DSHS Central Texas

Public Health Region 7 Serving You

Public Health Region 7 Epidemiology Quarterly Newsletter

AUGUST 2023

IN THIS ISSUE:

Public Health Happenings

Practice heat prevention and safety in both indoors and outdoors!

Click here for more information

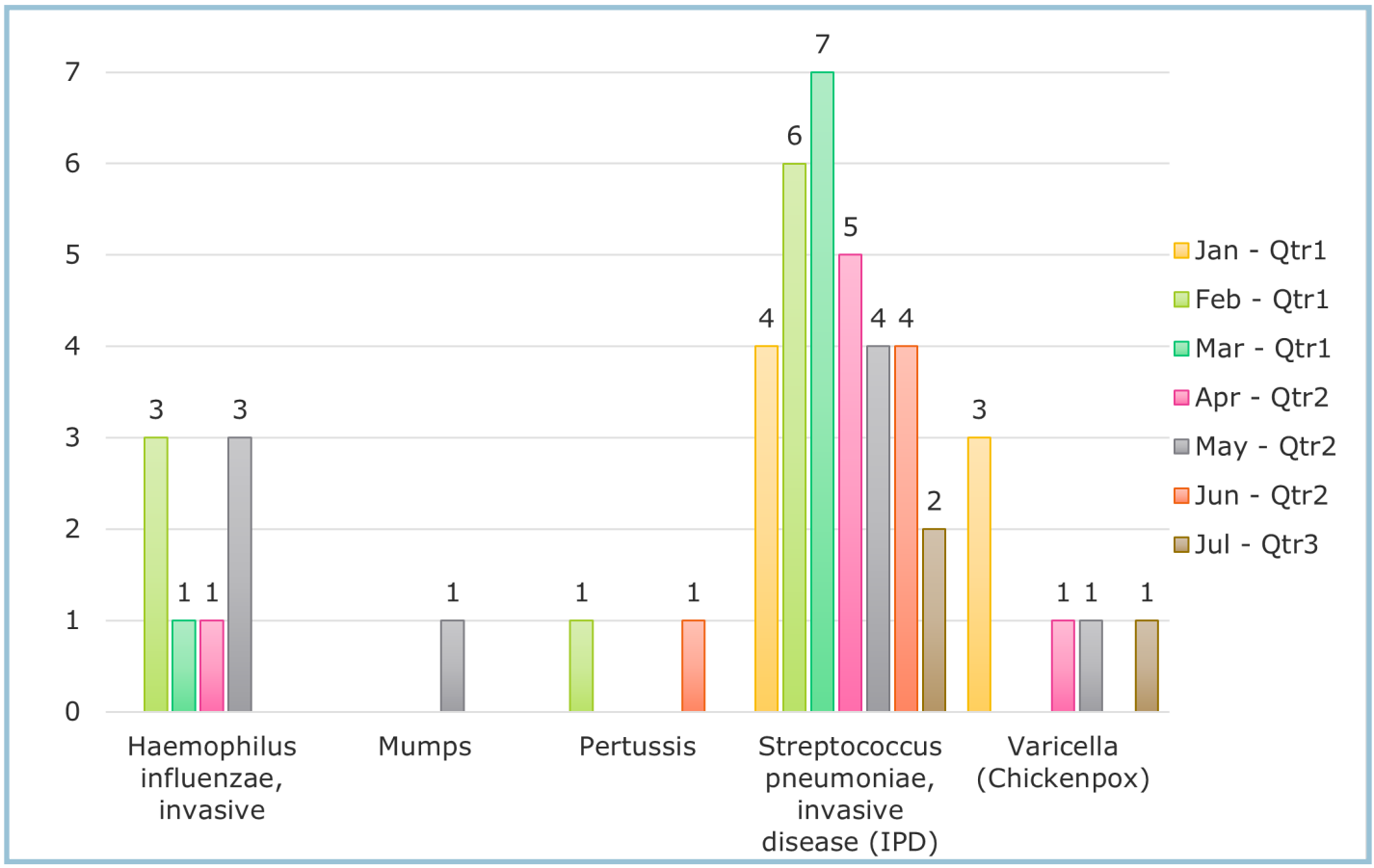
Summer is now over and we survived the summer season!

Public Health Region 7 (PHR 7) had various infectious diseases and outbreaks over the spring and summer. We will be taking some time in the newsletter to share more about them.

Vaccine Preventable Disease (VPD) Trends

Dolores Mojica, Vaccine Preventable Disease Investigator at DSHS PHR 7

Figure 1: Case counts for VPDs in 23 counties within PHR 7 by Quarter



Between January and July, *Streptococcus pneumoniae* (IPD) was consistently the most commonly occurring vaccine-preventable disease within PHR 7, with a total of 35 reported cases. The month of March had the most cases. These cases were usually in individuals with underlying health conditions who developed pneumonia. The second most reported condition was *Haemophilus influenzae*, invasive, with a total count of eight reported cases.

Information for the vaccine-preventable disease resources click on this link:

Vaccine-Preventable Disease Resources | Texas DSHS

Click this link for more information on the scheduling of vaccines by age:

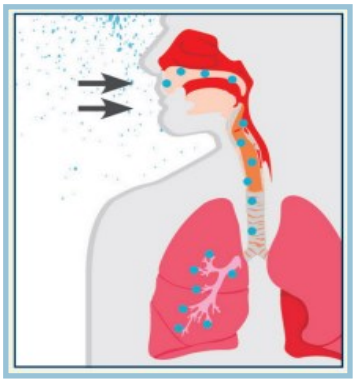
Recommended Vaccines by Age | CDC.

Note on PHR 7 Data: The results from the query used in NEDSS, an electronic disease surveillance system, to monitor and conduct case investigation on reportable diseases to the State of Texas.

Legionellosis and Water Management Practices

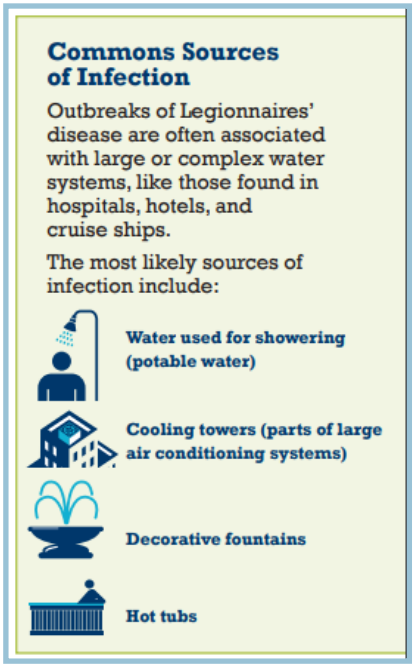
Elizabeth Hans, MPH, CPH, COVID-19 Epidemiologist II at DSHS Region 7

Legionellosis - also known as Legionnaires' disease is a potentially severe type of pneumonia caused by any species of *Legionella* bacteria. The condition can range from a mild illness to severe cases that can lead to hospitalization, particularly for older adults. Common symptoms include fever, chills, cough, muscle pain, abdominal pain, nausea, and vomiting. More severe cases can lead to death, particularly for people with certain risk factors such as a current or past history of smoking, preexisting conditions such as COPD, or weakened immune systems. Treatment consists of antibiotics and most people with severe cases require hospitalization to recover.



