



# Total Eclipse in the Heart of Texas

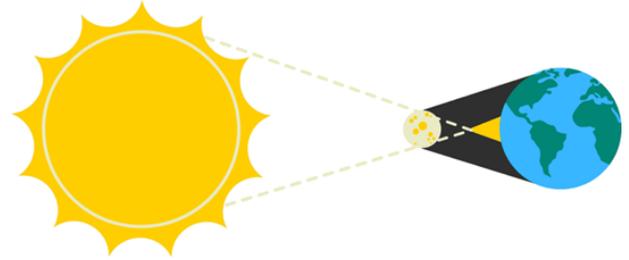
## Using CASPER to Assess Preparedness in a Rural Community

Aishwarya Reddy, MPH, a-IPC, Preparedness Epidemiologist

### Background Information

A solar eclipse is a rare phenomenon when the moon passes between the Earth and the sun, blocking the view. During the 2017 total solar eclipse, there was a 222% increase in traffic. There was also a 7.4 estimated million increase in tourism.<sup>1</sup> The expected

influx of visitors causes many problems that can pose a threat to health. These can include road closures, increased traffic, and disrupted cell service. These burdens disproportionately affect rural communities due to limited resources and infrastructure.



Leander ISD. Solar Eclipse. Total Solar Eclipse Event



DSHS PHR 7. CASPER Just-In-Time Training.

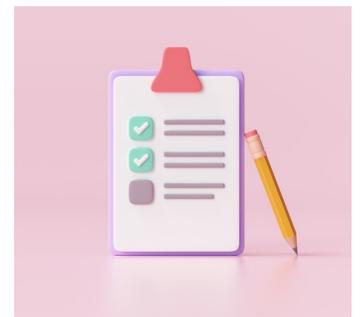
### CASPER

A Community Assessment for Public Health Emergency Response (CASPER) is a type of rapid needs assessment to collect household-level information. Public health officials can use it to inform policies and practices.

A CASPER was conducted in three rural counties of Central Texas: Blanco, Burnet, and Llano. The goal was to understand preparedness knowledge and the perceived impacts of the eclipse.

### The objectives of this CASPER:

1. Assess household's health care needs, emergency communication preferences, and emergency plans.
2. Provide emergency management coordinators and other local officials with information on community preparedness.
3. Assess the perceived impact and concerns of the total solar eclipse on households.



Stock image. Obtained through Microsoft PowerPoint image search result.



# Total Eclipse in the Heart of Texas

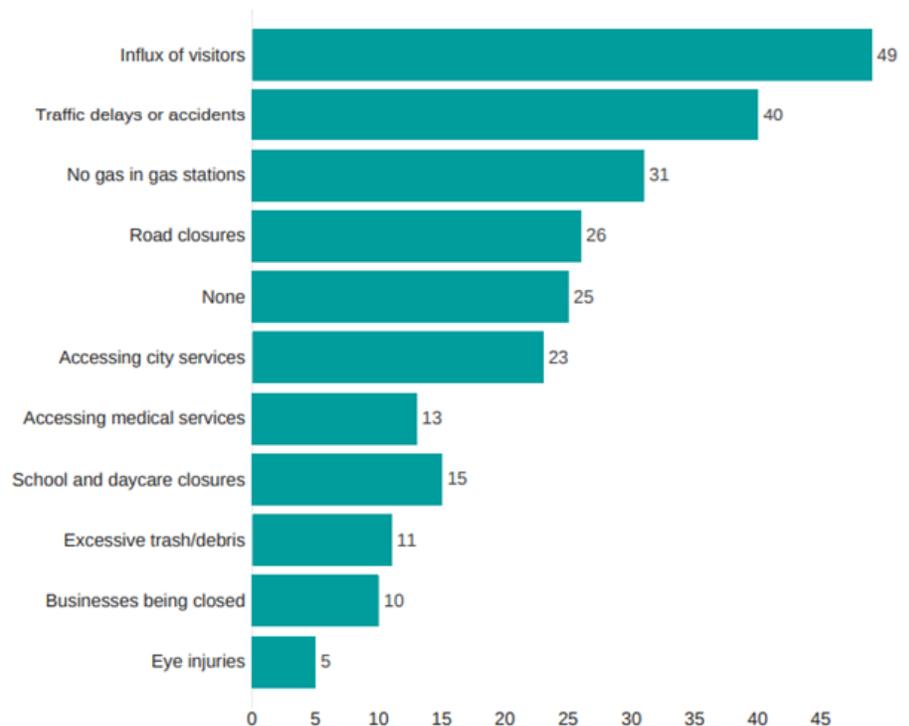
## Using CASPER to Assess Preparedness in a Rural Community

