

Environmental and climate surveillance in development

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Environmental and climate surveillance in development

Syndromic surveillance for air quality, temperature and precipitation



Climate Sensitive Infectious Diseases (CSIDs)



Purpose of work:

- Monitor and analyse the impact of climate and environment on health to prioritise public health action and policy

Aim of presentation:

- To gain feedback and engagement at an early stage of development through audience participation

Understanding syndromic surveillance in environmental health

What is syndromic surveillance?

- Near real-time data collection from sources such as emergency services or social media. Focuses on symptoms rather than confirmed diagnosis to determine health impact that requires public health action.

What can it tell us?

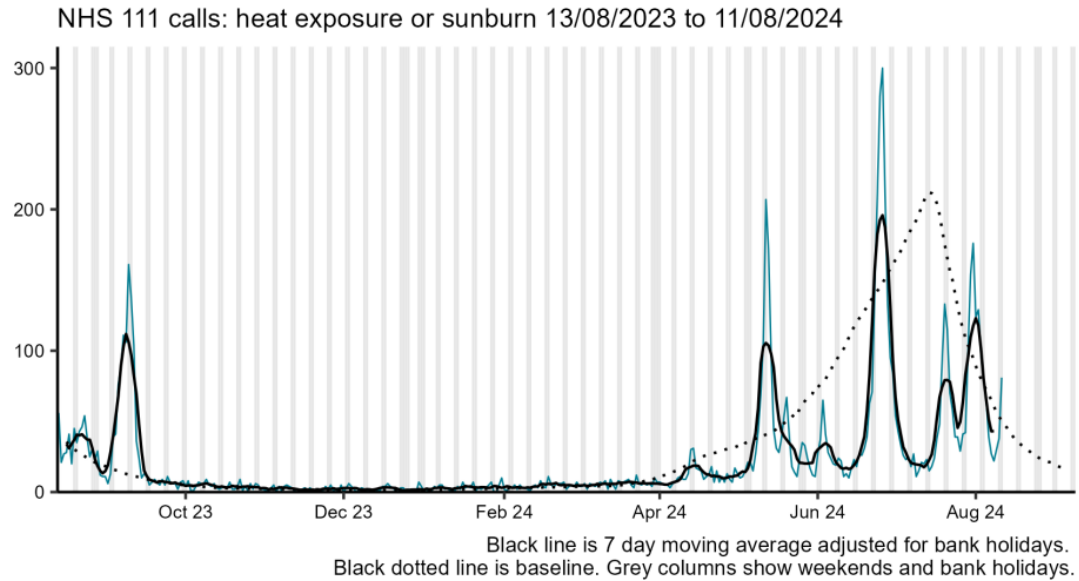
- Early warning systems, short-term and long-term health trends, forecasting.



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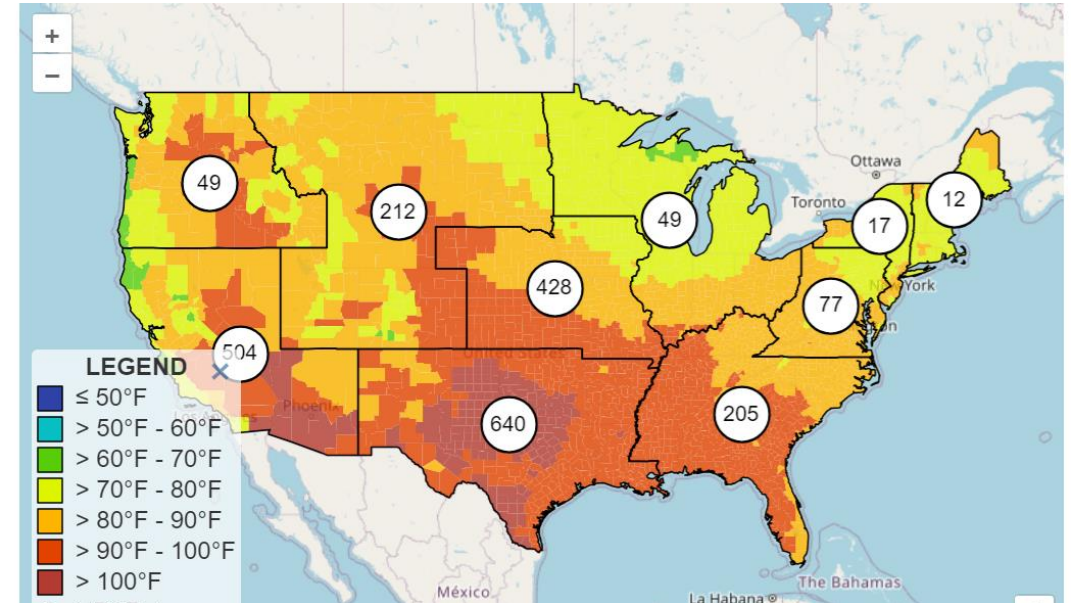
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Examples from other health agencies



