August-September Heat-Related Illness Surveillance

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PHR 7 conducted more heat-related illness/injury surveillance using Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE). The reports started on August 1, 2023, and ended on September 30, 2023.

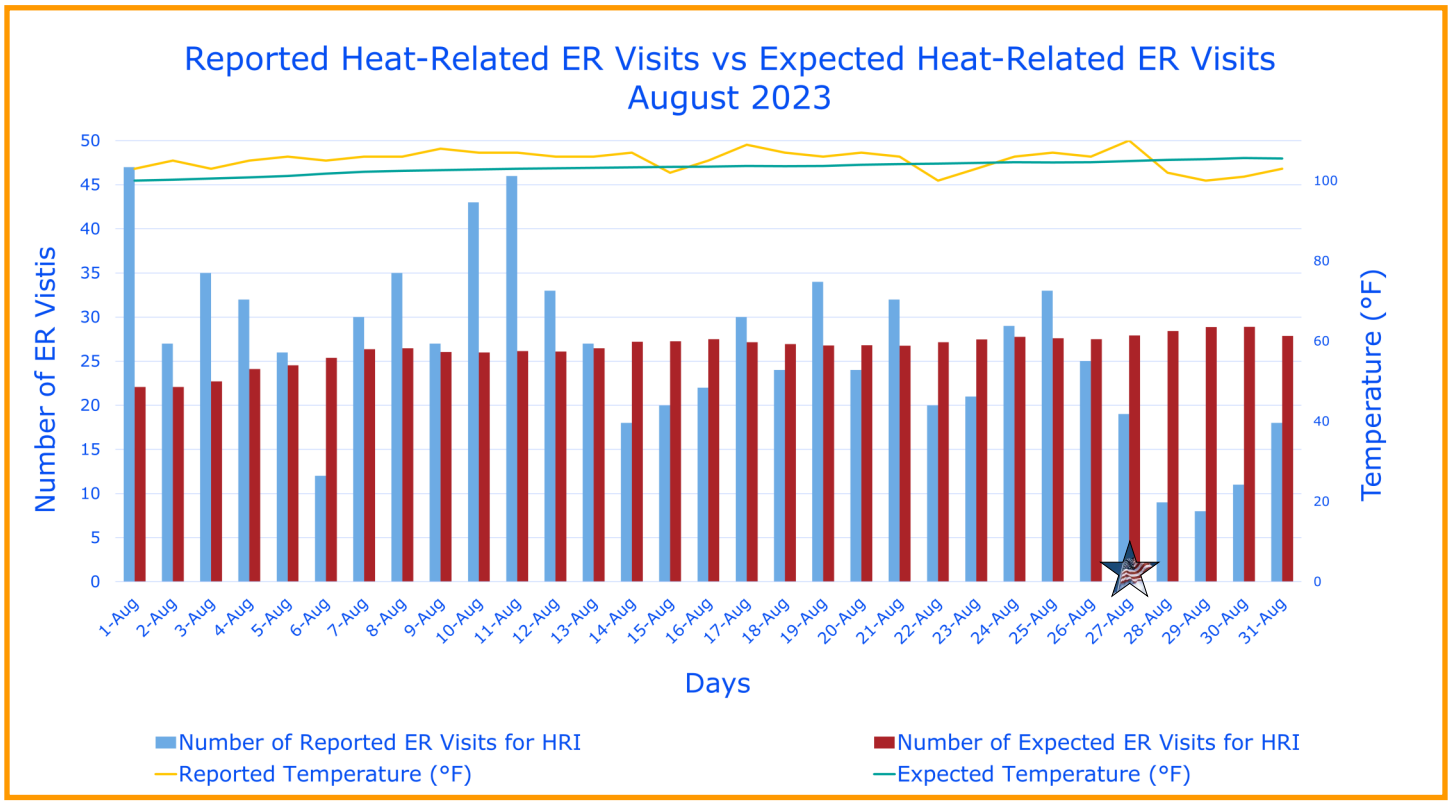
The temperatures in the reports were collected and obtained from a weather station at Austin-Bergstrom International Airport and overlaid onto ESSENCE tables. This weather data overlay on each of the epi curve chart represents the Central Texas region. Temperatures may differ by a few degrees depending on specific location.