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### Results

- CASPER completion rate was 42.9%.
- Majority of the households had residents older than 65 years.
- Almost 80% of households are in need of primary care doctors. Half of those households need daily medication.
- About 53% of households have an emergency go-kit prepared.

**Figure 1: Concerns About the Solar Eclipse**

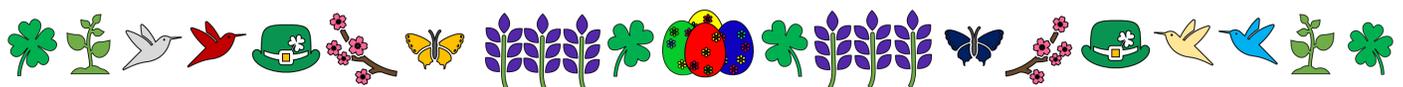


- 48% believe the total solar eclipse will have no impact on their households.
- 54% were concerned about the influx of visitors to the area. Only 6% were concerned about eye injuries.

The data provides valuable information on preparedness levels within rural communities. Emergency management coordinators can adapt plans and responses to target an older population with their unique resource needs. Community preparedness is essential in mitigating the impacts of an emergency. This CASPER effectively measured preparedness in rural communities and assessed the eclipse's impact.

### Reference:

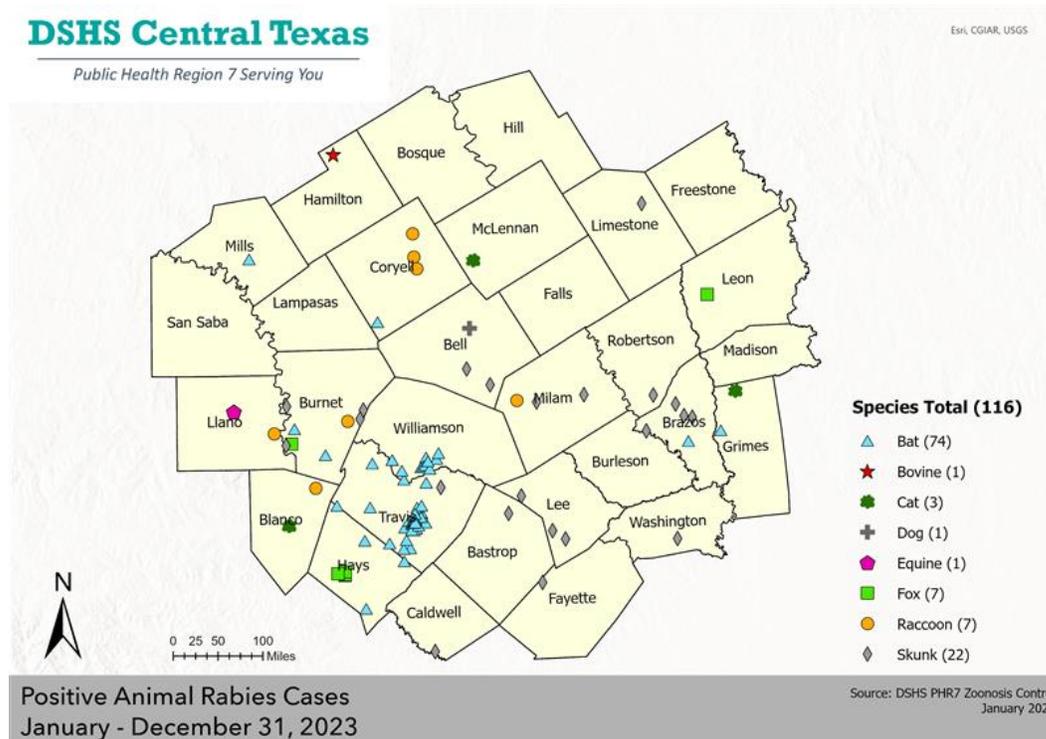
1. Ngeni F, Mwakalonge J, Siuhi S. The 2017 total solar eclipse in the United States: Traffic management and lessons learned. *Transportation Research Interdisciplinary Perspectives*. December 9, 2021. Accessed March 13, 2024. [sciencedirect.com/science/article/pii/S2590198221002153](https://www.sciencedirect.com/science/article/pii/S2590198221002153).



