Setting operational thresholds for Heat Early Warning Systems
Lecture 3 – Working together

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Overview

• Partnerships - ways of working

• Thresholds
  • What type of system?
  • What data metrics to use?
  • Consensus

• Examples from Argentina and England

• How such systems fit into Heat Health Action Plans
Partnerships
Setting thresholds - 1

Two key questions:

1. What type of warning system is suitable?

2. Which metrics should be used?

Dependant on one dominant variable = **DATA AVAILABILITY**

- spatial and temporal resolution of the data
- How current the data is
- Operational issues such as processing time, system requirement etc
Setting thresholds - 2

Understanding the risk - risk appetite
Setting thresholds - 3

**Consensus** is key to setting thresholds - expert and professional judgment is required from:

1. Public health practitioners and experts
2. Met services
3. Academic experts
4. Other sectors (depending on ambition or use)
5. Government civil contingency policy
Argentina heat health warning example - tbr

✔ Combination of climatology percentiles and mortality.
✔ Codesigned with Ministry of health.
✔ Includes recommendations of health organism.

<table>
<thead>
<tr>
<th>Color</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>No effect on health</td>
</tr>
<tr>
<td>Yellow</td>
<td>Slight – moderate effect</td>
</tr>
<tr>
<td></td>
<td>Specially for risk group people</td>
</tr>
<tr>
<td>Orange</td>
<td>Moderate – high effect</td>
</tr>
<tr>
<td></td>
<td>Might be very dangerous, specially for risk group people</td>
</tr>
<tr>
<td>Red</td>
<td>High – extreme effect</td>
</tr>
<tr>
<td></td>
<td>Very dangerous. Might affect all healthy people</td>
</tr>
</tbody>
</table>

✔ Daily update (18hs)
✔ Validity 24 hs.
✔ 1 october – 31 march.
✔ 57 meteorology stations in 19 provinces.
✔ Thresholds for each city (Tmax, Tmin).
# UK heat health warning example

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
</table>
| Level 0 | Long term planning  
All year |
| Level 1 | Heatwave and Summer Preparedness Programme  
1 June – 15 September |
| Level 2 | Heat episode is forecast – Alert and readiness  
60% risk of reaching thresholds within next 2-3 days |
| Level 3 | Heatwave action  
Thresholds reached in one or more regions |
| Level 4 | Major incident – Emergency response  
Declared by central government |

### LOCAL Threshold temperatures
Threshold maximum day and night temperatures defined by the Met Office National Severe Weather Warning Service (NSWWS) region are set out below.

<table>
<thead>
<tr>
<th>NSWWS Region</th>
<th>Day</th>
<th>Night</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>32</td>
<td>18</td>
</tr>
<tr>
<td>South East</td>
<td>31</td>
<td>16</td>
</tr>
<tr>
<td>South West</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>Eastern</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>West South</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>East Midlands</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>North West</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>Yorkshire and Humber</td>
<td>29</td>
<td>15</td>
</tr>
<tr>
<td>North East</td>
<td>28</td>
<td>15</td>
</tr>
</tbody>
</table>
Not just about the extremes

Not just about the extremes

How does any alerting system interact with the wider HHAP?

- Adaptation?
- Long term planning?
- Alignment with other strategic priorities?
Summary

Partnerships are key in developing a heat health warning system

There are many ways of working, and this may depend on the overarching aim of the system

Data availability will limit what type of system you can aim for, start where you can and work with partners to improve the data situation and eventually the warning system

Consensus among partners is key

Its not just about the extremes, the biggest health burden is seen at more moderate temperatures