

# DSHS Central Texas

Public Health Region 7 Serving You

## Epidemiology Quarterly Newsletter

FALL 2023

### IN THIS ISSUE:

**FLU, COVID, RSV! Oh My!**

**Respiratory Illness Prevention Measures**

**Summer to Midfall Influenza Surveillance**

**Epidemiology Spotlight**

**Pediatric Neisseria Meningitidis Case**

**August - October Heat-Related Illness Surveillance**

# Public Health Happenings

**Fall season is here!**

[Strategies for a healthy fall](#)

**Time to layer up for cooler weather and enjoy the autumn mornings!**



Public Health Region 7 (PHR 7) saw a calm transition from summer to fall. With autumn in full swing, take time to watch the leaves change to olive greens, golden yellows, burnt oranges, and purple-tinged reds!





# Flu, COVID, RSV! Oh My!

Edward Yi, MPH, Epidemiologist II at DSHS Region 7



**Flu (Influenza):** A contagious respiratory virus that infects the upper and lower respiratory system, including the nose, throat, and sometimes the lungs. It is caused by influenza A and B viruses. Some symptoms are cough, head/body/muscle aches, sore throat, fever or feeling feverish/chills, fatigue, or congestion (lungs and nose). In some pediatric cases, vomiting and diarrhea can occur. Flu is mainly transmitted through small, aerosolized droplets from people with flu through coughing, sneezing, and talking. A less common mode of transmission is through contact with surfaces and/or objects that have the virus on them and then touching your eyes, nose, or mouth.

For more info: [Key Facts About Influenza \(Flu\) | CDC](#)

[Influenza \(Flu\) | Texas DSHS](#)

**COVID (Coronavirus Disease):** A respiratory illness that is very contagious and mainly spreads through breathing in aerosolized droplets from infected people. The SARS-CoV-2 virus causes COVID. Symptoms include sore throat, head/body/muscle aches, fever, cough, fatigue, a runny or congested nose, and more. Some symptoms unique to COVID are new loss of taste or smell, shortness of breath, chest pain/pressure, new confusion, and discoloration of digits, lips, and skin (pale, gray, red to purplish blue). Also, lasting effects from severe COVID can occur in the form of “long COVID” or post-COVID conditions. Some of the more common symptoms are difficulty thinking or concentrating (brain fog), daily fatigue or tiredness, and skin rashes.

For more info: [About COVID-19 | CDC](#)

[COVID-19 \(Coronavirus Disease 2019\) | Texas DSHS](#)

**RSV (Respiratory Syncytial Virus):** A common respiratory illness that usually infects infants and children but also adults. It causes mild flu-like symptoms like wheezing, decreased appetite, and sneezing. A primary symptom in kids is congestion or runny nose. Like flu and COVID, RSV is contagious and can spread through person-to-person contact with tiny droplets from an infected person and also from surfaces.

For more info: [RSV \(Respiratory Syncytial Virus\) | CDC](#)

[Respiratory Syncytial Virus \(RSV\) | Texas DSHS](#)



# Respiratory Illness Prevention

Edward Yi, MPH, Epidemiologist II at DSHS Region 7

It's that time again! As fall turns to winter, the 2023-24 influenza season is upon us. Flu and other respiratory illnesses will be transmitted more during the colder months as temperatures continue to drop, dry winter air settles in, and people stay indoors more often. This triggers flu season, which increases in the fall, peaks during winter, and lasts through spring.

It is important to protect oneself, family, and friends during months of increased influenza and influenza-like illness activity. Some of the recommended prevention and mitigation measures include:

- 1) Getting vaccinated\***
- 2) Performing regular proper personal hygiene (cleaning and washing hands with soap and water, using hand sanitizers with at least 60% isopropyl alcohol)**
- 3) Cleaning and sanitizing surfaces and objects in your environment**
- 4) Using appropriate masks**
- 5) Improving indoor air quality by opening windows and/or using air filters**
- 6) Implementing safe physical distancing measures to avoid close contact**
- 7) Covering the mouth when coughing or sneezing**
- 8) Staying home when sick**
- 9) Getting tested for respiratory illnesses to receive proper method of treatment**



Stock images. Obtained through Microsoft PowerPoint image search result.

\*There are separate vaccines for the flu, COVID, and RSV. These vaccines protect people from the severe forms of each respiratory disease and reduce incidence, hospitalization, and mortality. Contact your primary care provider or pharmacy to discuss getting vaccinated.

