

# Integrated Climate & Environmental (ICE) Public Health Surveillance

## Proposed Priorities & Ways of Working

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# PHW Long Term Strategy

2023 - 2035

## Our Vision:

We are working towards a Wales where people live longer, healthier lives and where all people in Wales have fair and equal access to the things that lead to good health and well-being.

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We will achieve our vision through the delivery of our six priorities:

1. Influencing the wider determinants of health
2. Promoting mental and social well-being
3. Promoting healthy behaviours
4. Supporting the development of a sustainable health and care system focused on prevention and early intervention
5. Delivering excellent public health services to protect the public and maximise population health outcomes
6. **Tackling the public health effects of climate change**

# Tackling The Public Health Effects of Climate Change

## PHW Long Term Strategy

### Three primary objectives:

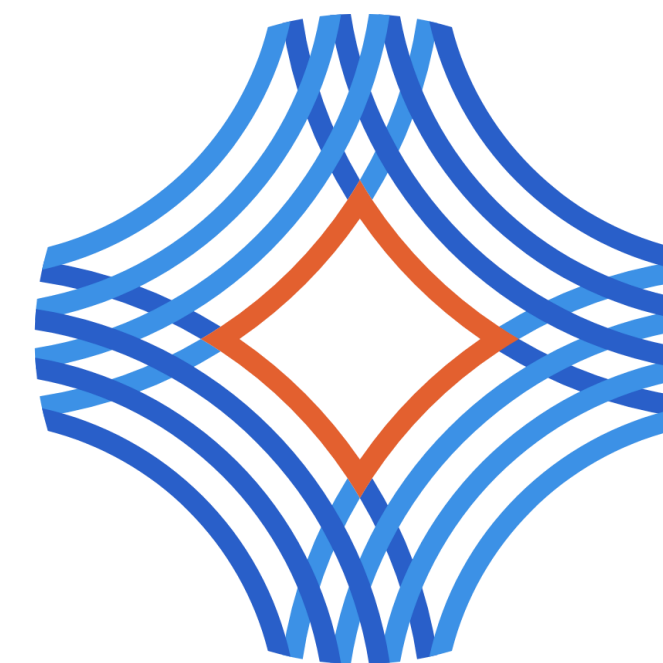
1. **Protect, Promote, and Educate:** The foremost objective is to protect individuals and communities from health impacts, especially focusing on equity and minimising health disparities.
2. **Respond and Facilitate Action:** This objective includes ensuring evidence-based policy advice and guidance across the public health system in Wales with a focus on prioritising these evidence-based actions.
3. **Monitor and Evaluate:** This aim involves developing climate surveillance capacity, focusing on monitoring health and well-being effects and guiding further multi-agency action.

# Goal of Public Health Surveillance

Provide information that can be used for health **action** by public health personnel, government leaders, and the public to guide public health policy and programmes.

