

ADAPTATION TO CLIMATE CHANGE

Increasing resilience for a changing climate

The need to adapt to a changing climate is now inevitable, despite ambitious targets to achieve Net Zero. Annual average temperature in England has increased by 1C and will continue to rise. We must plan for a 2C rise, and prepare for 4C.¹ Adaptation actions are therefore essential to prevent physical and mental health ill-health and early death arising from climate vulnerabilities.

Policy framework

The Paris Agreement on Climate Change included a global goal on adaptation, focussing on 'enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change'.²

Globally, adaptation action has been slow and poorly resourced.³

The National Adaptation Programme (NAP)⁴ sets out the actions the UK government and others will take to address the risks identified in the Climate Change Risk Assessment⁵.

The Committee on Climate Change has identified significant adaptation gaps, including the risk to human health from high temperatures.⁶

Mitigation lends itself to centrally driven policies, adaptation is contextual, requiring local strategic leadership and implementation. If considered in isolation, mitigation can exacerbate the adaptation challenge (indoor overheating)

All NHS Trusts and Integrated Care Systems should have a Green Plan, including a section setting out the organisations plans to mitigate the risks or effects of climate change and severe weather on its business and functions.⁷

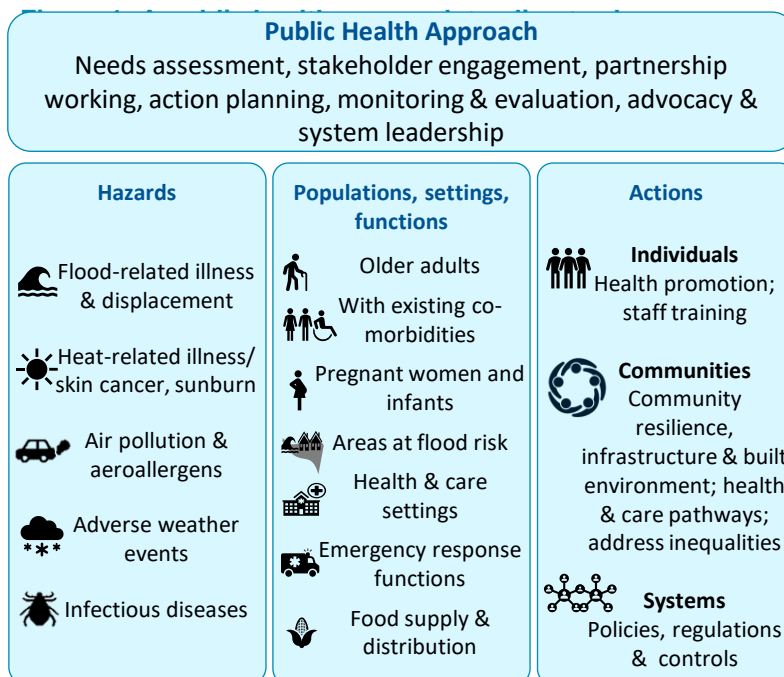
Adaptation for health

Climate change is already having an impact on individuals and communities. These impacts are unevenly distributed, with risks disproportionately affecting those least able to respond and recover. Health systems infrastructure and service delivery will increasingly be challenged through the direct and indirect impacts of climate change in a context of increasing social care needs and an ageing demographic.

Whilst the exposures are inevitable, the impacts are not. Resilience to climate impacts and reducing the avoidable impacts on health will require strategic leadership to tackle the structural determinants that modify climate risk such as housing, the built environment, and social isolation.

What role for public health practice?

The scale and complexity of climate impacts means adaptation presents a significant challenge requiring immediate action. However, the approach needed to tackle these impacts is no different from that of any other public health risk. Figure 1 below sets out a simple framework for taking a public health approach to adaptation. Further detail is provided on some of the key aspects of the model over the page.



The risks and populations affected shown here are not exhaustive.

Resources

UK Climate Change Risk Assessment (CCRA3) Technical report⁸ Chapter 5 on Health, Communities and the Built Environment presents a detailed summary of risks and evidence which informed the National Climate Change Risk Assessment.

The recent **Progress report on Adaptation to Parliament⁹** noted the need for a robust plan for adaptation, and the climate challenge must be reflected throughout policy and planning.

Climate change impacts report card: Health¹⁰ Provides a summary of key findings from a series of technical papers on health and climate change. An accompanying report card on infrastructure is available.

Met Office UK Climate Projections¹¹ Up to date assessment of how the UK Climate will likely change in the future.

Local Partnerships Climate Adaptation Toolkit¹² has been developed to help local government to prepare for the impacts the current and future climate could have on their authority, their residents and the services they provide.

The SHAPE tool (<https://shapeatlas.net/>) is a web enabled evidence based application that informs and supports the strategic planning of services and assets across a whole health economy

Health Building Note 00-77: Planning for a resilience healthcare estate¹³ Provides guidance to help NHS-funded providers to determine appropriate levels of resilience for sites, buildings and installations against a wide range of emergencies, hazards and threats and including resilience to the impacts of climate change.