UKHSA

Weekly bulletin to monitor
heat related illness



CDC

Daily temperature and heat
related illness map

Data sources that could be used

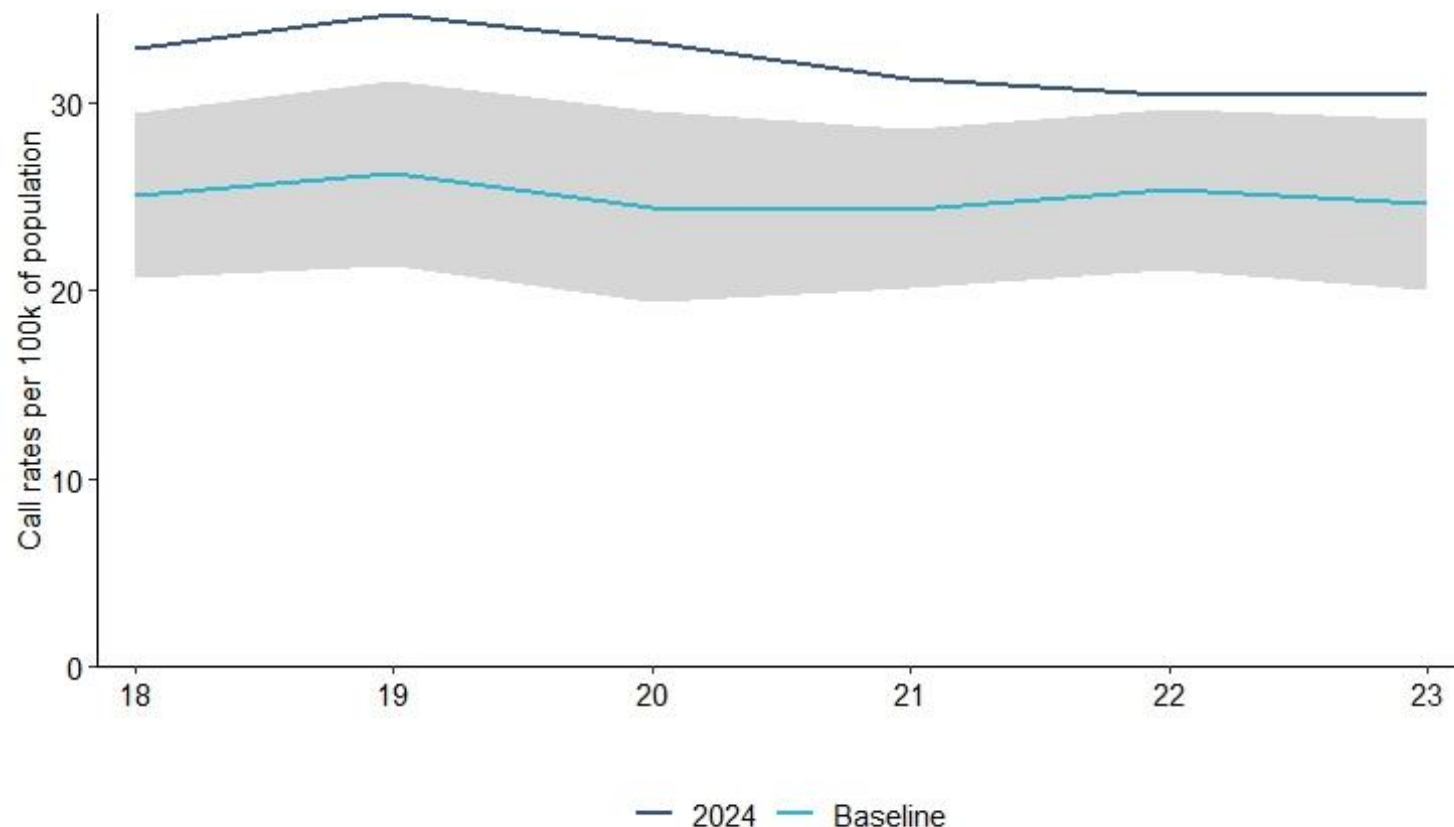
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- NHS 111 calls
 - Ambulance 999 calls
 - GP visits
 - Emergency department visits

What makes a good syndromic indicator?

- Sensitive, specific, reliable, timely, scalable from region to national, actionable.
- Indictors that work well for surveillance of one disease may not for others.

Example of Emergency call data

999 calls, symptom breathing difficulties



- Syndromic surveillance can be categorised by symptoms associated with the environmental event e.g. for poor air quality, ED visits for breathing difficulties.
- Currently, not useful early warning system due to delays and small numbers. As we learn more about what/if indicators are sensitive, it could become a EWS in future.