# Building on recent webinar

## Rhwydwaith Iechyd Cyhoeddus Cymru Public Health Network Cymru



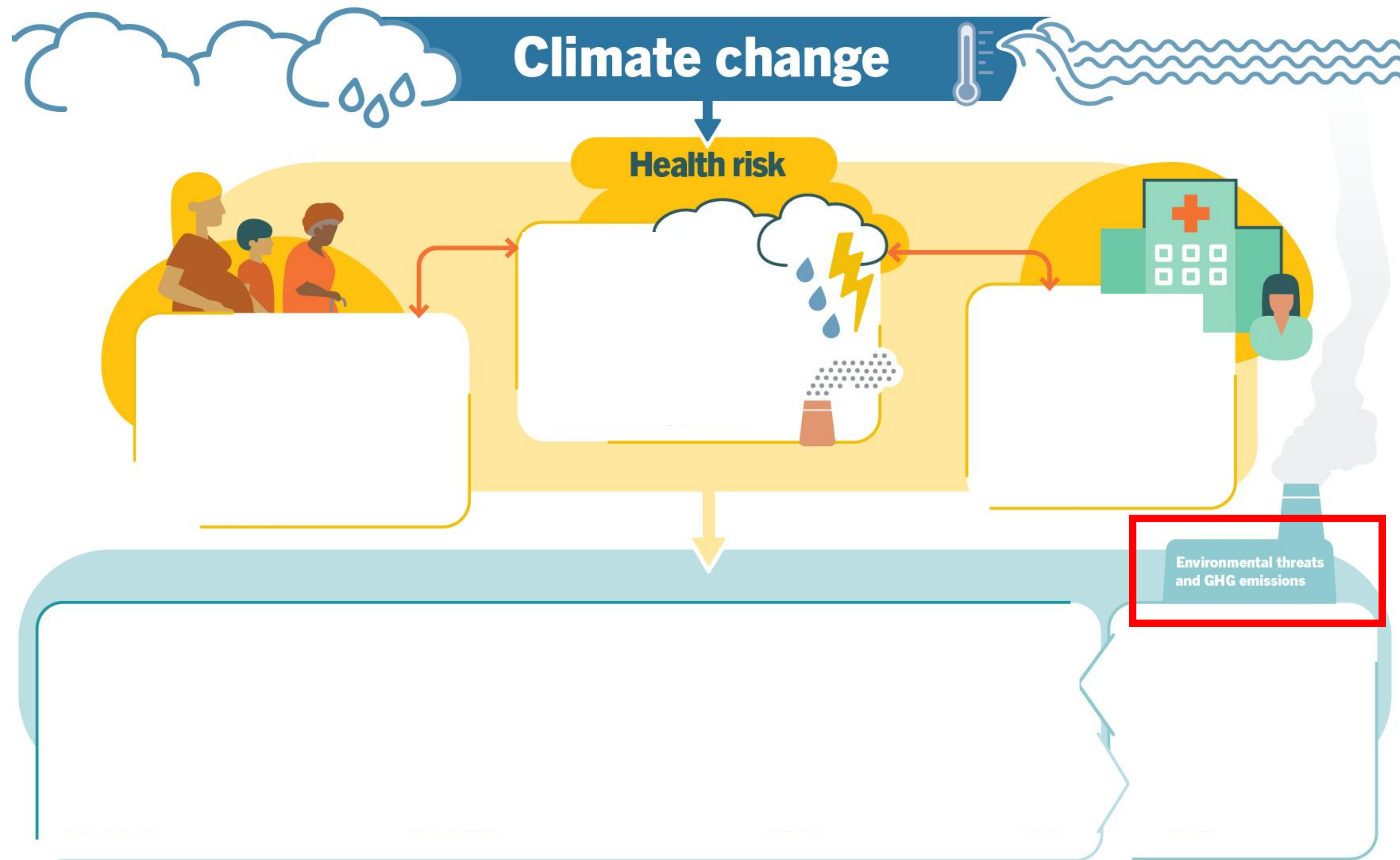
Health Impacts of Climate Change in Wales:  
Examining the evidence base and identifying future priorities