Strategic Action

1. Carry out a Climate Vulnerability Assessment

A climate vulnerability assessment is an effective first step to identify local priorities for action based on need and potential impacts. Understanding of vulnerable populations, locations and services through risk assessment and local intelligence is needed to tailor local actions.

2. Develop an adaptation plan

Adaptation planning is an opportunity to identify and assess available options, to set out an evaluation plan and to align your activities with the other priorities and objectives of your organisation.

3. Implement adverse weather plans

The Heatwave Plan for England¹⁴ & Cold Weather Plan for England¹⁵ are multisector plans that aim to prepare for, alert people to, and prevent, the major avoidable effects on health during periods of severe heat or cold in England. Prevention will need a system-wide approach as many impacts occur outside of 'extreme' temperatures. A single adverse weather and health plan with greater focus on adaptation will be developed in the next two years.

Working in partnership to build climate-resilient health & social care systems

The health sector has set itself two objectives that will help ensure the health system is resilient and adapted to climate change: to reduce mortality and morbidity associated with severe weather events and climate change, and to promote resilience and service continuity to ensure sound service delivery. The Greener NHS programme is committed to building resilience and adaptation into the heart of the NHS net zero agenda.¹⁶

Health & social care facilities and systems need to be robust to both high and low temperatures. This includes:

- Preventing overheating in new and existing buildings
- Temperature monitoring in health and care facilities can help to identify areas of concern. Cool spots can be identified within buildings for patients and staff
- Staff awareness of signs and symptoms of heat-related illnesses, advice for patients and actions to prevent overheating
- Considering the climate resilience of critical functions such as water, waste, electricity supply & generators, medicines storage/cooling and transport infrastructure. This may require working with suppliers to get assurance that climate change risks are accounted and planned for.

This includes hospitals but also wider health and care infrastructure such as Residential Care/Nursing Homes.

Health impacts & adaptation examples^{8, 20}

Flood-related illness & displacement

- Flood response & recovery plans
- Mental health services & support built into plans
- Flood defences, building controls

Heat-related illness

- Implement Heatwave Plan for England
- Built environment (e.g. shade, drinking water)
- Heat monitoring in health & social care facilities
- Building controls

Air pollution & aeroallergens

- Monitoring & alerting
- Clean air zones & encouraging active travel

Skin cancer & sunburn

- Provide shade
- Health promotion campaigns

Infectious diseases

- Surveillance for vector-borne diseases
- Outbreak control
- Health promotion (e.g. tick awareness)

Disruption to food production & supply

- Develop resilient supply chains
- Encourage use of locally-produced food.
- Build into contracts & commissioning

Disruption to health & social care services

- Building and infrastructure design
- Business continuity & emergency planning

Implement health and care pathways for climate impacts

Establishing appropriate care pathways is an essential part of secondary prevention of health impacts. Prevention of health impacts of flooding is a key example of this.

In the English National Study of Flooding and Health¹⁷, flooding has been found to have considerable, long-term detrimental impacts on mental health. Those experiencing flooding are around six times more likely to experience depression, anxiety and PTSD after one year and impacts have been shown up to three years later.

The National Flood Emergency Framework for England¹⁸ includes a section on flooding & health. Building mental health considerations into flood response and recovery plans is essential given the known impacts of flooding on mental health.

Build climate resilience into planning and guidance

Incorporating considerations of the health impacts of climate change into local planning guidance and decision-making can help to improve resilience of the built environment in the longer term, for example to flooding and overheating. Public Health professionals can contribute to this agenda by working closely with those responsible for planning and ensuring climate-related health impacts are considered as part of environmental and/or health impact assessments, especially for larger developments.

Guidance on best practice for climate-resilient buildings and infrastructure is available¹⁹. Some specific design options include:

- Provision of more natural ventilation instead of air conditioning as heat wave temperatures become more frequent.
- Use of trees, shade and other green and blue infrastructure to provide cooling, consideration of placing of street furniture to allow best use of shade.
- Provision of drinking water in the urban environment.
- Use of sustainable drainage systems to help reduce risk of localised flooding.
- Maximising opportunities for active travel and increased physical exercise

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Professional Development Questions

1. **Which of these should be considered when addressing the resilience of health and social care facilities to a changing climate?**
 - A. Energy providers' plans for resilience in adverse weather conditions
 - B. Thermal monitoring in hospitals.
 - C. Surveillance systems for vector-borne diseases.
 - D. Vulnerabilities of populations using the services to high temperatures
 - E. Availability of shade around the hospital grounds.
 - F. All of the above

2. **Which of these adaptation actions are likely to have a positive impact on population health?**
 - A. Building requirements for heat-resistant buildings into local planning guidance.
 - B. Improving the amount and accessibility of blue/green space for the local community
 - C. Supporting local businesses to procure locally-produced food
 - D. Introducing temperature monitoring into hospitals and other health and social care facilities.
 - E. All of the above.

FPH General CPD Questions

1. What did I learn from this activity or event?
2. How am I going to apply this learning in my work?
3. What am I going to do in future to further develop this learning and/or meet any gaps in my knowledge, skills or understanding?