Climate Sensitive Infectious Disease

The highlights



Vector-borne

Lyme disease, West Nile
Virus, Dengue, Malaria



Food-borne

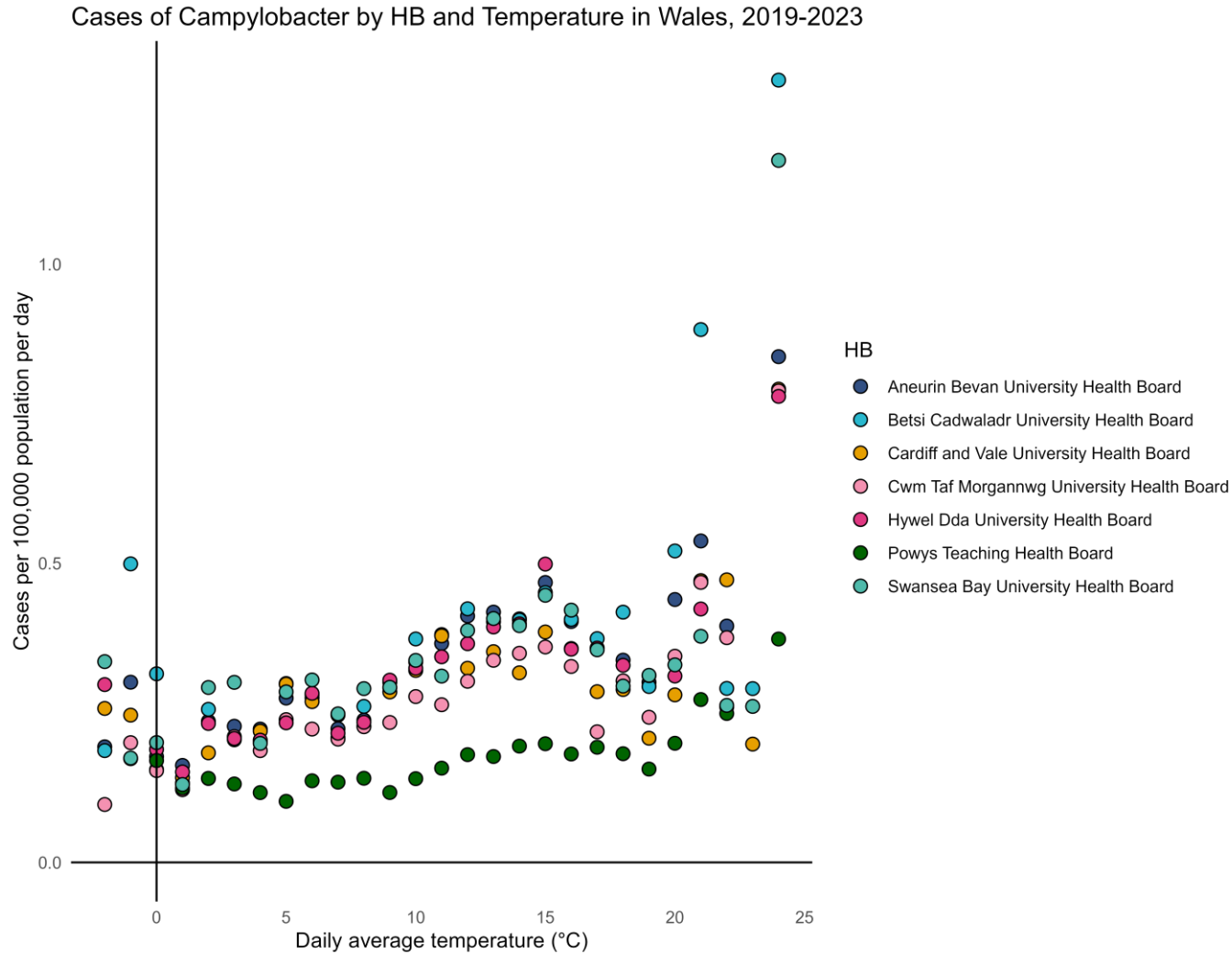
Salmonella, *Campylobacter*,
Listeria, *E. coli*



Water-borne

Vibrio, *Leptospira*

CSID, work in progress



- Count cases of disease by temperature, precipitation etc.
- Can gain insight in to where, who and when.
- Complex dynamics, seasonality and indirect causality need to be considered. No historic data.
- Useful as a baseline and future modelling.

How could we put the data to action?

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- What would you use this data for?
 - What do you need that you don't have?
 - How would you like it to be shared – e.g. reports, highlights, dashboards, maps, analysis & with what frequency
 - What sort of breakdowns e.g. geography, inequalities etc?
 - What else would you like to see?
 - Any other comments...