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Public Health Laboratory Newsletter

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Commissioner of Health

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Inside This Issue:

Changes for the 2020 List of Reportable Diseases in Tennessee Effective January 1, 2020

Changes to the 2020 List of Reportable Diseases in Tennessee become effective January 1, 2020. The list and Detailed Laboratory Guidance are available at https://www.tn.gov/health/cedep/reportable-diseases.html.

For 2020, the Detailed Laboratory Guidance document has been updated with the following changes:

- *Escherichia coli*, Extended-spectrum Beta-lactamase-producing & *Klebsiella* species, Extended-spectrum Beta-lactamase-producing are reportable from laboratories for residents of the following counties: Lewis, Marshall, Maury, Wayne.
- Pregnancy status is listed as a new requirement for HIV reporting. Hepatitis B and Hepatitis C also request pregnancy status.
- Additional details have been added to the Laboratory Tests and Results to Report to Public Health for the following pathogens:
  - ◊ *Acinetobacter* species, Carbapenem-resistant
  - ◊ *Campylobacter*
  - ◊ *Cyclospora*
  - ◊ *Escherichia coli*, Shiga toxin-producing
  - ◊ Hepatitis B
  - ◊ Hepatitis C
  - ◊ HIV
  - ◊ *Listeria*
  - ◊ *Rickettsia* species (other than *R. typhus)*
  - ◊ *Salmonella* Typhi
  - ◊ *Salmonella* species (other than *S.* Typhi*)*
  - ◊ *Shigella*
  - ◊ *Vibrio cholerae* (Toxigenic O1 or O139)
  - ◊ *Vibrio* species (Non-toxigenic O1 or O139), *Grimontia hollisae, Photobacterium damselae*

Additional details regarding the reportable tests and results, specimen source and specimen/isolate submission to the Tennessee Department of Health Laboratory can be found in the Detailed Laboratory Guidance.

Please remember that all suspected outbreaks, regardless of etiology, are reportable. For any questions, please call your local or regional health department (https://www.tn.gov/health/health-program-areas/localdepartments.html) or (615) 741-7247.

CDC releases the 2019 Antibiotic Resistance Threats Report

On November 13th, CDC released the *Antibiotic Resistance Threats in the United States, 2019* Report. This report includes updated national death and infection estimates that underscore the continued threat of antibiotic resistance in the U.S.

The *Antibiotic Resistance Threats in the United States, 2013* was the first snapshot of the burden and threats posed by key antibiotic-resistant germs (bacteria and fungi) on human health and the actions needed to address this challenge. The report's conservative estimates

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2020 Tennessee Reportable Disease List

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 2020. 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.

Report Via Fax

- **Local/Regional Health Offices: https://www.tn.gov/health/health-program-areas/localdepartments.html**
- **State/CEDEP: (615) 741-3857**

OR

Report Online

- **Report conditions online through NBS: https://hssi.tn.gov/auth/login**
- **To sign up for NBS online reporting, please fill out the REDCap survey: https://redcap.health.tn.gov/redcap/surveys/?s=8L7CMWHN4M.**

Outbreaks and Events of Urgent Public Health Concern:

- Disease clusters or outbreaks !
- Single cases of pan-nonsusceptible organisms, unusual resistance mechanisms, or other emerging or unusual pathogen* !

*See Appendix A of the M100 Performance Standards for Antimicrobial Susceptibility Testing

Acinetobacter species: Carbapenem-Resistant eip
Anaplasma phagocytophilum, species
Babesia species
Bacillus anthracis !
Bordetella pertussis
Borrelia burgdorferi
Brucella species
Burkholderia mallei !, *pseudomallei* !
California/LaCrosse serogroup viruses
Campylobacter species
Candida auris (includes rule-out)
Chikungunya virus
Chlamydia trachomatis
Clostridium botulinum or botulinum toxin: Foodborne !, Wound !, Infant
Clostridium difficile eip
Clostridium tetani
Colistin-resistant 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
Haemophilus influenzae
Hepatitis A virus
Hepatitis B virus
Hepatitis C virus
Human Immunodeficiency Virus
Influenza A virus: Novel !
Klebsiella species: Extended Spectrum Beta Lactamase-Producing eip
Lead Levels
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. canettii, M. africanum, M. microti*)
Neisseria gonorrhoeae
Neisseria meningitidis !
Plasmodium species
Poliovirus
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-Susceptible (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

