

Heatwave Planning – The UK experience



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Overview

Background

Differences between UK and Australia

Heatwave Plan for England

Topics covered in annual seminars

Evaluation of the Heatwave Plan

Heatwave Epidemiology

Environmental

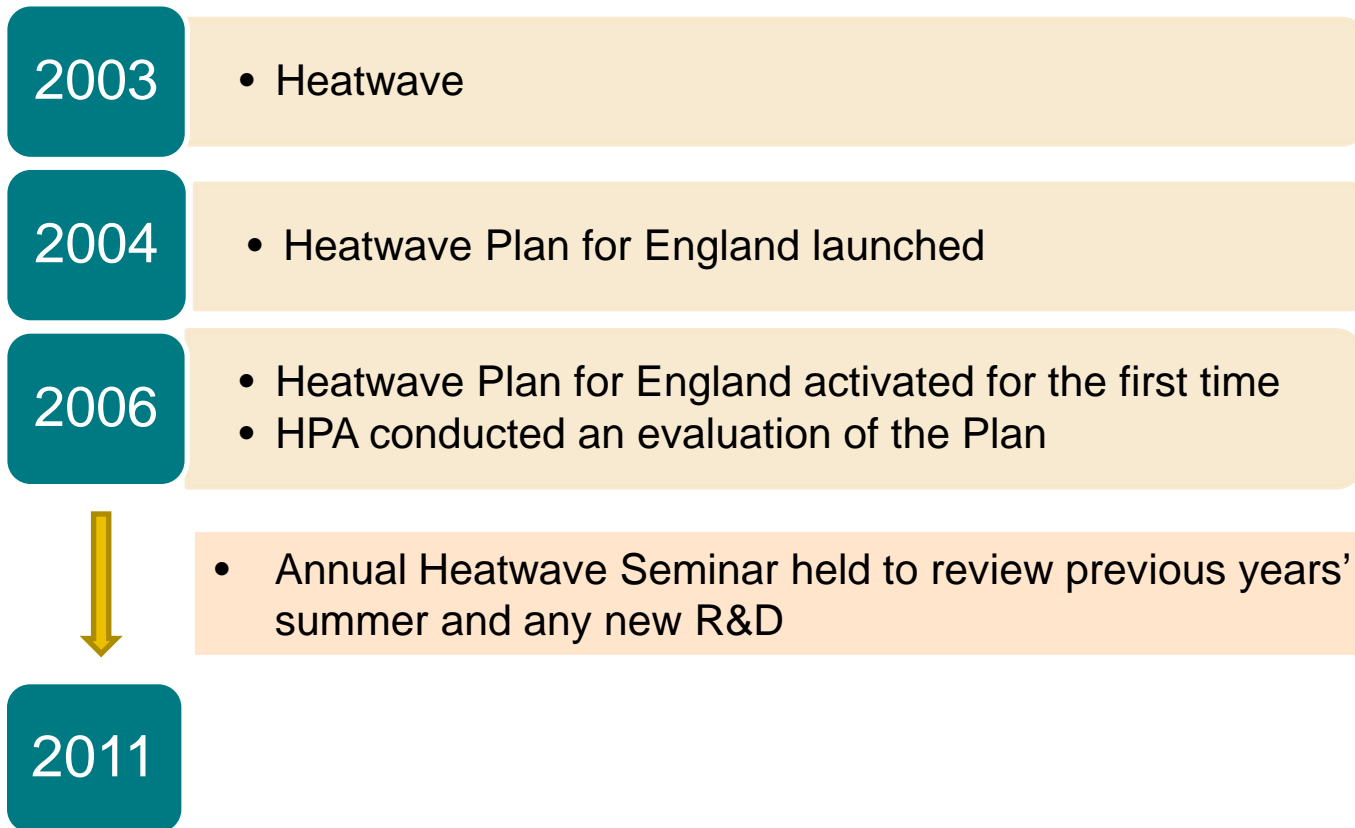
Summary and conclusions

Background



The Health Protection Agency

Time line:



Differences between UK and Australia



Australia higher average temperatures

- Australians are more adapted to warmer temperature (threshold for adverse health effects higher)
- Australia has had more Public Health messaging regarding what to do in hot weather
- Greater use of air-conditioning in Australia
 - Implications for increased energy use
 - Adds to thermal gain in warmer temperatures
 - Greater risks associated with an extreme heatwave if power supply is affected

Heatwave Plan for England



Core elements of the Plan:

- 'Heat-Health watch'
- Advice and information
- Identification of individuals at risk
- Extra help, where available, from the voluntary sector, families and others
- The use of media to get the information disseminated

Plan and supporting documents available:

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_126666

'Heat-Health watch' levels and actions



LEVEL 1

Long-term planning
– All year

Summer preparedness
– 1 June – 15 Sept

Long-term planning

- Increase trees and green spaces
- External shading
- Reflective paint
- Loft and wall insulation
- Water features
- Reduce internal energy and heat

Summer preparedness

- Identify high-risk individuals
- Include risk in Common Assessment Framework and Care Programme Approach
- Install thermometers
- Identify cool areas
- Increase awareness in staff

LEVEL 2

60 per cent risk of heatwave in 2-3 days*

Alert and readiness in community

- Public media messages
- Increase advice to health and social care workers
- Check high-risk people have visitor/phone call arrangements in place

Alert and readiness in care homes and hospitals

- Monitor indoor temperatures four times a day
- Prepare cool areas
- Ensure sufficient staffing
- Identify high-risk people
- Sufficient cold water and ice

LEVEL 3

Heatwave temperature reached in one or more regions

Heatwave Action in community

- Media alerts about keeping cool
- Visit/phone high-risk people
- Look out for neighbours
- Reduce unnecessary travel
- Review safety of public events

Heatwave Action in care homes and hospitals

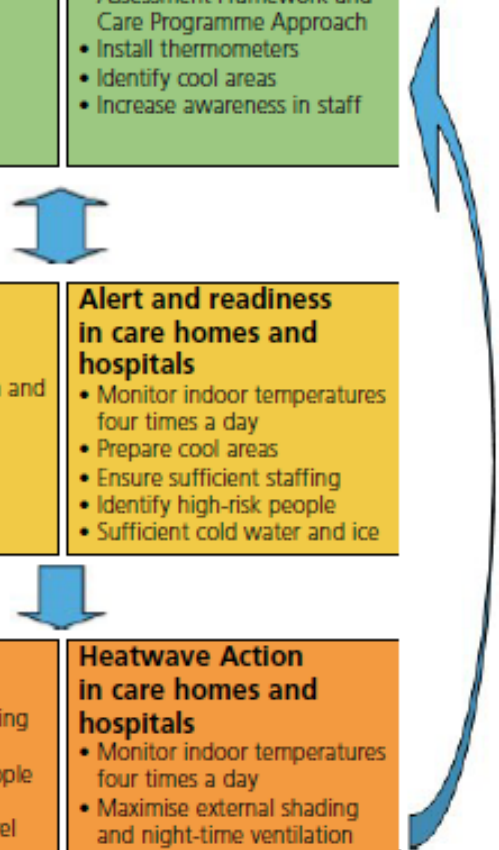
- Monitor indoor temperatures four times a day
- Maximise external shading and night-time ventilation
- Ensure cool areas do not exceed 26°C
- Provide regular cool drinks

LEVEL 4

Heatwave for four or more days in two or more regions

EMERGENCY

If severe or prolonged heatwave affecting sectors other than health



Evaluation of the Heatwave Plan



Evaluation conducted in 2006 showed:

High awareness and overall positive response to the plan

Primary Care Trusts had difficulties, particularly in contacting vulnerable people