# Rabies Awareness

Dr. David W. Smonko, DVM, Zoonosis Control Veterinarian

Figure 2: Positive Animal Rabies Cases Within PHR 7



Rabies is a deadly viral disease that affects the central nervous system (brain and spinal cord). Rabies usually spreads through the bite of an animal infected with rabies. Rabies exposure can happen if infected saliva or tissue containing the virus gets into a fresh wound (one that has bled within 24 hours) or the eyes, nose, or mouth. Once someone becomes sick with rabies, it is almost always fatal. But rabies vaccine and immune globulin can prevent illness if given before symptoms start. In Texas, skunks and bats account for most animal rabies cases. But any mammal can become infected and potentially spread it to other animals or humans.



# Rabies Awareness

Dr. David W. Smonko, DVM, Zoonosis Control Veterinarian



CDC. Wild animals. [Rabies](#)

***In Texas, the five high risk wild animals for rabies are bats, skunks, raccoons, foxes, and coyotes.***

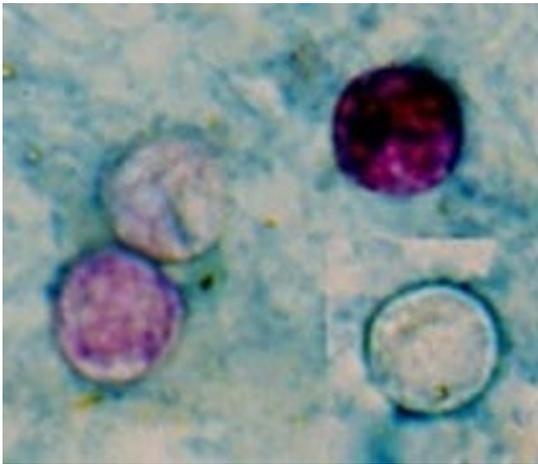
**It is very important that everyone, especially children, knows how to prevent rabies. Some things that people can do to help stop the spread of rabies include:**

- Avoid contact with wild animals and with dogs and cats you do not know. Do not approach strange dogs or cats. Do not try to hand-feed wild animals and do not keep them as pets. Do not touch sick or injured animals. Call and report them to an animal control officer.
- If bitten or scratched by an animal, thoroughly wash the wound immediately with soap and water. Then seek medical attention to get an assessment for a potential rabies exposure.
- Ensure that domestic dogs and cats are up to date on rabies vaccination, as required by state law. Restrain your pets and do not allow them to roam.
- Consider protecting domestic ferrets and livestock by having them vaccinated against rabies.



# A Case of Cyclospora

Kyle Kimmey, MS, CIC, Foodborne and Waterborne Epidemiologist



## What is Cyclospora?

Cyclospora infections are commonly associated with consumption of contaminated food or water. Direct spread from an infected person is unlikely because infected people shed immature parasite in stool. The parasite is known to thrive in warm and tropical climates with outbreaks often occurring during the summer months. For the parasite to survive, and mature oocysts must be outside of the host and in the environment, typically in the soil.

CDC. *Cyclospora* C. [Cyclosporiasis](#)

## Unusual Isolated Case

An isolated case of cyclospora has been reported in PHR 7, despite being out of the typical seasonal pattern for this region. *Cyclospora cayentanensis* is a protozoan parasite that causes an intestinal infection in humans. The case in question presents a unique epidemiological challenge due to its occurrence outside the expected seasonal time frame.