CDC. *Legionnaires' Disease.* Legionnaires' Disease (cdc.gov)

Legionella is naturally occurring and becomes a risk to human health when the bacteria grow and spread in water systems such as showers, cooling towers, hot tubs and pools, and fountains. When the water containing the bacteria becomes aerosolized, it can be breathed in and cause disease. There is not a vaccine for legionella, so the most important preventive strategy is stopping the growth and spread of bacteria in water systems. Developing a water management program is strategic in preventing disease and can help identify areas of increased risk, strategies to control growth, and disinfection processes. There are many factors that can increase the risk of legionella growth in buildings and so it is important to manage the temperature and pH as well as practice routine disinfections and keep water from becoming stagnant. These methods are especially important in health care facilities and other buildings with water systems that have the potential to harbor the bacteria.



CDC. *Legionnaires' Disease.* Legionnaires' Disease (cdc.gov)

Legionellosis is a risk year-round, but usually has higher incidence during the summer and fall months. It is important to exercise proper prevention strategies and ensure water systems are maintained in order to prevent illness during this time as people are going to pools, hot tubs, and other places they can be more exposed to misted water.

Follow these steps and you can help prevent foodborne infections

Clean: Wash your hands and sanitize food preparation surfaces often

Germs that cause food poisoning can survive in many places and spread around your kitchen. It is very important to wash your hands for at least 20 seconds with soap and warm water before, during, and after preparing food and before eating.

Separate: Don't cross-contaminate

When grocery shopping, keep raw meat, poultry, seafood, and their juices away from other foods. Keep raw or marinating meat, poultry, seafood, and eggs separate from all other foods in the refrigerator. Store raw meat, poultry, and seafood in sealed containers or wrap them securely so the juices don't leak onto other foods.

Cook: To the right temperature

Use a thermometer to ensure foods are cooked to a safe internal temperature. Whole beef, veal, lamb, and pork should be cooked to 145°F. Fish with fins should be cooked to 145°F or until the flesh is opaque. Ground meats should be cooked to 160°F. Poultry should be cooked to 165°F.

Chill: Refrigerate properly

Keep your refrigerator at 40°F or below and your freezer at 0°F or below.

Foodborne | Waterborne Illness Report

Kyle Kimmey, MS, A-IPC, Food and Waterborne Epidemiologist I at DSHS Region 7

Disease is on the rise during warmer months

Figure 2: Total Foodborne and Waterborne Illness Cases by Month

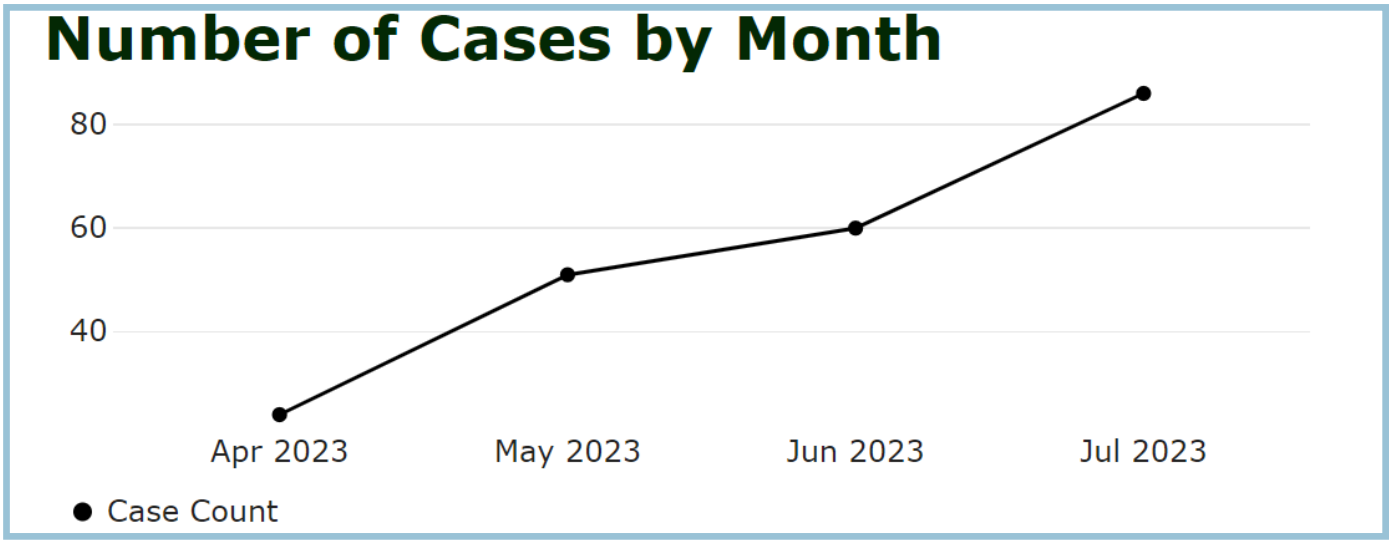


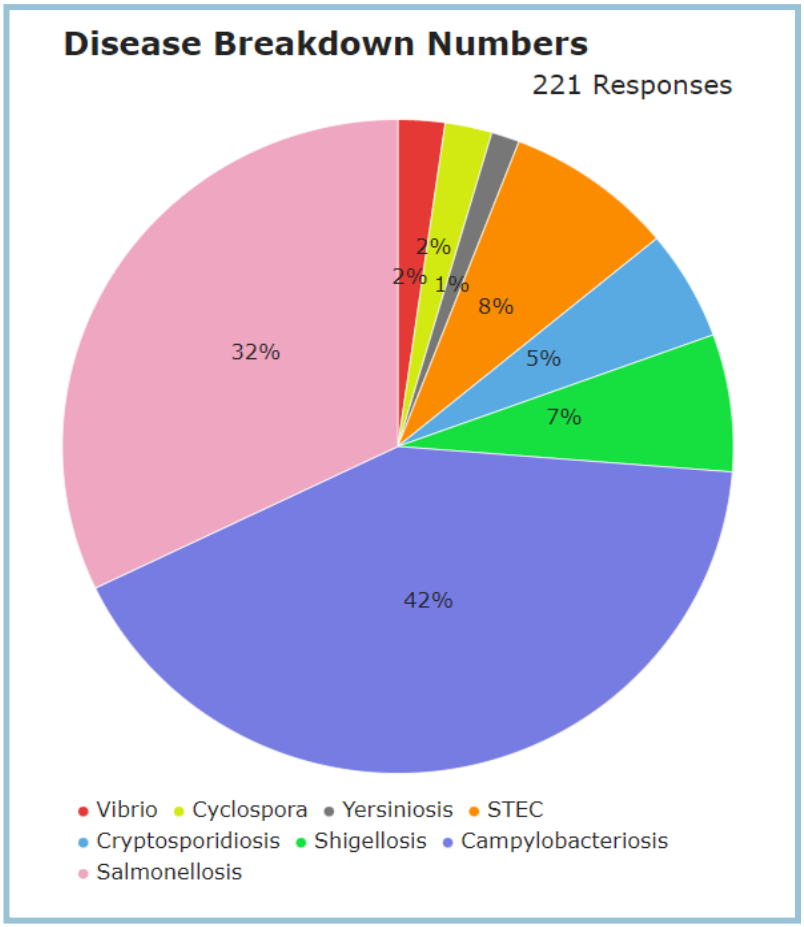
Figure 3: Total Disease Case Breakdown

Here is our case breakdown for the month of July!

Campylobacter made up the majority of our cases this month due to an outbreak potentially linked to a water supply!

City officials worked with TCEQ to ensure that the water was treated so that the population could remain healthy!

Please see Campylobacter description found on the next page.



