarises the public health recommendations for protecting large crowds of people, including tourists, during hot weather³⁰. The heatwave plans of countries such as Portugal, France and Belgium currently include a number of different actions to protect those attending sporting events and large gatherings. The evidence and lessons identified from the heatwave plans of other European countries are taken into consideration in this plan³¹.

Engagement and involvement

Was this work subject to the requirements of the cross-government [Code of Practice on Consultation](#)? (Y/N) No.

How have you engaged stakeholders in gathering evidence or testing the evidence available?

The Heatwave Plan is a well-established part of the emergency planning and response apparatus. It has been published annually since 2004 and has been amended each year in light of new research evidence and experience in implementing the plan. These have been brought together at an annual seminar to review the evidence and experience with different aspects of the Plan which have been run closely with the Health Protection Agency (HPA), now part of Public Health England.

The annual Heatwave Plan seminar was held on 8 March 2013 with a range of professional, academic and voluntary and community sector representatives. The detailed issues emerging from the workshop are summarised below.

We have also shared a near final draft of the Heatwave Plan with a small reference group of key stakeholders from both government and the community and voluntary sector to ensure that it has resonance with the community and professionals working in the field, such as emergency responders in health and social care. The 'Heat Health Watch' alert system run by the Met Office has been tried and tested over many years.

³⁰ Bouchama, A. et al (2007) *Prognostic factors in heat wave-related deaths: A meta-analysis*, *Archives of Internal Medicine* (2007) 167 (20)

³¹ Lowe, D. et al (2011) *Heatwave Early Warning Systems and Adaptation Advice to Reduce Human Health Consequences of Heatwaves*, *International Journal of Environmental Research and Public Health* 8 4623-4648

However, as part of the ongoing testing, reviewing and development process, Public Health England, the Department of Health and the Met Office have sponsored a number of further activities in support of developing and monitoring the implementation of the Heatwave Plan, including:

- **syndromic surveillance** - The development of syndromic surveillance to allow early alerting and near real-time reporting of health conditions;
- **mortality surveillance** – Establishing and developing a mortality surveillance system to provide timely data on deaths during heatwaves.

In addition, aspects of the Heatwave Plan specifically in relation to the Olympics were tested last year at an emergency planning exercise with a wide range of largely NHS staff from across South East Coast and South Central Strategic Health Authorities (SHAs) on 20 March 2012. The impact of a scenario of heat emergency, drought and the Olympics coming together were tested for both their impact on vulnerable groups and how the agencies would respond to these events. The immediate lessons from these events were brought into the revised Heatwave Plan 2012, which for the first time included general guidance on large public events (mass gatherings) and references to drought. Since the summer period overlapped with the Muslim period of fasting known as Ramadan, specific advice agreed with the Muslim Council of Great Britain was incorporated to give best advice for those who might have been fasting during severe heat over the summer. All of these aspects have been retained in the 2013 plan.

National Heatwave Plan seminar 8 March 2013: key recommendations

The Heatwave Plan Workshop was convened by the HPA and the Department of Health. The seventh annual Heatwave Plan seminar was held on Friday 8 March 2013 and brought together representatives from central and local government, public health, primary care, emergency planning, professional bodies and voluntary and community partners. The overall aim of the day was to reflect on the changes and updates required ahead of re-publication in summer 2013.

The aim of the morning session was to consider the implications for the national Heatwave Plan (HWP) for England emerging from the National Adaptation Programme (NAP), due to be published by the end of this year. The NAP is required to help address the key risks identified in the Climate Change Risk Assessment. One such risk is increased high temperature events, with the HWP being instrumental to help address this risk. The afternoon session focused on considering what local authorities could do to plan and respond.

Following a series of introductory addresses and presentations, delegates were asked to consider a number of questions closely relating to the aims of the day. The outputs from the day's discussions were presented in detail within a report. Recommendations (summarised below) were taken from the session outputs and were presented to the Department of Health to

aid in the development of the Heatwave Plan for England 2013 and have been included in the 2013 plan where possible.

