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# Tennessee epi-news

GOVERNOR BILL HASLAM

COMMISSIONER JOHN J. DREYZEHNER, MD, MPH



## Salmonellosis Outbreak Associated with a Splash Pad

In June of 2014, the West Tennessee Regional Health Office (WTRO) and the TDH FoodCORE team identified three salmonellosis patients who, during routine interviews, all reported exposure to a splash pad at a local park. An inspection by a WTRO Environmental Health Specialist found the splash pad was using recirculated water, which requires chlorination; however, no chlorine was detected in the water at the time of inspection. At the request of WTRO, the splash pad was temporarily closed until chlorination levels were determined to be safe. Lab testing of water sam-

ples obtained at that time did not identify any *Salmonella* bacteria.

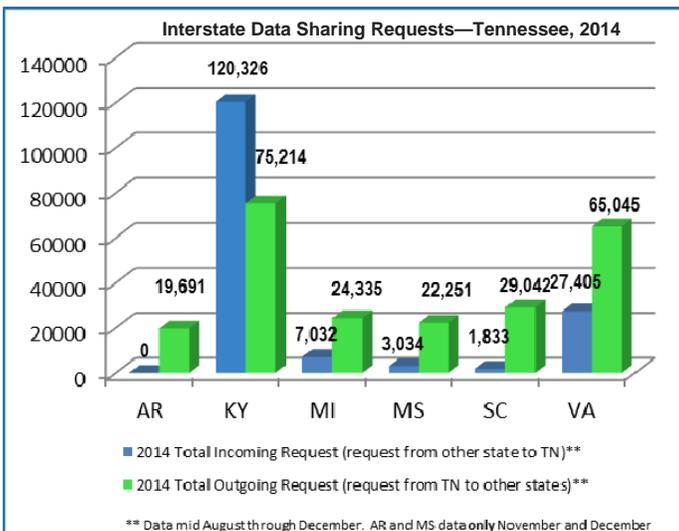
To investigate the cluster, epidemiologists initiated active case finding by communicating directly with area healthcare providers. A case control study was then conducted to identify activities that were associated with illness. City officials granted permission for investigators to perform an on-site assessment and patron interviews. Interviewing patrons at the splash pad identified several more cases of illness. An Environmental Health assessment was per-



formed to characterize the operation of the splash pad, with a focus on water disinfection.

*(Continued on page 2)*

## CSMD Update



The Prescription Safety Act of 2012 allows data sharing between Tennessee and other states that have authorized controlled substance monitoring systems. In continuing efforts to reduce prescription drug abuse, Tennessee is currently sharing data with six other states: Arkansas, Kentucky, Michigan, Mississippi, South Carolina and Virginia.

The CSMD team is pleased to report that interstate data sharing is

being heavily utilized by users in Tennessee. As shown in the figure, the numbers of outgoing patient requests from Tennessee users surpass the numbers coming in from those states, with the exception of Kentucky. TDH and the CSMD team commend Tennessee health care professionals for their contributions to reducing and controlling prescription drug abuse in our state.

Tennessee will continue to expand data sharing to include other states that are authorized to share information. Conversations are occurring with Minnesota, North Carolina, Indiana and Ohio. The CSMD team has made great strides to increase the availability of interstate data sharing and will continue to do so throughout 2015. ❖

## Splash Pad (continued)

(Continued from page 1)

infection, filtration, drainage, potential flooding and monitoring of water quality. Drainage appeared to be a problem, with drainage ditch water testing positive for *E. coli* bacteria.

In total, ten patients with salmonellosis were identified who had visited the splash pad during the days before their illness.