For more information from the CDC:

Flu - [Key Facts About Seasonal Flu Vaccine](#) | [Prevent Seasonal Flu](#)

COVID - [Vaccines for COVID-19](#) | [How to Protect Yourself and Others](#)

RSV - [RSV Vaccine Information Statement](#) | [Preventing RSV \(Respiratory Syncytial Virus\)](#)



**Figure 1: Epi-Curve of Total Aggregate Influenza and ILI Weekly Trend from MAY-OCTOBER 2023**

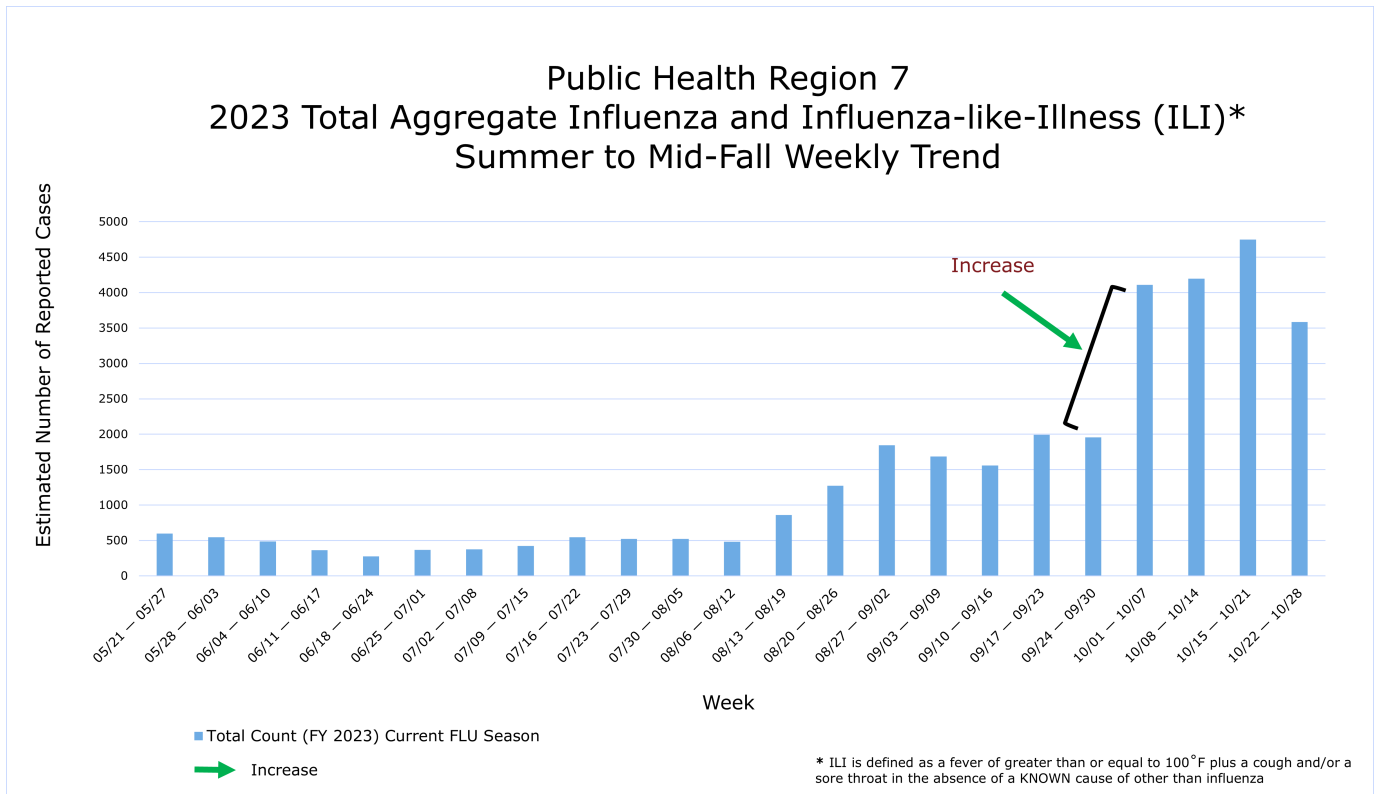


Figure 1 is an epidemiological curve (epi curve) for the beginning of summer (May 21) to midfall (October 28). The epi curve is a graph based on weekly aggregated influenza and influenza-like illness (ILI) data gathered from various collection methods that depicts respiratory illness activity within PHR 7.

