



TENNESSEE DEPARTMENT OF HEALTH LABORATORY SERVICES PUBLIC HEALTH NEWSLETTER

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COMMISSIONER OF HEALTH

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2018 REPORTABLE DISEASE LIST CHANGES

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The changes for the 2018 TN Reportable Diseases list were released on November 2, 2017. Reporting required diseases and events are critical to the public health efforts of prevention and intervention of significant health issues.

Significant changes for all reporters include:

- Suspected/known cases of Yellow Fever should be reported on the next business day.
- All carbapenem-resistant genera and species within the family of *Enterobacteriaceae* are reportable by laboratories (includes *Enterobacter* species, *Escherichia coli*, and *Klebsiella* species).

- Reporters may continue to report by paper or online.

Significant changes for laboratories only include:

- Laboratories are encouraged to report by ELR (electronic laboratory reporting)
- Extended-spectrum Beta-lactamase-producing *Klebsiella* species are now reportable from sentinel laboratories only in Maury and Williamson counties.
- *Burkholderia mallei* is no longer reportable from laboratories.
- HIV genotype nucleotide sequences are now reportable by laboratories conducting this testing and reporting via ELR.
- Guidance documents have been updated for changes in reporting requirements for several enteric pathogens, the healthcare-associated infections, blood lead levels, and Spotted Fever Group Rickettsioses.

In addition, ALL suspected outbreaks, regardless of etiology, are reportable. Questions regarding public health reporting should be directed to your local or regional health department. Local or Regional Health Departments listing:

<https://www.tn.gov/health/health-program-areas/localdepartments.html>

The 2018 List of Reportable Diseases in Tennessee For Healthcare Providers and Laboratories is included on pages two and three. The 2018 Reportable Disease Guidance, including a letter from the Commissioner, Detailed Guidance for Laboratories, and a summary of the 2018 changes, can be found by visiting: <https://apps.health.tn.gov/ReportableDiseases>.

WEBINAR SAVE THE DATE

Thursday
January 11, 2018

2018 LABORATORY REPORTABLES UPDATE

- Reportable List Changes for 2018
- Shipping and Transport Options for Specimens
- Culture Independent Diagnostic Testing (CIDT)
 - Public Health Implications






























REGISTRATION: <https://redcap.health.tn.gov/redcap/surveys/?s=XPTYR3LN3J>

Please contact Allison Chan at Allison.Chan@tn.gov with questions.

2018 List of Reportable Diseases in Tennessee

For Healthcare Providers

The diseases, events, and conditions reportable to Tennessee Department of Health (TDH) by healthcare providers are listed below for 2018. Laboratories in healthcare facilities should refer to Page 2 of this document. The reporting form (PH-1600) and associated documentation may be faxed directly to the local or regional health office (see <http://tn.gov/health/topic/localdepartments>) or the Communicable and Environmental Diseases and Emergency Preparedness (CEDEP) Division at (615) 741-3857. The PH-1600 also is available for completion online at <https://redcap.health.tn.gov/redcap/surveys/?s=XTJTN4MD3D>. More information about reporting is available on the Reportable Diseases website at <https://apps.health.tn.gov/ReportableDiseases>. For questions, contact CEDEP at (615) 741-7247 or (800) 404-3006.