The reported case involves an individual presenting with symptoms consistent with cyclospora infection. They include: prolonged diarrhea, cramping, and fatigue. Laboratory testing confirmed the presence of cyclospora in the patient's stool sample. This prompted further investigation into the possible source of exposure. Finding the source helps prevent further infections. It also provides operational knowledge on how cyclospora is changing within our region.

## Out of season

Central Texas recently experienced a short and mild winter. This may have contributed to the increased prevalence of infections this year.

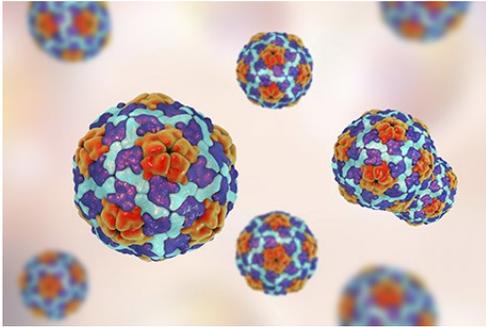
The identification of a cyclospora case outside the typical season is important for a few reasons. It raises concerns about possible shifts in the parasite's prevalence and distribution. It underscores the importance of ongoing surveillance efforts and heightened awareness among health care providers and public health officials.

And, the detection of a cyclospora case in PHR 7 outside the expected season serves as a reminder of the dynamic nature of infectious disease epidemiology.



# Hepatitis A: What You Need to Know

Arnold Martinez, MPH, Infectious Disease Investigator



CDC. *Hepatitis A*. [Outbreaks of hepatitis A are occurring across the United States](#)

## What is Hepatitis A?

Hepatitis A is a vaccine-preventable liver infection caused by the hepatitis A virus (HAV). HAV is found in the stool and blood of people who are infected. Hepatitis A is very contagious and typically spreads when a person unknowingly ingests the virus—even in microscopic amounts – through close personal contact with an infected person or through eating contaminated food or drink.

## Transmission and Contamination

The main transmission is through the fecal-oral route. This can happen through coming in close person-to-person contact with an infected person, sexual contact with an infected person, or ingestion of contaminated food or water. Current data show that bloodborne transmission of the virus is uncommon.

In contaminated food, HAV is killed when exposed to temperatures of greater than 185°F (85° C) for 1 minute. The virus can still spread from cooked food that becomes contaminated. Freezing does not inactivate HAV.

## Signs and Symptoms

The incubation period for hepatitis A on average is from 28-30 days but can range from 15-50 days. Thus, symptoms can occur weeks after their initial exposure. Symptoms of hepatitis A usually last less than two months. Yet 10%–15% of symptomatic persons have prolonged or relapsing disease for up to six months.

Among older children and adults, symptoms usually occur abruptly. They can include: fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, diarrhea, clay-colored stool, joint pain, and jaundice.

Unlike adults and older children, up to 70% of infections in children under 6 are asymptomatic. When symptoms are present, young children typically do not have jaundice. Most older children and adults with HAV infection have this symptom.

## Vaccination

Vaccination with the full two-dose series of hepatitis A vaccine is the best way to prevent infection. Hepatitis A vaccine has been licensed in the United States for use in people 1 year of age and older.



# Hepatitis A Information

## Recommendations from ACIP on Hepatitis A

Arnold Martinez, MPH, Infectious Disease Investigator

**The Advisory Committee on Immunization Practices (ACIP) recommends that the following people be vaccinated against hepatitis A:**

### Children

- All children age 12-23 months
- Unvaccinated children and adolescents age 2-18 years

### People at increased risk for HAV infection

- International travelers
- Men who have sex with men
- People who use injection or noninjecting drugs (all those who use illegal drugs)
- People with occupational risk for exposure
- People who expect close personal contact with an international adoptee
- People experiencing homelessness

