



▶ TENNESSEE TUBERCULOSIS (TB) RESEARCH HAS NATIONAL IMPLICATIONS2



▶ SPOTLIGHT: CLAUDETTE BRYANT, RN, BSN, CIC ...3

▶ HIV TRENDS3



▶ INTERSTATE EPIDEMIOLOGY COOPERATION4

▶ CO-MONITORING NON-TYPHOIDAL SALMONELLA ISOLATES OF HUMAN AND ANIMAL ORIGIN.....4

▶ VIRAL GASTROENTERITIS AND NOROVIRUS5

Tennessee *epi-news*

TENNESSEE DEPARTMENT OF HEALTH
COMMISSIONER SUSAN R. COOPER, MSN, RN

Selenium Toxicity

The Chattanooga-Hamilton County Health Department (CHCHD) received a report of unusual illness in March 2008, on the same day the Food and Drug Administration (FDA) warned consumers not to purchase or use certain flavors of the vitamin supplement “Total Body Formula.” The individual had been ill for over three weeks and reported that she had taken the supplement. CHCHD, the Tennessee Department of Health (TDH), and the Centers for Disease Control and Prevention (CDC) conducted case finding among recent purchasers of the product in Chattanooga, while other Tennessee jurisdictions and other states launched similar investigations.

Closer examination of the product revealed elevated levels of selenium (40,800mcg/oz), 200 times greater than the label listing. Selenium, a naturally occurring mineral, is

found in certain foods and is only needed by the body in small amounts to support good health. Ingesting excessive amounts, like that found in “Total Body Formula,” causes selenium toxicity or selenosis. Symptoms include substantial hair loss, muscle cramps, diarrhea, joint pain, fatigue, discoloration and/or loss of finger nails, and skin blisters typically beginning within 5–10 days after ingestion of excess selenium. Aside from stopping exposure, there is no treatment for selenosis, and symptoms typically resolve over a period of weeks to months.

Twenty-four cases were identified in the Chattanooga area, contributing to a total of 35 in the state of Tennessee, and 201 cases in 10 states. Cases were defined as an individual with hair loss, nail discoloration

(Continued on page 2)



Dangers of Indoor Radon Exposure; Smokers Among Most At Risk

Indoor radon, particularly when combined with smoking, poses a serious health risk. Radon and smoking appear to have a synergistic effect in promoting lung cancer, even when radon concentrations are relatively low. For example, at 1.3 pCi/L, a person who has never smoked has a 2 in 1,000 chance of dying from lung cancer while a current smoker exposed to the same level of radon has a 20 in 1,000 chance of dying from lung cancer (Table 1).

The number of lung cancer deaths can be

reduced by decreasing radon levels in homes. Since radon is a colorless and odorless radioactive gas, humans are unable to detect its presence without specific detection equipment or laboratory testing.

To increase the public’s awareness of radon and to promote radon testing and mitigation, the Environmental Protection Agency (EPA) has designated January as National Radon Action Month. Home testing for elevated levels of radon is simple; kits can be obtained for free from the Tennessee Department of Environment and

Conservation (TDEC). If initial test results show an indoor radon level of 4 pCi/L or greater, the EPA recommends a follow-up test. If the average of the first and second test is 4 pCi/L or greater, methods to reduce indoor radon buildup should be considered.

For further information on radon and to obtain a free radon test kit, contact TDEC at 1-800-232-1139 or via email at TDEC.Radon@state.tn.us. Information on free radon test kits is also available at

(Continued on page 2)

Selenium Toxicity (continued)

(Continued from page 1)

or brittleness, or with two or more of the following symptoms: muscle or joint pains, headache, foul breath, weakness, gastrointestinal symptoms, or skin rash,

within two weeks after ingesting the implicated liquid dietary supplement. The product was removed from distribution; for many of the persons affected, complete resolution of illness could take months or years.