<p>Disease Outbreaks (e.g., foodborne, healthcare-associated, waterborne) !</p> <p>Anaplasmosis</p> <p>Anthrax !</p> <p>Babesiosis</p> <p>Birth Defects </p> <p>Botulism: Foodborne !, Wound !</p> <p>Botulism: Infant</p> <p>Brucellosis </p> <p>California/LaCrosse Serogroup Virus Infection</p> <p>Campylobacteriosis</p> <p><i>Candida auris</i> (includes rule-out) </p> <p>Carbapenem-Resistant <i>Enterobacteriaceae</i>, (all genera)</p> <p>Carbon Monoxide Poisoning</p> <p>Chagas Disease</p> <p>Chikungunya </p> <p>Chlamydia</p> <p>Cholera</p> <p>Colistin-Resistant (Plasmid-Mediated) Gram Negative Bacteria </p> <p>Congenital Rubella Syndrome </p> <p>Cryptosporidiosis</p> <p>Cyclosporiasis</p> <p>Dengue</p> <p>Diphtheria </p> <p>Ehrlichiosis (including <i>E. chaffeensis</i> and <i>E. ewingii</i>)</p> <p>Equine Encephalitis Viruses: Eastern , Venezuelan , Western</p> <p>Gonorrhea</p> <p>Group A Streptococcal Invasive Disease (<i>Streptococcus pyogenes</i>) </p> <p>Group B Streptococcal Invasive Disease (<i>Streptococcus agalactiae</i>)</p> <p><i>Haemophilus influenzae</i> Invasive Disease </p>	<p>Hansen's Disease (Leprosy)</p> <p>Healthcare Associated Infections: </p> <p>Catheter-Associated Urinary Tract Infections</p> <p>Central Line Associated Bloodstream Infections</p> <p><i>Clostridium difficile</i></p> <p>Dialysis Events</p> <p>Healthcare Personnel Influenza Vaccination</p> <p>Methicillin-Resistant <i>Staphylococcus aureus</i></p> <p>Surgical Site Infections</p> <p>Ventilator Associated Events</p> <p>Hemolytic Uremic Syndrome</p> <p>Hepatitis, Viral- Type A </p> <p>Hepatitis, Viral- Type B: Acute</p> <p>Hepatitis, Viral- Type B: Perinatal (age ≤24 months), Pregnant Female (each pregnancy)</p> <p>Hepatitis, Viral- Type C: Acute</p> <p>Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome</p> <p>Influenza-Associated Deaths: Age <18 Years, Pregnancy-Associated </p> <p>Influenza A: Novel !</p> <p>Lead Levels </p> <p>Legionellosis</p> <p>Listeriosis</p> <p>Lyme Disease</p> <p>Malaria</p> <p>Measles !</p> <p>Meningitis: Other Bacterial </p> <p>Meningococcal Disease (<i>Neisseria meningitidis</i>) !</p> <p>Middle East Respiratory Syndrome !</p> <p>Mumps </p> <p>Neonatal Abstinence Syndrome </p> <p>Nontuberculous <i>Mycobacteria</i> Infection (extra-pulmonary only)</p> <p>Pertussis </p> <p>Plague </p>	<p>Poliomyelitis </p> <p>Psittacosis</p> <p>Q Fever </p> <p>Rabies: Animal, Human !</p> <p>Ricin Poisoning !</p> <p>Rubella </p> <p>St. Louis Encephalitis Virus Infection</p> <p>Salmonellosis: Typhoid Fever </p> <p>Salmonellosis: All other species</p> <p>Shiga toxin-producing <i>Escherichia coli</i></p> <p>Shigellosis</p> <p>Smallpox !</p> <p>Spotted Fever Rickettsiosis</p> <p><i>Staphylococcus aureus</i>: Enterotoxin B Pulmonary Poisoning !</p> <p><i>Staphylococcus aureus</i>: Vancomycin Non-Sensitive (All Forms) </p> <p><i>Streptococcus pneumoniae</i> Invasive Disease</p> <p>Syphilis: Congenital </p> <p>Syphilis: Other</p> <p>Tetanus</p> <p>Toxic Shock Syndrome: Staphylococcal, Streptococcal</p> <p>Tuberculosis, infection ("latent")*</p> <p>Tuberculosis, suspected or confirmed active disease </p> <p>Tularemia </p> <p>Vancomycin-Resistant Enterococcus Invasive Disease</p> <p>Varicella Deaths</p> <p>Vibriosis</p> <p>Viral Hemorrhagic Fever !</p> <p>West Nile Virus Infection: Encephalitis, Fever Yellow Fever </p> <p>Yersiniosis</p> <p>Zika Virus Disease/Infection </p>
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* Healthcare providers should only report "Tuberculosis, infection" (formerly, "latent" TBI) for a positive tuberculin skin test (TST) for any child or adolescent < 18 years of age, or a positive interferon-gamma release assay (IGRA) for a patient of any age. Refer to the PH-1600 for additional directions on how to report.