Key recommendations

1. Branding and ownership of the plan is important and shared logos on the plan would be of benefit to show it is a multiagency plan. There was concern raised that the current NHS branding means that many non-NHS staff do not think the plan is relevant to them.
2. Consider making the HWP a year-round plan (April to April) to address important long term planning issues and sustainability and fit more clearly with local authority decision-making structures.
3. Language and terminology used in the plan has the potential to alter perception of risk and therefore responses. For example the term 'Heatwave' is interpreted by many as a positive event and should maybe be reviewed and changed to 'severe heat event'.
4. There is importance in local leadership in order to support local level implementation of the heatwave plan.
5. Social isolation and the risks it creates needs to be highlighted more strongly in HWP.
6. Using economic benefits as leverage and arguments for adaptation should be considered.
7. The HWP needs to consider the impact of heat in the workplace.
8. The separation of long term planning for heatwaves and heat adaptation more generally from the acute emergency response actions needed for acute heat events/heatwaves. This could reduce confusion and support both sorts of activities better.
9. Encourage heatwave planning to be included on joint strategic needs assessments and highlight the issue to health and wellbeing boards as successful preparation for heatwaves will help achieve other indicators within the Public Health Outcomes Framework, NHS and Adult Social Care Outcomes Frameworks.
10. Aid sharing of good practice through development of a single portal where people could meet – similar to the Warm Homes Healthy People Local Government Association knowledge hub page.
11. Actively support and encourage heatwave research, particularly the evaluation of heatwave and health interventions.
12. Consider developing a 'Get Ready for Summer' campaign with the Civil Contingencies Secretariat and Met Office (similar to the existing 'Get Ready for Winter' campaign).
13. Encourage local authorities and their partners to exercise their local heatwave plans and incorporate messages and actions into staff training (particularly for community staff).
14. Encourage local authorities and their partners to evaluate their heatwave planning, such as through auditing or contract monitoring.
15. Emphasise the role of the voluntary and community sector more within the HWP.
16. Send the seminar report and slides to chairs of HWBBs to aid local planning for heatwaves, raise awareness of the risks and ensure prioritisation and investment is made.
17. Work with Met Office to develop an alert system that allows local areas to sign up to the geographical areas they would like to receive.
18. Local areas would welcome national communications advice and national social marketing messaging from the Department of Health/PHE.

The full workshop report, list of participants and comments made at the 8 March 2013 meeting was published on the HPA website at:

http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317138519187

How have you engaged stakeholders in testing the policy or the programme proposals?

We engaged stakeholders in both examining the emerging evidence as well as the emerging policies and specific actions throughout the process as outlined above.

For each engagement activity, please state who was involved, how and when they were engaged, and the key outputs

The key outputs from the 8 March workshop can be accessed from the HPA website as above, pending migration to the PHE website. The delegates at the workshop were drawn from a combination of academic, professional and strategic partner organisations. They represented the groups identified above, and other consumer organisations or groups who are likely to have a particular interest in heatwave issues. An invitation letter went out to a wide range of voluntary, private and public organisations. The seminar was well attended by over 60 representatives.

We will also continue to build upon the developments made last year to improve the wide scale dissemination and communication about the publication of the Heatwave Plan. We will ensure that notification of the Heatwave Plan is published in the main publications now used by PHE ('the Bulletin') and by NHS England and the Department of Health as appropriate. We will also ensure that the Met Office Heatwave Alerts are disseminated and cascaded to the NHS and local authorities and other stakeholders as illustrated in the Heatwave Plan. We will also consider direct notification and mailings to the key stakeholder partner organisations as necessary.

Summary of analysis

We have extensively amended previous versions of the Heatwave Plan in light of comments made by participants at the engagement events and emerging study findings. This year the major changes which were highlighted to us was to bring the Heatwave Plan 2013 into alignment to reflect the major changes in health and care structures, roles and responsibilities post-April 2013, with the full implementation of the Health and Social Care Act (2012). We have also sought to align the Heatwave Plan 2013 with the changes made in the Cold Weather Plan 2012 – which were made in direct response to stakeholder advice.