Issues with information dissemination

More inter- organisational liaison before and after heat-health watch period

Improve monitoring of the implementation of the heatwave plan

Improved monitoring of impacts of heat (morbidity, mortality, hospital admissions)

Heatwave epidemiology



Impacts of a heatwave can depend on many factors including:

- time since the previous heatwave
- length of heatwave
- minimum overnight temperatures
- average temperatures
- geographical spread of the event
- whether it occurs early or late in the summer
- the previous winter's flu mortality
- adaptation that has occurred within the population

Mortality

Heatwave can cause an increase in mortality within a short time period (1-2days)

Deaths bought forward (harvesting) only accounts for about 10%

Trigger levels and threshold temperatures



Model based on daily Maximum and Minimum temperatures vs. a composite measure (eg + humidity measure) has been debated often.

Conclusion has been that other factors may improve a model but overall daily Maximum has been accepted to be a sufficient predictor and is simpler. (Hajat and Kosatky, 2010)

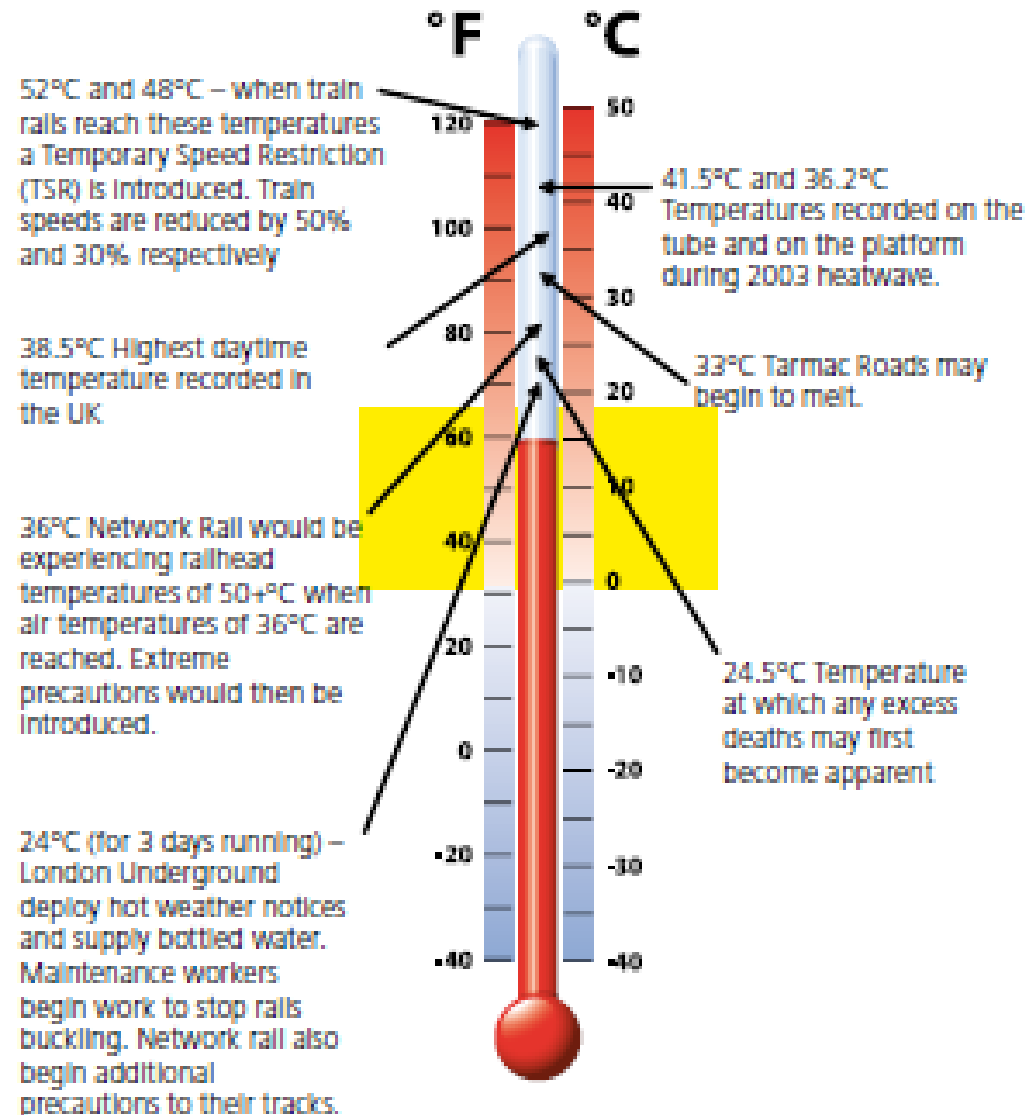
Temperature thresholds



Key point:

In England excess seasonal deaths start to occur at $\sim 25^{\circ}\text{C}$.

The Heatwave alert level (level 3) is based on the threshold temperature where the relative risk is over 1.15-1.20 (an increased risk of 15-20%)



Epidemiological data - Morbidity



Routine reports:

NHS Direct and GP (Qsurveillance) data:

Level 1: heat-related indicator graphs included in weekly NHSD and GP (QSurveillance) bulletins;

Level 2: Additional twice weekly report

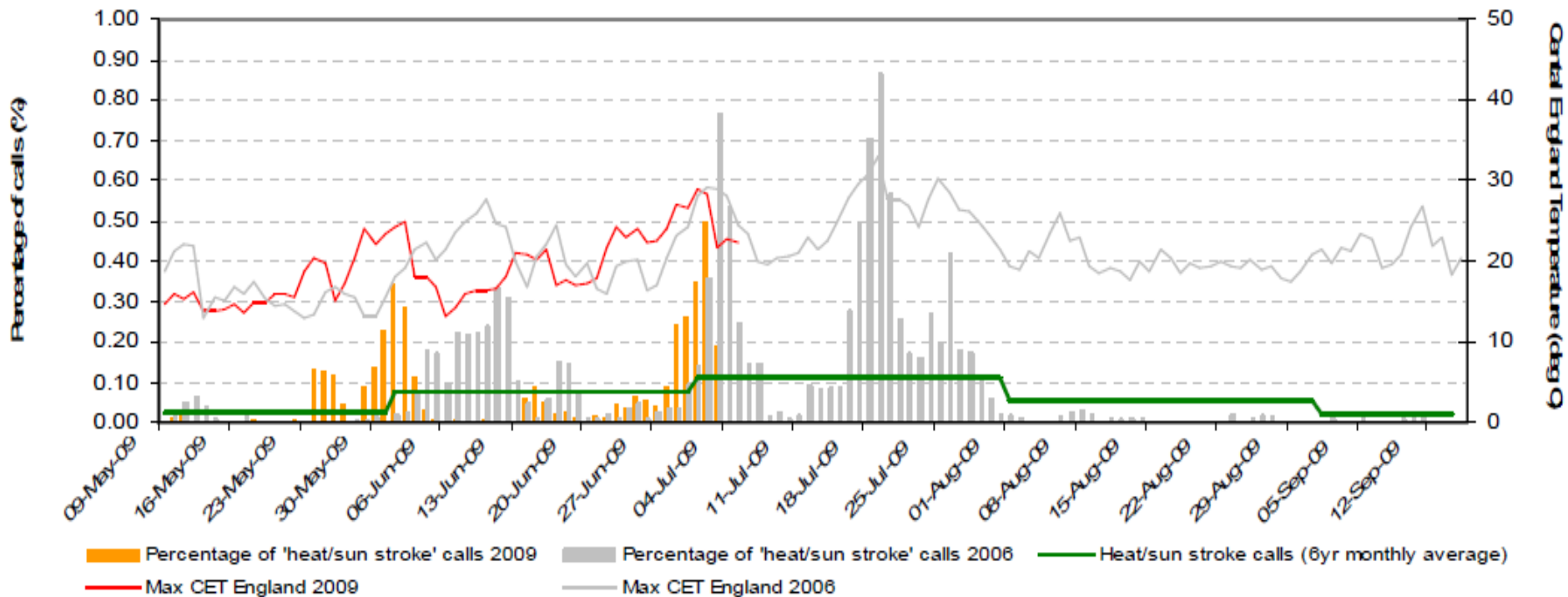
Level 3: Daily heat wave report (until return to level 2).