More information is available at this CDC Web site: <http://emergency.cdc.gov/agent/selenium/supplements2008.asp>. — by *Amanda Wilburn, MPH* ❖

Dangers of Indoor Radon Exposure; Smokers among most At Risk (continued)

(Continued from page 1)

<http://www.tennessee.gov/environment/ea/radon/>. For information and resources on the Tennessee Department of Health’s free smoking cessation program, visit the Tennessee Tobacco QuitLine Web site at <http://health.state.tn.us/tobaccoquitline.htm> or call 1-800-QUIT-NOW (1-800-784-8669). — by *Melissa Kranz, MPH* ❖

Table 1. Lifetime* risk of lung cancer death per person from indoor radon exposure based on smoking status.

Radon Level**	Never Smoked	Current Smoker
20 pCi/L	3.60%	26.0%
10 pCi/L	1.80%	15.0%
8 pCi/L	1.50%	12.0%
4 pCi/L	0.73%	6.20%
2 pCi/L	0.37%	3.20%
1.3 pCi/L	0.20%	2.00%

Note: Former smokers are likely to have a higher risk than someone who has never smoked.
 pCi/L – pico Curies per Liter
 * Lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003).
 ** Assumes constant lifetime exposure of indoor radon at these levels.

Tennessee’s Volunteer Mobilizer

A disaster has struck our state. People need medical assistance. Can you be counted on to help?

The Tennessee Department of Health (TDH) is working to recruit and train 25,000 medical and non-medical volunteers to help dispense medications, administer vaccines, and provide necessary medical care during a public health emergency. For example, during Tennessee’s recent important response to Hurricane Gustav, more than 6,000 evacuees from Louisiana were housed in Tennessee shelters. Medical personnel to provide services for these sheltered evacuees were a high priority need. In future emergency responses volunteers can best be utilized if already credentialed. This credentialing, similar to pre-registration, will help ensure

the most appropriate deployment of volunteer medical support.

TDH’s Volunteer Mobilizer (VM), a Web-based system, allows medical professionals and other volunteers to become credentialed volunteer responders. To access the VM site and become a credentialed volunteer please go to the Web at <https://thanvolunteer.health.state.tn.us/VolunteerMobilizer>.

Volunteers will play an indispensable role in providing for the well-being of those in need. Volunteers with all types of skills and/or credentials will help staff PODs, sheltering operations, and even potential inter-hospital emergency support. Volunteers needed include:

- ▶ Physicians
- ▶ Physicians assistants
- ▶ Nurses
- ▶ Clerical/secretarial personnel
- ▶ Data entry/medical records personnel
- ▶ Pharmacists/pharmacy technicians
- ▶ Individuals for traffic control and parking
- ▶ Individuals for crowd control
- ▶ Translators (multiple languages including sign language)
- ▶ Emergency Medical Technicians
- ▶ Information technology personnel
- ▶ Clinical professionals and/or students to be trained & assist with vaccination (must be at least 18 years of age)

Please take the time to volunteer!!!!

— by *Randy Gowler* ❖

Tennessee TB Research has National Implications



Since 2001, the Tennessee Department of Health (TDH) has participated in a CDC-funded research project exploring tuberculosis (TB) epidemiology. The Tuberculosis Epidemiologic Studies Consortium (TBESC) includes state and metropolitan government TB programs, universities, hospitals, and non-profit organizations across the nation, with 26 collaborative studies completed or underway.

While TB rates continue to decline overall

in the U.S., this debilitating and sometimes deadly disease continues to disproportionately affect minority populations, and in some areas reaches case rates similar to those in developing countries. The TBESC research agenda focuses on high-risk populations and on settings where spread of TB is poorly understood. Because the epidemiology of TB is as distinct as each community and population group in which it is found, effectively combating this disease

(Continued on page 3)

Tennessee TB Research has National Implications (continued)

(Continued from page 2)

requires an understanding of these distinct patterns.