Note on PHR 7 Data: The results from the data collected through Qualtrics report, cloud-based software platform tool for online data collection through administering survey form responses and provides quantitative statistical analysis.

Campylobacter

Kyle Kimmey, MS, A-IPC, Food and Waterborne Epidemiologist I at DSHS Region 7

What is Campylobacter?

Campylobacter is a waterborne, gram-negative bacillus that transmits commonly through contaminated water, food, or direct contact with animals. Person-to-person transmission is uncommon. The incubation period is typically between two to five days and infected individuals can excrete the organism for two to seven weeks if untreated, but this shedding is of little epidemiologic importance as person-to-person transmission is very uncommon.

Campylobacter Outbreak

PHR 7 was notified of a potential outbreak on June 22 regarding a municipal water supply. An increase in campylobacter cases was noticed by the epidemiology team and local infection preventionists. Upon further investigation, it was revealed that there were numerous water main breaks and that TCEQ had conducted a water safety survey.

The results indicated that there were heavy levels of disinfectant present within the water samples tested. Specifically, the maximum contaminant level for trihalomethanes was found to be 0.082 mg/L for DBP2-01. Trihalomethanes are a group of volatile organic compounds that are formed when chlorine, added to the water during the treatment process for disinfection, reacts with naturally occurring organic matter in the water.

Some people who drink water containing trihalomethanes in excess of the maximum contaminant level over many years may experience problems with their liver, kidneys, or central nervous system, and may have increased risk of getting cancer.

Stock image. Obtained through Microsoft PowerPoint image search result.

The municipality worked with TCEQ and their water provider to address the issue of contamination as a result of water main breaks as well as the maximum contaminant level for disinfectant issue.

The first case symptom onset occurred on May 29 while the last case onset occurred on July 21. A total of 16 confirmed cases of campylobacter infection were reported amongst Bosque, Coryell, and Hamilton counties. All residents shared the same water provider and reported brown/brackish tap water.

Laboratory confirmations were conducted via PCR and culture methods with several samples being sent for testing to the state laboratory for serotyping. Approximately 37% of cases were male while 63% of cases were female.

The majority of patient age ranges were within the 18-49 year age range accounting for 50% of reported cases. Primary symptoms included nausea, vomiting, and diarrhea. Illness periods ranged from two days to 21 days with the median duration of illness lasting five days. All cases recovered and the water contamination issue was resolved.

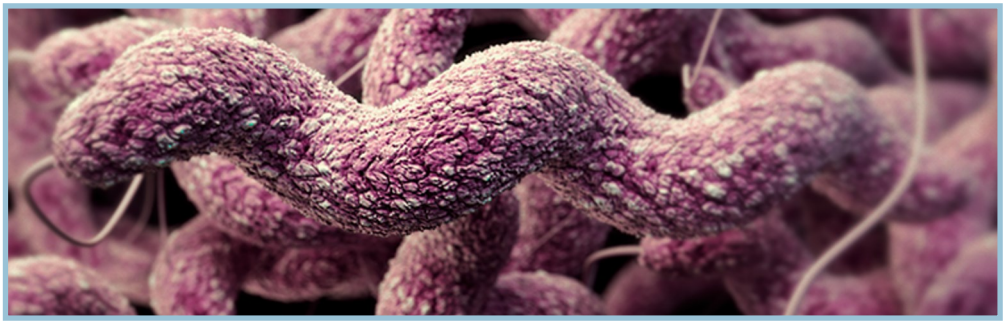
DSHS State Laboratory conducted serotyping and came back with different serovars of Campylobacter. While these were not helpful in identifying links between specific patients, it was expected that there were multiple species of Campylobacter present within the contaminated supply.

Click the following links below for more information on Campylobacter and Drinking Water Distribution:

Campylobacter (Campylobacteriosis) | Campylobacter | CDC

Campylobacter (who.int)

Drinking Water Distribution System Tools and Resources | US EPA



Campylobacter. Digital Image. Source: Campylobacter (Campylobacteriosis) | Campylobacter | CDC

Public Drinking Water - Texas Commission on Environmental Quality - www.tceq.texas.gov

Food Truck Outbreak

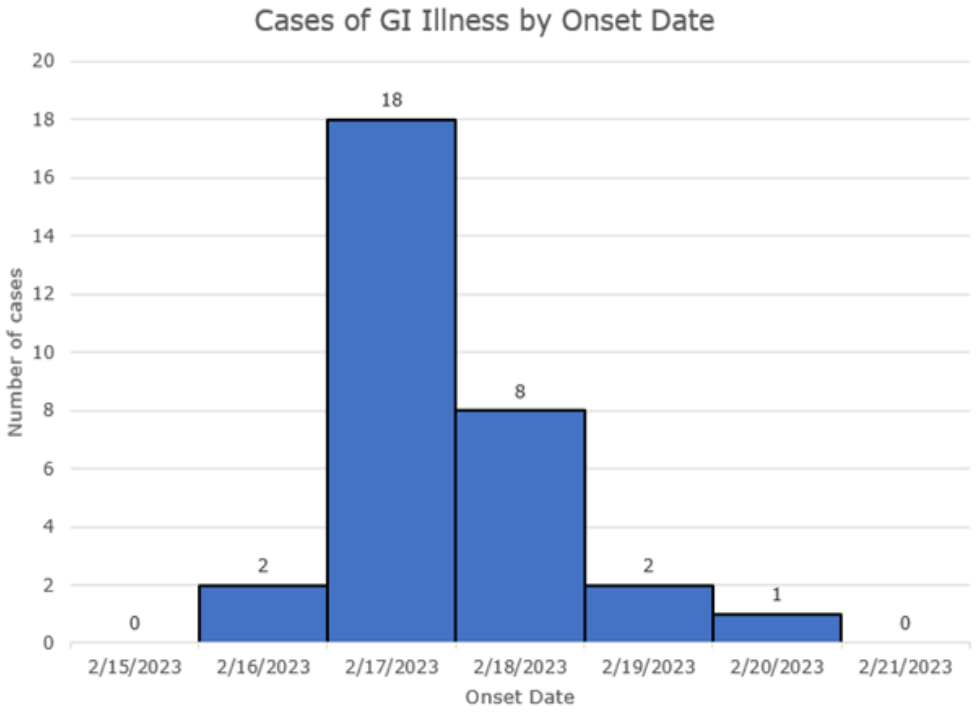
Aishwarya Reddy, MPH, A-IPC, Preparedness Epidemiologist II at DSHS Region 7

Volyk / Adobe Stock Images

On February 18, 2023, the PHR 7 Epidemiology team received a report from a hospital infection preventionist of a possible GI illness outbreak. Two people were seen in an ER with GI symptoms. One person tested positive for norovirus. Both people reported getting drinks from a mobile food unit that was parked near a high school on February 16. It was reported that about 30 students and teachers also got drinks from the mobile food unit and were complaining of GI symptoms. A Qualtrics survey was created to better understand the outbreak and assess risk factors. School officials were contacted for more information and for assistance in distributing the survey.

On February 21, 2023, a PHR 7 sanitarian did an inspection of the mobile food truck. The food truck owners voluntarily closed after multiple violations were noted including operating without a license, no running water for hand washing or cleaning, dogs on the unit, and improper temperatures for cold items.

Figure 4: Epi-Curve for Cases of GI Illnesses by Onset Date



Note on PHR 7 Data: The results from the data collected through Qualtrics reporting survey, cloud-based software platform tool for online data collection through administering survey form responses and provides quantitative statistical analysis.