Starting in the beginning of summer, on week 21 (May 21-27), flu and ILI activity were below 600 reported cases each week, averaging around 459 reported cases by August. The number of reported cases began increasing on week 33 (August 13-19) and continued to rise. A couple of weeks later, reported cases slightly decreased before increasing again. This is due to the increased number of flu reporters usually participating in the weeks prior and into to the fall season as opposed to during the summer months.

By the start of the 2023-24 flu and ILI season, week 40 (October 1-7) saw a significant increase of around 110% from week 39 (September 24-30) as shown by the green arrow on the epi curve. Week 42 (October 15-21) had the highest amount of reported flu and ILI cases, an aggregated total of 5,227. A decrease on week 43 (October 22-28) followed. PHR 7 will likely see a continuation of this type of trend for the next several weeks.

PHR 7 is observing lower flu and ILI activity levels when compared to the previous season and is consistent with state activity levels.

[Click here for more information on flu and ILI activity for the State of Texas.](#)

Note on PHR 7 data: The data and results reports are received from many sources, including the query used in ESSENCE, an electronic bio-surveillance system, and participating sentinel surveillance networks from local health departments, hospitals and clinics, and independent school districts. The reports track and monitor influenza and influenza-like illness activity and may be an overestimation or underestimation of the actual burden of illness. This is due to the nature of the query and the multitude of factors regarding the participation of the regional influenza surveillance program.



# Epidemiology Team Spotlight:

## Welcome our newest team member!

Arnold Martinez, MPH, Infectious Disease Investigator

### How would you summarize what you do?

I investigate infectious diseases that occur within PHR 7 and work together with emergency preparedness in supporting and improving existing preparedness protocols.

### What do you like about our organization's culture?

The communication is open and safe. With my experience in other workplaces, I believe the program I am in currently has helped me transition into my role better. I feel like I can go to my coworkers, supervisor, or manager and ask questions or express comments with the people who I work with every day without reprimand.

### What does your daily routine look like?

I review lab report cases that have been assigned to me and determine whether the case reports are investigated using criteria guidelines. Once confirmed, I make necessary calls to providers for patient information and then call the patient (or their guardians if the patient is a child) to obtain information that may have led to the reported illness. The information is then input into a national database.

### What are your favorite professional development opportunities?

I'm able to learn from other state employees in Texas and various organizations through conferences and trainings. This is something I enjoy a lot as there are many educational opportunities here.

### What are recommendations or suggestions you would give to aspiring public health professionals?

Public health covers a lot of entities. I would say to not be limited-minded in staying in one type of public health. I have different experiences in epidemiology, community health, and public health education and public health administration. I believe public health epidemiology has the most interest for me and I am currently on the epidemiology career path.

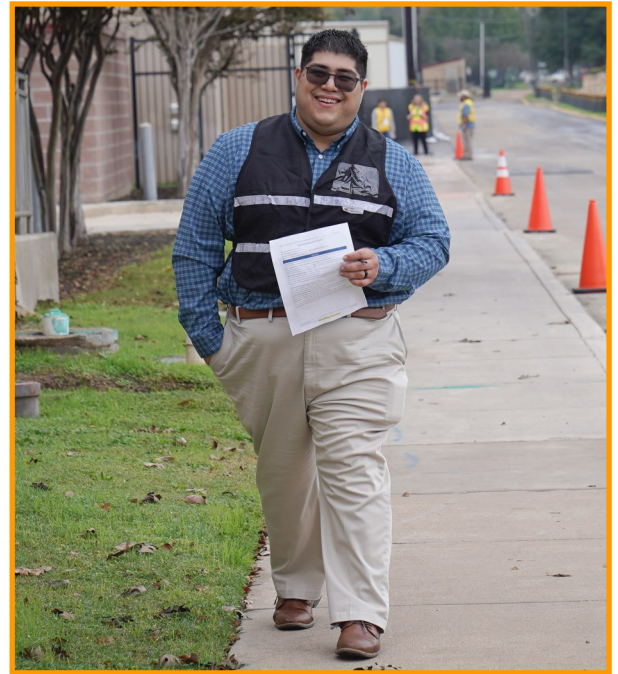


Photo taken during the Hays County POD exercise on 11/20/23.



# Pediatric Neisseria Meningitidis Case

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



CDC. *Neisseria Meningitidis*. [Meningococcal Disease Causes and How It Spreads](#)

*Neisseria meningitidis* is a bacterium capable of causing severe illness with symptoms such as headache and stiff neck, nausea, photophobia, altered mental status and more severe cases experiencing sepsis, shock, and multiple organ failure. Even with treatment, the case fatality rate of this condition can range from 8-15% and long-term effects including neurologic disability are possible. *N. meningitidis* spreads through contact with respiratory secretions or aerosol droplets from infected persons and so it is imperative to implement precaution and control measures such as isolation and prophylaxis as soon as possible.