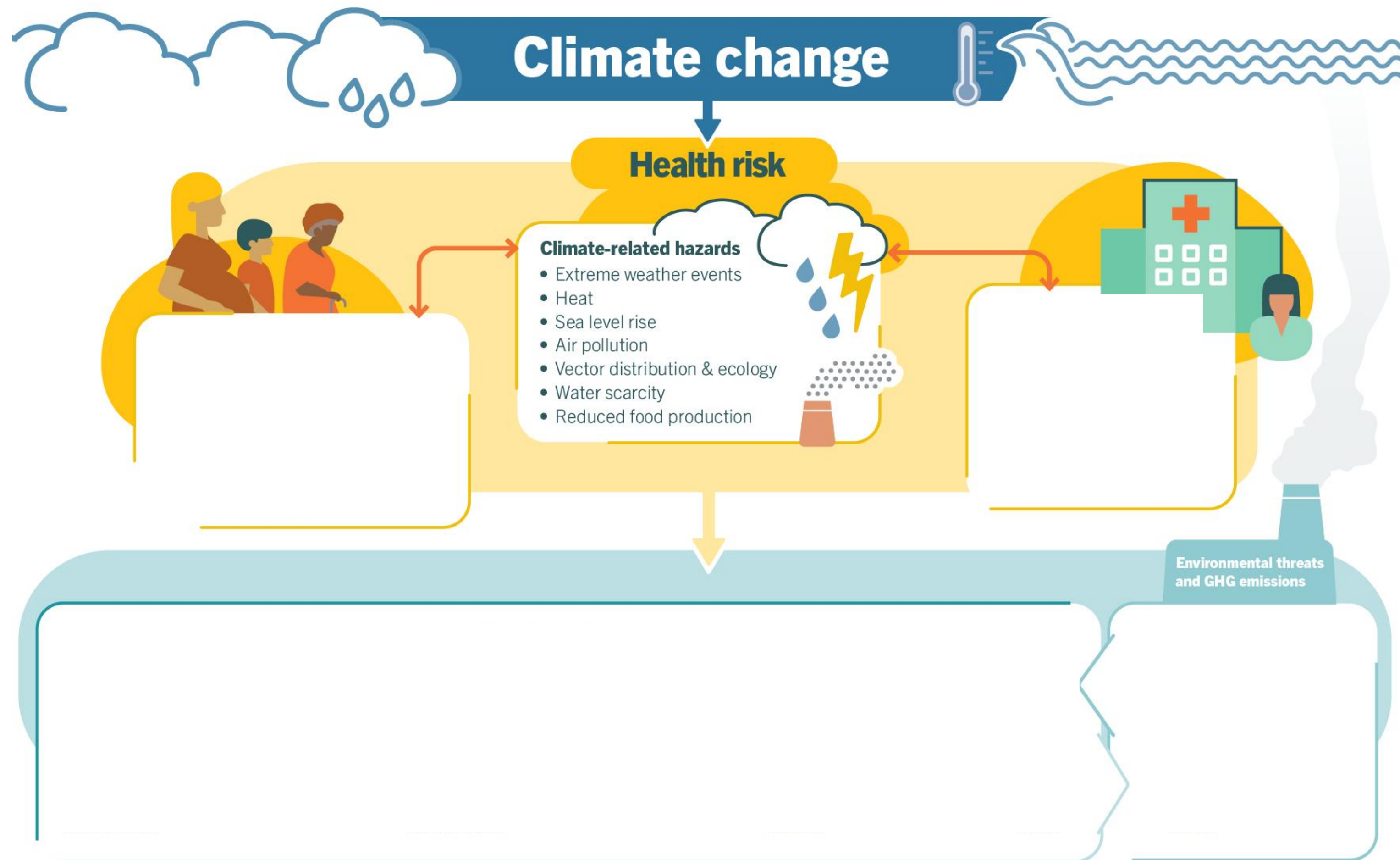
Thursday 6th June 2024

Available at:

<https://publichealthnetwork.cymru/event/health-impacts-of-climate-change-in-wales-examining-the-evidence-base-and-identifying-future-priorities/>