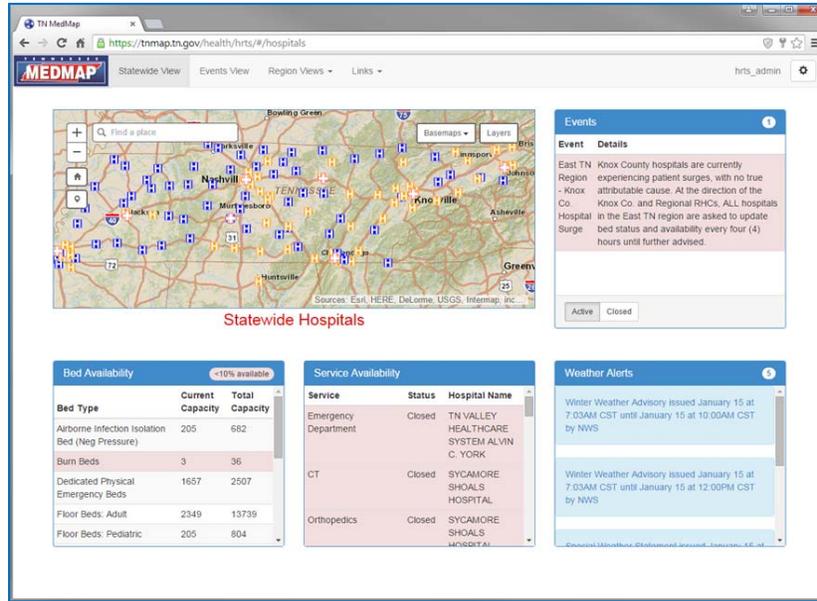
The case control study identified an increased likelihood of illness associated with several activities at the splash pad, including spending any time where the pad was located and playing in standing water. Although *Salmonella* bacteria were not found in water samples, it is likely that the recirculated water was not properly chlorinated at the time of the outbreak

and may have been the source of infection.

Splash pads are increasingly popular as a fun outing for families with young children. However, they are not subject to state regulations as public pools are and can pose a health risk when water quality is not carefully monitored and managed. — *Kevin Morris, MPH, MPA* ❖

## Using GIS in Public Health Events

The complex challenges posed by public health emergencies require public health and emergency response professionals to understand the relationships among the various factors in play. In recent years, public health practitioners have increasingly utilized geographic information systems (GIS) in developing an effective framework for action. GIS makes it possible for public health professionals to visualize population needs within the context of available services and changes in environmental variables.



routing and movement across multiple facilities and jurisdictions. Other locational data besides HRTS are included in TNMedMap, such as EMS stations, nursing homes and ambulatory surgical centers. In the case of a large-scale event or disaster, locations for distribution of emergency medicines and supplies are also included to better manage those resources. In addition to displaying facility data in TNMedMap, emergency managers can also create points on the map to which they can attach notes, images and documents, thereby

One of the many ways TDH uses GIS is in displaying near real-time data on service and bed availability from 130 inpatient acute care hospitals statewide. The Hospital Resource Tracking System (HRTS) is a web-based hospital data collection and notification system that can be accessed by emergency medical services (EMS) and regional medical communication centers throughout the state. Recognizing the need

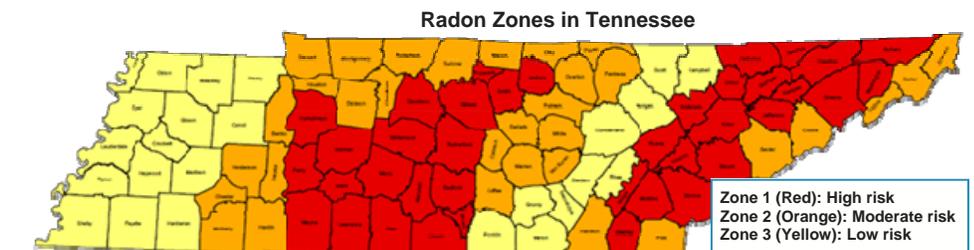
for better visualization tools for HRTS, TDH developed TNMedMap—a simple, easy to use web mapping application that displays HRTS data. TNMedMap was designed to be platform-independent and accessible on PCs, tablets or smart phones for ease of use in the field.