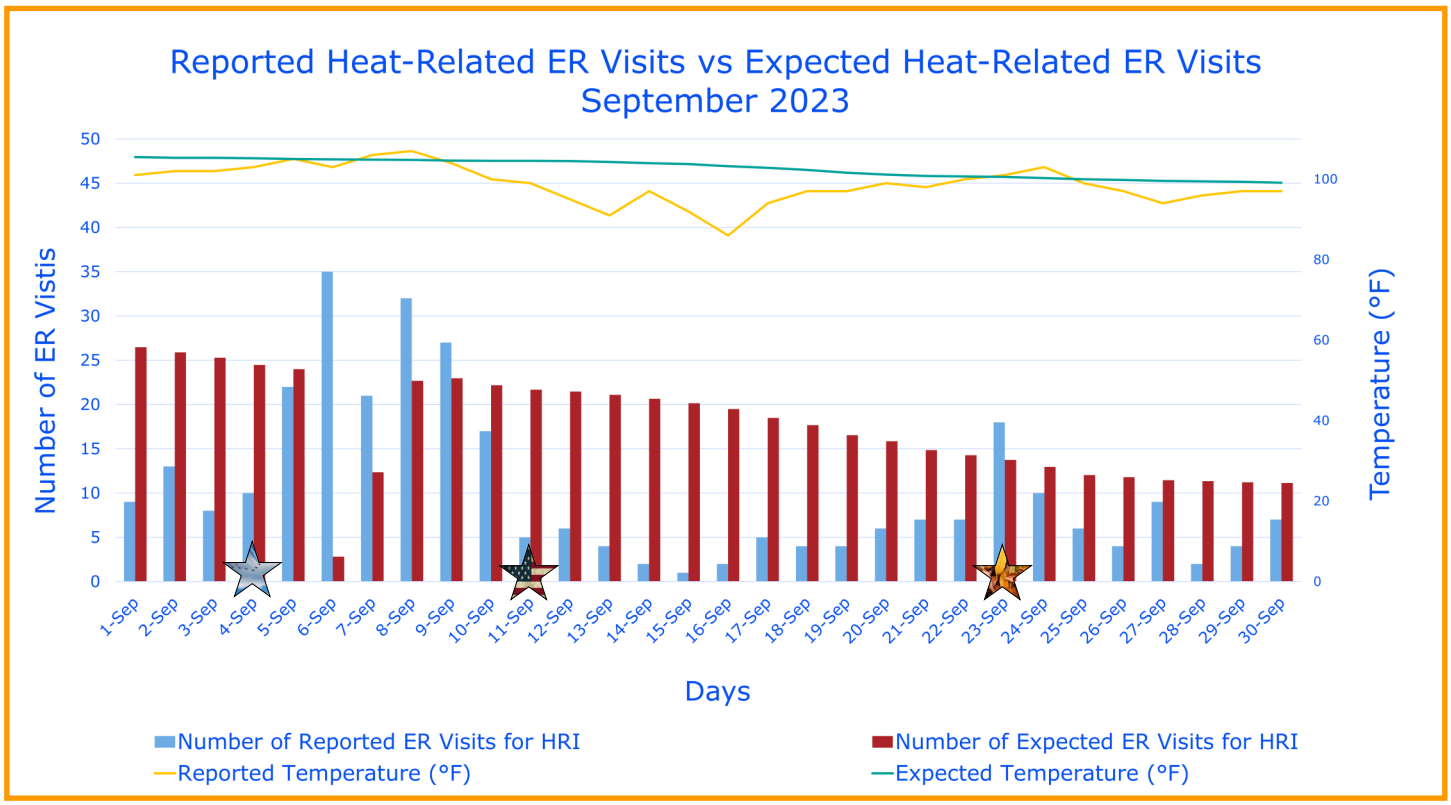
Saturday, September 23, was the last day of summer and the first day of the autumnal equinox. On that day, the Earth received approximately equal amount of darkness and daylight when the Earth is tilting neutrally from the Sun.

In August, the maximum temperature observed for the majority of days was between 103-107 degrees, with three days of temperatures at or above 108 degrees. In September, the maximum temperature observed for the majority of days was between 97-103 degrees, with four days of temperatures at or above 104 degrees.

With temperatures maintained between the 86-110-degree range for August and September, Central Texas residents continued to be at risk for heat-related illnesses and injuries well into fall. 2023 was the second-hottest summer on record.

Figure 2: Epi-Curve of Heat-Related Illness ER Visits for August—September 2023





Lyndon B Johnson (LBJ) Day Labor Day Patriot Day September Equinox

Note on PHR 7 data: The results from the query used in ESSENCE, an electronic bio-surveillance system, to track heat-related illnesses, may be an overestimation or underestimation of the actual burden of illness related to the summer weather activities. This is due to the nature of the query, which includes the term dehydration, a condition that may be caused by factors other than heat.

Heat-Related Injuries (HRI)

Figure 2 shows the two epi curves for HRIs for each day in August and September. The federal and state holidays and observances did not seem to have any impact on HRI ER visits. But after Labor Day, there were significant spikes of reported HRI ER visits, which was far above expectations.

PHR 7 observed temperatures at 100 degrees or above for August. The highest observed temperature was on Sunday, August 27, at 110 degrees. In August, 24 out of 31 days (77%) were above the expected temperatures. The highest reported HRI ER visits for August occurred on Tuesday, August 1 (n=47). The average reported HRI ER visits for August was 26, which was about the same as the average expectation.

Stock image. Obtained through Microsoft PowerPoint image search result.

In September, temperatures remained in the 90s and within 100-107 degrees. The highest observed temperature was on Friday, September 8, at 107 degrees. In September, 23 out of 30 (77%) of the days were below the expected temperatures. The highest HRI ER visits for September occurred on Wednesday, September 6 (n=35). The average reported HRI ER visits for September was 10, which was lower than the average expectation. That month, 24 out of 30 days (80%) had reported HRI ER visits, which is lower than expected.

This suggests that toward the end of summer, more people are spending time indoors and avoiding direct sunlight and heat as the temperature continued to stay between the 90s and the 110s.

Most of the reported HRI ER visits involved heat exhaustion and overheating related to outdoor employment and/or activities. A majority of patients experienced various symptoms of heat exposure, like delirium tremens, cramps, syncope, nausea, vomiting, chest pain, headache, and others.

The National Weather Service continued to issue heat alerts to include heat advisories and excessive heat warnings for August and September.