Regular Reporting

PH-1600 only in 1 week (all diseases)

! Phone immediately + PH-1600 in 1 week

Phone next business day + PH-1600 in 1 week

Special Reporting

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

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

Specimen or Isolate Submission

Required: Requested:

More information about reporting is available on the Reportable Diseases website at https://www.tn.gov/health/cedep/reportable-diseases.html. For questions, contact CEDEP at (615) 741-7247 or (800) 404-3006.

For more details about the laboratory tests and results, specimen or isolate submission requirements, and catchment areas for individual pathogens, please refer to the 2020 Reportable Diseases in Tennessee: Detailed Laboratory Guidance.

New Method Developed For Detecting Radioactive Strontium In Water

The ability to detect radioactive strontium in environmental samples is a key element in the routine monitoring of nuclear power plants. Strontium-90 is a fission product which, on earth, essentially means that it is man-made. Its presence in the environment can be a sign of contamination or other issues, especially if it is detected around a nuclear power plant. EPA method 905.0 is a long standing and proven method for detecting strontium in drinking water. In 2018, the radiochemistry lab began to develop a method that would be more robust in regards to analyzing environmental samples and also have a shorter turnaround time. Additionally, this new method would employ liquid scintillation counters as opposed to the gas proportional counters used in the EPA method. Liquid scintillation counters have a much higher efficiency and are also less subject to the effects of changes in laboratory conditions.

Several steps were taken to validate the ability of the new method to detect radioactive strontium. First, a known amount of strontium-89 and a known amount of strontium-90 (roughly 20pCi/L and 8pCi/L, respectively) were added to a series of four aliquots of laboratory water. These samples were analyzed with the new method along with one aliquot of water with no strontium added. The results were then calculated for accuracy. Next, strontium-89 and strontium-90 were added to a series of seven aliquots of laboratory water at the required detection limit levels. EPA regulations state that the required detection limit (meaning the least amount of activity that should be able to be detected) in drinking water for strontium-89 is 10pCi/L and for strontium-90 is 2pCi/L. These samples were analyzed using the new method along, with one aliquot of lab water with no strontium added, and the results calculated for accuracy. These first two steps in the process were each performed successfully by three chemists working independently. Lastly, the lab received three blind samples from outside sources. These samples were analyzed using the new method and the results calculated for accuracy. All of the above testing produced satisfactory results.

The end product is a new method that can be completed in a week, or even less for urgent samples, whereas the EPA method typically takes three weeks to a month to complete due to incubation time. Additionally, the new method uses instrumentation that is much more consistent and reliable.

Submitted by: Bill Moore, Supervisor, Radiochemistry

"Latent" Tuberculosis Infection Now Reportable for Healthcare Providers

The advances with new protein blocking tumor necrosis factor , or TNF, Antagonist drugs may increase likelihood of developing tuberculosis disease while undergoing treatment. These drugs are used to treat the symptoms of various illnesses by blocking proteins in the blood linked to the symptom. Undesirable effects of these treatments are that the proteins involved in the body's immune system are also inhibited. Advertisements for these medications encourage physicians to screen for TB infection , or TBI, prior to prescribing these drugs. Patients that have screened positive for exposure should undergo treatment for TB infection concurrently or before administering these protein blocking drugs.

Most people that have TB infection will never develop active TB disease. However, in people with weakened immune systems, TB infection can become active TB disease if left untreated. The introduction of the TNF antagonist medications can increase the risk for the development of TB disease if a patient has TB infection. Due to relatively low incidence of TB disease in the US, many primary care physicians, rheumatologists and other specialists may not be comfortable treating these patients for TB infection. The addition of "latent" tuberculosis to the reportable disease list helps public health identify patients with TBI that would benefit from TBI treatment.