Tennessee's participation in the TBESC is helping us understand high-risk communities, develop new tools to improve infor-

mation collection in the field, and improve TB services. Current study topics include contact investigation, prevention of TB in foreign-born populations, barriers to latent TB infection (LTBI) treatment and TB disease treatment in the Southeastern U.S., multi-drug resistant TB genotyping, LTBI treatment acceptance and adherence, pre-

vention and treatment of TB in the African-American community, and TB mortality. As one of 16 sites participating in the TBESC, TDH's projects influence TB control locally and nationally, and we are excited to continue this work. — *by Tamara Chavez-Lindell, MPH* ❖

SPOTLIGHT: Claudette Bryant, RN, BSN, CIC



Since being licensed as a practical nurse in 1970, Claudette Bryant has worked at the Regional Medical Center in Memphis (The MED). Even while working full time, she

continued her education at Shelby State Community College and Union University to become a Registered Professional Nurse (RN) in 1986.

During her 37 years at the MED, she has worked bedside in Medical/Surgical Nursing and as a nurse in the transplant area. Because of her nursing proficiency and management expertise, Claudette was assigned to a leadership role in the up-and-coming field of infection control. She has seen infection control grow into a demanding and highly valued practice focused on patient safety, and since 1990 Claudette has helped promote infection control at the MED as an important task for all hospital employees.

intensive care unit, she continues to promote infection control and to serve as a leader in patient advocacy and professional performance.

Claudette's husband is Chester Bryant, and their children are Toni, Gloria, Darryl, Derrick and Bridget. Claudette has 5 grandchildren. Claudette has recently given up her favorite sport, bowling, and is able to attend even more plays and new movies. — *by L. Rand Carpenter, DVM* ❖

In her current assignment in the neonatal

The 9th Annual EIP Scientific Presentation Day – A Great Success!

The Emerging Infections Program (EIP), a network consisting of the Centers for Disease Control and Prevention (CDC) and certain state health departments, works to assess the public health impact of emerging infections and evaluate methods for their prevention and control. Important collaborators include local health departments, public health laboratories, clinical laboratories, hospital-based infection control practitioners, healthcare providers, and academic institutions.

The Tennessee Department of Health and

HIV Trends

HIV/AIDS remains an important global public health threat. According to UNAIDS, an estimated 33 million people were living with HIV/AIDS in 2007, including 2.7 million new HIV infections in that year alone. Although sub-Saharan Africa remains the epicenter of the pandemic (accounting for nearly 67% of the worldwide burden), HIV remains an important health concern in the United States, where the range of adult HIV prevalence is 0.5 – 1.0%.

In 2007 in Tennessee, 14,349 persons were living with HIV/AIDS. This number is up

Vanderbilt University have been a part of the EIP network since 1999. The annual Tennessee Emerging Infections Program Scientific Presentation Day, "EIP Day," showcases current research projects and infectious disease surveillance activities among Tennessee collaborators. Recognizing EIP partners (infection control practitioners, laboratorians, and public health staff) and celebrating another year of accomplishments is also an important aspect of the meeting. More than 200 persons from across Tennessee attended this year's meeting, which included presentations by

from 11,602 in 2003 -- representing about 1,000 new infections annually coupled with longer life-expectancies among infected individuals who have access to life-extending antiretroviral medications.

To target prevention efforts, it is essential to understand the demographics of the groups at highest risk for acquiring HIV. In 2007, 69% of Tennessee's new infections occurred in the metropolitan areas of Memphis and Nashville. Additionally, 74% of new HIV infections occurred in men. Among men, 58% were African American, 38% Caucasian, and 4% His-

panic. Infections were attributed to men having sex with men (MSM) (52%), heterosexual contact only (42%), intravenous drug use (IVDU) (4%), or both MSM and IVDU (2%).