Epidemiological data - Morbidity



Routine reports:

NHS Direct and GP (Qsurveillance) data:

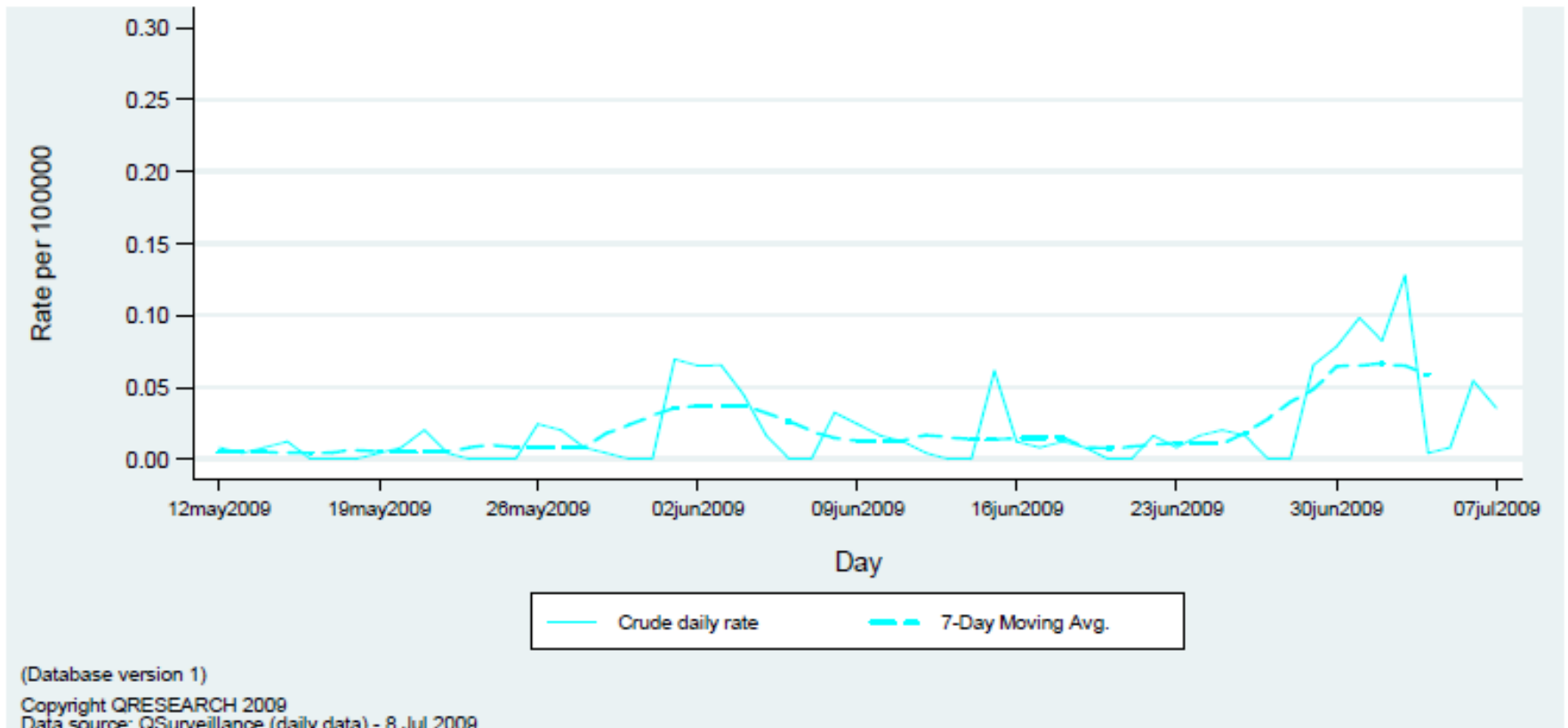


Epidemiological data - Morbidity



Routine reports:

NHS Direct and GP (Qsurveillance) data:



Epidemiological data - Mortality



Originally used data from the Office of National Statistics. Only available ~ 18months after the event

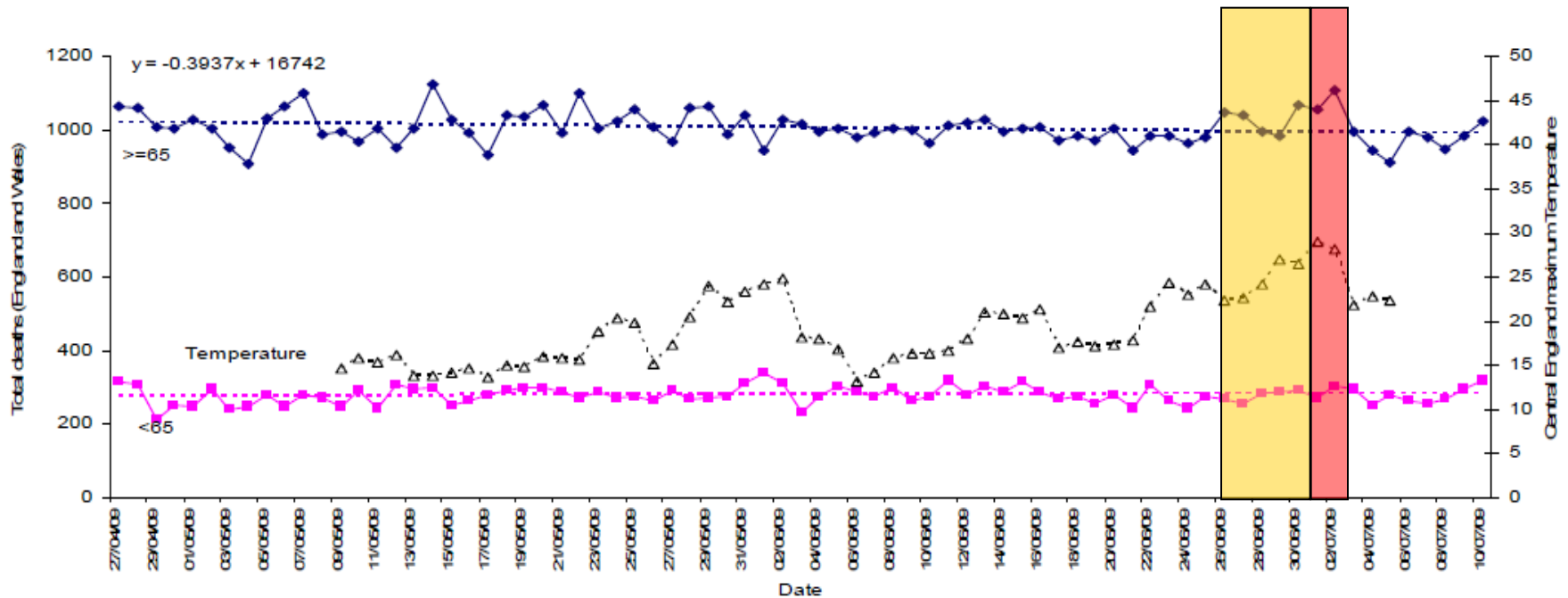
Online death registrations were rolled out in 2009 (early due to Pandemic influenza (H1N1) 2009)

A model for daily deaths data has been developed by the HPA which allows excess deaths to be estimated 2 weeks post the event

Epidemiological data - Mortality



'Real time' mortality data - Summer 2009



Definitions of vulnerable/high risk people



The definition in the original (2004) Heatwave plan could cover up to 30% of the population.

