



▶ REVISING TENNESSEE'S FOOD SAFETY LAWS 2



▶ TRACKING VACCINATION RATES IN CHILDREN..... 2



▶ WEST NILE VIRUS IN SHELBY COUNTY 3

Tennessee *epi-news*

TENNESSEE DEPARTMENT OF HEALTH
COMMISSIONER JOHN J. DREYZEHNER, MD, MPH

UPDATE: Outbreak of Fungal Infections Caused by Contaminated Corticosteroid Injections

Tennessee was the first state to recognize an outbreak of serious fungal infections caused by injections of contaminated methylprednisolone that eventually included 20 states. The first cases were reported in September, 2012, and new cases continue to be identified through ongoing surveillance.

As of March 25, 2013, there have been 150 cases of fungal infection in Tennessee, with 14 deaths. Nationwide, the case count stands at 730 with 51 deaths. Initially, the majority of cases presented with meningi-

tis; however, as the outbreak progresses, most additional cases are presenting with localized infection at the site of injection. With this second wave of local infections, the CDC issued guidance in December calling for physicians to have a very low threshold for obtaining MRIs on exposed patients. Public health staff in Tennessee conducted a second round of educational outreach to exposed patients, encouraging them to contact their healthcare providers if they experience any symptoms of local infection.



This outreach, combined with vigilant Tennessee clinicians, led to the identification of additional cases of localized infection at or near the site of injection and also identi-

(Continued on page 2)

SPOTLIGHT: Candace Smith, RN, BSN, CIC



Professionals in infection prevention are critical to ensuring the safety of patients and staff in hospitals. Every day, they tackle numerous and evolving challenges in the complex hospital environment. In addition, local and state health departments rely on partnerships with these professionals to participate in public health surveillance, reportable disease case investigations, and outbreak investigations.

Candace Smith, Infection Control Director for Saint Thomas Hospital in Nashville, has seen continual changes and challenges during her career. Increased regulatory standards, heightened focus on quality and

patient safety efforts, and new attention to emerging infectious diseases are a few of the important changes she has witnessed. These trends have brought substantial attention to the value of using evidence-based medicine for preventing infections, along with the importance of healthcare worker compliance with infection prevention practices. Candace's work emphasizes the critical importance of these practices; she continually assesses infection trends and healthcare worker practices to prevent infections and provide safe, quality healthcare to all patients.

(Continued on page 3)

UPDATE: Outbreak of Fungal Infections Caused by Contaminated Corticosteroid Injections (continued)

(Continued from page 1)

fied some patients with onset of meningitis many months after their last contaminated injection. In Tennessee, one patient was diagnosed with meningitis and epidural abscess 6 ½ months after receiving a single injection of the contaminated drug. The longest reported incubation period to date is 7 months. In March 2013, CDC and TDH issued another alert to clinicians urg-

ing ongoing vigilance for fungal infection.

TDH continues to collect clinical information on any patient that meets the CDC case definition. The information, combined with national data, helps characterize the risk factors for infection and the course of disease. Current diagnostic and treatment guidance (last updated by CDC in March 2013) can be found at

<http://www.cdc.gov/hai/outbreaks/current-situation/>. Since there is very little existing evidence to inform the future course of the outbreak, it is important for public health and healthcare to continue to track the development of local infections and meningitis, as well as any other disease manifestations or side effects among the exposed population. — by Marion Kainer, MD, MPH ❖

Revising Tennessee's Food Safety Laws

The environmental health group within TDH is working on a bill (SB0172/HB0166) to amend the law governing food services establishments. If passed, regulation of food service establishments will be based on standards outlined in the 2009 *FDA Food Code*, published by the U.S. Food and Drug Administration.

The *FDA Food Code* is a model that assists jurisdictions at all levels of government by providing a scientifically sound technical and legal basis for regulating food sales and service (restaurants, grocery stores, and institutions such as nursing homes). Local, state, tribal, and federal regulators use this model to develop food safety rules that are consistent with national food regu-

latory policy. Many national restaurant chains and grocery stores already use the 2009 *FDA Food Code* as the basis for their food safety standards.

Major provisions addressed by the 2009 *FDA Food Code* include manager certification or demonstration of knowledge, stronger language concerning employee health, and a prohibition on bare-hand contact with most ready-to-eat foods. Also addressed are special foods and processes, such as sushi, wild mushrooms, juicing, reduced-oxygen packaging, and sprouting.

