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Tennessee epi-news

TENNESSEE DEPARTMENT OF HEALTH

COMMISSIONER JOHN J. DREYZEHNER, MD, MPH

Hantavirus Outbreak in Yosemite National Park

Hantavirus pulmonary syndrome made headlines during the summer of 2012 when an outbreak occurred among visitors to Yosemite National Park. Ten HPS cases were ultimately confirmed, with three fatalities. Most cases had stayed in tent cabins in one area of Yosemite.

The National Park Service worked with the California Department of Public Health and CDC in response to the situation. NPS reached out to 30,000 guests who had stayed overnight in implicated areas of the park to advise them of the symptoms of HPS and to seek medical attention if symptoms developed. Educational material was provided to other guests. CDC provided testing of patient samples, guidance on clinical management of patients, epidemiologic support for the response, and a hotline for public inquiries. CDPH first recognized the outbreak through routine surveillance and discovered the association with having stayed in tent cabins at Yosemite. Other state health departments, including TDH, were involved in following up and arranging testing for individuals who had visited Yosemite and later become ill.

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TDH RAPID Team: Increasing the State's Capacity to Conduct Rapid Needs Assessments

The coal ash spill that occurred in Kingston, Tennessee, in 2008 demonstrated the need for the state to be able to conduct rapid needs assessments in communities affected by disaster. In response, TDH formed a RAPID (Rapid Assessment of Populations Affected by Disasters) team, an interdisciplinary group tasked with increasing the state's capacity for disaster epidemiology. The RAPID team developed and released a new CASPER (Community Assessment for Public Health Emergency Response) toolkit to regional and metro epidemiologists across the state. The toolkit contains everything needed for a field team to conduct a rapid needs assessment in a disaster-affected area, quickly providing emergency management information that is representative of the larger population. Emergency management agencies can then project needs and strategically allocate resources to impacted areas. The toolkit includes just-in-time training presentations, a variety of questionnaire templates, and census data and cluster maps for all 95 Tennessee counties.

The CASPER method is especially useful during or immediately after a disaster, when time is limited and reliable information needs to be obtained as quickly as possible. However, CASPERs work equally well in non-disaster settings. For example, TDH and the Metro Nashville Department of Public Health jointly conducted a CASPER in Davidson County to gather information for future emergency planning.

Some key findings from the Davidson County household survey are as follows:

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Hantavirus Outbreak in Yosemite National Park (continued)

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This outbreak represents the largest cluster of cases reported since HPS first gained attention in the U.S. in 1993, when a large outbreak in the Four Corners region resulted in 53 cases and 32 deaths. Since that time sporadic cases have been reported each year, mostly in the Southwest.

A number of strains of hantavirus are harbored in various rodent hosts; people become infected through contact with infected rodents or their urine and droppings. The Sin Nombre strain is responsible for most cases of HPS. Its natural host is the deer mouse, which is present throughout the western and central U.S. The New York hantavirus is associated with the white-footed mouse and has caused HPS cases in the Northeast. The Black Creek hantavirus is found in the cotton rat in the southeastern U.S. At present, no cases of HPS have ever been reported in Tennessee. — *by Heather Henderson, DVM, MPH* ❖

Carbon Monoxide Poisoning is Now Reportable in Tennessee

An estimated 15,000 U.S. residents are treated in emergency departments each year due to unintentional exposure to non-fire-related carbon monoxide (CO), and approximately 500 people die. Surveillance of CO poisoning is needed to more accurately assess the burden of CO exposure and to provide data to support public health prevention activities. For this reason, CO poisoning has recently been added to the TDH list of reportable diseases and events.

CO poisoning frequently occurs during routine domestic, occupational or recreational activities. CO is a colorless, odorless gas which can accumulate to unsafe levels in enclosed or semi-enclosed areas. The majority of exposures occur during the fall and winter, when gas furnaces and heaters are frequently in use. During warmer months, recreational activities such as boating can lead to CO exposure. CO poisoning is a recognized public health concern following natural disasters such as hurricanes, severe storms, floods and ice.

Initial symptoms often mimic other illnesses, such as flu, and may be overlooked. The most common symptoms are headache, dizziness, weakness, nausea, vomiting, chest pain and confusion. Severe CO poisoning can cause brain damage, heart damage and death.

CO poisoning is a frequent, serious and preventable public health problem. Information from surveillance will improve our knowledge of risk behaviors, the effectiveness of prevention measures, and the outcomes of CO poisoning, including long-term consequences.

For more information, see http://health.state.tn.us/ReportableDiseases. For questions or to report a case, contact the TDH Environmental Epidemiology Program or your local health department. — *by Sutapa Mukhopadhyay, PhD* ❖

Perinatal Hepatitis B Prevention

An estimated 300 women who are infected with hepatitis B virus give birth each year in Tennessee. Without appropriate post-exposure prophylaxis (PEP), approximately 40% of infants born to HBV-infected mothers will develop chronic HBV infection; about 25% of these chronically infected children will die prematurely as adults from chronic liver disease. However, appropriate PEP can reduce the risk of transmission to the neonate by up to 95%. For this reason, a cornerstone of the national HBV elimination strategy is the prevention of mother-to-child (perinatal) transmission.