Regular Reporting:

PH-1600 only in 1 week (all diseases for Regular Reporting)



Phone immediately + PH-1600 in 1 week



Phone next business day to + PH-1600 in 1 week

Special Reporting:



All blood lead test results must be reported electronically or via fax. For more information, refer to <https://tn.gov/health/article/MCH-lead-providers> or email UT Extension at leadtrk@utk.edu for assistance.



Report in 30 days. For more information, see <http://tn.gov/health/topic/hai>.



Neonatal Abstinence Syndrome in 1 month at <http://tn.gov/health/topic/nas>
Birth Defects in 1 week at <https://tdhrc.health.tn.gov/redcap/surveys/?s=TDEYPYCHET>

2018 List of Reportable Diseases in Tennessee

For Laboratories

The diseases, events, and conditions reportable to Tennessee Department of Health (TDH) by laboratories, including laboratories in healthcare facilities, are listed below for 2018. Refer to Page 1 of this document for a list of diseases, events, and conditions reportable by healthcare providers. Laboratories should refer to the Detailed Laboratory Guidance document for additional guidance on reportable tests and results, and specimen/isolate submission to the Tennessee Department of Health Laboratory.

Laboratory reports, and the reporting form (PH-1600) (if needed), may be faxed directly to the local or regional health office (see <http://tn.gov/health/topic/localdepartments>) or the Communicable and Environmental Diseases and Emergency Preparedness (CEDEP) Division at (615) 741-3857. The PH-1600 also is available for completion online at <https://redcap.health.tn.gov/redcap/surveys/?s=XTJTN4MD3D>. More information about reporting is available on the Reportable Diseases website at <https://apps.health.tn.gov/ReportableDiseases>. For questions, contact CEDEP at (615) 741-7247 or (800) 404-3006.

Disease Outbreaks (e.g., foodborne, healthcare-associated, waterborne) ! 📞
Acinetobacter species: Carbapenem-Resistant **eip**
Anaplasma phagocytophilum, species
Babesia species
Bacillus anthracis ! 📞
Bordetella pertussis 📞
Borrelia burgdorferi
Brucella species 📞 📞
 California/LaCrosse Serogroup viruses
Campylobacter species 📞
Candida auris (includes rule-out) 📞 📞
 Chikungunya virus 📞
Chlamydia psittaci
Chlamydia trachomatis
Clostridium botulinum or botulinum toxin:
 Foodborne ! 📞, Wound ! 📞
 Infant 📞
Clostridium difficile **eip** 📞
Clostridium tetani 📞
 Colistin-resistant (plasmid-mediated) gram negative bacteria 📞 📞
Corynebacterium diphtheria, *ulcerans* 📞 📞
Coxiella burnetii 📞
Cryptosporidium species 📞
Cyclospora species 📞
 Dengue virus
Ehrlichia species
Enterobacteriaceae: Carbapenem-Resistant (all genera) 📞
Enterococcus species: Vancomycin-Resistant Invasive Disease