The Tennessee Food Safety Taskforce convened a Food Code Committee in 2011 to work with stakeholders on potential obsta-

cles to adoption of the 2009 *FDA Food Code*. The Food Safety Taskforce was established several years ago to identify and address food safety issues, enhance communication and strengthen partnerships, and provide educational opportunities. The Taskforce is an example of the ongoing efforts by multiple stakeholders to maintain a safe food supply for Tennesseans. Participants in the food code committee process included state and federal regulators, industry, trade associations, and a consumer representative. The committee worked to identify obstacles and common ground in the discussion around updating the law. — by Hugh Atkins, REHS/RS ❖

Tracking Vaccination Rates of Children

Encouraging timely completion of the full course of recommended childhood vaccinations is an important task for state and local health departments. Measuring vaccination rates statewide helps evaluate progress in this area. Therefore, an annual survey of the immunization status of 24 month-old children is conducted by the TDH Immunization Program to track progress toward achieving the goal of at least 90% on-time immunization with routinely recommended vaccines for 2 year-olds.

The survey of 1,448 children, randomly sampled from among birth certificate records of children born in the first quarter of 2010, assessed the immunization status for each of 10 vaccines, protecting against 14 diseases: diphtheria, tetanus, and pertussis (combined as DTaP); measles, mumps, and rubella (combined as MMR); poliomyeli-

tis; *Haemophilus influenzae* type B; hepatitis B; varicella; certain strains of pneumococcus; hepatitis A; rotavirus; and influenza.

The report tracks differences in vaccination coverage between regions within Tennessee and between public and private medical providers, as well as racial disparities. The full report can be found at <http://health.state.tn.us/ceds/reports.htm>. Some key findings included the following:

- ▶ The Healthy People 2020 coverage objective of 90% was again surpassed for 5 of 7 routinely recommended vaccines, whereas measurements for 4 doses of DTaP and 4 doses of pneumococcal vaccine fell

(Continued on page 3)



Tracking Vaccination Rates of Children (continued)

(Continued from page 2)

short at 84% and 83%.

- ▶ The percentage of children who received the birth dose of hepatitis B vaccine before discharge from a delivery hospital rose by over 10 points compared to 2011, to 74%, but re-

mains below the HP2020 objective of 85%.

- ▶ The only significant racial disparity for routine vaccines is with influenza vaccine coverage; 46% of white children, but only 32% of black children, had received 2 doses by the 2nd birthday.

- ▶ The oral rotavirus vaccine has been widely accepted, with 82% of infants having received at least 2 doses, exceeding the HP2020 objective of 80% coverage.

— by Robb Garman, MPH ❖

SPOTLIGHT: Candace Smith, RN, BSN, CIC (continued)

(Continued from page 1)

Candace began her career as a nursing extern at Vanderbilt University Medical Center. In 1995, she began working at Baptist Hospital and, after realizing she had found her niche, obtained her certification in infection control in 2003. She began her cur-

rent role at Saint Thomas Hospital in 2006 and is now working on her Masters in Nursing with a focus on infection prevention and control.

Candace has been an important partner to TDH in several public health surveillance

programs, including the Emerging Infections Program and National Healthcare Safety Network. In addition she has provided invaluable assistance in the investigations of a number of outbreaks and clusters of illnesses. — by Samir Hanna, MD, MSPH ❖

West Nile Virus in Shelby County

West Nile virus is a mosquito-borne pathogen that has caused epidemics since it was originally identified in the U.S. in 1999. The virus was first detected in Tennessee in 2002; since that time, Shelby County has reported the majority of cases in the state.

Approximately 80% of WNV infections are asymptomatic, and most of the remainder result in a flu-like illness called West Nile fever, characterized by fever, headache, and fatigue. More severe neuroinvasive disease is uncommon but may result in aseptic meningitis and encephalitis. The disease tends to be more severe in those aged ≥50 years and those who are immunocompromised. Most cases occur during July-

September; people who spend a lot of time outdoors are at higher risk of infection.

Detection and control of WNV in mosquito populations helps health officials prevent human and domestic animal infections. Some local health jurisdictions, including the Shelby County Health Department, use an integrated mosquito management program, consisting of (1) surveillance, (2) source reduction of mosquito breeding sites, (3) chemical and biological methods to control mosquito larvae, (4) chemical methods to control adult mosquitoes, and (5) community outreach and public education.

To prevent WNV infection, individuals should avoid mosquito bites by staying in-

doors during peak mosquito hours at dusk and dawn, applying a repellent containing an EPA-registered active ingredient (e.g., DEET, Picaridin, Oil of Lemon Eucalyptus or PMD, or IR3535), and wearing long pants and sleeves when outdoors. Standing water in gutters or other household containers should be eliminated to reduce mosquito breeding sites. Ornamental lawn ponds may be stocked with fish that eat mosquito larvae (available free for Shelby County residents from the Vector Control Program). — by David Sweat, MPH ❖

Table. Human cases of West Nile Virus and deaths, Shelby County and state of Tennessee, 2002-2012.