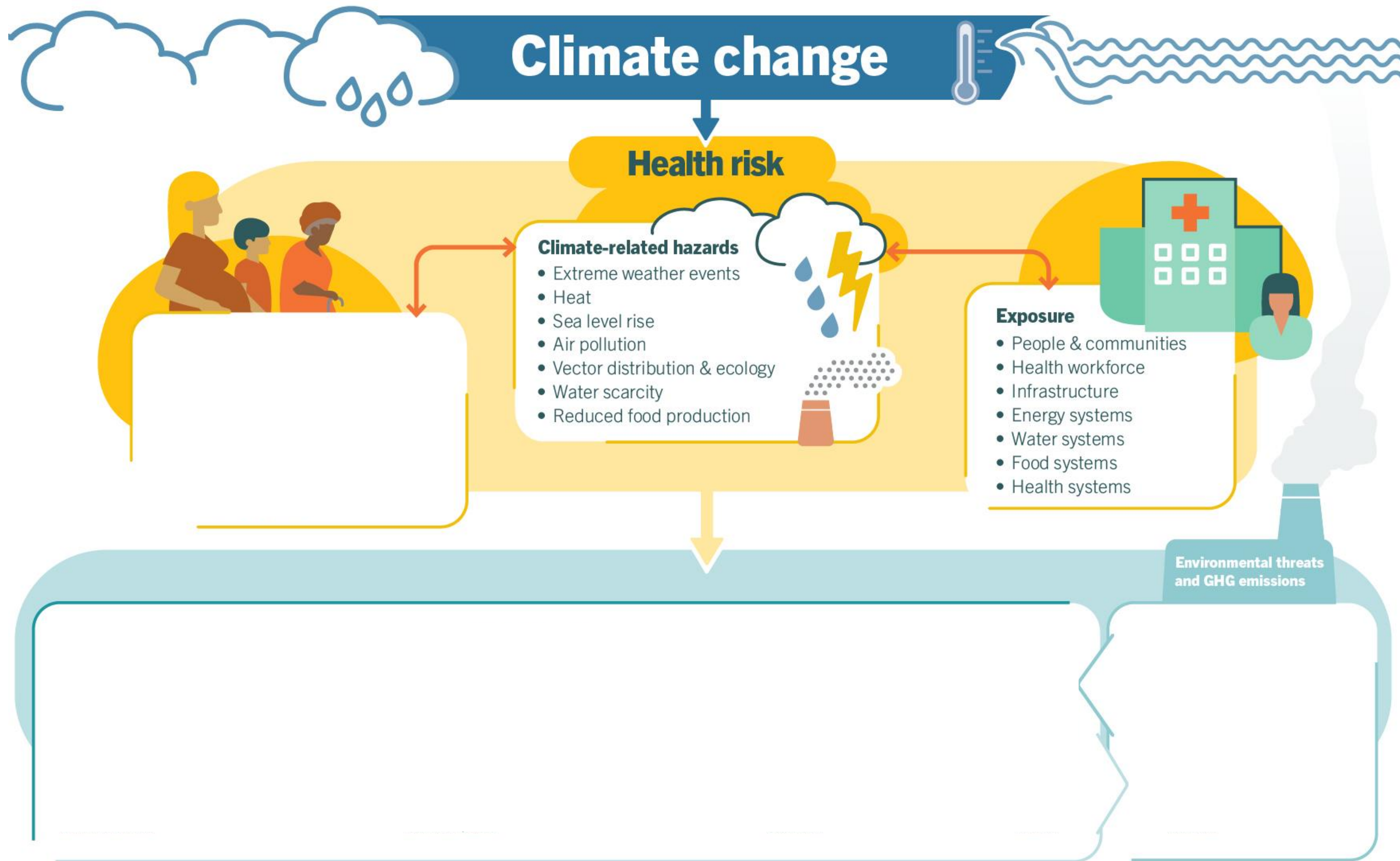


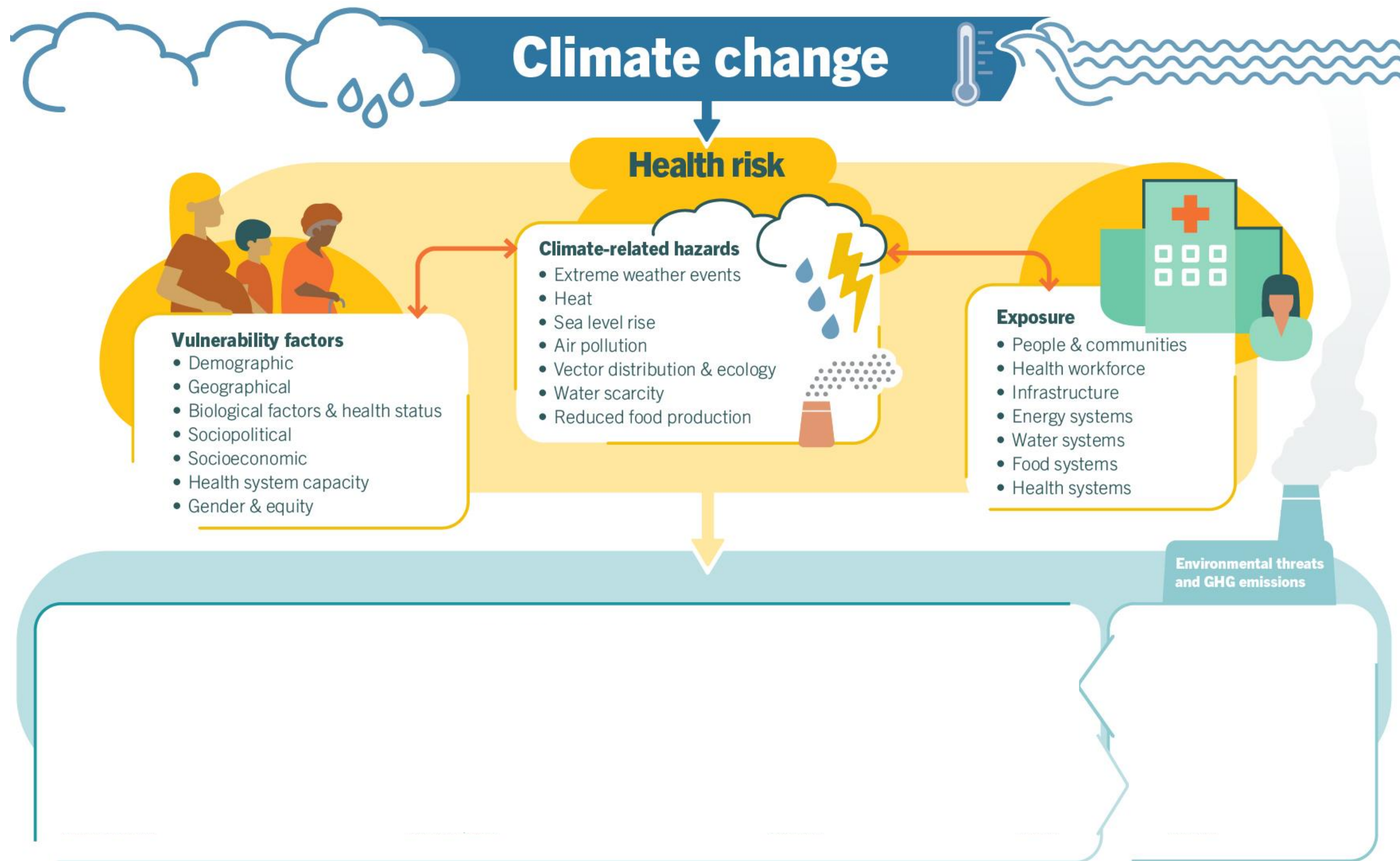




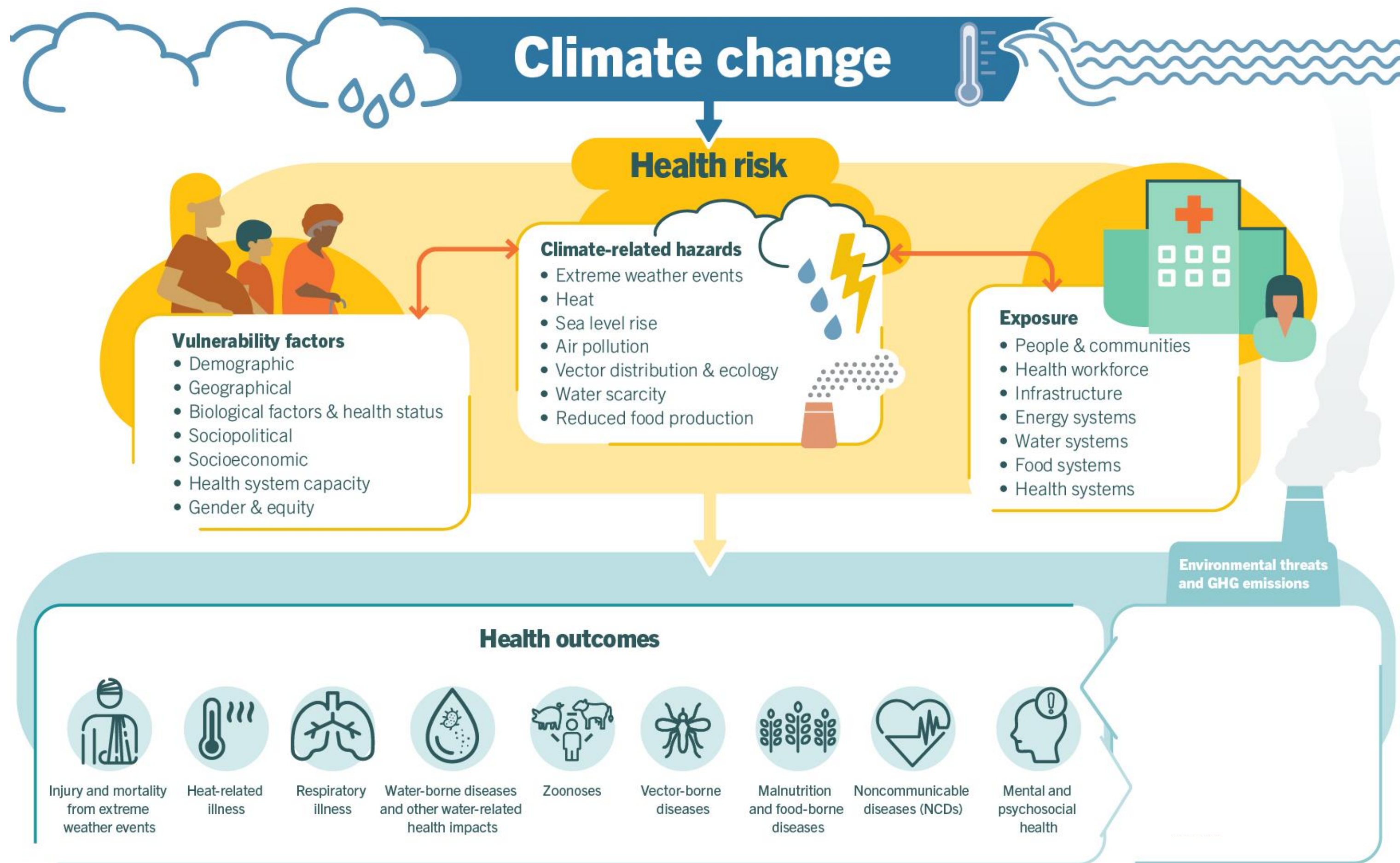


Hazard does not necessarily equate to exposure



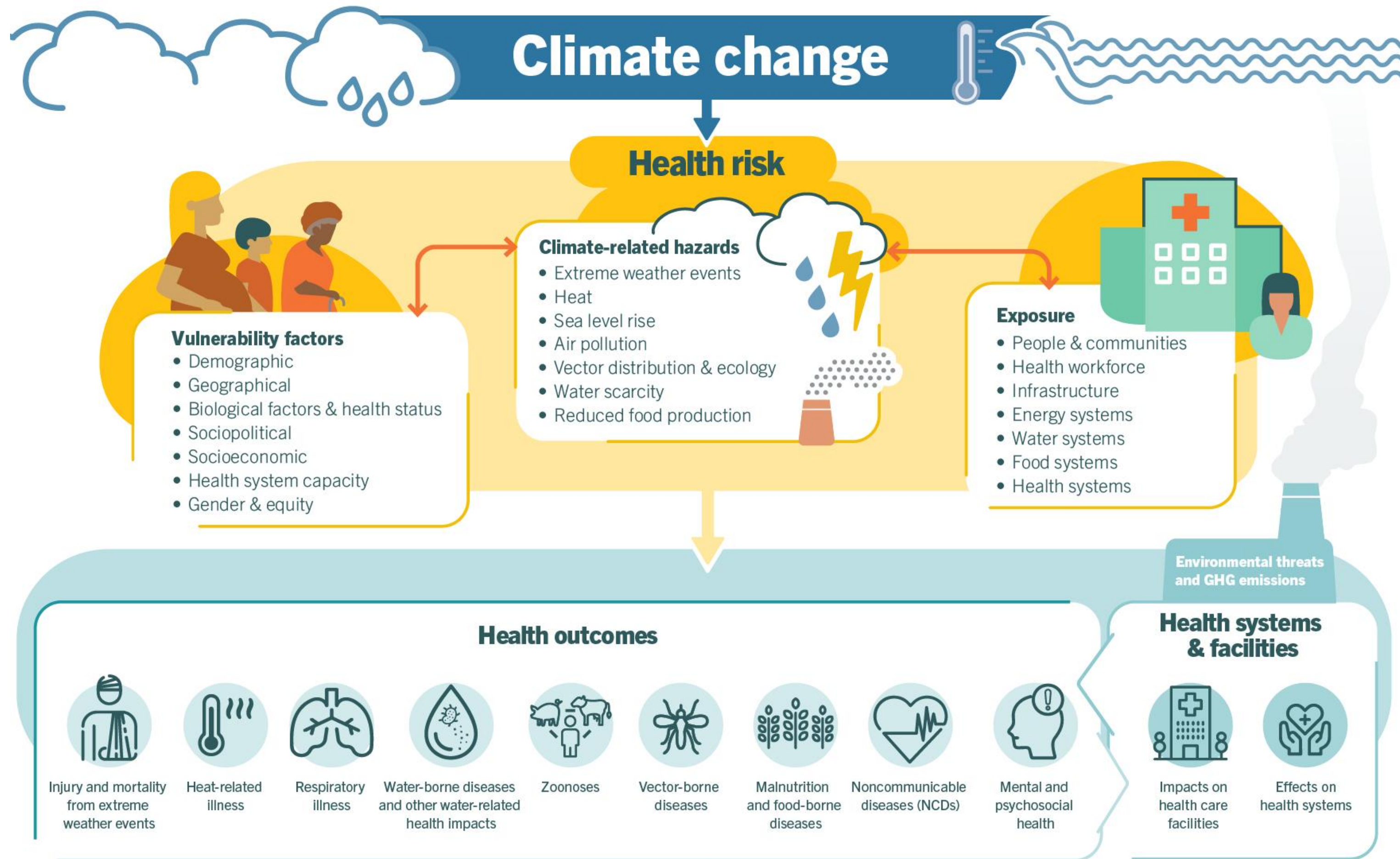








## Opportunities for action at each point



# Actions To Prevent

## Levels of Prevention:

- Primordial
- Primary
- Secondary
- Tertiary



# Actions To Prevent

## Levels of Prevention:

- Primordial
- Primary
- Secondary
- Tertiary

**Definition:** Actions taken to prevent the development of risk factors

**Role of Surveillance:** Collect and analyse environmental data to shape preventive policies

**Example:** Monitoring air quality data to inform policy changes reducing emissions (mitigation)

# Actions To Prevent

## Levels of Prevention:

- Primordial
- **Primary**
- Secondary
- Tertiary

**Definition:** Measures to prevent the onset of disease

**Role of Surveillance:** Track environmental hazards and disseminate information to prevent