Research showed that not all those classed as vulnerable deemed themselves as vulnerable. (Abrahamson et al).

2011 Heatwave Plan definition:

High-risk Groups

Community: Over 75, female, living on own and isolated, severe physical or mental illness; urban areas, south-facing top flat; alcohol and over-exertion
Care home or hospital: over 75, female, frail, severe physical or mental illness; multiple medications; babies and young children.

Definitions of vulnerable/high risk people

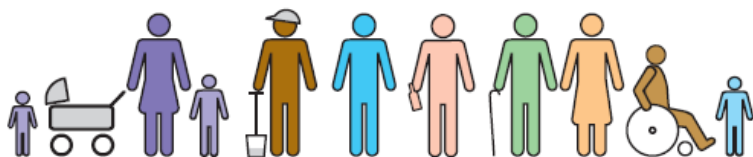


The Heatwave plan has been updated to include:

- more communication to the general population**
- communication over the entire summer and not only during a heatwave**

Information leaflets have also been developed for both health and social care professionals and care home managers to support vulnerable people before and during a heatwave

Information leaflet targeted at the general population advising how to 'Look after yourselves and others during hot weather'



Who is at risk?

The heat can affect anyone, but some people run a greater risk of serious harm. These include:

- Older people, especially older women and those over 75.
- Babies and young children.
- People with serious mental health problems.
- People on certain medication.
- People with a serious chronic condition, particularly breathing or heart problems.
- People who already have a high temperature from an infection.
- People who misuse alcohol or take illicit drugs.
- People with mobility problems.
- People who are physically active, like manual workers and sportsmen and women.

What should you do?

Mostly, it's a matter of common sense. Listen to your local weather forecast so you know if a heatwave is on the way. Plan ahead to reduce the risk of ill health from the heat.

Keep out of the heat

- If a heatwave is forecast, try and plan your day in a way that allows you to stay out of the heat.
- If you can, avoid going out in the hottest part of the day (11am – 3pm).
- 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.
- If you must go out, stay in the shade. Wear a hat and light, loose-fitting clothes, preferably cotton. If you will be outside for some time, take plenty of water with you.

Stay cool

- A loose, cotton, damp cloth or scarf on the back of the neck, or spraying or splashing your face and the back of your neck with cold water several times a day can help keep you cool.
- Stay inside, in the coolest rooms in your home, as much as possible.
- Reduce heat from sunlight coming through the windows. External shading, e.g. shutters, is best. Metal blinds and dark curtains may absorb heat and make the room warmer – it is best to use pale curtains or reflective material.
- Keep windows closed while the room is cooler than it is outside. Open them when the temperature inside rises, and at night for ventilation.

Environmental topics



The heatwave plan has been updated to include sections on:

- projected range of temperature increases
- Urban Heat Islands
- Creating cool environments with green spaces and their wider health benefits
- Housing Health and Safety Rating System (housing regulations)
- Cooling hospital estates and care homes
- Importance of insulation (inc. a cost analysis)

Summary and Conclusions



Since implementation the Heatwave Plan has been updated and broadened to include recent research, especially in respect to longer term planning

Many aspects of the 2006 evaluation have been addressed. A follow-up evaluation post a heatwave may be beneficial

Health effects of a heatwave can 'rapidly' be measured using morbidity and mortality data

Any reduction in health impacts of a future heatwave may be due to:

- Interventions of the Heatwave Plan being successful
- Adaptation of the population
- Characteristics of the Heatwave

Acknowledgements



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Especially Graham Bickler

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Especially Jo Nurse

Colleagues who have presented and attended the Heatwave Seminars