We do not believe that the Heatwave Plan will have a negative impact on any of the equality groups (protected characteristics). Rather, that the Heatwave Plan is being published to help reduce deaths and morbidity and to protect against avoidable harm.

The evidence suggests that the key factors which place people at greater risk from exposure to excessive heat are certain underlying conditions, age, and sex. Sexual orientation, gender reassignment, religion or belief do not appear to raise the risk factors as far as current evidence indicates, although we have taken account of the impact of Ramadan occurring during the middle of the summer.

There is a lack of evidence, or no evidence relating to race, pregnancy and carers except where people are already on low income and living in poorer housing stock that would place them at greater risk of mitigating the impact of an extended spell of severe heat.

Other than age and sex there is a lack of detailed information against which to regularly monitor the situation for the equality (protected characteristics) groups on a regular basis and as noted above there is a paucity of primary research in relation to some groups.

The essence of the Heatwave Plan is to ensure that key public health messages about the dangers of severe heat to health are understood by both the general public and professional staff and community and voluntary workers in touch with such vulnerable people. The Heatwave Plan seeks to ensure that key workers have identified such people and supports raising awareness and taking action as appropriate. Finally the Heatwave Plan also seeks to ensure that in the event of a period of projected and actual severe heat events, that there is adequate warning to professionals such that they and the wider emergency resilience system can respond.

We have taken the opportunity of aligning and updating the three 'factsheets' that are published with the Heatwave Plan, including a significant updating of the public information leaflet entitled *Looking After Yourself and Others*.

The Heatwave Plan's key priorities include:

- ensuring that information is targeted/disseminated to protected groups where the evidence has highlighted this to be a priority;
- ensuring that access to services is improved or not made worse by the plan for those in population groups with protected characteristics.

Assessment of how the proposal eliminates discrimination, harassment and victimisation

We have no evidence to suggest that, as a result of the Heatwave Plan, we will eliminate discrimination, harassment and victimisation, however we have no reason to believe that this

would possibly increase under the plan. Indeed, the Heatwave Plan seeks to ensure that people from all groups with protected characteristics are better protected from the effects of severe hot weather due to raised awareness and response.

Preventive action should support people of working age from these groups to be able to continue at their jobs without taking significant periods of time off due to reduced illness; and older people will continue to be able to stay fit and not risk becoming socially isolated through illness and disease exacerbated by severe heat events.

Assessment of how the proposal advances equality of opportunity

We generally have no evidence to suggest that as a result of the Heatwave Plan that we will advance equality of opportunity per se. The actions from this Heatwave Plan can help to refocus local community action towards those most vulnerable which will help advance equality of opportunity more generally.

Assessment of how the proposal promotes good relations between groups

At each level identified as part of the Heatwave Alert service we have identified some actions for the local community and voluntary groups to take forward. We have focused on the community's ability to marshal resources and look after vulnerable or frail neighbours both before and during a spell of extreme heat.

We believe that this is an important element of the Heatwave Plan and is consistent with wider government proposals to promote a sense of responsibility across civic society. Outlining roles for communities and third sector organisations that are in touch with many of the key groups of people with protected characteristics is a way of promoting community resilience and indirectly will promote good relations between groups.

What is the overall impact?

We believe that the Heatwave Plan will impact positively on the reduction of health inequalities by reducing the number of excess summer deaths experienced during heatwaves. The plan attempts to engage and provide good practice for a range of individuals, community, health and social care and other organisations.

In the action levels which accompany the Heatwave Alert warning service, level 0 and level 1 are directed at public sector organisations, particularly emerging multi-agency health and wellbeing boards and local resilience forums to undertake long-term planning to ensure that the Heatwave Plan is owned collectively by local partners.

The identification of those people who are susceptible to severe heat and to work systematically with them to improve resilience in a multi-agency manner means that issues

such as housing should be part of the local discussions at all stage of the planning and response process.

We believe that the Heatwave Plan will have a positive impact on reducing adverse experiences of severe hot weather for vulnerable groups, including impacting positively on some equality groups, as well as for the wider population.