### People at increased risk for severe disease from HAV infection

- People with chronic liver disease
- People with human immunodeficiency virus infection

### Other people recommended for vaccination

- Pregnant women at risk for HAV infection or severe outcome from HAV infection
- Any person who requests vaccination

### Vaccination during outbreaks

- Unvaccinated people in outbreak settings who are at risk for HAV infection or at risk for severe disease from HAV

### Implementation strategies for settings providing services to adults

- People in settings that provide services to adults in which a high proportion of those persons have risk factors for HAV infection

### Hepatitis A vaccination is no longer recommended by ACIP

- People who receive blood products for clotting disorders (e.g., hemophilia)

Sources: [Hepatitis A - FAQs, Statistics, Data, & Guidelines | CDC](#)  
[Hepatitis A Q&As for Health Professionals | CDC](#)



# Primary Amebic Meningoencephalitis (PAM)

Elizabeth Hans, MPH, CPH, Invasive Respiratory Epidemiologist

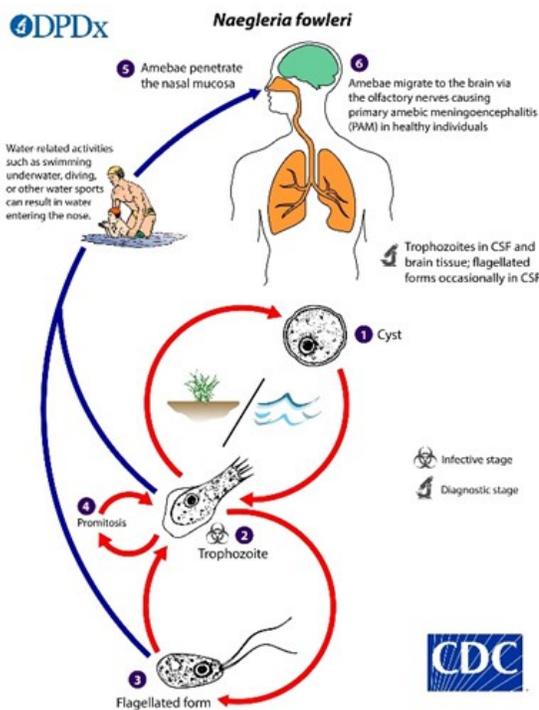
## What is Primary Amebic Meningoencephalitis?

Lakes and rivers provide a fun respite from summer heat, but they are also home to the brain eating ameba *Naegleria fowleri*. This parasite causes a condition called Primary Amebic Meningoencephalitis (PAM). PAM is a highly fatal disease of the central nervous system that causes severe symptoms and has a 95-98% mortality rate.<sup>1,2</sup>



Stock image. Obtained through Microsoft PowerPoint image search result.

Discovered in Australia, *Naegleria fowleri* can be found worldwide in soil and fresh water sources like as lakes and rivers. It also can be found in under-chlorinated swimming pools and water heaters.<sup>3</sup> This parasite thrives in warm weather and feeds on bacteria and other microbes in the environment.<sup>3</sup>



CDC. *Naegleria fowleri* Lifecycle Diagram. [Pathogen](#)

Humans can become infected when contaminated water enters the nose. It then travels via the olfactory nerves to the brain, infecting the cerebrospinal fluid and tissues, resulting in PAM.<sup>3</sup> The parasite can only infect the brain via the nose and olfactory nerves. Infection cannot occur by drinking contaminated water and there is no human-to-human transmission. Primary amebic meningoencephalitis is a severe and mostly fatal disease. Of the 157 cases in the United States from 1962-2022, only 4 people survived.<sup>4</sup> Symptoms start within 12 days of infection and most people die within five days of symptom onset.<sup>4</sup> Stage one is characterized by a severe frontal headache, fever, nausea, and vomiting. Stage 2 includes stiff neck, seizures, altered mental status, hallucinations, and coma.<sup>4</sup> Early detection is difficult due to the rapid progression of the disease. Thus, diagnosis is difficult.