On October 10, 2023, PHR 7 received a call from an infection preventionist at a hospital about a positive *Neisseria meningitidis* case they were treating. The patient was an infant who was brought to the hospital the night before with a high fever that did not abate with Tylenol. The child was admitted to the ICU and tested

positive for *N. meningitidis* the morning of October 10.

The patient was put on antibiotics and symptoms started to improve. The patient's parent reported that they attended a baby shower with 30 other people two days before the patient became ill. No other attendees reported any illness. The patient lives with their parents and two relatives in the same household who were not vaccinated. Another relative who had attended the baby shower was also identified as a close contact. There were no other potential exposures reported.

The local health authority of the patient's county assisted with providing close contacts of the case with prophylaxis and all contacts were prescribed antibiotic medication to prevent infection. A blood sample from the patient was sent to the DSHS central laboratory on October 13 and confirmed as *N. meningitidis* serogroup Y. The infant survived and continued to improve.



# August-September Heat-Related Illness Surveillance

Edward Yi, MPH, Epidemiologist II at DSHS Region 7

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

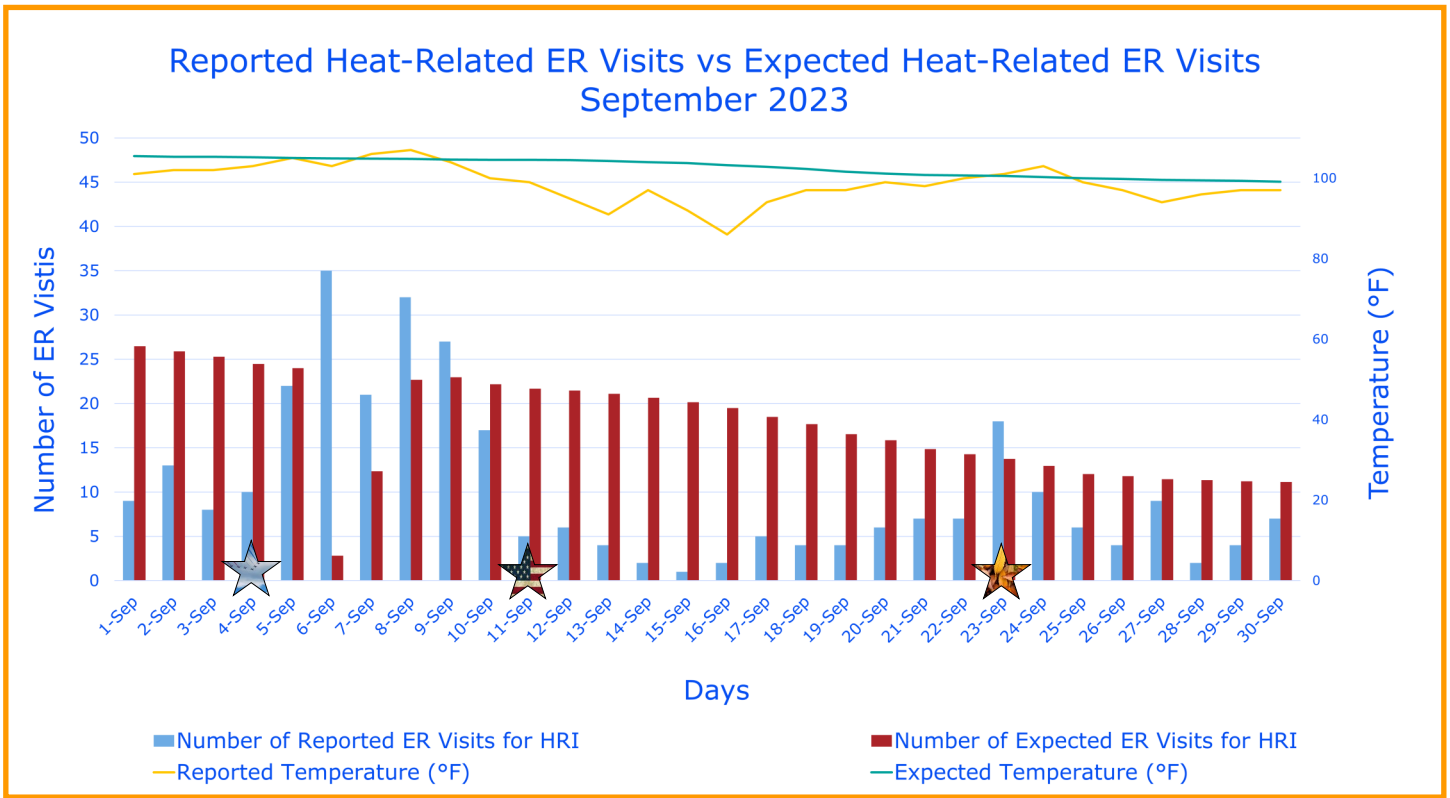
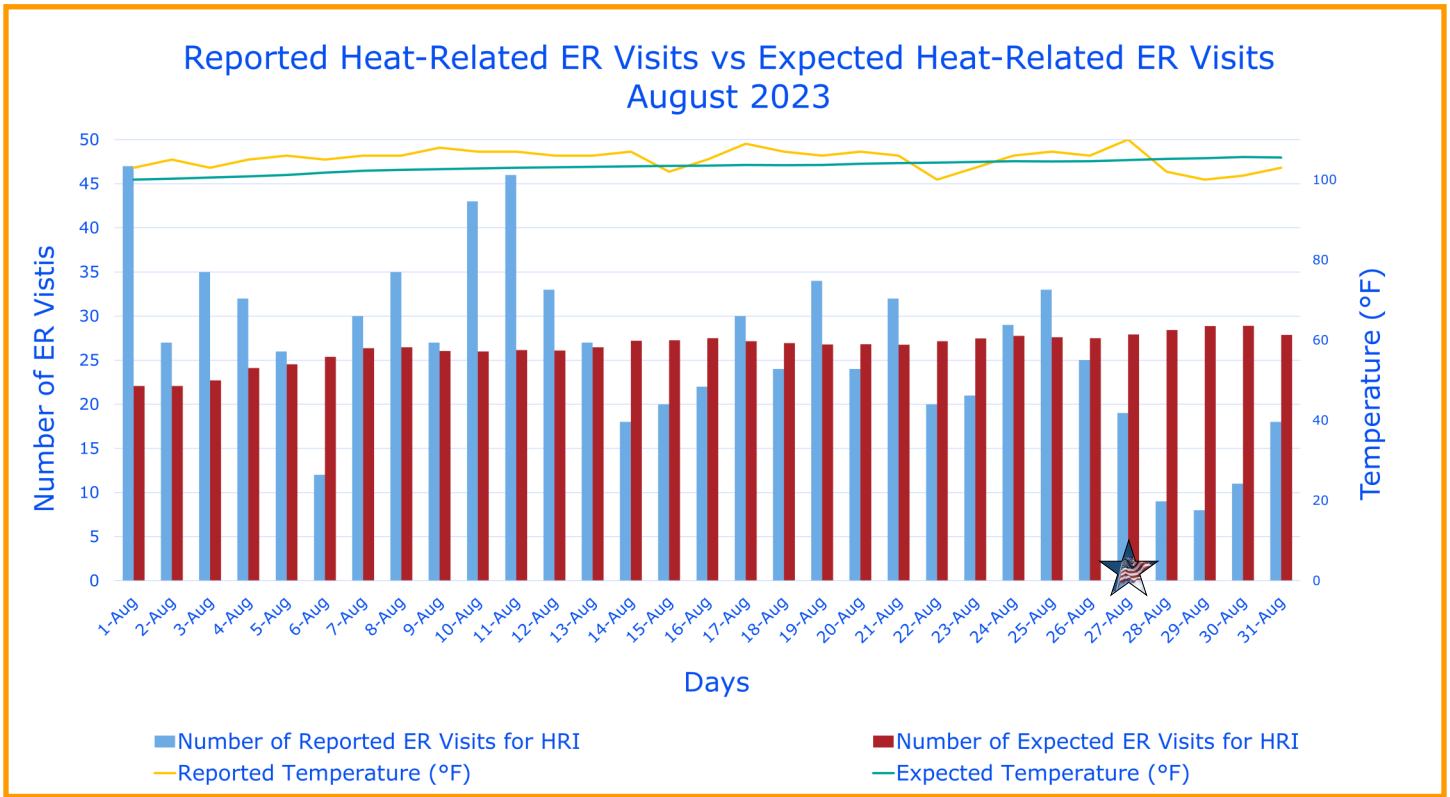
amount of darkness and daylight when the Earth is tilting neutrally from the Sun.

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.



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

## **Epidemiology Program**

### **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](mailto:phr7.episurveillance@dshs.texas.gov)**.