exposure

**Example:** Using surveillance to identify high-risk areas for targeted public health campaigns

# Actions To Prevent

## Levels of Prevention:

- Primordial
- Primary
- **Secondary**
- Tertiary

**Definition:** Early detection and intervention to address health issues

**Role of Surveillance:** Early warning systems and health screenings to catch and mitigate issues early

**Example:** Implementing real-time health monitoring systems to detect early signs of climate-related illnesses

# Actions To Prevent

## Levels of Prevention:

- Primordial
- Primary
- Secondary
- Tertiary

**Definition:** Management and treatment of established disease

**Role of Surveillance:** Monitor patient outcomes and adjust treatment protocols based on collected data

**Example:** Using health data to optimise resource allocation for communities affected by climate-related diseases

# What Is Public Health Surveillance?

The ongoing, systematic collection, analysis, and interpretation of health-related data essential to planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those responsible for prevention and control



# Synergy between Surveillance & Research

- Provide Data Collection and Monitoring:
  - Public health surveillance monitors data on climate-sensitive health indicators, crucial for identifying emerging health threats and trends.
- Hypothesis Testing and Analysis:
  - Epidemiological research uses the data gathered from surveillance to provide insights into how climate change affects health.
- Feedback Loop:
  - Research findings can improve surveillance systems by identifying new indicators to monitor or refining data collection methods.
  - Conversely, surveillance data can highlight areas where further research is needed.

# An Invitation

- We are in the early stages of developing climate change health surveillance in Wales.
- Exploring and learning the best methods.
- Invitation to collaborate.
  - Interactive segment coming up...