# Primary Amebic Meningoencephalitis (PAM)

## Laboratory Testing

Elizabeth Hans, MPH, CPH, Invasive Respiratory Epidemiologist

### Lab Testing

Due to the rare nature of the disease, only a few laboratories in the U.S. perform diagnostic tests. They consist of identifying *Naegleria fowleri* in the brain tissue or cerebrospinal fluid of the patient.<sup>6</sup> Treatment is a combination of medications. Early treatment is imperative to increase chances of survival.<sup>6</sup>



Stock image. Obtained through Microsoft PowerPoint image search result.

Infection rates are very low in the U.S. Despite millions of people enjoying freshwater swimming, 2013-2022 saw only 29 infections reported.<sup>5</sup> Still, it is important to seek medical attention quickly if any symptoms arise after exposure to freshwater sources that could be contaminated.

### Upcoming Summer Months:

With the weather heating up, it is important to practice safe swimming to prevent a PAM infection. PAM infections are most common in southern states where freshwater lakes and rivers tend to be warmer. Encouraging those who swim in these areas to plug their nose while jumping into these water systems will reduce the risk of infection.

### References

1. Hall, A.D., Kumar, J.E., Golba, C.E. et al. Primary amebic meningoencephalitis: a review of *Naegleria fowleri* and analysis of successfully treated cases. *Parasitol Res* 123, 84 (2024). doi.org/10.1007/s00436-023-08094-w
2. Illness and symptoms. Centers for Disease Control and Prevention. May 3, 2023. Accessed March 28, 2024. [cdc.gov/parasites/naegleria/illness.html](https://www.cdc.gov/parasites/naegleria/illness.html).
3. Pathogen and Environment. Centers for Disease Control and Prevention. October 18, 2022. Accessed March 28, 2024. [cdc.gov/parasites/naegleria/pathogen.html](https://www.cdc.gov/parasites/naegleria/pathogen.html).
4. Prevention and Control. Centers for Disease Control and Prevention. May 3, 2023. Accessed March 28, 2024. [cdc.gov/parasites/naegleria/prevention.html](https://www.cdc.gov/parasites/naegleria/prevention.html)



# Influenza and Influenza-Like Illness Trends

Edward Yi, MPH, Surveillance Epidemiologist at DSHS Region 7

Figure 3: Epi-Curve of Total Aggregate Influenza and ILI Weekly Trend (DEC 2023 – MAR 2024)