Addressing the impact on equalities

This equality impact assessment has examined the evidence relating to the impact of heat on the health of specific groups, including carers, pregnant women, the disabled, and people from different ethnic groups. We have highlighted the need for authorities and professionals to identify and take note of those who may be especially vulnerable to hot weather. We have incorporated the actions from the Heatwave Plan 2012 which strengthened actions in this respect from previous years, and highlighted sections which encourage community engagement to ensure an accurate picture of need and community awareness of relevant issues.

Action planning for improvement

Actions taken

1. The national Heatwave Plan for England 2013 and accompanying supporting documents will be re-launched spring 2013 and published on the PHE's website. This will include:

- **Heatwave Plan for England: 2013**
- **Making the Case:** the impact of heat on health – *now and in the future*
- introductory cover letter to the **Heatwave Plan:** a letter signed jointly by PHE, NHS England and the Department of Health to emphasise the joint nature of the advice and guidance given in the Heatwave Plan.
- **factsheets/action cards:** Including three publications which summarise the information in the Heatwave Plan and give advice and guidance for both professionals and the general public. We have reviewed the following documents and amended them as necessary:
 - Supporting Vulnerable People Before and During a Heatwave: Advice for health and social care professionals – updated for 2013
 - Supporting Vulnerable People Before And During a Heatwave: Advice for care home managers and staff – updated for 2013
 - Looking after yourself and others during hot weather: The latest advice – information for the general public – updated for 2013

We can also make the plan available in alternative formats on requests in keeping with PHE policy to ensure widest accessibility and cost-effectiveness.

The Heatwave Plan and its accompanying material presents a comprehensive set of advice the general public, the community, professionals and health and social care organisations to prepare for, and be able to respond both in the longer and shorter term for the possibility of severe hot weather.

2. Summary of key changes to the National Heatwave Plan 2013

Most of the actions identified in the Heatwave Plan 2012 have been carried forward into the Heatwave Plan 2013. Key changes which have been made include:

- clarifying responsibilities and actions for healthcare organisations, local authorities and professionals in light of the changes made to health and social care as of 1 April 2013;
- making the Heatwave Plan for England more consistent with the Cold Weather Plan for England in a number of respects relating to the heatwave alert levels and the structure of the overall document.

Heatwave Alerts

- to emphasise that long-term planning for heatwaves takes place throughout the year, we have added a level 0 to the previous four Heatwave Alert levels. Levels 1- 4 remain the same. On 1 June we will move to Level 1 (general heatwave and summer preparedness), which will be in effect until 15 September 2013, unless raised to a higher alert level because of a forecasted or actual heatwave event;
- clarifying the cascade of Heatwave Alerts taking place across the new health and social care system;
- detailed changes to improve the appearance and relevance of the Heatwave Alerts, making these more user friendly;

Action tables (Section 3)

- most of the detailed actions from 2012 remain as in previous years, however we have amended these to reflect where organisational responsibilities have now changed;
- we have brought these tables more in line with those in the Cold Weather Plan;

- we have separated out actions for commissioners and providers as well as for professional staff and for the wider community;
- these changes have been reflected in the supporting information pamphlets containing the action cards for easy use by organisations and staff;
- we have updated the information leaflet designed primarily for the public entitled *Looking after yourself and others during hot weather*, and are re-publishing this document with the other core components of this year's Heatwave Plan.

Dissemination and communication plan

Our dissemination and communication strategy will ensure that the Heatwave Plan is widely communicated using a variety of channels to ensure maximum publicity to health and social care professionals as well as the general public. It will encourage professionals to print and leave hardcopy leaflets for those vulnerable clients they feel would benefit from one. As such we have updated the advice leaflet focused particularly for the general public, *Looking after yourself and others during hot weather*.

It is not proposed to publish any of the elements of the Heatwave Plan in hard copy. This is in line with PHE and Department of Health policy that all publications should be online only, except in exceptional circumstances when there might be accessibility or inclusion issues.