# UK Climate Change Risk Assessment (CCRA3)

## Summary for Wales, 2021

Health, Communities and the Built Environment			
Risk or Opportunity	Risk number and Receptor	Nature of risk/opportunity	Urgency Score
RISKS	<a href="#">H1. Health and wellbeing</a>	High temperatures	More action needed
RISKS	<a href="#">H3. People, communities and buildings</a>	Flooding	More action needed
RISKS	<a href="#">H4. Viability of coastal communities</a>	Sea level rise	More action needed
RISKS	<a href="#">H5. Building fabric</a>	Moisture, wind and driving rain	Further investigation
RISKS	<a href="#">H7. Health and wellbeing</a>	Changes in indoor and outdoor air quality	Further investigation
RISKS	<a href="#">H8. Health</a>	Vector-borne disease	Further investigation
RISKS	<a href="#">H9. Food safety and food security</a>	Higher temperatures (food safety) and extreme weather (food security)	Further investigation
RISKS	<a href="#">H10. Health</a>	Poor water quality and household water supply interruptions	Further investigation
RISKS	<a href="#">H11. Cultural heritage</a>	Changes in temperature, precipitation, groundwater, land, ocean and coastal change	More action needed
RISKS	<a href="#">H12. Health and social care delivery</a>	Extreme weather	More action needed
RISKS	<a href="#">H13. Education and prison services</a>	Extreme weather	More action needed
RISKS & OPPORTUNITIES	<a href="#">H6. Household energy demand</a>	Summer and winter temperature changes	More action needed
OPPORTUNITIES	<a href="#">H2. Health and wellbeing</a>	High temperatures	Further investigation

# Example 1: Risks to People from Heat

## From the PHW Health Impact Assessment

### Considerations:

- Mortality from respiratory, cardiovascular, dementia related conditions, alcohol and substance misuse
- Dehydration
- Heat related illness
- Negative impacts on birth outcomes
- Increased injuries and accidents, including drowning
- Social isolation
- Worse symptoms of mental disorder
- Violence
- Suicide
- Food borne disease
- Increased demands on health services
- Reduced productivity
- Disruption and damage to infrastructure and transport

# Example 2: **Opportunities** for Health & Wellbeing

## Considerations:

- Measurements of increased **physical activity levels** in communities engaging in outdoor activities.
- Community surveys on mental health improvements attributed to access to **green spaces**.
- Evaluation of **nature-based solutions** and their impact on public health outcomes.
- Data on the effectiveness of **green social prescribing** initiatives in enhancing wellbeing.

## Vulnerable population groups:

- While the opportunities for participation in outdoor activities may bring benefits, there are specific groups that must be monitored to **ensure equitable access**, such as those who are low-income, living with disabilities, or are socially isolated.
- These populations may experience differing levels of benefit or risk from increased exposure to green spaces and outdoor activities.



# Choice of Indicators

## Climate change and public health indicators: scoping review

- Reviewed 59 indicators with relevance to population health.
- The indicators are mapped to the climate risks to health identified in CCRA3
- Also discuss indicators related to mitigation where there are synergies with adaptation policy
  - for example, particulate pollution, indoor air quality, and active travel

## Key for letter colouring

The availability and suitability (A/S) of each indicator is indicated in column 2 with a coloured letter:

# Example

A green letter **A** indicates ‘Yes, data available that could be used, or the indicator is currently in use’.

A blue letter **P** indicates ‘Needs new processing of existing data’.

Red letters **NF** indicate ‘No feasible data available’.

Grey letters **NR** indicate ‘Indicator not recommended’.

**Table 1a. Heatwaves and heat risk to health**

Name of indicator	A/S	Available at local authority level	Type of indicator
H1. Exposure to solar ultraviolet (UV) radiation	A	Yes	Exposure
H2. Proportion of housing stock with overheating risk	P	Yes	Vulnerability
H3. Annual heat-related mortality	P	Yes	Outcome
H4. Annual heat illness	A	Yes	Outcome
H5. Use of outdoor space for physical activity	A	Yes	Outcome
H6. Health impacts of wildfires	NF	Yes	Outcome
H7. Spatial planning measures for urban cooling	P	Yes	Action
H8. Local heatwave plan	P	Yes	Action
H9. Extreme heat in the local risk register	P	Yes	Action

# Proposed Public Health Surveillance Reports

- Syndromic surveillance for potential health impacts of acute air pollution (e.g., wildfire), flooding, drought, heat or cold incidents (triggered by incident / extreme weather alert).

## Themes

1. Risks to people from heat
2. Risks to people from flooding
3. Risks to people from changes in air quality
4. Risks to people from climate sensitive diseases
5. Risks to people from food & water safety
6. Risks to health and social care delivery
7. Opportunities for health and wellbeing

General environmental public health surveillance (not necessarily climate change related).