The primary objective of the TDH Perinatal Hepatitis B Prevention (PHBP) program is to prevent transmission from HBV-infected mothers to infants through a four step process: (1) identifying and counseling all HBV-infected pregnant women; (2) ensuring delivery hospitals provide recommended PEP (hepatitis B immune globulin and HBV vaccine) to infants; (3) ensuring timely completion of the HBV vaccine series; and (4) verifying post-vaccination serologic testing is done to confirm immunity.

The PHBP program also works to prevent HBV infection in other at-risk contacts, such as household members, by providing education and offering vaccination free of charge. There are no income or insurance restrictions on eligibility for these services.

See these websites for more information:

- http://www.cdc.gov/hepatitis/
- http://health.tn.gov/ReportableDiseases/

— *by Janice Johnson, RN* ❖

HIV Perinatal Transmission in Tennessee

HIV transmission from mother to child during pregnancy, labor and delivery, or breastfeeding is known as perinatal transmission and is the most common route of HIV infection in children. Fortunately, perinatal transmission can be reduced to less than 2% when HIV is diagnosed in a woman before or during pregnancy, appropriate medical treatment is provided, the virus becomes undetectable, and breastfeeding is avoided.

Each year from 2000 to 2012, there was an average of 109 children born to HIV-infected mothers in Tennessee. The majority of these infants were determined to be uninfected. However, 78 infants were found to be infected with HIV during this 13-year period, which is both unfortunate and largely preventable.

Although pediatric HIV/AIDS has declined over the past decade in Tennessee, challenges remain that lead to missed opportunities for preventing perinatal HIV transmission. For example:

- Enhanced primary HIV prevention strategies for women and adolescents are needed to prevent new infections in these populations.
- Few HIV medical providers routinely provide preconception care or family planning services that could reduce unintended pregnancies in their patients.
- Appropriate prenatal care, prenatal antiretroviral medication, Cesarean delivery for women with a viral load >1,000 copies per ml, and education on avoidance of breastfeeding are all opportunities to prevent perinatal HIV transmission which are often missed.

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TDH RAPID Team: Increasing the State's Capacity to Conduct Rapid Needs Assessments (continued)

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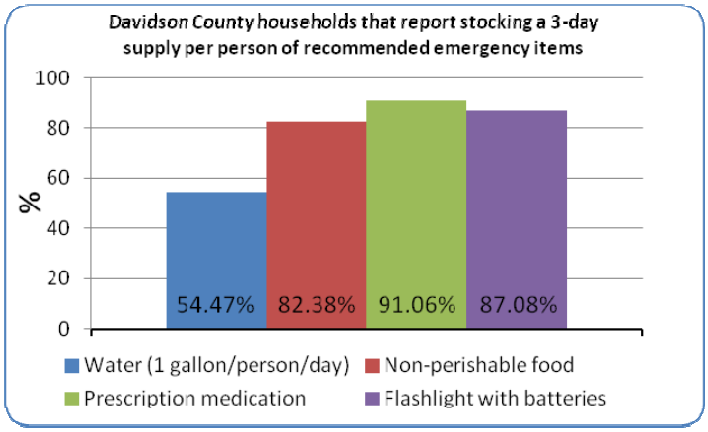
- 20% of households describe themselves "not prepared at all" for a disaster
- 57% do not have any type of emergency or disaster plan
- 55% have a working radio with batteries
- 90% plan to use cell phones to communicate with friends and family during an emergency
- 47% contain pets; of these, 87% plan to bring pets with them if they need to evacuate
- 11% contain someone with a condition that could impact their ability to evacuate during a disaster
- 14% contain someone who requires personal assistance daily due to a medical, mobility or other condition
- 20% are familiar with Davidson County's Smart911 program

TDH is assisting regional and local health departments throughout Tennessee to build the capacity to use CASPERs to assess community needs before a disaster, during a disaster response, or during disaster recovery. — *by Tristan Victoroff, MPH* ❖



Investigating Foodborne Disease: FoodCORE Model Practice

Investigation of foodborne illness outbreaks is an important function of public health at the local, state and federal levels. In an effort to increase the state's capacity to detect and respond to foodborne illness outbreaks, TDH participates in CDC's FoodCORE program. FoodCORE centers work together to develop new and better methods to detect, investigate, respond to and control multistate outbreaks of foodborne diseases. Efforts are primarily focused on outbreaks caused by bacteria, including *Salmonella*, Shiga toxin-producing *Escherichia coli* (STEC), and *Listeria*. However, the ability to detect and investigate viral and parasitic foodborne disease outbreaks is also strengthened.

Cases of foodborne disease from across Tennessee are identified using a variety of sources, including laboratories, consumer complaint systems, other state health departments, and federal agencies such as CDC. Secure electronic systems are used to track reported cases and interviews and to store demographic and exposure data centrally.

Contacting patients for interviews within a short time of their illness onset allows for more complete recall of exposures as well as identification of leftover products for testing. Additionally, timely prevention education can be provided to limit further transmission, especially if a case is identified in a high-risk setting such as a restaurant, daycare, hospital or clinic.