What is reportable?

- Positive tuberculin skin test, or TST results for patients <18 years of age
- Positive interferon gamma release assay, or IGRA, results for patients of any age. Currently the only FDA-approved IGRA tests are QuantiFERON®-TB Gold Plus and T-SPOT®.*TB*.

Information for healthcare providers and laboratories on how to report can be found at:

- https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2020_HowtoReport_ForHealthcareProviders.pdf
- https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2020_HowToReport_ForLaboratories.pdf

The reportable conditions form (PH-1600) can be found at: https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/PH-1600.pdf

Submitted by:
Dorothy Baynham, Manager, Special Microbiology
Natasha Lindahl, Supervisor, Special Microbiology

Spotlight on Safety

Biosafety Cabinet Use

Proper use and maintenance of a biosafety cabinet is important in assuring maximum user protection. It is important that all BSC users are properly trained and educated. It is good practice to include biosafety cabinet refresher training and competency assessment on an annual basis. It is also important for management to set clear expectations in standard operating procedure manuals of when the BSC is to be used. The following is a guideline for quality control, usage and maintenance.

Daily QC Records:

1. Check visible tell-tale for inward air flow across the cabinet work opening.
2. Check the magnehelic gauge reading against the previous day for consistent readings.
3. Record reading of gauge, or for newer BSC models, record acceptable based on indicator light.
4. Record decontamination and disinfection performed after each use.

Daily Use:

1. Check sash height and adjust to recommended level.
2. Run BSC for manufacturer recommended time before use, usually 3-4 minutes.
3. Check air intake and exhaust grills for obstruction.
4. Don appropriate personal protective equipment based on risk assessment and protocol.
5. Separate work surface into clean and dirty sides and work from clean to dirty side.
6. Maintain as little turbulence as possible across air curtain by moving straight into and out of cabinet with minimal sideways motion.
7. Remove used gloves inside the cabinet and discard into waste container inside the cabinet before removing hands.
8. All items should be decontaminated prior to removal from inside the BSC.
9. Waste should be added to a waste bag inside the cabinet and the outside of the waste container/bag should be decontaminated prior to removal.
10. BSC should remain running for 10-15 minutes after decontamination.

Daily Maintenance:

1. BSC should remain running.
2. Clean all surfaces inside the cabinet with proper disinfectant based on risk assessment.
    A. Freshly prepared 10% bleach, followed by water (optional) and 70% ethanol rinse to prevent pitting and erosion of the stainless steel.
    B. If bleach is not used for disinfection, be sure to allow manufacturer recommended contact time with surfaces.
    C. Decontaminate from clean to dirty side and remember decontamination takes place by:
        i. Decontamination by chemical disinfection
        Ii. Decontamination by mechanical physical scrubbing motion
3. If BSC is shut down, lower sash and turn on ultraviolet light (if available). UV light only provides some decontamination and its efficacy is affected by multiple factors. It must be used in conjunction with chemical and physical decontamination.

Monthly / Quarterly/ Biannual BSC Maintenance

1. Ensure certification has not expired.
2. Decontaminate all items and remove from BSC.
3. Perform a full decontamination of visible BSC interior, and surfaces below the work surface as stated in Operator Manual.

Annual Certification and/ or post-repair or cabinet move

1. BSC should be certified annually.
2. BSC should be certified if major components are replaced.
3. BSC should be certified if the cabinet is moved to a new location.
4. Prior to annual certification cabinet should be surface decontaminated.
5. Prior to repair or replacement of certain components the BSC must have the HEPA filter decontaminated.

While there may be some variation in the above processes and time schedules, basic use should include all the above.

CDC Laboratory Training offers free Biosafety Cabinet training with continuing education credit. The link to this opportunity can be accessed at: https://www.cdc.gov/labtraining/training-courses/biological-safety-cabinets.html.