The following are results from the survey:

- We received reports of GI illness from 32 people. Majority of the cases were female (n=21) and less than 17 years of age (n=20).
- 81% (n=25) reported consuming drinks from the food truck.
- The earliest onset date of illness was February 16. No new reports of illness since February 20. Please refer to the graph above.

Woman with Stomach Illness. Digital Image. Source: Getty Images, Gastrointestinal Disease: Types, Symptoms, and Treatment (verywellhealth.com)

- The most common symptoms that were reported are nausea (n=31), diarrhea (n=29), and vomiting (n=29).
- The longest duration of illness reported was four days, but the most common was two days (n=13).
- Four cases sought medical care, only one stool sample was collected and tested positive for norovirus.

The only common exposure identified was the food truck. Out of the six cases who reported not consuming drinks from the food truck, only one person reported purchasing food and drink outside of the home. Eleven people admitted to having contact with someone who was ill. Five cases reported not consuming drinks from the food truck **but** admitted to having contact with sick individuals (likely secondary infections). Five cases reported consuming drinks from the food truck and having contact with someone who was ill.

Click here for more information on CDCs Foodborne Outbreaks

Click here for more information on GI symptoms

Click here for more information on TX DSHS — Retail Food Establishments

Note on PHR 7 Data: The results from the data collected through Qualtrics report, cloud-based software platform tool for online data collection through administering survey form responses and provides quantitative statistical analysis.

May—July Heat-Related Illness Surveillance

Edward Yi, MPH, Epidemiologist II at DSHS Region 7

PHR 7 conducted heat, dehydration, and submersion illness/injury surveillance using Electronic Surveillance System for the Early Notification of Community–based Epidemics (ESSENCE). These reports started on May 1, 2023 and continued through on July 31, 2023.

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

Wednesday, June 21, is marked as the first day of summer solstice, which is when the sun is positioned at its highest in the sky.

For the month of May, the maximum temperature observed for the majority of days were between 80—89°F, with three separately reported days of temperatures ≥ 90°F. For the month of June, the maximum temperature observed for the majority of days were between 90—99°F, with five separately reported days of temperatures ≥ 100°F. For the month of July, the maximum temperature observed 21 days were between 100—105°F.

With temperatures maintained between 80—105°F range for the May—July months, Central Texas residents were still largely at risk for the illnesses and injuries mostly seen at the beginning to mid-summer.

For more weather related articles regarding the May—July heat, click the links below:

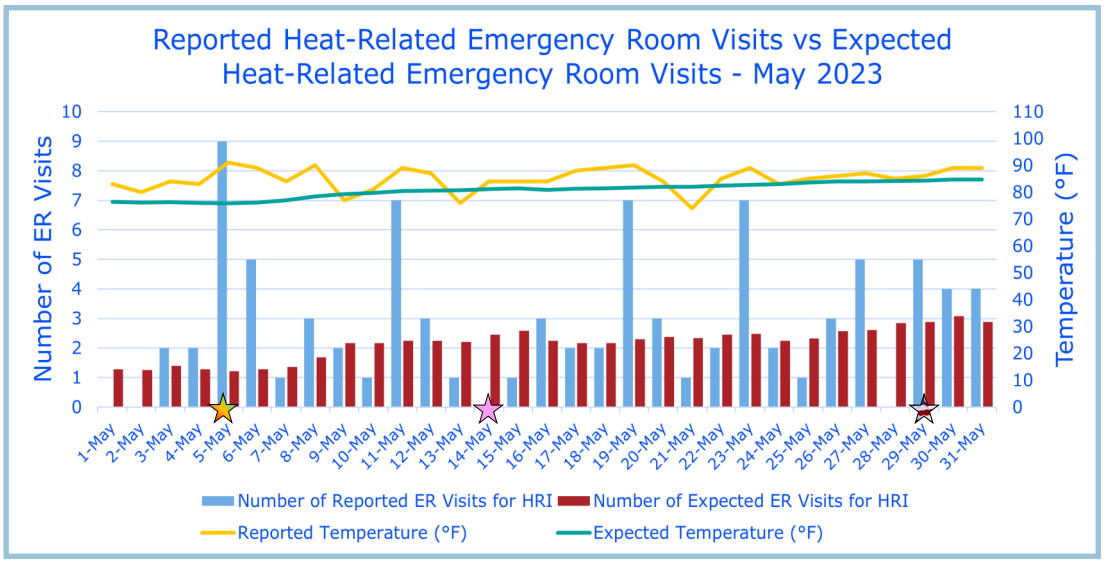
Hottest May on record in Austin | kvue.com

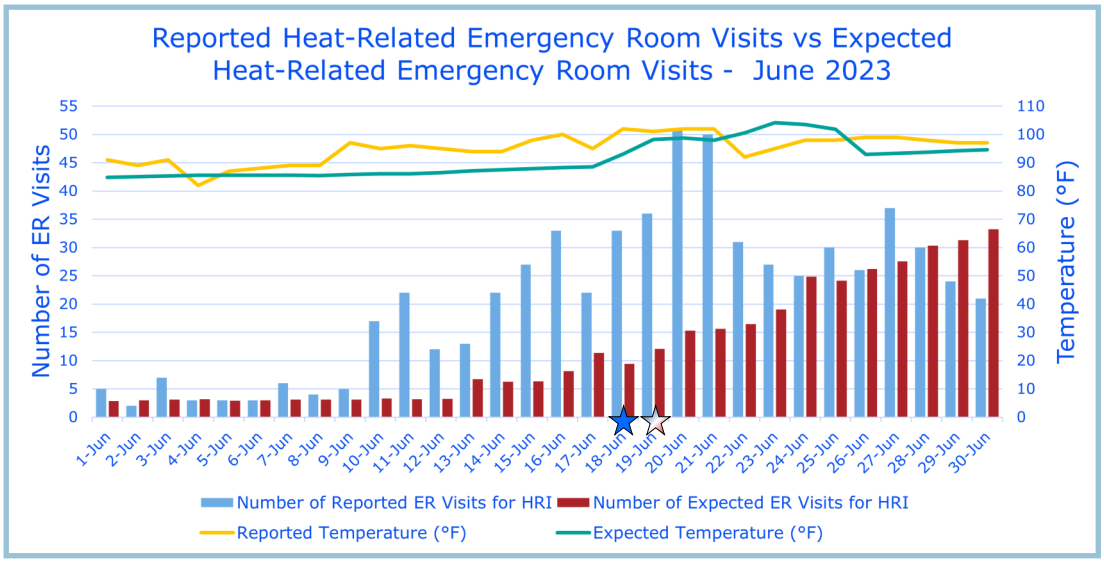
Get ready for some typical early June heat! (kwtx.com)

