The impact of extreme weather on mental health

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Presentation content

• Understanding of the **risks to health of extreme weather events**, with a focus on mental health

• **Awareness** of extreme weather events, related plans, research and areas of work at PHE at local and national levels
Extreme Events
What are extreme events?

‘Any extreme weather event or other natural hazard with the potential to cause adverse impact on human health’

1. Cold Weather
2. Heatwave
3. Floods

- Drought
- Wildfires
- Landslides
- Windstorms

- Earthquakes
- Tsunamis
- Volcanic ash
- Space weather etc
‘EXTREME’ WEATHER IN THE UK

2000 – flooding
2001 – flooding
2003 – heatwave
2005 – flooding
2006 – drought
2006 – heatwave
2007 – flooding
2008 – flooding
2008 – snow and ice
2009 – snow and ice

2009 – flooding
2010 – flooding
2010 – snow and ice
2011 – warm spring
2011 – warm autumn
2012 – drought
2012 – wet summer
2013 – snow and ice
2013 – heatwave
2014 – flooding

Alex Nickson, GLA
Cold Weather
The risk of death increases with falling temperatures\(^1\).

Effects are seen from mean outdoor temperatures of 4-8\(^\circ\)C (depending on region)\(^1\).

Cold does not just kill people who were about to die anyway\(^1, 2\).

Cold impacts on mortality are observed for up to 4 weeks following a cold day\(^1\).

Most cold-attributable deaths are cardiovascular and respiratory.


Source: Office for National Statistics
Cold temperatures and morbidity

- Each winter sees an increase in emergency admissions to hospital ‘winter pressure’; particularly respiratory disease.

- Relationships between emergency admissions and cold temperatures are similar to mortality but not as strong; significantly increased risk of respiratory and cardiovascular admissions.

- Cold homes linked to poor mental health; home improvements result in significantly improved mental health.

- Cold may increase sense of social isolation and vice versa.

3. Howden-Chapman 2007, BMJ
4. Zhong and Leonardelli 2008 Psychological Science
MENTAL HEALTH

- More than one in four adolescents living in cold housing are at risk of mental health problems, compared with one in 20 adolescents who have always lived in warm housing.

- Heating and energy efficiency interventions result in significantly improved mental health and well-being.

SOCIAL ISOLATION

- Cold ambient temperatures may increase perception of social exclusion and vice versa.

- Cold homes may increase social isolation as those affected are reluctant to invite friends or family to a cold house.

- It can be difficult for children to study or do homework in a cold house, which affects educational and long-term health and work opportunities.

1. Barnes et al. (2008), NATCEN
2. Green and Gilbertson et al 2008. Warm Front, Sheffield Hallam
3. Howden-Chapman 2007, BMJ
4. Zhong and Leonardelli 2008 Psychological Science
The Cold Weather Plan
Protecting health and wellbeing from cold weather

Cold Weather Plan For England
Making the Case: Why long-term strategic planning for cold weather is essential to health and wellbeing

Commissioners (health and social care)

Level 0: Long-term planning – All year
• work with partner agencies to ensure that cold weather planning
• work with partners to ensure that a strategic approach to the
• work with partners to ensure that cold weather planning

Level 1: Winter preparedness and action programme
• 1 November to 31 March
• engage with local authorities and social care organisations
• engage with local councils and social care organisations

Keep Warm Keep Well
Information for... Over 60s
Low-income families
People living with a disability

Top tips for keeping warm and well
Cold weather can pose a risk to our health, especially for people aged 65 and over. It can lead to health problems, including the risk of hypothermia, and can increase the risk of other winter health issues such as heart attacks and strokes.