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- **Annual reports:**
  - Air quality (incl. wildfires)
  - Extreme weather events (temperature & precipitation)
  - Climate-sensitive infectious diseases
  - Indoor environmental exposures
    - Carbon monoxide
    - Lead poisoning
    - Fungal / mould

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    - Carbon monoxide
    - Lead poisoning
    - Fungal / mould
- **Future exploration:**
  - **Risks to health and social care delivery**
  - **Opportunities for health and wellbeing**

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# Proposed Roadmap

Note: This is subject to change based on user feedback and priorities

Step Name	Syndromic Surveillance	Annual Report on Lead Poisoning	Annual Report on Carbon Monoxide (CO) Poisoning	Annual Report on Climate-sensitive Infectious Diseases	Annual Report on Extreme Weather Events	Annual Report on Air Quality	Annual Report on Fungal Infections	Exploration of risks to health and social care delivery	Exploration of opportunities for health and wellbeing
Goal	Identify potential health impacts stemming from acute air pollution and extreme weather incidents	Examine incidence (? and sources) of lead poisoning	Examine incidence (? and sources) of CO poisoning	Identify trends and inferences related to climate change and infectious disease transmission	Evaluate the public health consequences of extreme temperature and precipitation events	Assess the potential health impacts of air quality on public health, including the effects of wildfires	Initially, not related to climate change, as focus is on healthcare associated infections (candidaemia & P. pneumonia)	To be determined	To be determined
Milestones	Demo report published by end of Q1 2025	Published annual report	Published annual report	Published annual report	Published annual report	Published annual report		Te be determined	To be determined



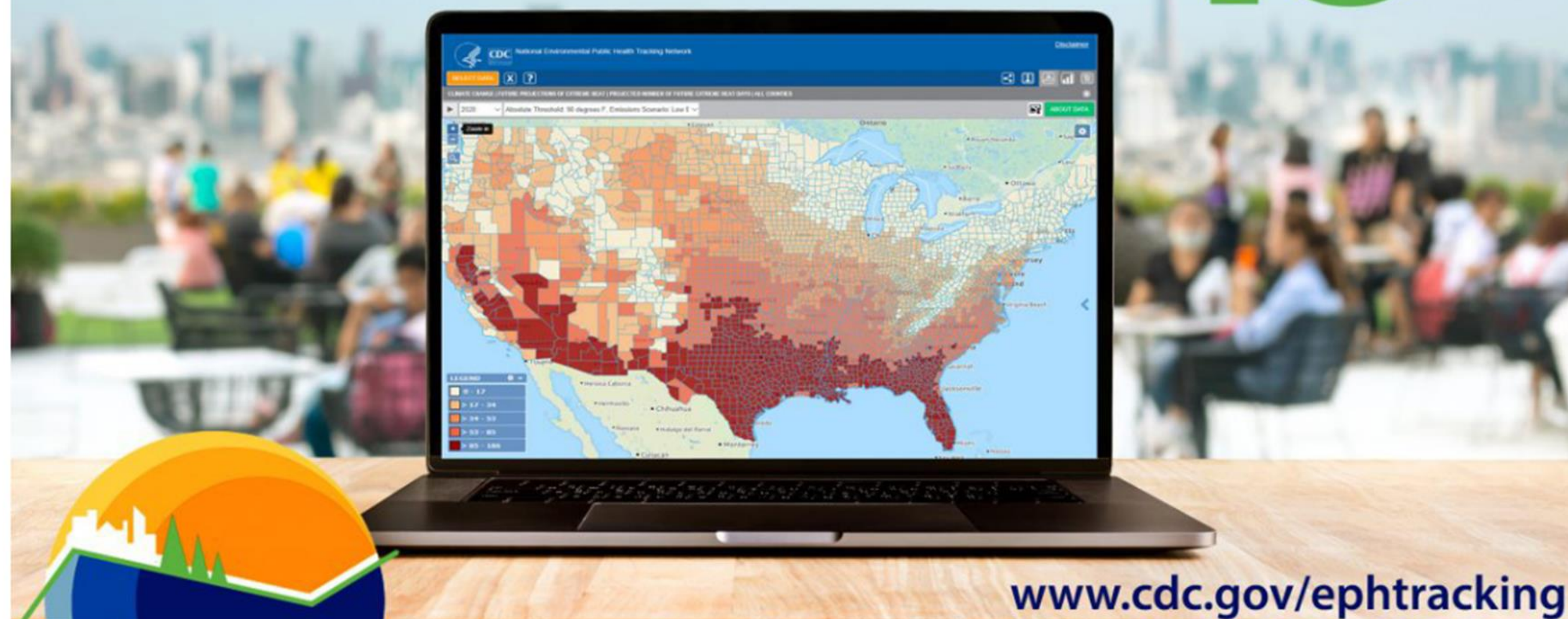
# Celebrating 10 Years of the Tracking Network!

CDC launched the Environmental Public Health Tracking Network (Tracking Network) in July 2009. Since then, it has expanded and evolved to include over 20 environmental health topics with multiple data access and display options.

ENVIRONMENTAL PUBLIC HEALTH  
**TRACKING**

*Celebrating 10 years!*

**10**  
**TRACKING**







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Gweithio gyda'n gilydd  
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Working together  
for a healthier Wales