Year	Tennessee cases	Shelby County cases	Shelby County fatalities
2002	56	40	7
2003	26	10	0
2004	14	12	0
2005	18	13	0
2006	22	14	0
2007	11	5	0
2008	19	10	1
2009	9	5	1
2010	4	2	0
2011	18	12	2
2012	33	15	0
TOTAL	230	138	11

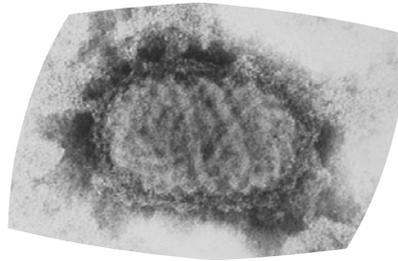
Neonatal Abstinence Syndrome is Now Reportable

The past decade has seen a nearly ten-fold rise in the incidence of Neonatal Abstinence Syndrome (NAS) in Tennessee. A baby with NAS is suffering from withdrawal symptoms after being exposed to certain substances, typically *in utero*. Withdrawal may occur when a mother uses a prescription medication, either appropriately or inappropriately, or an illegal drug during pregnancy. Affected infants may experience serious neurologic, gastrointestinal, and respiratory symptoms and are more likely to have difficulty gaining weight. The cost of caring for these infants may exceed \$40,000 in the first year of life, compared with costs closer to \$4,300 for a healthy, normal birth weight infant. Costs to TennCare alone for NAS exceeded \$22 million in 2010.

NAS was recently added to the TDH list of reportable diseases and events, therefore a report to TDH is required when a diagnosis of NAS is made. Previously, hospital discharge and Medicaid claims data were used to estimate NAS incidence, but these sources do not provide timely information for programmatic and policy decision-making. Most reports will come from hospitals, although there may be cases in which a primary care provider makes the diagnosis in an outpatient setting. NAS reports are made via a specific online portal accessed via the TDH NAS website (<http://health.tn.gov/MCH/NAS/index.shtml>) or reporting providers may link directly to http://www.surveymonkey.com/s/TDH_NAS_REPORT. NAS is a Category 5 event, requiring a report within 30 days of diagnosis. For more information, contact Dr. Michael Warren at michael.d.warren@tn.gov or 615-741-7353. — by *Michael D. Warren, MD, MPH, FAAP* ❖

One Health: Case Investigation Involving a Novel Virus

When a teenager from East Tennessee developed multiple itchy, painful nodules on her face, her doctors suspected orf. Orf, caused by a type of poxvirus, is common in sheep and goats and occasionally affects humans. A biopsy was sent to the CDC Infectious Diseases Pathology Branch for confirmation. The CDC lab's testing revealed evidence of a parapox virus that was similar to but not a match for any of the usual suspects (e.g. orf, pseudo-cowpox, and bovine papular stomatitis viruses).



Intrigued by the prospect of a novel virus, the CDC Poxvirus Section, TDH, and the State Veterinarian at the Tennessee Department of Agriculture discussed the possibility of collecting samples from animals this young girl had contacted. TDA, in turn, called on the regional USDA-APHIS Veterinary Medical Officer to collect samples from the animals.

After a conference call between the four agencies, everything was arranged. The CDC sent sampling supplies, and the USDA veterinarian travelled to the farm where the patient worked part-time and boarded her horse. A private practice veterinarian who serves the farm also volunteered to help, and the two of them sampled multiple animals of several species. Analysis is still underway at CDC.

The seamless collaboration among multiple agencies was facilitated by the frequent communication between them, thanks in part to regular One Health meetings that include representatives from TDA, TDH, USDA, the Tennessee Emergency Management Agency, and others. — by *Heather Henderson, DVM, MPH* ❖

New Rabies Resources for Public Health and Healthcare Providers

The *TDH Rabies Control Manual* is a concise but detailed resource for veterinarians, physicians, hospital staff, and public health staff. The “Indications for Rabies Post-Exposure Prophylaxis” algorithm provides guidance for healthcare professionals performing risk assessments for potential rabies exposures. To access these resources, go to TDH’s Reportable Diseases page: <http://health.state.tn.us/ReportableDiseases/Default.aspx>. Click “R”, then “Rabies”. This page contains links to the above-mentioned documents as well as other useful information on rabies and post-exposure prophylaxis. — by *L. Rand Carpenter, DVM* ❖

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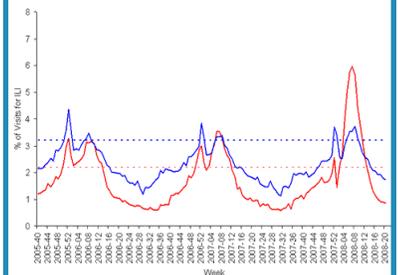
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