

Overview

Heat exposure increases the risk of illness, injury, and death among workers. In the summer of 2021, the Pacific Northwest experienced increases in temperatures and extreme temperatures during a “heat dome” event. Extreme heat events are more likely to occur with climate change.

Workers that lack sufficient heat adaptation (acclimatization), including during times of sudden temperature increase, are at increased risk for heat-related illness (HRI). The purpose of this study was to characterize worker heat exposure on days of, and days prior to, HRIs.

1,241 Washington State (WA) workers’ compensation HRI claims from 2006-2021 were linked with modeled weather data to determine the maximum temperature on the day and at the location of the HRI and on prior days.

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Research for Safe Work

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Heat-Related Illness and Ambient Temperature Trends

Occupational heat-related illness in Washington State: A descriptive study of day of illness and prior day ambient temperatures among cases and clusters, 2006-2021

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Key Findings

- Among all HRI workers’ compensation claims:
 - 76% occurred on days with a maximum temperature at or above 80°F.
 - 29% occurred when the temperature was 10°F or more higher than the average of the past five days (*sudden increase*).
 - 8% occurred on days where ten or more claims occurred (*cluster*).
- For *cluster* versus *non-cluster* HRI claims:
 - The percent of HRI claims occurring on *sudden increase* days was significantly higher (80% versus 24%).
 - The average maximum temperature on the day of illness was significantly higher (99°F versus 86°F).
- The average maximum temperature on the day of illness for ‘*heat dome*’ (June 25-June 30, 2021) HRI claims was 103°F.
- In general, proportions of HRI claims occurring on *cluster* days were higher in Western WA counties, but proportions of HRI claims at or above 80°F were higher in Central WA counties.
- Occupations with the highest number of claims on all *cluster* days together were farmworkers and laborers.

Impact

High-risk heat exposure conditions should trigger prevention efforts. Further research is needed to understand the effects of temperature on the day of illness versus increases in temperature from prior days on HRI risk for different worker groups. Heat prevention programs should address acclimatization and, when increases in temperature occur too quickly to allow for acclimatization, additional precautions.

Find the article here:

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