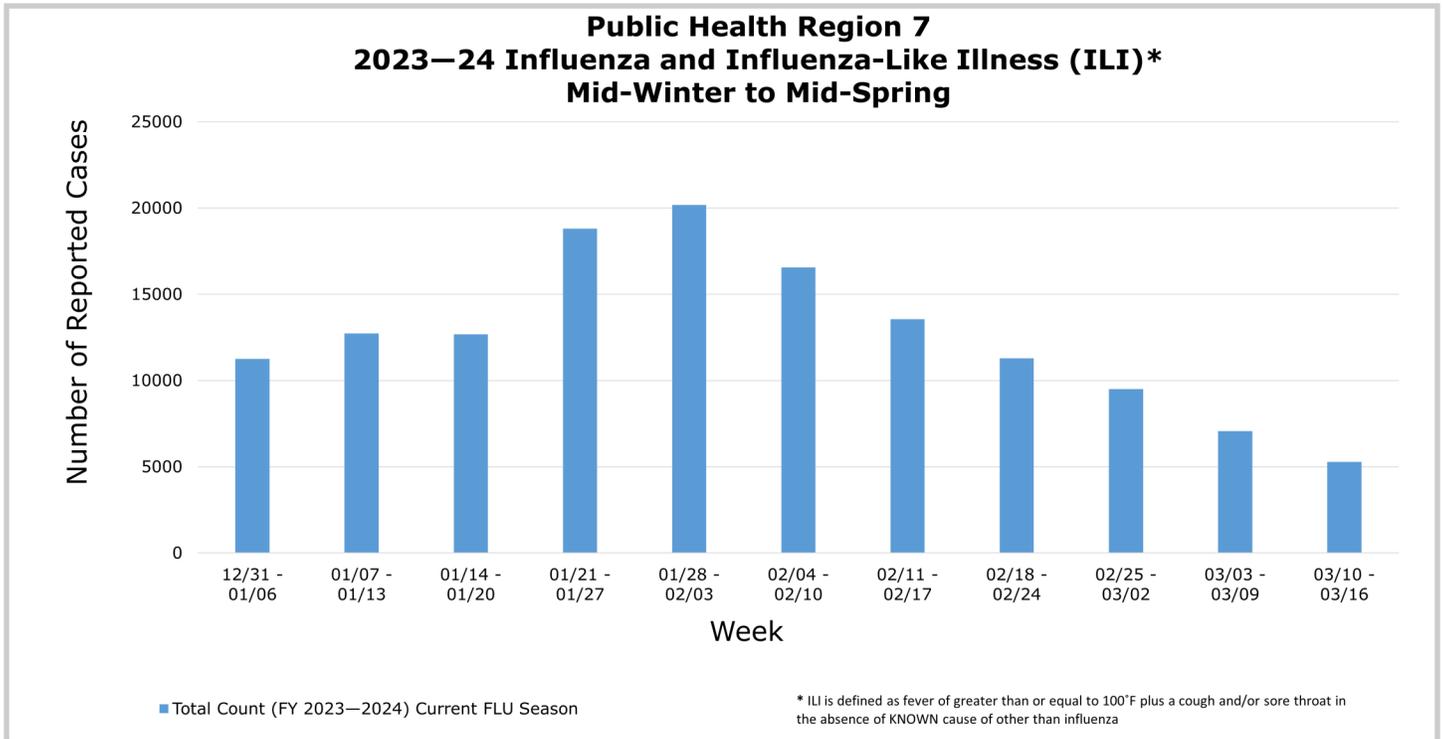


Figure 3 is an epidemiological curve (EPI-curve) from mid-winter (December 31) to early spring (March 16). The EPI-curve is a graph based on a weekly aggregated flu and ILI data set that is gathered from various surveillance methods that depicts respiratory illness activity in PHR 7.

Starting in January on Week 01 (Dec. 31-Jan. 6), flu and ILI activity continued to circulate in PHR 7 counties. The highest number of reported flu and ILI cases was on Week 05 (Jan. 28-Feb. 3) with an aggregated total of 20,176 cases. This was the highest number observed this respiratory illness season thus far. The following several weeks to the present saw a gradual decline of reported cases. This gradual decrease in cases is due to relatively short winter weather and early arrival of spring-like weather and temperatures.

PHR 7 continues to observe consistent ILI and flu activity levels compared to the state.