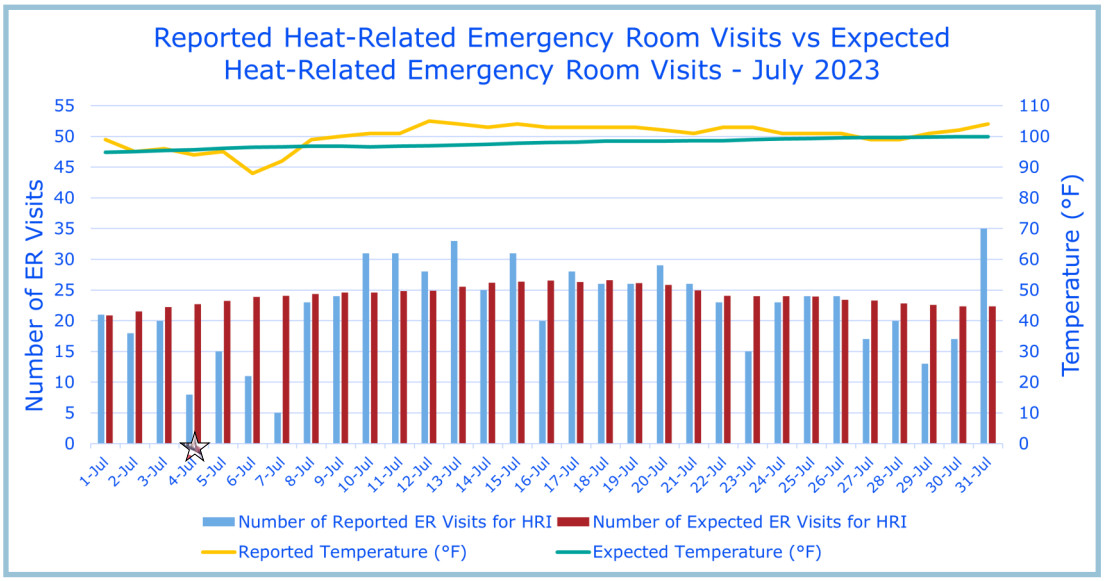
Bryan-College Station officially sets new June heat record (kbtx.com)

Stock image. Obtained through Microsoft PowerPoint image search result.

Figure 5: Epi-Curve of Heat-Related ER Visits for May — July 2023







Cinco De Mayo
Mother's Day
Memorial Day
Father's Day
Juneteenth / Emancipation Day
Independence Day

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 overestimation or underestimation 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 5 shows the three different EPI-curves for HRIs for each month by days. The EPI -curve scaling is different for the month of May due to the number of reported HRI ER visits are much lower when compared to June and July EPI-curves.

For days in May where the temperature was reported above 90°F, there was an observed spike in the number of HRI ER visits, even though it was expected to stay steady at between one to three HRI ER visits per day. The highest observed spike of HRI ER visits occurred on Friday, May 5, Cinco De Mayo observance (n=9). On Mother's Day there were no reports HRI ER visits. In addition, each of the observed spikes occurred at times during mid-week to end of the weekend. There was also another smaller observed spike around the Memorial Day weekend, May 27—29.

In June, the number of ER visits for HRIs started to increase on June 10, which was the second weekend of the month. The two highest ER visits for HRIs occurred on June 20—21, where the temperature was 102°F on both days. On the days leading up to June 20—21, HRI ER visits briefly decreased on June 17, the start of the third weekend, and steadily increased on Father's Day and Juneteenth, June 18 and 19, respectively.

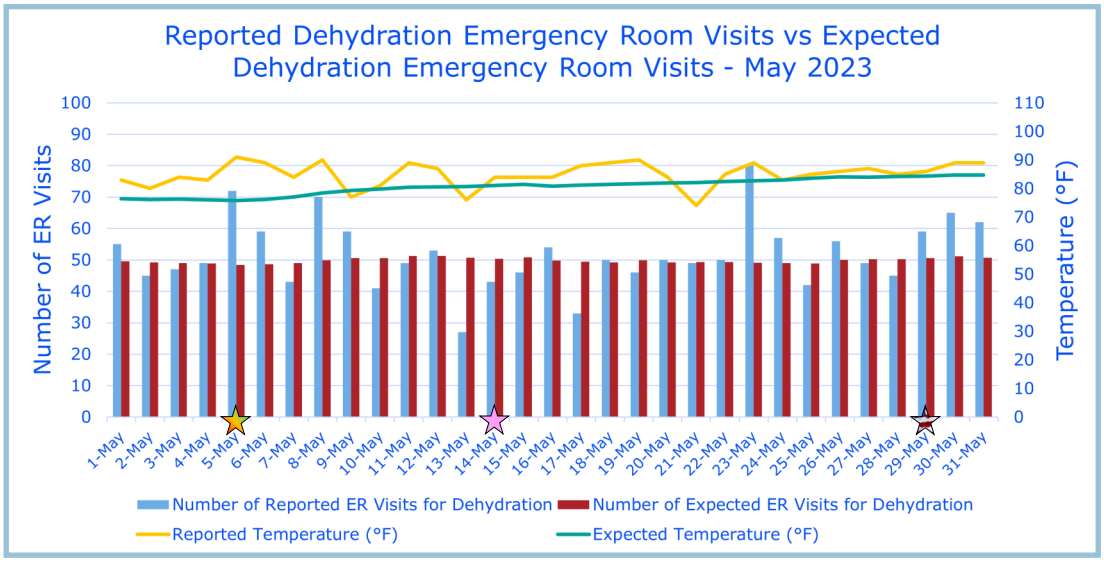
Stock image. Obtained through Microsoft PowerPoint image search result.

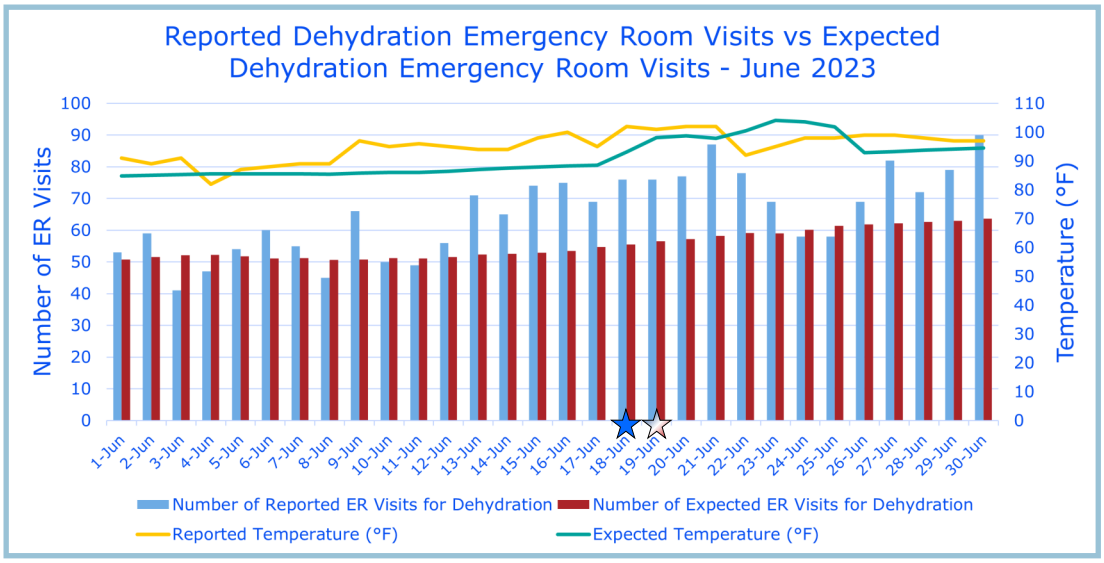
In July, the number of reported HRI ER visits averaged around 22 visits per day - two HRI ER visits less than the average expected HRI ER visits (n=24), with the highest number of HRI ER visits (n=35) on July 31. In addition, there were lower number of reported HRI ER visits than expected during the Fourth of July. This could possibly be due to many holiday-related events being held in the evenings.