improving real-time communication and locational accuracy. By integrating the display of current status and location of the various medical facilities and resources, TNMedMap allows EMS to direct patient movement more efficiently, reducing time-to-care for patients and improving health outcomes. — *by Kent Braddy* ❖

During an emergency event, agencies are able to make quick decisions about patient

## Updated Radon Map for Tennessee

Radon is thought to be the leading cause of lung cancer among non-smokers and the second leading cause overall, responsible for an estimated 21,000 lung cancer deaths every year. Radon is a radioactive gas released from the natural decay of uranium in rocks and soil. It is a colorless, odorless and tasteless gas that seeps up through the ground and into the air. People can be exposed when radon accumulates in buildings. Since radon is a heavy gas, it tends to concentrate in basements and other low areas. Significant exposure to radon over years increases a person's chance of devel-



oping lung cancer. Testing for radon is recommended for all homes. There is no safe level; however, if levels exceed four picocuries per liter, mitigation is recommended.

The TDH Environmental Epidemiology Program has instituted an Environmental Public Health Tracking initiative for Tennessee. As part of this initiative

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## Radon Map (continued)

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ative, the program created a website (<http://health.state.tn.us/environmental/EPHT/>), which includes an updated radon map for Tennessee.

Radon test data from 2009-2014 were obtained from the three major vendors of radon testing in Tennessee. The data were analyzed and used to create a map by county and zip code. This interactive map will allow users to click on a county or zip code to obtain information about radon in that area. Integrated geological layers will allow comparison between different geologic zones. The project was made possible by interagency collaboration between TDH and the Department of Environment and Conservation. Additional information on radon is available on the TDH Healthy Homes website (<http://health.tn.gov/healthyhomes/radon.shtml>). — *by Becky Gorham and Sutapa Mukhopadhyay, PhD* ❖

## One Health: Rabies Update

Control of rabies has been a great success for human and animal health in the United States. The canine variant of the rabies virus that once circulated widely in dogs was eliminated through vaccination and animal control programs. Rabies has since been a disease of wildlife, with a few primary reservoir species. In most of Tennessee, skunks and bats are the reservoir species. Just to the east, however, raccoon rabies is prevalent and a constant threat for introduction. Due to the ubiquitous, peridomestic nature of raccoons, states with raccoon rabies experience much greater numbers of total rabies cases, domestic animal rabies cases, and human exposures requiring post-exposure prophylaxis—not to mention costs associated with rabies prevention and control.

The USDA-Wildlife Services Oral Rabies Vaccination (ORV) program has thus far successfully prevented raccoon rabies from spreading westward through Kentucky, Tennessee and northern Alabama by creating a “vaccination barrier” along the Appalachian Ridge. The ORV program involves

distributing vaccine baits by air and conducting enhanced surveillance for rabies in eastern Tennessee and areas in neighboring states. Recently, though, a few cases of



raccoon rabies have been found west of the vaccination barrier in northern Alabama, very close to Tennessee. In response, USDA-Wildlife Services has expanded baiting and surveillance activities into south central Tennessee and northern Alabama. So far, no cases of raccoon rabies have been found in south central Tennessee.

Rabies cases in Tennessee were near an all-time low in 2013 and 2014, reflecting a decline in skunk rabies. Cases reported in bats and domestic animals remain fairly constant, averaging about ten and six, respectively, each year. Nearly all other reported cases are skunks. Skunk rabies declined for several years—with only 19 cases reported in 2013—and is now possibly on the rise. West Tennessee remains free of terrestrial rabies, although one horse (infected with a bat variant of the rabies virus) was reported in 2013.

Rabies control remains an important public health function. TDH epidemiologists are available 24/7, by calling 615-741-7247, to provide consultation on the medical care of people who have been bitten by animals. More information on rabies, including guidance on post-exposure prophylaxis, is available at <http://health.state.tn.us/ReportableDiseases/Default.aspx>. Click “R”, then “Rabies”. — *by Heather Henderson, DVM, MPH* ❖

## Spotlight: TDH Responders Deploy to Ebola-Affected Countries



While Tennessee and other states were busily planning and preparing for the threat of introduction of Ebola virus disease into

the U.S. during the fall of 2014, three public health experts in TDH were deployed to the affected region of West Africa to help combat the largest Ebola outbreak in history.

