

Health Impacts of Extreme Heat & Wildfire Smoke

Guideline Checklist

Outpatient Clinic Healthcare Staff
Level 3



The current state of the issue

Exposure to extreme heat, or summertime temperatures that are much hotter and/or humid than average, [i] is a serious threat to population health and well-being. 2024 was the warmest year on record, with global temperatures 2.30 degrees Fahrenheit (1.28 degrees Celsius) above the National Aeronautics and Space administration's (NASA) 20th century baseline. [ii] The number and length of heat waves has increased significantly since the 1960s. [iii] These trends are projected to continue and worsen in the coming decades, exposing more people to the harmful consequences of heat. Higher air temperatures increase wildfire likelihood, posing a serious threat to human health, ecosystems, and infrastructure. Wildfire smoke exposure increases all-cause mortality, impacts respiratory health, and may co-occur and interact with heat exposure to impact cardiorespiratory morbidity and mortality. [iv]. [v]. [vi]. [vii]

Equity

- Develop a workflow to identify patients** that are at higher risk for heat-related illness and exacerbations of conditions due to heat and wildfire smoke
 - Use ICD-10 codes, prescription and demographic information to automatically flag and add to registry
- Add patients at higher risk to a registry
- Take measures to protect privacy of patient information
- During warmer months, direct patients on the registry to a care manager (or similar professional)** for personalized outreach before and during extreme heat and poor air quality
 - Use tailored educational messaging for higher risk populations when triggered automatically during heat or wildfire smoke



Resources

- The Bree Report is meant to supplement these resources.
- Full Bree Report: <https://www.qualityhealth.org/bree/wp-content/uploads/sites/8/2025/01/Draft-Guidelines-EHWS-24-0131-Final.pdf>
- CHILL'D OUT Questionnaire: <https://www.qualityhealth.org/bree/wp-content/uploads/sites/8/2025/02/CHILLD-Out-Questionnaire-H.pdf>
- Quick Start Guide for Clinicians on Heat and Health: <https://www.qualityhealth.org/bree/wp-content/uploads/sites/8/2025/02/Heat-Quick-Start-Guide-Clinicians-H.pdf>
- How to use the Heat Risk Tool and Air Quality Index: <https://www.qualityhealth.org/bree/wp-content/uploads/sites/8/2025/02/How-to-use-the-HeatRisk-Tool-and-Air-Quality-Index--Heat-Health--CDC.pdf>
- WA DOH Portable Air Cleanser: <https://doh.wa.gov/community-and-environment/air-quality/indoor-air/portable-air-cleaners>
- WA Air Quality Map: <https://enviwa.ecology.wa.gov/mobile/>



Read the full Bree Report on Health Impacts of Extreme Heat and Wildfire Smoke for online by scanning the QR code:



Connect with the Bree Collaborative at bree@qualityhealth.org

References: [i] Centers for Disease Control and Prevention. (n.d.). Extreme heat and your health. Retrieved from <https://www.ready.gov/heat>
[ii] National Aeronautics and Space Administration (NASA). (n.d.). Temperatures rising: NASA confirms 2024 warmest year on record. Retrieved from <https://www.nasa.gov/news-release/temperatures-rising-nasa-confirms-2024-warmest-year-on-record/>
[iii] National Oceanic and Atmospheric Administration. (2021). Heat wave: A major summer killer. Retrieved from Severe Weather Awareness - Heat Waves [iv] Liu, Y., & Sinsky, E. (2020). Mortality associated with wildfire smoke exposure in Washington State, 2006–2017: A case-crossover study. Environmental Health. Retrieved from <https://link.springer.com/article/10.1186/s12940-020-00682-5> [v] Gan, R. W., Ford, B., Lassman, W., Pfister, G., Vaidyanathan, A., Fischer, E., Volckens, J., Pierce, J. R., & Magzamen, S. (2017). Comparison of wildfire smoke estimation methods and associations with cardiopulmonary-related hospital admissions. GeoHealth, 1(3), 122–136. <https://doi.org/10.1002/2017GH000073> [vi] Chen C, Schwarz L, Rosenthal N, Marlier ME, Benmarhnia T. Exploring spatial heterogeneity in synergistic effects of compound climate hazards: Extreme heat and wildfire smoke on cardiorespiratory hospitalizations in California. Sci Adv. 2024 Feb 2;10(5):eadj7264. doi: 10.1126/sciadv.adj7264. Epub 2024 Feb 2. PMID: 38306434; PMCID: PMC10836726. [vii] Ma Y, Zang E, Liu Y, Wei J, Lu Y, Krumholz HM, Bell ML, Chen K. Long-term exposure to wildland fire smoke PM2.5 and mortality in the contiguous United States. medRxiv [Preprint]. 2024 Jun 11:2023.01.31.23285059. doi: 10.1101/2023.01.31.23285059. PMID: 36778437; PMCID: PMC9915814.