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

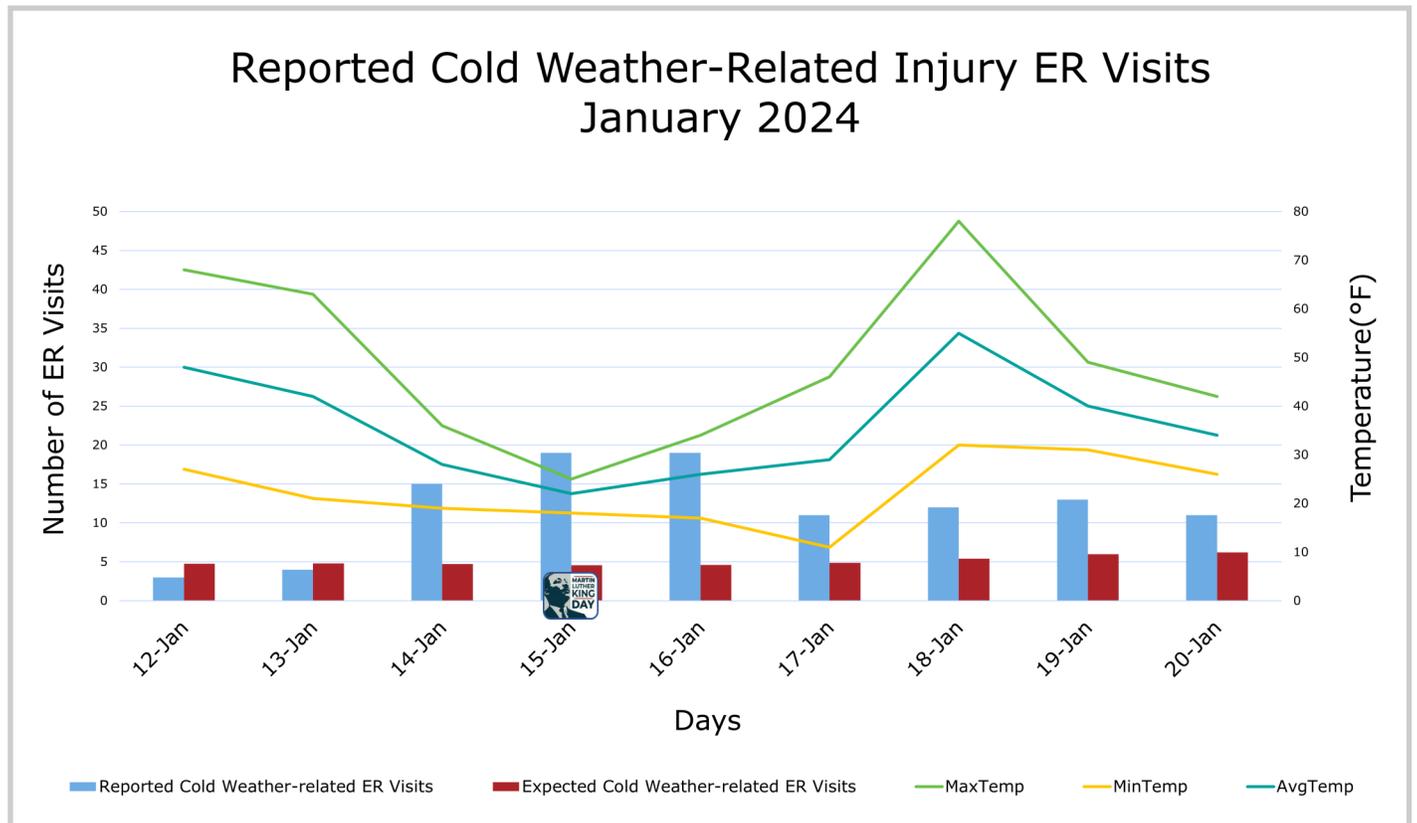
Note on PHR 7 Data: The data and results reports are received from multiple sources including the query used in ESSENCE, an electronic bio-surveillance system, and participating sentinel surveillance network from local health departments, hospitals and clinics, and independent school districts. The reports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



# 2024 North American Winter Storm

Edward Yi, MPH, Surveillance Epidemiologist at DSHS Region 7

Figure 4: EPI-Curve ER Visits for 2024 North American Winter Storm-Related Injuries



Martin Luther King Day

Starting January 13, 2024, the state of Texas experienced an arctic winter blast, also known as a "cold snap." It lasted until January 17, 2024. PHR 7 conducted a retrospective surveillance for cold-weather injury ER visits in relation to the recorded temperatures for 2024 North American winter storm from January 12-20, 2024. PHR 7 saw an increase of ER visits as the max temperature plummeted to sub-freezing levels. Both January 15 and 16 had the highest number of ER visits (n=19, each). The lowest temperature during this date range was January 17 (11°F). The number of ER visits decreased, but were still above the expected number of ER visits. The Martin Luther King, Jr. holiday weekend also may have affected the number of ER visits.

Symptoms experienced were typical to that of cold weather-related injuries. They included: exposure to colder temperature, hypothermia, frostbite, and general respiratory illness.

Note on PHR 7 Data: The results from the query used in ESSENCE, an electronic bio-surveillance system, to track cold weather-related injuries may be an overestimation or underestimation of the actual burden of condition related to the 2024 North American winter storm and due to the nature of the query, which may include indirect/secondary cold weather-related injuries.





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**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.

Submit questions, comments, or suggestions for this newsletter  
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