Submitted by: Rolinda Eddings MT(ASCP), Safety Officer

Laboratory Response Network (LRN) for Biological Threats and Emerging Infectious Diseases

The Laboratory Response Network has been in operation since 1999 when it was established by collaborative partnerships between the CDC, FBI and APHL. The primary focus upon establishment was to respond quickly and effectively to chemical and biological terrorism by improving the nation's public health laboratory testing structure and capabilities. Please read the recently published paper and LRN-B case study in the link below. This case study publication highlights the work that LRN laboratories perform on a daily basis and how LRN-B reference laboratories responded to three domestic infectious disease outbreaks. The paper focuses on how the LRN-B program has expanded since its inception to include testing for emerging infectious diseases that can rapidly spread and present public health emergencies and how these testing efforts will continue when other novel infectious disease arise.

https://journals.sagepub.com/doi/10.1177/0033354919874354

Submitted by:
Renee Johnson, BSMT (ASCP), Bioterrorism Coordinator

CDC releases the 2019 Antibiotic Resistance Threats Report *(Continued from page 1)*

showed that at least two million people were infected with antibiotic-resistant germs each year in the United States and at least 23,000 people died as a result. Since then, new data sources that provide a more complete estimate of antibiotic resistance are now available and were used to produce portions of the 2019 report. This 2019 report from CDC, the second of its kind, applies data from new resources to recalculate burden estimates from the previous report. The revised estimates show that more than 2.6 million antibiotic-resistant infections and nearly 44,000 deaths occurred each year included in the 2013 report.

When compared to the previous estimate, the updated 2013 report estimate describing the number of deaths caused by antibiotic resistance each year is nearly two times higher. However, deaths decreased by eighteen percent since the 2013 report. This suggests that prevention efforts in hospitals are working. Yet, the number of people facing antibiotic resistance in the United States is still too high. More than 2.8 million antibiotic-resistant infections occur in the United States each year, and more than 35,000 people die as a result.

This 2019 report also presents data about the top eighteen pathogens that require attention now. It emphasizes that antibiotic resistance is a One Health issue that can spread through people, animals and the environment. It threatens our most vulnerable friends and family members, and affects nearly every aspect of life.

The updated 2019 AR Threats report is intended to:

- Serve as a reference for anyone looking for recent information on antibiotic resistance.
- Provide the latest U.S. antibiotic resistance burden estimates for human health in the United States, including a list of eighteen germs listed on level of concern to human health: urgent, serious and concerning.
- Highlight emerging areas of concern and additional action needed to address this threat at a national and global level.

The Tennessee Public Health Laboratory serves as the southeast regional lab of the AR Lab Network. Among the eighteen antibiotic-resistant bacteria and fungi threats highlighted in the report, our lab is monitoring at least ten pathogens, including four pathogens deemed as "Urgent threats:" Carbapenem-resistant *Acinetobacter*, *Candida auris*, Carbapenem-resistant Enterobacteriaceae and drug resistant *Neisseria gonorrhoeae* and eight pathogens deemed as "serious threats:" drug-resistant *Campylobacter*, drug resistant *Candida*, Extended-spectrum beta-lactamase—producing Enterobacteriaceae, multidrug-resistant *Pseudomonas aeruginosa*, drug-resistant non-typhoidal *Salmonella*, drug-resistant *Salmonella* serotype Typhi, drug-resistant *Shigella* and methicillin-resistant *Staphylococcus aureus*.

In the front of the report, you'll see the following dedication: "This report is dedicated to the 48,700 families who lose a loved one each year to antibiotic resistance or *Clostridioides difficile*, and the countless healthcare providers, public health experts, innovators, and others who are fighting back with everything they have."

You can view the report via the below links:

Report HTML: http://www.cdc.gov/DrugResistance/Biggest-Threats.html

Report PDF: https://www.cdc.gov/drugresistance/pdf/threats-report/2019-ar-threats-report-508.pdf

Submitted by: Xiaorong Qian, Ph.D, HCLD (ABB), Assistant Director, Molecular Microbiology

Norovirus: Symptoms, Transmission and TDH Public Health Laboratory's Role

Norovirus is highly infectious pathogen that can cause violent diarrhea and/or vomiting. Norovirus is the most common cause of acute gastroenteritis infection. The virus is more common in the winter where there is high concentration of vulnerable people, children and older patients, however, norovirus can occur any time of the year. While the symptoms are unpleasant, it is rarely serious and typically lasts from two to three days. Dehydration can occur in addition to fever, aching limbs and headaches.