We thank Terri McMinn and all of the Vanderbilt EIP staff for making EIP Day a great success. Next year's meeting will be held in mid-October, 2009, in Nashville. — *by Katie Garman, MPH, CHES* ❖

Women represent a substantial proportion of new HIV infections globally and in the U.S. In Tennessee, 81% of newly infected females (adults and children) were African American, 16% Caucasian, and 3% Hispanic. Infection was attributed to heterosexual contact (97%) and IVDU (3%).

Public health efforts aimed at reducing the

(Continued on page 4)

HIV Trends (continued)

(Continued from page 3)

rate of new HIV infections in TN need continued focus on prevention efforts among people living in large metropolitan

areas, men and women of color, and MSM.

Additional information can be found at these Web sites:

► <http://health.state.tn.us/STD/data.htm>

► <http://www.unaids.org/en/KnowledgeCentre/HIVData/Epidemiology>

— by Carolyn Wester, MD, MPH, and Thomas Shavor, MBA ❖

Interstate Epidemiology Cooperation

The Mountain Empire Epidemiology Task Force, formed in 2006, provides education and information on epidemiologic trends to healthcare providers and public health officials in northeastern Tennessee and southwestern Virginia. The task force is a voluntary collaboration between health departments in this area, including the Northeast Regional Health Office and the Sullivan County Health Department in Tennessee and the Cumberland Plateau, Lenowisco, and Mount Rogers Health Districts in Virginia. The population served by these health departments totals more than 700,000 persons.

In an early joint effort, members gathered, analyzed, and presented information on the increase of sexually transmitted infections

(STIs) over the previous two years in the Mountain Empire Region. Then in October 2007, the task force worked to provide information to the public regarding rabies and the dramatic increase in animal cases following the introduction of raccoon rabies into the area. The task force arranged a public seminar on rabies, with experts from both state health departments involved.

The first task force effort in 2008 was a focus on methicillin-resistant *Staphylococcus aureus* (MRSA) in school settings and among student-athletes. It included sponsoring a seminar for coaches, school nurses, and community leaders. More recently, a “Keep Flu Out” media campaign was launched by the task force with the

goal of promoting influenza vaccination to protect persons in the community from illness and complications caused by the virus. The campaign highlighted the new recommendation that all children aged 6 months–18 years be vaccinated. A press conference in Johnson City was followed by distribution of 10,000 fliers to schoolchildren in the region. Additional partners for this influenza awareness campaign were Wellmont Health System, Mountain States Health Alliance, East Tennessee State University School of Public Health, and the Veterans Affairs Medical Center. Partnerships such as these help promote good health and make the citizens of our area aware of health topics that impact their lives. — by Jamie Swift, RN ❖

Co-monitoring Non-typhoidal *Salmonella* Isolates of Human and Animal Origin

Non-typhoidal salmonellosis is a major public health problem in the United States, with an estimated 1.4 million cases annually, and multidrug-resistant *Salmonella* is increasingly seen. *Salmonella* transmission to humans occurs through exposure to contaminated food and direct contact with animal reservoirs such as reptiles, food-producing animals, and companion animals. Infections acquired directly from animals are usually sporadic and are consequently difficult to link epidemiologically.

In 2008, the Tennessee Department of Health, Tennessee Department of Agriculture, and the University of Tennessee College of Veterinary Medicine began a pilot project to further analyze or sub-type non-typhoidal *Salmonella* isolates from animals in Tennessee and to compare them to human isolates already being sub-typed. The project is aimed at determining the commonality of serotypes and genotypes for *Salmonella* spp. and if antibiograms are similar for selected *Salmonella* serotypes.

As of November 2008, 51 animal-origin isolates had been submitted and analyzed.

Most commonly isolates were from cattle (45.1%) and horses (23.5%), as well as from cats, dogs, pigs, sheep, snakes, and other species. The most common serotype was *S. Typhimurium* (21.6%), though the diversity of serotypes has been impressive, with 28 different serotypes among the other 40 isolates. Eight of the submitted isolates are types that have been isolated from humans and match the patterns of some isolates found in the PulseNet database. Six of these are *S. Typhimurium*. Of the other two, one is *S. Newport*, and one is *S. Meleagridis*.