Escherichia coli: Extended Spectrum Beta Lactamase-Producing **eip** 📞
Escherichia coli: Shiga toxin-producing 📞
 Equine Encephalitis viruses: Eastern 📞, Venezuelan 📞, Western
Francisella tularensis 📞 📞, species 📞 📞
Haemophilus influenzae 📞 📞
 Hepatitis, Viral- Type A 📞
 Hepatitis, Viral- Type B: Acute
 Hepatitis, Viral- Type B: Perinatal (age ≤24 months), Pregnant Female (each pregnancy)
 Hepatitis, Viral- Type C: Acute, Chronic
 Human Immunodeficiency Virus
 Influenza A virus: Novel ! 📞
Klebsiella species: Extended Spectrum Beta Lactamase-Producing **eip** 📞
 Lead Levels **UT Extension**
Legionella species 📞
Listeria species 📞
 Measles virus ! 📞
 Meningitis: Other Bacterial 📞 📞
 Middle East Respiratory Syndrome coronavirus (MERS-CoV) ! 📞
 Mumps virus 📞 📞
Mycobacterium leprae 📞
Mycobacterium nontuberculous species (extra-pulmonary only) 📞
Mycobacterium tuberculosis complex (*M. tuberculosis*, *M. bovis*, *M. africanum*, *M. canettii*, *M. microti*) 📞 📞
Neisseria gonorrhoeae
Neisseria meningitidis ! 📞

Plasmodium species 📞
 Poliovirus 📞 📞
Pseudomonas aeruginosa: Carbapenem-Resistant **eip** 📞
 Rabies virus: Animal, Human ! 📞
 Ricin toxin ! 📞
Rickettsia species (other than *R. typhus*)
 Rubella virus 📞 📞
 St. Louis Encephalitis virus
Salmonella: Typhi 📞 📞, other species 📞
Shigella species 📞
Staphylococcus aureus:
 Enterotoxin B-producing (pulmonary) ! 📞
 Methicillin-Resistant Invasive Disease **eip**
 Toxin-producing (TSST-1)
 Vancomycin Non-Sensitive (All Forms) 📞 📞
Streptococcus agalactiae Invasive Disease
Streptococcus pneumoniae Invasive Disease 📞
Streptococcus pyogenes:
 Invasive Disease 📞 📞
 Toxin-producing 📞
Treponema pallidum:
 Congenital 📞,
 Other
Trypanosoma cruzi
 Variola virus (Orthopox virus) ! 📞
Vibrio cholerae 📞, species 📞
 Viral Hemorrhagic Fever viruses (including Ebola, Lassa, Marburg) ! 📞
 West Nile virus
 Yellow Fever virus 📞 📞
Yersinia pestis 📞 📞, species 📞
 Zika virus 📞

Specimen or Isolate Submission: 📞 Required 📞 Requested

For more details about the laboratory tests and results, specimen or isolate submission requirements, and catchment areas for individual pathogens, please refer to the 2018 Reportable Diseases in Tennessee: Detailed Laboratory Guidance.

Regular Reporting:

PH-1600 only in 1 week (all diseases for Regular Reporting)



Phone immediately + PH-1600 in 1 week



Phone next business day + PH-1600 in 1 week

Special Reporting:



All blood lead test results must be reported electronically or via fax. For more information, refer to <https://tn.gov/health/article/MCH-lead-providers> or email UT Extension at leadtrk@utk.edu for assistance.



Refer to the Detailed Laboratory Guidance for catchment and/or send questions to HAI.Health@tn.gov.

STATEWIDE ENTOMOLOGICAL AND ARBOVIRAL SURVEY IN TENNESSEE, 2017

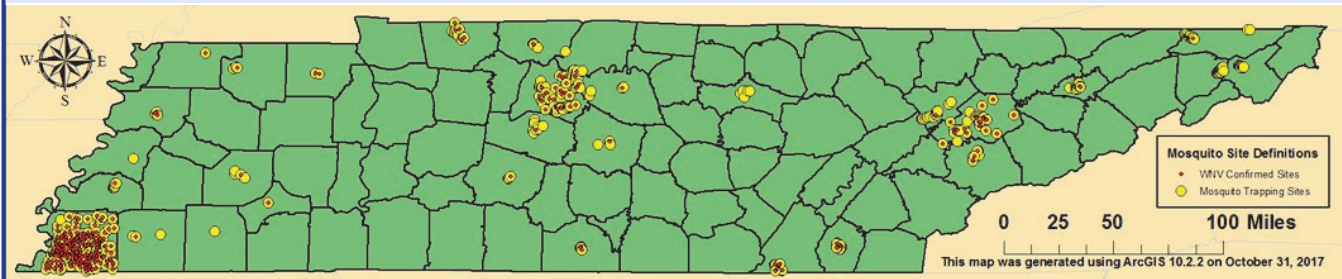


Figure 1. West Nile Virus among mosquito pools in Tennessee from May 2017 - September 2017