There are several ways an individual can become infected with norovirus: having direct contact with an infected person, consuming food or water containing norovirus, or touching contaminated surfaces and then putting your hands in your mouth. Prevention is key to protecting yourself from norovirus: washing hands, cooking shellfish thoroughly, staying home when sick and avoiding individuals that are sick. What does one do if they do get norovirus? There is no specific treatment for norovirus. Individuals should drink plenty of fluids to prevent dehydration, use over the counter medications to reduce fever, get plenty of rest and stay home.

Norovirus is not a reportable disease in the state of Tennessee. However, if an outbreak is suspected and the causative agent shows signs and symptoms of norovirus, the TDH Public Health Laboratory molecular section can perform norovirus PCR testing and sequencing. Tennessee Department of Health collaborates with the CDC in reporting and surveillance for norovirus utilizing CaliciNet. CaliciNet is a national, notifiable surveillance network for federal, state and local entities to collect information, track norovirus strains to help link outbreaks to a common source and monitor new circulating strains.

If you would like more information on this highly contagious virus go to www.cdc.gov/norovirus/index.html.

Submitted by: *Linda Thomas, CFOI(NEHA), MAFM, BSMT(ASCP), Molecular and Sequencing Manager*

What is SCID?

Severe Combined Immunodeficiency Disease, or SCID, is a group of rare genetic disorders caused by mutations or deficits in different genes involved in the development of T lymphocytes [1, 2]. These mutations or defects lead to underdevelopment or malfunction of T lymphocytes. The absence of functional T lymphocytes results in a defective antibody response due to either direct involvement with B lymphocytes or through improper B lymphocyte activation due to non-functional helper T cells. Consequently, both T cells and B cells in the adaptive immune system are impaired. Therefore, SCID is the result of a highly compromised immune system and can be fatal. A baby with SCID syndrome is extremely vulnerable to a variety of infectious diseases caused by bacteria, virus, fungi, parasites and even live attenuated vaccines. It is also known as the "bubble boy disease" because in the early 1970s, a baby with SCID had to live in a sterile, plastic, germ-free bubble chamber with a special filter. The incidence of SCID is between 1/2,500 and 1/100,000 live births and differs among different population groups. The most recent cited figure is around one in 58,000 live births in the United States [3].

There are different kinds of SCID that are caused by a variety of genetic defects, some of which were unknown prior to universal newborn screening for SCID [3]. Most of these are due to mutations or deficiencies in genes that encode proteins essential for the development of T and B lymphocytes. Although multiple genes have been implicated in SCID, the key feature of SCID is a severe deficiency of naïve T cells. Based on this specific characteristic, the National Institutes of Health developed and validated the testing platform for population-based screening for measuring TREC in 2005. TREC, an abbreviation of T-cell receptor excision circles, are the byproducts of T-cell development. They are small circles of DNA created in T-cells during the developmental maturation in the thymus as T cells rearrange the T cell receptor genes. TREC are produced late in maturation by 70% of all T cells; moreover TREC are stable and persist in matured T cells. Accordingly, TREC can be used as a biomarker of naïve T lymphocytes [4]. After a successful pilot program in Wisconsin for SCID screening measuring TREC, the Scientific

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Announcements

- Newborn Screening Fee Increase will go into effect 1/1/2020.
- Select Agent Rule-Out Refer specimens from Sentinel Laboratories located in East Tennessee should now be submitted to the LRN Laboratory at Knoxville Regional Laboratory. *(effective 10/22/2019)*
- West Nile Virus Serology samples should now be submitted to the Knoxville Regional Laboratory (*effective 11/27/2019*).