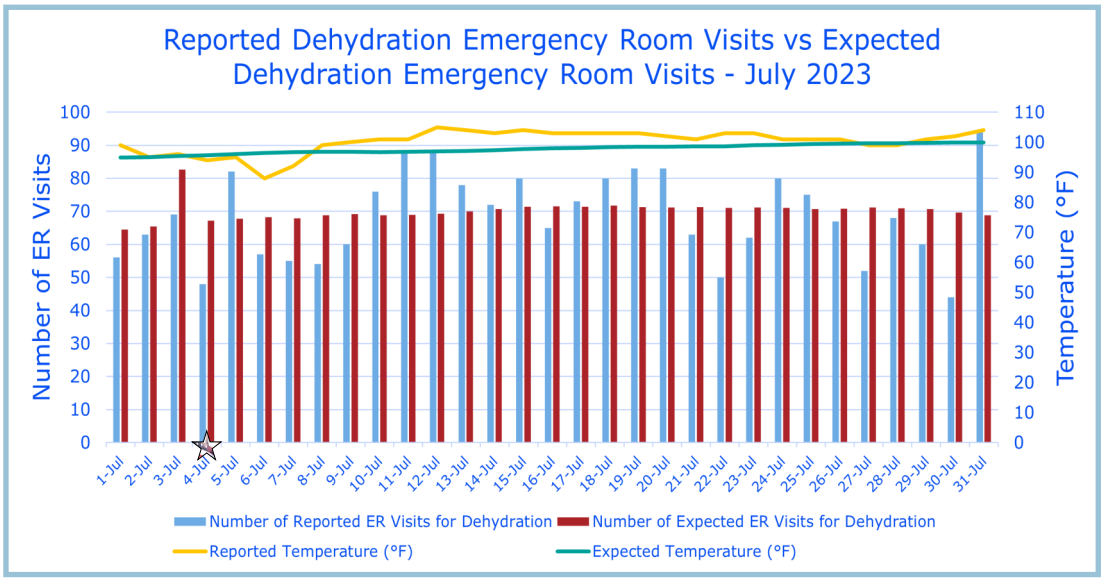
Most of the HRI ER visits involved heat exhaustion and overheating from being outside and/or participating in outdoor activities. In addition, the majority of patients experienced various symptoms of heat exposure (i.e., cramps, syncope, nausea, vomiting, chest pain, headache, etc.).

There were multiple and consecutive days where the National Weather Service issued heat alerts to include heat advisories and excessive heat warnings for June and July.

Figure 6: Epi-Curve of All Dehydration ER Visits in May — July 2023







Cinco De Mayo
Mother's Day
Memorial Day
Father's Day
Juneteenth / Emancipation Day
Independence Day

Note on PHR 7 Data: The results from the query used in ESSENCE, an electronic bio-surveillance system, to track all dehydration may be an overestimation or underestimation of the actual burden of illness related to the summer weather activities. This overestimation or underestimation is due to the nature of the query, which may include factors other than heat.

All Dehydration

For May, the reported all dehydration ER visits averaged 52 per a day, which is about two more than the average expected number of all dehydration ER visits per a day (n=50). There were several observed spikes throughout the month. Some of the noticeable spikes occurred on early days leading and after the first weekend. The days were Cinco De Mayo (May 5) observance (n=72), May 6 (n=59), May 8 (n=70), and May 9 (n=59). However, for Mother's Day weekend (May 13—14), the reported all dehydration ER visits were less than expected. The highest number of reported all dehydration ER visits occurred on May 23 (n=80). In addition, there were steady increases above the expected number of dehydration ER visits starting on Memorial Day (May 29) and the following days after.

For June, as the temperature steadily rose, all dehydration ER visits were increasingly reported. The average for reported all dehydration ER visits was 65 per a day which was 10 more than the average for expected all dehydration ER visits. Significant increases in reported ER visits began around June 9 and decreased until another significant increase occurred on June 13, and peaked on June 21 with 87 reported ER visits. Shortly after, a decrease occurred from June 22—26.

Stock image. Obtained through Microsoft PowerPoint image search result.

During the Father's Day weekend and the following Juneteenth/Emancipation Day, both days had 76 reported all dehydration ER visits. From June 27 to the end of the month, the number of reported all dehydration ER visits was significantly above the expected number.

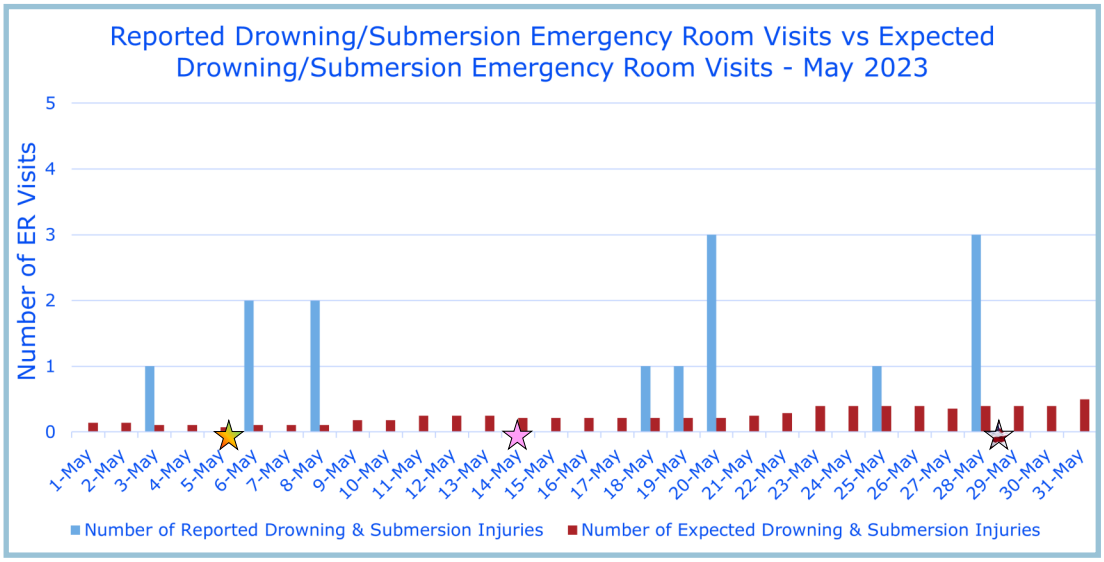
For July, the temperature averaged around 100°F, which was 2°F higher than the average temperature. All dehydration ER visits were increasingly reported within PHR 7, however the average reported number of all dehydration ER visits were around 69 per day, which is one less than the expected all dehydration ER visits (n=70).