The usefulness of continuous systematic co-monitoring of human and animal iso-



lates has been demonstrated in other public health settings. Comparison of antimicrobial susceptibility patterns and trends, and detection and investigation of outbreaks associated with direct transmission of *Salmonella* from animals to humans have been outcomes. — by Alice Green, MS, DVM ❖

Viral Gastroenteritis and Noroviruses

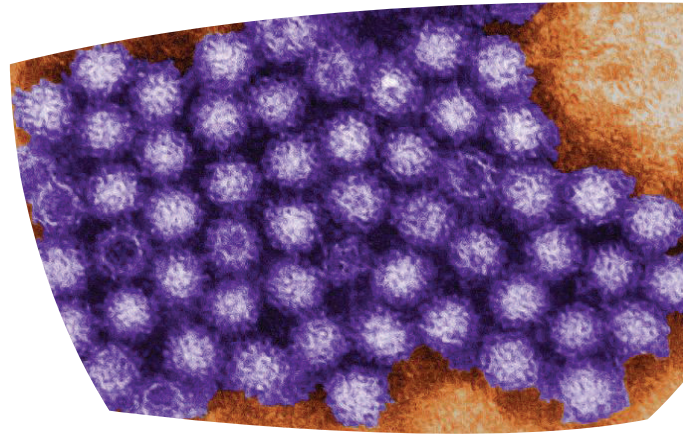
Noroviruses, a group in the family of Calici viruses, are the leading cause of infectious gastroenteritis in the U.S. Sometimes called the “stomach flu,” norovirus infections can cause nausea, vomiting, diarrhea, abdominal pain and low-grade fever, typically lasting 24–48 hours. The onset of symptoms is usually 24–48 hours after exposure, with shedding of virus beginning at symptom onset and continuing as long as two weeks after recovery.

Norovirus transmission occurs through the consumption of contaminated food or liquids or by direct contact with contaminated objects or an ill person. Risky exposures include being in the same household or caring for someone who is ill. Transmission is facilitated by norovirus’s low infectious dose and by the ability of noroviruses to survive in the environment for up to several weeks.

Public health recommendations to limit norovirus transmission include frequent handwashing, particularly after using the toilet, after changing diapers, and before

eating or preparing food. Handwashing with soap and water is preferred, as alcohol-based hand rubs sometimes do not inactivate noroviruses.¹ Potentially contaminated surfaces should be cleaned thoroughly then disinfected using bleach or a healthcare-approved disinfectant. Potentially contaminated clothing or linens should be promptly removed and washed with hot water and soap. The Centers for Disease Control and Prevention recommends that persons who are infected with norovirus not prepare food while they have symptoms and for three days after recovery. It is also recommended that children not return to daycare settings until at least 24 hours after their symptoms resolve.

While sporadic cases of norovirus are not required to be reported to the Tennessee Department of Health, outbreaks should be



reported to your local health department. Investigation and intervention are often helpful in controlling outbreaks and preventing future outbreaks of acute infectious gastroenteritis. For more information on norovirus, see <http://www.cdc.gov/ncidod/dvrd/revb/gastro/norovirus.htm> For information on reportable diseases in Tennessee, see <http://health.state.tn.us/ceds/notifiable.htm>. — by Mary Lancaster, PhD ❖

¹Kampf G; Grothier D, and Steinmann J. 2005. Efficacy of three ethanol-based hand rubs against feline calicivirus, a surrogate virus for noroviruses. *J. Hosp. Infect.* 60: 144-9.