What is SCID? *(Continued from page 6)*

Advisory Committee for Heritable Disorders in Newborns and Children recommended the addition of SCID to the Recommended Uniform Screening Panel. U.S. Secretary of Health and Human Services Kathleen Sebelius approved this recommendation in May 2010 [(3)].

The current SCID newborn screening test is performed by quantifying TREC in neonatal dried blood spots using polymerase chain reaction. The TREC assay was shown to be linear as the number of TREC was found to be directly proportional to the naïve T cell to memory T cell ratio. Absence or low numbers of T lymphocytes in SCID patients indicate low production of TREC; the opposite is true as well.

The TREC assay detects not only SCID conditions, but also is able to identify non-SCID immunodeficiency in which there is a profound decrease in circulating naïve T cells (DiGeorge syndrome, trisomy 21, CHARGE syndrome, congenital leukemia), non-immune problems such as vascular leakage or chylous effusion [(5)]. Thus, the confirmatory diagnosis assay should be followed up after NBS SCID screening. Newborn screening for SCID with TREC assay is the most effective way to determine whether infants have SCID before they get overtly ill. Abnormal results for TREC identified through newborn screening promote the family and health care providers to pursue a definitive diagnosis and treatment. The effective treatment for SCID is bone marrow transplantation which will provide a permanent cure.

The TDH Newborn Screening laboratory has been using the TREC assay as a first line detection of SCID since 2016. In total, 325,009 newborns that have been screened by our laboratory from January 1, 2016 to September 30, 2019. Thirty-one SCID-screen positive newborns have been confirmed to have severe T cell impairment; five of thirty-one cases are typical SCID (two with X-linked SCID and three with ADA deficiency) which were confirmed by diagnostic tests. The other 26 of 31 cases are T cell lymphopenia or impairment as a result of non-SCID immunodeficiency [(6)]. Currently the TREC assay for SCID screening in the TDH laboratory is the traditional end point of PCR. Soon, TDH laboratory will transition from end point PCR to a real time quantitative PCR which will result in increased sensitivity and improved dynamic range with higher resolution, and aid in providing an even better service to the newborn community.

Submitted by: Ying Qi, PH Laboratory Scientist 2, Newborn Screening

References:

1) https://en.wikipedia.org/wiki/Severe combined_immunodeficiency
2) Notarangelo, Luigi D. 2010. “Primary Immunodeficiencies.” Journal of Allergy and Clinical Immunology 125 (2, Supplement 2): S182–94.
3) Universal Newborn Screening for Severe Combined Immunodeficiency (SCID). Mirjam van der Burg, Nizar Mahlaoui, Hubert Bobby Gaspar, and Sung-Yun Pai, IEWP-EBMT. Front Pediatr. 2019; 7: 373.
4) Development of population-based newborn screening for severe combined immunodeficiency. Chan K1, Puck JM. J Allergy Clin Immunol. 2005 Feb;115(2):391-8.
5) History and current status of newborn screening for severe combined immunodeficiency. Kwan A, Puck JM. Semin Perinatol. 2015 Apr;39 (3):194-205. doi: 10.1053/j.semperi. 2015.03.004.
6) SCID diagnosis for review (starting with 2016) from NBS of TDH.

In Remembrance of Jim Gibson

The TDH Division of Laboratory Services is deeply saddened by the passing of our Public Health Lab Deputy Director and former Clinical Microbiology Division Director, Mr. James (Jim) Gibson, who devoted over 40 years of his life to the Laboratory. Jim was incredibly knowledgeable about the Public Health Lab. You could ask him anything and he would have the answer. Jim's personality and style of management would be considered calm and controlled but very efficient. He never seemed to allow the situation to get him flustered, no matter how serious. He was a tremendous asset to the TDH Division of Lab Services providing calmness under pressure and letting staff know any situation was always under control.