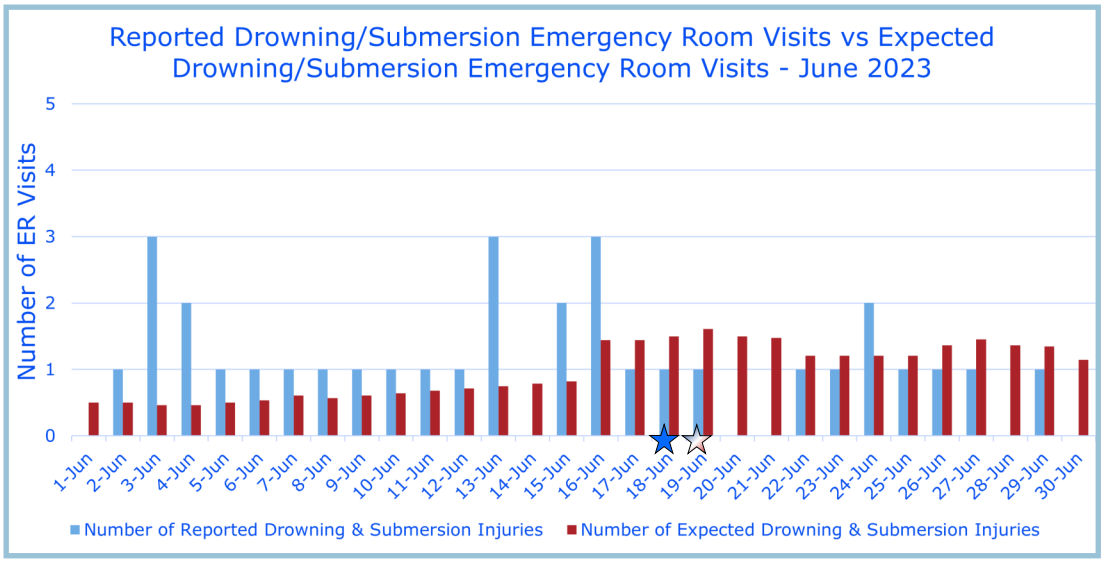
In addition, approximately 57% of the days were above the average expected all dehydration ER visits. Surprisingly, July 4 Independence Day, had one of the lowest reported all dehydration ER visits (n=48). However, the very next day, the number of reported all dehydration ER visits significantly increased.

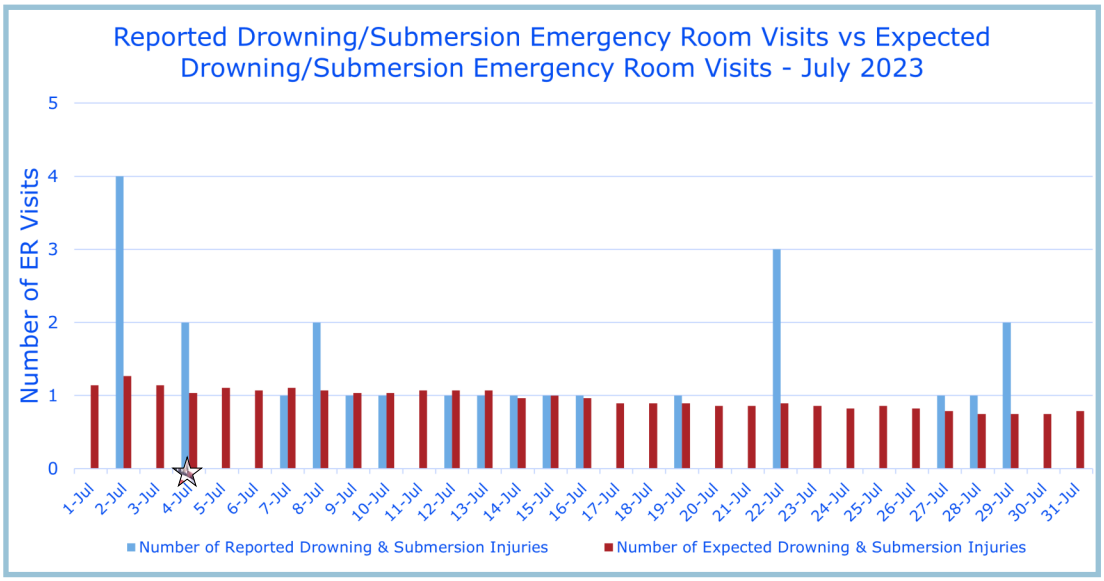
From May through July, the reported ER visits were related to heat-related dehydration and non-heat related dehydration (primarily GI). Chief complaints include but not limited to syncope, vomiting, cramping, abdominal pain, diarrhea, nausea, dizziness, food/drug poisoning, altered mental status, etc.

Stay Hydrated!

Figure 7: Epi-Curve of Drowning/Submersion ER Visits for May — July 2023







Cinco De Mayo
Mother's Day
Memorial Day
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Independence Day

Note on PHR 7 Data: The results from the query used in ESSENCE, an electronic bio-surveillance system, to track drowning/submersion may be an overestimation or underestimation of the actual burden of condition related to the summer weather activities. This overestimation or underestimation is due to the nature of the query.

Drowning/Submersion

For May, the average reported ER visits for drowning and/or submersion was less than 1 per a day, however, there were a total of eight days that had at least one reported ER visits for drowning and/or submersion with the highest count of 3 reported ER visits on May 20 and May 28, respectively. Both of these three reported ER visits occurred over the weekend and considered to possibly be the first weekends of summer swimming. In addition, the majority of the ER visits in May were weekends and/or the days leading up to the weekend.

In contrast, in June, the average reported ER visits was one per a day, where the majority of the days had at least one reported ER visit within the region. There were several days that spiked with 2—3 reported ER visits. The data suggested the number of reported ER visits stayed relatively steady with occasional observed spikes as the temperature rises, when compared to the number of expected ER visits.

During July, PHR 7 continued to observe drowning and/or submersion. Approximately half of the days of the month observed no drowning and/or submersion ER visits, with only several days having a spike in drowning and/or submersion and averaging with less than one reported ER visit within the region. The highest number of reported drowning and/or submersion ER visits was on July 2 (n=4) and July 22 (n=3).

Stock image. Obtained through Microsoft PowerPoint image search result.

Some of the reported drowning/submersion ER visits from May to July, were related to activities involving specific types of water (swimming pools, etc.), near drowning incidents and/or secondary injuries sustained at or nearby specific types of water. However, there were also ER visits reports categorized as unspecified effects of drowning and/or non-fatal submersion. Approximately 65% of the reported drowning/ submersion ER visits were ages between 0—17 years old. Lastly, approximately half of the observed spikes occurred during the weekend and the days leading up to the weekend.

July 4, 2023 Holiday Week Fireworks Surveillance

Edward Yi, MPH, Epidemiologist II at DSHS Region 7

Fourth of July (Independence Day) is a federal holiday that commemorates the adoption of the Declaration of Independence and is annually celebrated by most people in the U.S. with various patriotic activities and pastimes including fireworks, parades, barbecues, picnics, concerts, baseball games, and family reunions within the community.

With all the festivities going on, it is important to be aware of the potential dangers and hazards when partaking in the various celebratory activities. From increased road trips to fireworks, there are many factors putting you and your family at risk during the July 4th celebrations. Holiday weeks and weekends increase the risk of potential injury and fatality.

PHR 7 conducted Fireworks-related injury surveillance using ESSENCE (Electronic Surveillance System for the Early Notification of Community-based Epidemics). This data reflects July 1—8, 2023.