Reported Cases, by Year of Diagnosis, Tennessee, 2004-2008					
Condition	2004	2005	2006	2007	2008*
Chlamydia	22408	23041	25320	26969	27939
Gonorrhea	8475	8619	9687	9584	8754
Meningococcal Disease	22	28	25	21	21
Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA), invasive	913	1994	2029	1973	1866
Pertussis	167	213	179	74	110
Rocky Mountain Spotted Fever	101	139	260	188	225
<i>Salmonella</i> , non-Typhi	776	820	844	851	882
<i>Shigella</i>	571	507	200	363	919
Penicillin-sensitive <i>Streptococcus pneumoniae</i> , invasive	534	807	837	722	829
Penicillin-resistant <i>Streptococcus pneumoniae</i> , invasive	148	165	154	198	197
Syphilis	803	907	1016	1207	1271
Tuberculosis (TB)	277	299	277	234	260
Pediatric TB 0-4 yrs	13	10	11	4	11
Pediatric TB 5-15 yrs	5	6	6	7	3
West Nile virus (WNV)	14	18	22	11	8

* YTD Totals as of January 03, 2009

Flu happens!

(And we need you to tell us about it.)

Join the
**Tennessee Sentinel
Providers Network**

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

Contact Robb Garman for more info:
(615) 532-8507
robb.garman@state.tn.us

Recommended Immunization Schedule for Persons Aged 0–6 Years, United States, 2008*

Vaccine ▼	Age ►	Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	19–23 months	2–3 years	4–6 years
Hepatitis B ¹		HepB	HepB	HepB	see footnote 1	HepB	HepB	HepB	HepB			
Rotavirus ²			Rota	Rota	Rota							
Diphtheria, Tetanus, Pertussis ³			DTaP	DTaP	DTaP	DTaP	see footnote 3	DTaP	DTaP			DTaP
Haemophilus influenzae type b ⁴			Hib	Hib	Hib	Hib	Hib	Hib**				
Pneumococcal ⁵			PCV	PCV	PCV	PCV	PCV	PCV			PPV	
Inactivated Poliovirus			IPV	IPV	IPV	IPV	IPV	IPV				IPV
Influenza ⁶									Influenza (Yearly)			
Measles, Mumps, Rubella ⁷							MMR	MMR				MMR
Varicella ⁸							Varicella	Varicella				Varicella
Hepatitis A ⁹							HepA (2 doses)	HepA (2 doses)			HepA Series	
Meningococcal ¹⁰												MCV4

Range of recommended ages

Certain high-risk groups

This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of December 1, 2007, for children aged 0 through 6 years. Additional information is available at www.cdc.gov/vaccines/recs/schedules. Any dose not administered at the recommended age should be administered at any subsequent visit, when indicated and feasible. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and other components of the vaccine are not contraindicated and if approved by the Food and Drug Administration for that dose of the series. Providers should consult the respective Advisory Committee on Immunization Practices statement for detailed recommendations, including for high-risk conditions: <http://www.cdc.gov/vaccines/pubs/ACIP-list.htm>. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form is available at www.vaers.hhs.gov or by telephone, 800-822-7967. *Our next 2 issues will feature immunization schedules for both adolescents and adults. **Because of a national shortage, the 12-15 month dose of the Hib vaccine is currently being deferred for healthy children.

EDITORIAL STAFF

- David E. Brumley, MPH, DDS
- L. Rand Carpenter, DVM
- Darryl Edmisson, MS
- Katie Garman, MPH
- Alice Green, MS, DVM
- Sharon Hensley, DVM
- L. Amanda Ingram, MPH
- Melissa Kranz, MPH
- Mary Lancaster, PhD
- Thomas Shavor, MBA

For subscription information, please contact Darryl Edmisson at (800) 404-3006 or EpiNewsletter.Response@state.tn.us



Department of Health. Authorization No. 343227, 36,000 copies. This public document was promulgated at a cost of \$0.28 per copy. 06/08

Tennessee Department of Health
 Communicable and Environmental Disease Services
 425 5th Avenue North
 1st Floor, Cordell Hull Building
 Nashville, Tennessee 37243

RETURN SERVICE REQUESTED

Presorted
 Standard
 US Postage
 PAID
 Nashville, TN
 Permit #1