Dr. Josh Clayton, a CDC Epidemic Intelligence Service Officer assigned to TDH, deployed in November to the Port Loko district of Sierra Leone. He worked

in both the Vaccine Team and Infection Prevention and Control Team. For the Vaccine Team, Josh documented the

number of healthcare and frontline workers eligible to receive the investigational Ebola



(Continued on page 4)

## Spotlight (continued)

(Continued from page 3)

vaccine. Because this would take him to healthcare sites like hospitals and holding centers, where patients received testing and were held until they tested positive or negative for Ebola, Josh also conducted infection prevention and control assessments to verify these sites had the training and materials to operate safely. Josh says of his work in Sierra Leone: “One of the most rewarding experiences was seeing how the work I was doing immediately impacted the health and welfare of those around me.” In the photo on the previous page, Josh is conducting an infection prevention and control site assessment at the Lungi Hospital in the Kaffu Bullom district.

Dr. Rendi Murphree is an Epidemiologist with the CDC and Captain in the U.S. Public Health Service Commissioned Corp, detailed to TDH. In September she was deployed to support the CDC response to the Ebola outbreak in Liberia. While in the capital city of Monrovia, Rendi served as the CDC consultant to the Liberian Ministry of Health and Social Welfare, Montserrado County Health Team. Among many other duties, she spent time shadowing the “dead body management” teams to identify gaps and make recommendations for improvement. In the photo on the right, a team member disinfects Rendi’s boots with a chlorine solution while community members look on.



Jay Roth, also a member of the U.S. Public Health Service Commissioned Corp, was deployed to Liberia in October to support CDC’s ongoing outbreak control efforts. Based primarily in the rural southeastern counties of Maryland, River Gee and Grand Kru, his position involved a variety of duties ranging from outbreak management in remote villages to training local medical staff and enhancing surveillance systems. Work in this very remote region required challenging travel and a focus on basic “shoe-leather epidemiology” principles independent of technological means. In the photo on the left, Jay is navigating a remote pathway en route from an affected village where a recent Ebola cluster had been identified. ❖

## Selected Conditions Reported by Year, Tennessee

CONDITION	2009	2010	2011	2012	2013	2014*
Campylobacteriosis	499	401	413	445	418	375
<i>Chlamydia</i>	29761	27809	30249	31834	29635	30449
Cryptosporidiosis	82	52	99	70	88	107
Enterobacteriaceae, carbapenem-reducing (CRE)	--	--	392	280	249	224
Gonorrhea	7933	6974	7453	8922	7202	7125
<i>Haemophilus influenzae</i>	112	97	108	103	109	95
Hemolytic uremic syndrome (HUS)	16	17	16	19	21	12
Hepatitis A	12	13	25	22	21	13
Hepatitis B, acute	139	148	216	264	283	272
Hepatitis C, acute	35	51	93	150	138	181
Lyme disease	39	29	34	30	25	17
Meningococcal disease	15	13	9	7	8	7
Pertussis	203	226	106	314	239	306
Salmonellosis	779	1113	1060	1106	863	955
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	60	89	111	130	71	142
Shigellosis	367	268	213	205	705	789
Spotted fever rickettsiosis	187	307	262	696	548	546
Syphilis	1316	1130	878	948	875	904
Tuberculosis	210	193	172	169	143	147

\*Preliminary data, subject to change

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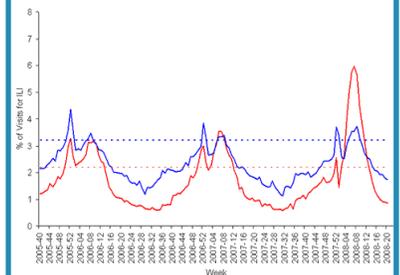
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