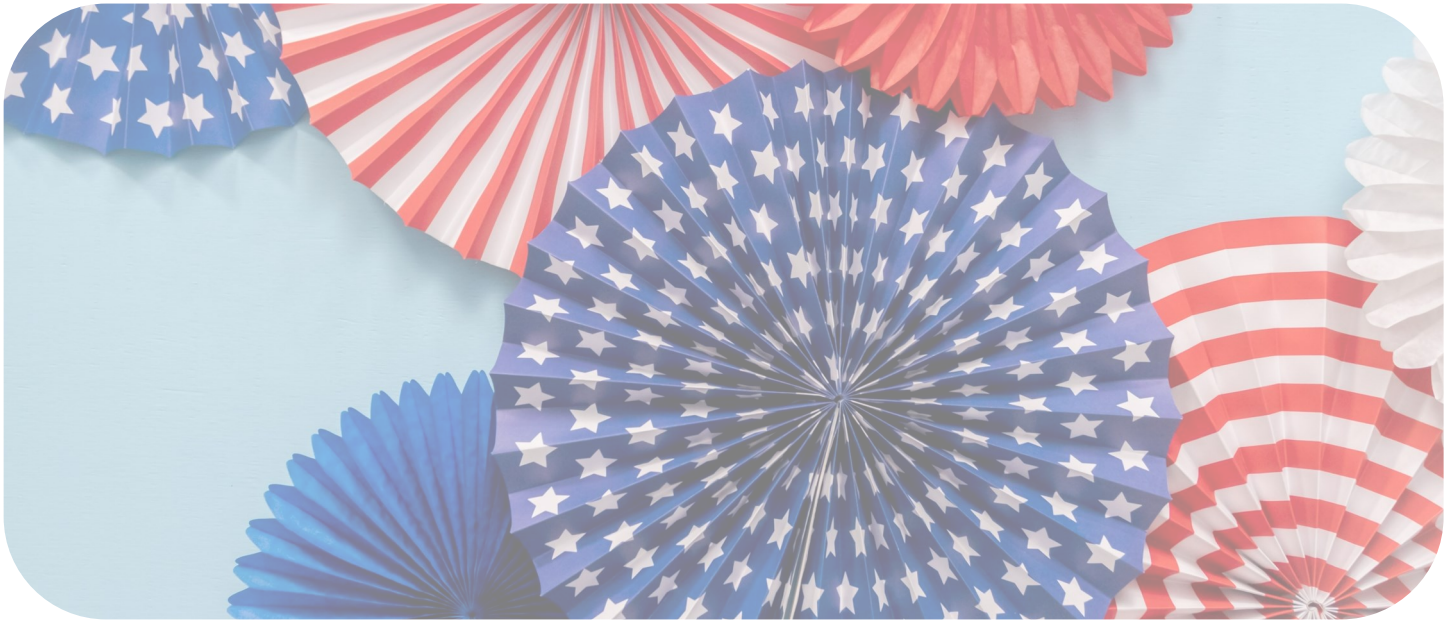
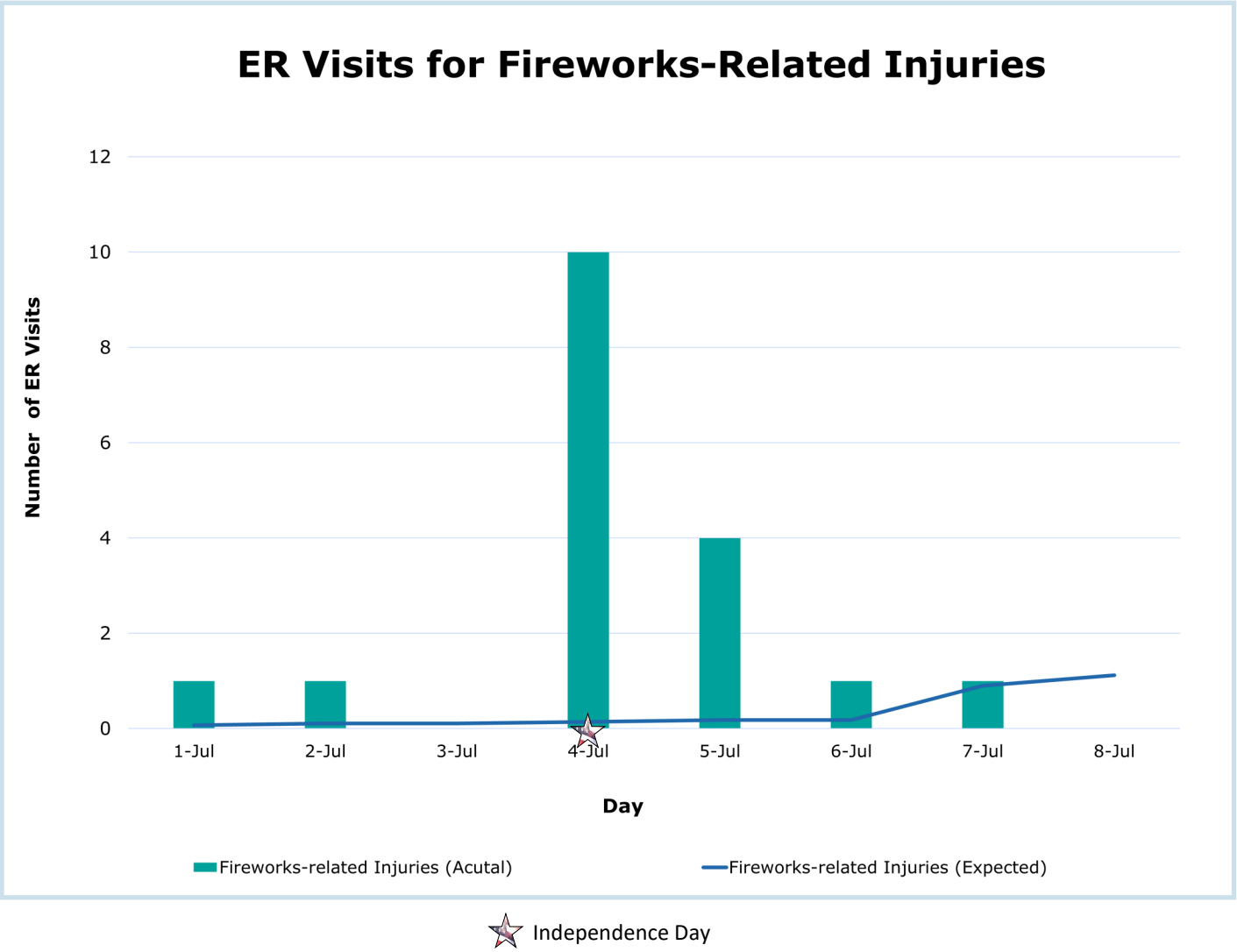


Figure 8: EPI-Curve ER visits for Fireworks-Related Injuries



During this year's Independence Day celebration week, there was a low count of fireworks-related injuries. The weekend of July 1, leading up to the holiday observance, observed only two ER visits for fireworks-related injuries. On July 4, PHR 7 observed a significant increase in the number of ER visits with a total of ten fireworks-related injuries, followed by the next day, July 5, with four ER visits for fireworks-related injuries. The number of ER visits continued to decrease heading to the weekend of July 8.

The most common chief complaint are epidermal burns, specifically the upper and lower extremities. Other injuries reported are eyes and secondary/indirect injuries related to fireworks.

Note on PHR 7 Data: The results from the query used in ESSENCE, an electronic bio-surveillance system, to track fireworks-related injuries may be an overestimation or underestimation of the actual burden of condition related to the July 4th related activities and due to the nature of the query, which may include indirect/secondary fireworks-related injuries.

TEXAS Health and Human Services | Texas Department of State Health Services

DSHS Central Texas
Public Health Region 7 Serving You

DSHS Public Health Region 7
Epidemiology Office
2408 South 37th St
Temple, Tx 76504
Phone: 254-778-6744
Fax: (254) 899-0405
phr7.episurveillance@dshs.texas.gov

Remember to report the required notifiable conditions to the DSHS Region 7 Epidemiology office!

Epidemiology Program's

Mission Statement:

To develop or enhance regional epidemiology services for the rapid detection and control of disease outbreaks or other adverse health outcomes. This includes evaluating, enhancing and when necessary creating new surveillance and investigation systems, analyzing data, preparing recommendations and working with appropriate programs to implement interventions for desired outcomes.

Questions, comments, or suggestions for this newsletter should be submitted to: **phr7.episurveillance@dshs.texas.gov**.