Keep Warm Keep Well

Top tips for keeping warm and well
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Heatwave
Summer 2003

30,000 deaths in Europe
15,000 deaths in France

Particularly significant in Paris:

• temperature extremes: high minimum temperature
• poor meteorological forecast
• institutional failures: hospital and care home staff on holiday
• surveillance: small number of deaths reported
• no experience/knowledge: no public health measures
• “We didn’t know anything..” French Minister of Health

Based on Kovats
Heatwave plan for England

Protecting health and reducing harm from severe heat and heatwaves

May 2015

Making the case: the impact of heat on health – now and in the future
Ref: PHE publications gateway number: 2015049
PDF, 462KB, 21 pages

Beat the heat: staying safe in hot weather (leaflet)
Ref: PHE publications gateway number: 2016071
PDF, 417KB, 8 pages
This file may not be suitable for users of assistive technology. Request an accessible format.

Beat the heat (poster)
Ref: PHE publications gateway number: 2016071
PDF, 296KB, 1 page
This file may not be suitable for users of assistive technology. Request an accessible format.

Beat the heat: keep cool at home (checklist)
Ref: PHE publications gateway number: 2016071
PDF, 193KB, 2 pages
This file may not be suitable for users of assistive technology. Request an accessible format.
Heat, violence and mental health

- As temperature rises, so does the incidence of violence
  - Increase in murders, assaults, violent suicide, and domestic violence when the weather is hot
  - C.24,000 assaults or murders in the US per year for every 2 degree increase in average temperature (1)

- Stress of experiencing natural disaster can lead to violence
  - Mental health conditions significantly more common amongst those exposed to violence (1)

Flooding and other disasters
Winter 2013/14

- Recurrent/prolonged flooding Dec 13 – Feb 14.
- UK’s wettest winter on record since 1910
- New records of precipitation for the UK, Wales, east Scotland southwest England
- ~6000 properties flooded
FLOODS IN THE WHO EUROPEAN REGION:
HEALTH EFFECTS AND THEIR PREVENTION
# Health impacts of flooding

## Acute health effects

Associated with flood water and its debris:

- **Drowning** (walking or driving through flood water)
- **Physical trauma** (concealed or displaced objects; electrocution, fire)
- **Other health effects** such as heart attacks

## Long-term health effects

Occur as a consequence of flooding:

- **Mental health impacts** (secondary stressors)
- **Carbon monoxide poisoning**
- **Skin & gut infections** from contaminated flood water
- **Respiratory disease** from mould & damp
- **Rodent-borne disease**
Flooding and mental health

Literature reviews:

Small scale surveys, routine data

Mortality estimates: 50% increase or 10% decrease

Short term mental health issues: (home flooded vs not)
  • Doubling of symptoms of psychological distress
  • 2-3 times increased risk of depression

Secondary stressors: in other disaster situations have been suggested to be more important in psychological outcomes that flooding itself
National Study of Flooding and Health

To determine the medium / longer term impact of flooding on mental health:

1) To quantify the impact of flooding on mental health and wellbeing starting at one year post-flood and then monitoring annually for up to ten years

2) To identify socio-demographic and environmental characteristics significantly associated with psychological morbidity and to explore if inequalities exist
Other health effects

• Population displacement
• Disrupted water, power and food supplies
• Damage to infrastructure, including health care facilities
National Flood Emergency Framework for England

update for 2014
**Flooding: advice for the public**

**Advice on:**
- planning for flooding before it happens
- what to do during a flood
- recovering and cleaning up after a flood

**Top tips for staying safe during floods:**

1. Think about flooding before it happens. Sign up for free flood warnings and create a personal flood plan.
2. Try to avoid contact with flood water. Do not drive through flood water and do not let children play in flood water.
3. Feeling distressed after a flood is normal. Support from family and friends is important during the recovery process.
4. Do not use petrol or diesel generators indoors to dry out your home. The exhaust gases contain carbon monoxide, which can kill.
5. When cleaning up after a flood, wear rubber gloves, boots and eye protection, and wash hands afterwards.

**Floodline:** 0345 988 1188

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Food Standards Agency 020 7276 8829 for food safety concerns
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