In May 2017, the Vector-Borne Diseases Program began a statewide entomological and arboviral survey that also increased the number of counties included in West Nile Virus (WNV) surveillance testing. The purpose of this survey is to determine whether the mosquito species *Aedes aegypti*, also known as the “yellow fever mosquito”, currently has a presence in the state of Tennessee. *A. aegypti* is the primary vector for a host of arboviruses including Zika, dengue, chikungunya, Mayaro and yellow fever viruses. Geographic distribution of the species has suggested that *A. aegypti* is expected to expand further north in the United States. But *A. aegypti* has also had a historical presence in the state, which can be confirmed due to the outbreaks of yellow fever occurring in Memphis, TN in 1878. It has been presumed that *A. aegypti* has been out competed by *Aedes albopictus* also known as the “Asian tiger mosquito” which was believed to have been introduced to Tennessee in the 1980s through a shipment of tires.

The survey used three adult trapping methods including: BG Sentinel 2.0, CDC light traps, and gravid traps. Oviposition cups were used as the method for egg collection. Adult mosquitoes and eggs were collected by our program’s environmentalists and collaborators from UT- Knoxville in the eastern, western, and middle regions of Tennessee. As of October 2017, no *A. aegypti* have been found in Tennessee. The two most populous species throughout the three regions were *Aedes albopictus* and *Culex* spp. Mosquito hatching was performed by our interns at the insectary located in the TDH Lab Services building. The hatchings produced only *Aedes* spp. mosquitoes, with *Aedes albopictus* out competing *Aedes triseriatus* during rearing. The expanded WNV surveillance

testing revealed that there has been a resurgence of WNV throughout the state. The city of Memphis had the highest percentage of WNV positive pools with 33.25% of their samples tested being positive, followed by Chattanooga (28.36%) and Nashville (15.75%). It was noticed that in Shelby County, the peak of positive mosquito pools occurred two weeks earlier than last year and peaked at 66% pool infection rate compared to 47% in the previous years. Maximum Likelihood Estimates (MLE) and Minimum Infection Rates (MIR) were calculated for all major cities, counties, and rural regions with the MLE for the entire state being 7.87% and the MIR being 6.61%.

As of October 2017, there have been 29 human WNV cases as well as 3 WNV horse cases, and 32 bird swab tests. The positive bird swabs were mainly from crows and hawks which are more susceptible to WNV. Although *A. aegypti* has yet to be found in Tennessee, the survey has shown that there is a diversity of mosquitoes throughout the state. The survey also showed us that WNV can be found in many areas of Tennessee.