The FoodCORE experience has allowed TDH to contribute to the development of model practice guidelines for this approach. The new guidelines describe successful approaches to case reporting and interviewing. Categories and essential elements for interview tools are also recommended. This progress helps set the standard for illness investigation in Tennessee and nationwide. To learn more about FoodCORE activities, visit www.cdc.gov/foodcore. — *by Katie Garman, MPH, CHES* ❖

Tennessee Tuberculosis Elimination Program's Response to Shortages

In the space of a few months, the U.S. experienced a shortage of two critical pharmaceuticals used in the control of tuberculosis. The first is isoniazid, a cornerstone drug in the treatment of active TB cases and suspects, as well as latent TB infection (LTBI). The second is TUBERSOL®, which is used for the tuberculin skin test.

The Tennessee TB Elimination Program (TTBEP) released the following guidance to address the national isoniazid shortage:

1. Continue using isoniazid as part of the first-line four-drug regimen for confirmed or suspected cases of TB, except when isoniazid resistance or intolerance is confirmed.
2. Prioritize use of isoniazid in high-risk persons.
3. Consider a shorter course of therapy for LTBI in certain patients.
4. Use alternative regimens for the treatment of LTBI.
5. Defer treatment for LTBI in certain patients until isoniazid becomes more readily available.

In response to the national shortage of TUBERSOL®, the TTBEP recommended the use of an interferon-gamma release assay, QuantiFERON®-TB Gold In-Tube (QFT-GIT), as an alternative to the tuberculin skin test in certain situations. Because QFT-GIT is not recommended for children less than five years of age, this population should continue to be tested with TUBERSOL®. Other high-priority contacts to TB cases should also be tested with TUBERSOL® in cases where QFT-GIT is not available or feasible in a timely manner.

The TTBEP continues to monitor the evolving situation with regard to the isoniazid and TUBERSOL® shortages and makes recommendations based on national guidance as well as local availability data. — *by Jason Cummins, MPH* ❖

HIV Perinatal Transmission in Tennessee (continued)

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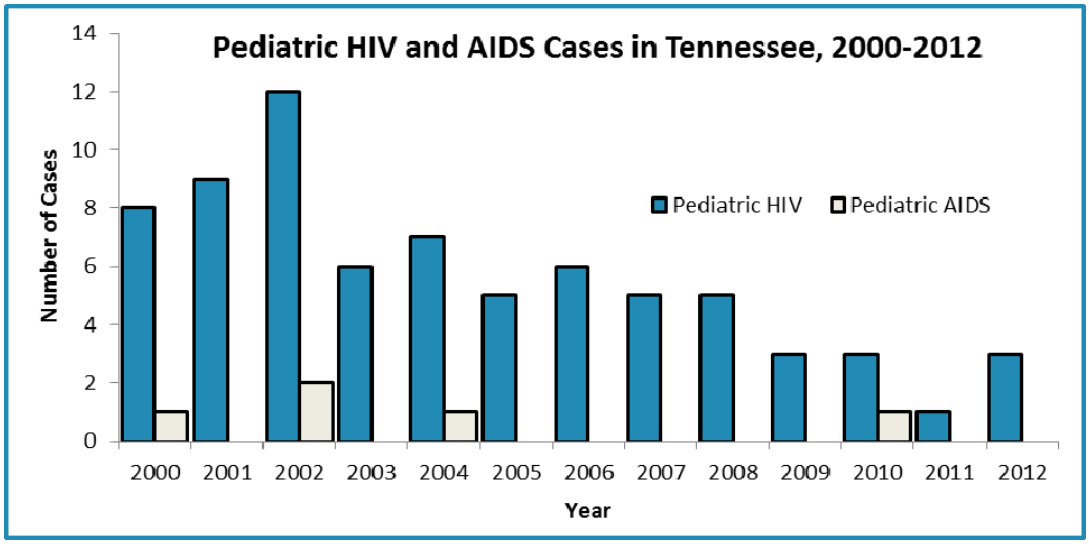
- Approximately 18% of people infected with HIV do not know their status. TDH recommends routine HIV testing for all persons aged 13–64 years in health care settings, and state law* requires testing of all women during the first and third trimesters of pregnancy.

TDH is committed to improving the lives of children throughout Tennessee and greatly appreciates the efforts of healthcare providers in assisting with this goal. For more information concerning HIV perinatal transmission, Ryan White Program, or HIV prevention strategies geared toward your patients, contact the HIV/STD Program office at 615-741-7500. — *by Thomas J. Shavor, MBA, MPH* ❖

*Tennessee Code Annotated, Section 68-5-705



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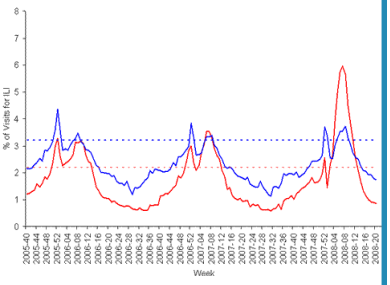

Join the Tennessee Sentinel Providers Network

Conducting year-round influenza surveillance including free laboratory testing for selected specimens.

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