Lessons Learned from the Heat Dome and Climate Change

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Interim Healthy Homes and Communities Supervisor
Multnomah County Health Department
Do you know the role your local health jurisdiction has when responding to heat events?

A. Yes, definitely
B. Yes, but I don’t have a complete picture
C. Not at all
D. Other (please type in chat)
Warming Up: Preparing for Climate Hazards

Cooling Down: Responding to the Heat Dome

Impacts and Lessons Learned
Warming Up: Preparing for Climate Hazards
Preparation: Gathering High-Resolution Data


Data Source: Sustaining Urban Places Research (SUPR) Lab, Portland State University, 2015

Preparation: Completing the Checklist...?

- Climate Action Plans
- High resolution data

Plus...
- Early warning communications
- Standard Operating Procedure
- Surveillance
Cooling Down: Responding to the Heat Dome
Timeline: June 2021

- **June 21**: Outreach begins
- **June 22**: June 23
- **June 24**: Forecast revised
- **June 25**: 95°F New record
- **June 26**: 108°F New record
- **June 27**: 112°F New record
- **June 28**: 116°F
- **June 29**: 79°F
- **June 30**: 80°F
- Warning messages translated in 7 languages
- Parks permits for sporting events cancelled
- Transit fare enforcement paused
Three 24-hour cooling shelters
- Behavioral health
- Meals
- Transportation
- COVID vaccination
- Pet accommodation
- Staff of 350 employees and volunteers

Nine library daytime cooling spaces
Direct Outreach

- 4,500 high-risk older adults and people with disabilities
- 12,000 client text messages
- Affordable housing providers
- 100 street teams
- Affordable housing providers
Working On The Response

- Syndromic surveillance escalating the response
- Death investigations
- Vital records for a mass casualty event
Question for the Viewers

Has your agency changed its response strategy as a result of the heat events or climate change?

A. Yes
B. No
C. Not sure
D. Other (please type in chat)
Impact and Lessons Learned
Impacts

69 Heat deaths
Zero in a typical year

158 Emergency department visits for heat illness
3-5 visits expected in the same time period
Heat-related Deaths

Heat deaths in Multnomah County, 2021:
Distribution of Heat-related Deaths

Confirmed heat-related deaths in Multnomah County
June 27 – August 18, 2021 (N=72)
Heat-related Deaths by Cooling Type

*Includes 3 additional heat deaths from August 2021

<table>
<thead>
<tr>
<th>Cooling Type</th>
<th>Count</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fan Only</td>
<td>36</td>
<td>50</td>
</tr>
<tr>
<td>None</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Air Conditioning (With or without fan)</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Unknown</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>72</strong>*</td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Weekly emergency department and urgent care clinic visits
for heat illness in Multnomah County, May-September 2021:
ESSENCE heat-related visits for Multnomah County
May 1 – September 30, 2021 (N=257)
Confirmed heat-related deaths in Multnomah County
June 27 – August 18, 2021 (N=72)
## Disproportionately Affected Demographic Populations

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Non-Hispanic Whites</th>
<th>Adults Aged 60+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>67%</td>
<td>82%</td>
<td>78%</td>
</tr>
<tr>
<td>Emergency</td>
<td>60%</td>
<td>71%</td>
<td>42%</td>
</tr>
</tbody>
</table>
### Disproportionately Affected Populations by Living Situation

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>Percentage of Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>People Living Alone</td>
<td>71%</td>
</tr>
<tr>
<td>People Living In Multifamily Buildings</td>
<td>58%</td>
</tr>
<tr>
<td>People Experiencing Homelessness</td>
<td>6%</td>
</tr>
<tr>
<td>People Living In Warmer Areas of the County</td>
<td>58%</td>
</tr>
</tbody>
</table>
Lessons Learned

- Work with your local National Weather Service office to understand probability of extreme events
- Cooling shelters are only effective if people use them
- Know what to expect when reporting impacts of a mass casualty event
- Gather the data you need to implement interventions
- As climate change progresses, we’re operating at the edge of scientific knowledge
Changes

- Communications
- Cooling interventions
  - AC distribution
  - Cooling centers
  - Misting stations
- Staffing
  - Response
  - Resilience
- Laws and regulations
Key Takeaways

- Plan for the worst-case scenario and stress test your plan
- Make a staffing plan
- Care for the most vulnerable: older, living alone,
- AC is protective
A Chat with Brendon Haggerty

Allene Mares

Brendon Haggerty
QUESTIONS?

To ask a question, please click the icon in the Zoom toolbar to open your Q&A Pod.
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Regional Climate and Health Monitoring Report
Multnomah County, Clackamas County, and Washington County public health agencies
https://www.multco.us/file/111710/download

National Weather Service HeatRisk Tool
National Oceanic and Atmospheric Administration
https://www.wrh.noaa.gov/wrh/heatrisk/

National Integrated Heat Health Information System
National Oceanic and Atmospheric Administration
https://nihhis.cpo.noaa.gov/

Global Heat Health Information Network
https://ghhin.org/

Multnomah County Report on 2021 Heat Deaths
Multnomah County Health Department