**Submitted by Alessandra Rodriguez
Public Health Laboratory Scientist IV
Vector Borne Disease Program**

Tennessee	Positive Pools (%)	^a MLE	CI (95%)	^β MIR	CI (95%)
	27.46	7.87	(7.48, 8.27)	6.61	(6.29, 6.94)
Major Cities					
Nashville	15.75	4.47	(3.71, 5.51)	4.09	(3.27, 4.92)
Memphis	33.25	8.8	(8.25, 9.38)	7.22	(6.75, 7.68)
Knoxville	19.45	6.25	(4.78, 8.05)	5.48	(4.06, 6.90)
Chattanooga	28.36	6.78	(4.24, 10.42)	5.88	(3.25, 8.52)
Jackson	15.79	4.43	(1.18, 12.19)	4.15	(0.00, 8.84)
Major Counties					
Davidson	15.99	4.54	(3.71, 5.51)	4.15	(3.33, 4.97)
Shelby	31.29	8.4	(7.95, 8.88)	6.96	(6.58, 7.34)
Knox	17.91	5.89	(4.54, 7.55)	5.22	(3.90, 6.54)
Hamilton	28.36	6.78	(4.24, 10.42)	5.88	(3.25, 8.52)
Madison	15.79	4.43	(1.18, 12.19)	4.15	(0.00, 8.84)
^γRural Regions					
East	6.49	4.48	(2.95, 6.58)	4.16	(2.50, 5.82)
Middle	25.77	7.64	(5.07, 11.16)	6.51	(3.97, 9.05)
West	38.46	12.91	(8.27, 19.58)	10.46	(5.90, 15.02)

^a Maximum Likelihood Estimate (MLE) is based on a scale per 1,000, using a biased-corrected point estimate with a corrected score 95% confidence interval (CI).

^β Minimum Infection Rate (MIR) is based on a scale per 1,000 with a 95% confidence interval (CI).

^γ Rural Regions exclude major counties listed in table and are divided according to the Tennessee Emergency Management Agency (TEMA) Grand Division Districts.

COMMISSIONER'S LETTER: NEONATAL ABSTINENCE SYNDROME



October 16, 2017

Dear Colleague,

Thank you for the excellent care that you provide every day to the children and families of Tennessee. As state agencies, we very much value your partnership in assuring that all children get a safe and healthy start.

In 2013, Tennessee became the first state in the nation to make NAS a reportable condition—this requires providers and hospitals to report cases of NAS to the Tennessee Department of Health for surveillance purposes. These data have been incredibly helpful in understanding the magnitude of the NAS epidemic and also in directing program and policy efforts to reduce the burden of NAS in Tennessee. Thank you for your continued help in capturing this important data.

In 2016, Congress enacted the Comprehensive Addiction and Recovery Act of 2016. Recognizing the needs of infants born and affected from prenatal drug exposure, the Act requires states to require health care providers involved in the delivery or care of such infants to notify the child protective services agency of the occurrence of the conditions in such infants. This allows the child protection authorities to address the health and substance use disorder treatment needs of the infant and the affected family. In Tennessee, such referrals should be made to the Tennessee Department of Children's Services (DCS). **This includes children that are born affected by maternal use or misuse of addictive substances (whether legal (e.g., prescribed drugs) or illegal) and would include cases of NAS or other conditions resulting from prenatal substance exposure, such as Fetal Alcohol Spectrum Disorder.**

When you report a case of NAS to the Tennessee Department of Health, this is different than reporting suspected abuse or neglect to DCS. **If you suspect abuse or neglect in a case, even if you already made a reportable condition report to public health, you should also make a report to DCS.**

You can make a report by calling the Child Abuse Hotline at 877-237-0004, or you can also call 877-237-0026, which is a hotline specifically devoted to medical and legal professionals. You can also report online via: <https://apps.tn.gov/carat/>. Please remember that when you make a report, you do not have to investigate the case to verify whether abuse or neglect is occurring—that is the job of DCS. You only need to have suspicion of abuse or neglect in order to make a referral.

DCS staff may also reach out to you for medical records and treatment records related to the care of infants impacted by substance abuse. These requests support DCS staff in making plans for the safe care of infants and guiding decisions related to the child's disposition and permanency planning. Your cooperation in providing these records helps us to make the best decisions, with the best information and in the best interest of the child and family.

We are very grateful for the work that you do every day on behalf of children and families in Tennessee. We are proud to partner with you in this effort. Please do not hesitate to let us know if there are ways that we can be helpful to you.

Sincerely,

Handwritten signature of Bonnie Hommrich in blue ink.

Bonnie Hommrich
Commissioner
Tennessee Department of Children's Services

Handwritten signature of John J. Dreyzehner in blue ink.