The Heatwave Plan is a long-established, mature plan and it is felt reasonable to offer electronic access as the norm. However, we recognise that some of the vulnerable groups who might be most affected by a heatwave, such as older people, may not have access to computer resources to download the advice. The primary source of information on personal protection in addition to the Heatwave Plan remains the *Looking after yourself in hot weather* leaflet. It is proposed that like last year, this will continue to be provided in an online format, but all professionals from both statutory and community organisations will be made aware of, and have access to, this material and will be able print it off if necessary.

We recognise the need to focus particularly on ensuring that our messages on preparedness and response are reaching some of the most vulnerable groups. Our priorities in terms of raising awareness are twofold:

- working with professionals, to ensure that all Category 1 Responders under the terms of the Civil Contingencies Act 2004 are aware of and receive as appropriate the Met Office Heatwave Alert service forecasts and alerts. Without this, the plan has little impact. Evaluations have stressed the importance of this alerting system for professionals, which triggers a series of actions based on the alert level as described earlier;

- raising awareness of the effects of severe hot weather on health and how the plan proposes to deal with these for both professionals and the public. We are taking a number of specific actions in relation to this:
 - **awareness raising of the plan and information guides** - we will actively disseminate the publication of the plan using the full variety of publication channels available to us, such as: PHE website; NHS Choices; emergency planning routes; and the full range of PHE, NHS England and Department of Health publications which are sent to various staff groups, including social care and public health colleagues. We will advise them of the Heatwave Plan and provide web links to materials to ensure that they know how to download the public information leaflets if they require them for their clients. The plan will be accompanied by a letter signed jointly senior PHE, NHS England and Department of Health directors to emphasise the joint nature of the advice;
 - **communication to the general public over the entire summer:** We will be working closely with the Met Office over the summer to further raise awareness in a number of ways;
 - **plan launch:** to organise joint press activity around the press launch to help raise awareness that the plan is in place, with a focus on what people can do all of the time to protect themselves;
 - **hot weather PR activity:** Often the Met Office will run press releases when a period of severe hot weather, is expected. These are usually only weather based, but from time to time they could include some messaging about the risks of hot weather, or a complementary press release could be issued from Public Health England;
 - **during long periods of severe hot weather:** Similar PR activity could be initiated during long periods of hot weather, when Heatwave Alert thresholds are not likely to be met. If Public Health England is concerned that this weather could cause health impacts, such as in response to mortality surveillance, then an appropriate press release could be issued;
 - we will liaise with major voluntary agencies, such as AgeUK and other groups working with vulnerable groups and those with protected characteristics to ensure that they are aware of the material which is available on the web. The plan will be made available on request in a variety of other formats and other languages in line with PHE policy.

Access to services

A general challenge for all groups with 'protected characteristics', is to ensure that there is continued, if not improved access to services. The Heatwave Plan should not put any barriers in the way of accessing services generally. Indeed, there would be a generalised hope that if the plan is successful in raising awareness about severe hot weather to both individuals and organisations, there might be a general reduction of demand on both primary care and hospital based services.

More generally it is the responsibility of public sector organisations such as local authorities and local CCGs to undertake an assessment of the needs of groups and communities as well as those who may use services. Those involved in needs assessment, as well as planning and implementation, of prevention should be aware of the different needs and concerns of those affected by hot weather as outlined in the plan and in this equality assessment. Designing and developing approaches also needs an awareness of the cultural differences that can inform and reinforce community approaches that support our response to severe hot weather.

We have identified a range of mechanisms to promote the prevention of the impact of severe hot weather and ensure equitable access and delivery:

- existing mechanisms to improve the identification of the scope and impact of severe hot weather among groups with higher risk (e.g. people with certain chronic diseases, older women) and those in marginalised or groups with protected characteristics. This can include joint strategic needs assessment as well as following the more specific approaches to summer planning and preparedness highlighted in the Heatwave Plan;
- statutory mechanisms that promote adaptation plans and equality as well as commissioning and needs assessment to ensure equity of access and delivery for all groups in all services and approaches.

For the record

We would also like to acknowledge the contributions of Angie Bone, Graham Bickler, and Virginia Murray of PHE in the production of this equality impact assessment.

Date completed: 10 May 2013

Name of responsible director: Dr Paul Cosford

Date assessment was signed: 21 May 2013