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Hot Spots: Reflecting on the Summer of 2023

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Wildfires and extreme heat incidents in the U.S. have become more frequent over the past several years. The [U.S. Environmental Protection Agency](#) (EPA) explains that the increase in wildfire risk is due to earlier spring melt leading to less water availability during hot summer conditions. These fires start more easily and burn hotter. The EPA also examined [heat wave characteristics](#) in 50 metropolitan areas across the U.S. from 1961-2021 and found that the frequency of heatwaves has increased from two to six per year. Temperatures in the 1960s' heatwaves were 2.0 degrees above the local 85% percentile threshold; in the 2020s, they have increased to 2.3 degrees above the threshold.

Healthcare providers can expect to see increases in related illnesses and injuries, with both short- and long-term consequences. In the summer of 2023 alone:

- Wildfires struck Lahaina (on Maui), and the death toll currently stands at 101 people, while countless others suffered fire and smoke-related injuries (e.g., burns, eye injuries/infections, abrasions, and broken bones).
 - » Several burn patients sustained [second-and third-degree burns that covered three quarters of their bodies](#); nine patients were flown close to 100 miles then taken by ambulance to Straub Medical Center, the only hospital with a burn unit in Hawaii, for treatment. This was reportedly the “largest influx of patients from a single incident in the burn unit’s history.”
- Severe heat incidents in Arizona and Nevada contributed to [an increase in contact burns](#), often as a result of people passing out on or falling onto extremely hot pavement. Burn units were full at Valleywise Health (Arizona’s sole burn center) for a period of time. Lions Burn Care Center (Nevada’s burn center) routinely experiences spikes in [patients with pavement burns](#), particularly in summer months.
- Between May and September 2023, the rates of [emergency department visits for heat-related illness](#) “[substantially increased across several U.S. regions](#) compared to previous years,” and males aged 18-64 were particularly susceptible.

Some illnesses and injury effects continue long after the incident. Exposure to traumatic incidents (e.g., losing loved ones, watching one's home burn, evacuating through an actual wildfire) can contribute to negative behavioral health issues. Physical injuries or illnesses as a result of an incident may not permanently heal and may actually cascade. [The Maui Wildfire Exposure Study: Community Health, Wellbeing, and Resilience](#) is following a cohort of participants to better understand the long-term impacts of the wildfire on their physical, mental, and social health.

Healthcare facilities themselves are not immune to a fire’s wrath. Just the threat of fire can necessitate the [evacuation of long-term care facilities](#) and the closure of community pharmacies and clinics that may serve vulnerable and/or rural populations. If those structures suffer damage, it can be months before they are rebuilt, if they are rebuilt at all.

In this issue, staff from the [Office of Climate Change and Health Equity discuss climate resilience and mitigation](#) and [Annette Matherly's article on preparing for a mass casualty burn incident](#) provides actionable healthcare preparedness and response considerations. As the threat of extreme heat and burn incidents continues to increase, collaborative planning is key to ensuring first responders and first receivers have the education and tools needed to plan for community impacts and treat patients with these types of injuries and illnesses. Building or retrofitting existing healthcare facilities to withstand these threats can support patient, healthcare staff, and overall community resilience.

ASPR TRACIE has developed the following resources that include lessons learned and plans, tools, and templates that can help our stakeholders ensure their facilities are better equipped to withstand these threats. Please [contact us](#) with any requests for technical assistance or to share resources and lessons you have learned while serving your communities.

- [Burns](#) Topic Collection
- [Disaster Behavioral Health Resources Page](#)
- [Evacuating and Receiving Patients in the Midst of a Wildfire](#)
- [Experiences from the Field: The Signature Healthcare Brockton Hospital Fire](#)
- [Extreme Heat Events: Lessons from Seattle's Record-Breaking Summers](#)
- [Healthcare Coalition Burn Surge Annex Template](#)
 - » [Step-by-Step Guide to Implementing the Coalition Burn Surge Annex TTX Template \(PDF\)](#)
 - » [Using the ASPR TRACIE Burn Surge Templates to Enhance an HCC \(PPT\)](#)
- [Innovations in Hospital Design-Penn Med Pavilion](#)
- [Innovations in Hospital Design-Mayo Clinic](#)
- [Mass Burn Event Overview](#)
- [Natural Disasters](#) Topic Collection
 - » [Lessons Learned: Extreme Heat](#)
 - » [Lessons Learned: Fire/Wildfire](#)
 - » [Plans, Tools, and Templates: Extreme Heat](#)
 - » [Plans, Tools, and Templates: Fire/Wildfire](#)
- *The Exchange*, Issue 10: [Preparing for and Responding to Wildfires and Planned Outages](#)
- [The Last Stand: Evacuating a Hospital in the Middle of a Wildfire](#)