John J. Dreyzehner, MD MPH FACOEM
Commissioner
Tennessee Department of Health

SPOTLIGHT ON SAFETY

Our Public Health Laboratory Partners in Wisconsin have shared the following educational opportunity presented by Sean Kaufman, MPH, CEO and Founding Partner of Behavioral-Based Improvement Solutions, LLC.

Description:

It isn't enough to simply perform a biosafety risk assessment, choose the proper engineering controls and personal protective equipment and write a standard operating procedure to mitigate risk and improve the culture of biosafety in the laboratory. We need to pay attention to human perceptions and behaviors. This webinar will provide insight into how human behavior impacts biosafety risk assessment and biosafety culture in our laboratories. Suggestions for how to manage human behaviors to achieve the desired outcomes will also be discussed.

To access this webinar, please visit:

<http://slhstream.ad.slh.wisc.edu/Mediasite4/Viewer/?peid=bf1a14f03893454f820cd8ae54e847171d>



CURRENT ACTIVITY IN THE SEQUENCING SECTION

Since implementing Whole Genome Sequencing (WGS) in 2015 with only one MiSeq sequencer and two employees, the sequencing section has trained four additional employees and purchased five additional MiSeq instruments. We currently have six employees certified by CDC to perform WGS.

We have performed WGS on a total of 2,400 specimens to include *Salmonella*, *E. coli O157* and *non-O157*, *Listeria*, *Campylobacter*, and *Shigella*. The WGS data generated have been used by our Epidemiologists and CDC to detect and investigate foodborne outbreaks. Currently, we are sequencing *Campylobacter* isolates that may be part of a multistate outbreak associated with puppies.

It takes five days to complete a WGS run of 16 specimens. The first day is spent extracting DNA from the specimens and measuring the purity of the extracts and the concentration of DNA in each one. It takes another full day to prepare the extracted DNA for a sequencing run and to program the MiSeq instrument. Once a run is started, it takes two days to complete. On the fifth day, the data files are run through a QC process, and if passing, they are then sent to CDC for further QC and uploading to the National Center for Biotechnology Information (NCBI) - a permanent storage location and world-wide repository for sequencing and other data.

In addition to bacterial specimens, the MiSeq instruments have also been used for sequencing *Hepatitis C* virus. Soon, we will begin sequencing *Neisseria gonorrhoea* specimens for the Antibiotic Resistance Lab Network.

Continued on page 8

HOW DOES CIDT AFFECT FOODBORNE ILLNESS?

Many different pathogens can cause a foodborne illness. These pathogens range from bacteria, viruses and parasites. Culture-independent diagnostic test (CIDT) is a test method that can help diagnose patients with foodborne illness within hours versus culturing or growing the bacteria in a laboratory. However, foodborne illness surveillance depends on culture confirmation to identify outbreaks through molecular subtyping and disease burden. As CIDT's are becoming more common in the laboratory setting, laboratories may stop culturing or producing bacterial isolate, public health laboratories cannot perform DNA fingerprints (organisms' subtype or strain), determine patterns of resistance or other characteristics. According to the CDC, "this information is needed to detect and prevent outbreaks, track antibiotic resistance, and monitor disease trends to know if prevention measures are working."

Continued on page 8

WELCOME NEW EMPLOYEES!

SEPTEMBER

Stephanie Frank—Laboratory Technician 2, Newborn Screening

Olivia Welch—Laboratory Technician 2, Retail Food

Tiffany Green—Laboratory Technician 2, ARLN GC

Ariana Allgood—Laboratory Technician 2, Virology/Aquatic Biology

OCTOBER

Thomas Virden—Laboratory Technician 2, Inventory

Kristoffer Richards—PH Laboratory Scientist 1, Newborn Screening

NOVEMBER

Christy Cotton—PH Laboratory Scientist 1, General Bacteriology

Kevin Woods—Admin Services Assistant 4, Administration

DECEMBER

Michelle Patterson—PH Laboratory Scientist 1, Molecular/ARLN

Congratulations on Your Retirement!

