

Heat Waves in the Pacific Northwest Climate and Health Rapid Response Summary and Lessons Learned

Top Line

As with the initial COVID outbreak (the first in North America), this mass casualty event highlighted the locality of impacts and the possibility for one facility to quickly be overwhelmed, necessitating activation for regional coordination and mutual aid. The event was effectively a stress test for our system, and we barely squeaked by. A longer event, or one with a substantial power outage, likely would have been catastrophic. The health care system has methods for preparing for such disasters and needs to invest in regional stress testing and drilling in advance of future compound events, which are becoming more likely due to climate change, to identify vulnerabilities and develop strategies. Local and regional partnerships between public health and health care systems are essential for efforts to succeed.

The relationship between climate change and the heat wave:

- This heat wave was virtually impossible without climate change.
- Increasingly we are able to attribute heat waves to the effects of climate change.
- Climate change has contributed to 30-40% of heat wave deaths over the past two decades
- There was 5 days of lead time for this event, which was not enough

A perfect storm:

- Conditions that contributed to the situation: Historically cool climate. Limited experience with extreme heat. Infrastructure not designed for hot climates (lack of A/C). Lack of acclimatization among community. Population growing faster than health care capacity. Acute on chronic capacity constraints related to COVID-19.
- This was the deadliest weather-related event in Washington history.
- There was a 100-fold increase in heat related emergency department visits on 6/28/21.
- Disaster systems were activated yet still hospitals were overrun with predominantly vulnerable patients (elderly, undomiciled, those with co-morbidities, etc)
- Regional coordination among hospitals and EMS helped to divert flow of critical patients away from hospitals in "crisis, however, all hospitals in the region were in trouble
- High hospital volumes of critically ill patients lasted for weeks after the heat wave
- Safe discharge planning from the ER was sorely needed but resources were not in place (e.g. handouts, extra social work staff)

Preparing for the future: Public health response:

- Heat action plans are efficient, coordinated, evidence-based systems with standardized criteria to issue heat alerts. They help to develop appropriate communication tools and threshold targets.
- Public health departments can: receive heat warnings, communicate information, review the guidance, conduct surveillance, and participate in evaluation activities. Regional disaster plans are essential.
- Given the lack of medium-term predictability of climate-related extreme events, cities and communities should adopt an "all hazard's approach" that accounts for the most *likely* type of events but is flexible enough to accommodate the unexpected.