Johniene Fentress

CONGRATULATIONS ON YOUR PROMOTIONS!

SEPTEMBER

Holly Bartlett—Laboratory Technician 1, Specimen Handling

OCTOBER

Amanda Grider—Admin Services Assistant 5, Administration

Sheila Speakman—Admin Services Assistant 2, Administration

NOVEMBER

Deelia Owens—PH Laboratory Scientist 2, Newborn Screening

Tanya Cooper—PH Laboratory Scientist 2, Special Microbiology

Kendra Gluff—PH Laboratory Scientist 1, Newborn Screening

Lindsay Jolly—PH Laboratory Scientist 4, Serology

Holly Jones—PH Laboratory Technician 2, Specimen Handling

Alessandra Rodriguez—PH Laboratory Scientist 4, Vector Borne Disease

CURRENT ACTIVITY IN THE SEQUENCING SECTION *(continued from page 6)*

Tennessee Lab has trained employees from Alabama and Mississippi Public Health Labs in WGS techniques enabling them to perform WGS testing at their own Labs once they have been certified by CDC. We have also performed sequencing on specimens from other states who do not yet have WGS capability.

To help increase the volume of specimens we are able to sequence, two auto-extractor instruments have been purchased to extract DNA from our specimens. In addition, a library preparation instrument was purchased to prepare the specimens for sequencing. Once these instruments have been installed and validated, they will streamline and simplify our workflow.

The Sequencing section also performs Sanger sequencing on PCR positive *Norovirus* specimens for CaliciNet, a CDC surveillance program. TN is also a CaliciNet Outbreak Support Center for other States in the South-East region who do not have sequencing capability or the staff to perform *Norovirus* sequencing at their labs. In the past year, TN has sequenced 84 *Norovirus* specimens from 27 outbreaks.

*Submitted by Christina Moore
Molecular Biology Sequencing Section Supervisor*

HOW DOES CIDT AFFECT FOODBORNE ILLNESS? *(continued from page 6)*

How does CIDT affect detection and prevention of outbreaks?

PulseNet is a CDC laboratory network to track foodborne illness cases to detect outbreaks. PulseNet needs a bacterial isolate to perform molecular subtyping and the new method, whole genome sequencing (WGS). If no molecular subtyping is available from bacteria, the PulseNet laboratory network cannot link foodborne illness cases to detect outbreaks. Robert Taue, director of CDC's division of Foodborne, Waterborne and Environmental Diseases states, "We need foodborne-illness trend data to monitor progress toward making our food supply safer. It's important that laboratories continue to do follow-up cultures on CIDT-positive patients so public health officials can get the information needed to protect people from foodborne illness."

How does CIDT affect the tracking of antibiotic resistance?

A bacterial isolate is needed in order for a public health official to analyze and determine how resistant a pathogen is to antibiotics. Treatment of the illness is then affected and can make it hard to monitor trends in resistance over time.

How does CIDT affect trends in diseases?

Although CIDT does a great job in identifying an illness without a culture, public health officials cannot track changes in rates of illnesses caused by specific types of bacteria since there is no isolates. This limits data collected from outbreak investigations and disease trends in order to make food safer to eat.

What is being done about the rising challenge involving CIDT specimens?

Although still in early stages, the CDC is exploring methods for testing without bacterial isolates, providing better testing and culturing of positive specimens from CIDT findings and developing metagenomics – taking a patient's sample and identifying the genetic code.

*Submitted by Linda Thomas
Molecular and Enteric Manager*

References:

<https://www.cdc.gov/foodsafety/challenges/cidt.html>
<https://www.cdc.gov/pulsenet/about/index.html>
<https://www.cdc.gov/pulsenet/next-generation.html>

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<https://www.tn.gov/health/health-program-areas/lab.html>

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