He received his education from the University of Tennessee and graduated with a degree in Biology ('76) and Microbiology ('77). He first started working for the State of Tennessee at the Chattanooga branch of the Public Health Laboratory in 1978. After four years, he moved to the Knoxville Regional Laboratory for another short period before moving to the Nashville Division of Laboratory Services where he remained for the next 35 years. In 1986, he attended the University of North Carolina at Chapel Hill and received his Master of Public Health in Parasitology and Laboratory Practice. During his time at the TDH Laboratory, Jim's experience, reputation, and responsibilities grew. He recently served as the Deputy Director for the Public Health Laboratory and previously served as interim Laboratory Director on several occasions during leadership transitions over the years.

Jim's thorough understanding of budgets, state policies and personnel requirements at the Public Health Laboratory were nothing short of amazing. He managed multiple federal grants, national/international contracts and major construction/remodeling projects. He also served as a consultant for international and national public health laboratory activities and served on national committees and workgroups. His institutional knowledge was unmatched which led to regular consults from other state programs including Communicable and Environmental Diseases and Emergency Preparedness, Family Health and Wellness , Department of Environment and Conservation . Over the years, he participated in many strategic planning sessions for the State Public Health Laboratory, as well as the Department of Health, and his opinions were routinely sought. He was a recognized and respected leader of the Laboratory to the State Legislature where he routinely gave testimony to state lawmakers. Jim will be dearly missed and will forever be in our hearts at the TDH Division of Laboratory Services.

Dr. Marc Rumpler selected as Environmental Division Director

Marc Rumpler, Ph.D. joined the TDH Public Health Laboratory as the Environmental Director on November 12th. He comes from the private laboratory industry as a reference laboratory director and consultant. His background is rooted in toxicology, chemistry, molecular methodologies and laboratory management.

Dr. Rumpler studied toxicology at Northeastern University (Boston, MA) and analytical toxicology and chemistry at the University of Florida (Master's and Doctorate). Following his doctoral degree, he held a postdoctoral fellowship in the Department of Pathology and Laboratory Medicine at the University of Florida where he conducted research in drug analysis and instructed graduate students in the College of Veterinary Medicine. Dr. Rumpler is board certified in the specialties of chemistry, toxicology and laboratory management and is a licensed laboratory director in the states of TN, FL, NY and GA.

Dr. Rumpler is from New York but has lived in Tennessee for almost five years with his wife and two children. He enjoys traveling, the arts and the great outdoors.

2019 Employee Service Awards

The following employees received Service Awards on December 18, 2019:

Richard Steece	5
Andrew Lux	5
James Roberts	5
Lizabeth Brown	5
Stephanie Poindexter	10
Beverly Sanders	15
Parvin Arjmandi	20
Thomas Childs	20
Veneda Jordan	20
Brian Eaton	20
Sheri Roberts	20
Laurita Gaines	20
Chris Dorley	25
Lynn Graham	25
Deborah Easley	25
Mona Baggett	35

Congratulations on your Retirement!

Faith Hite
PH Laboratory Technician 3
Media Prep

Manomohan Pattanayek
PH Laboratory Scientist 2
Environmental Laboratory

Welcome New Employees!

September 2019

Wesley Dittmar
PH Lab Technician 1
Sample Coordination

Heather Redd
PH Lab Technician 1
Media Prep

November 2019

Patzili Loera
PH Lab Scientist 1
Enterics

Marc Rumpler
PH Laboratory Division Director, Environmental Lab

December 2019

Abigail Kvasnicka
PH Lab Technician 1
BT/Special Microbiology

Jordan McCorkle
PH Lab Scientist 1
Newborn Screening

Victoria Arnish
PH Lab Scientist 1
Newborn Screening

Dana Baker
PH Lab Scientist 1
Newborn Screening

Congratulations on Your Promotions!

Sandra Buchanan
ASA 3—Administration

Sheila Speakman
ASA 3—Administration

Christina Dudash
PH Lab Scientist 2—Special Microbiology

Rachel Gleason
PH Lab Scientist 2—ARLN CRO

Emily Mackie
PH Lab Scientist 2—Newborn Screening

Lauren Tyler
PH Lab Scientist 3—Newborn Screening

Deborah Godfrey
PH Lab Scientist 3—Newborn Screening

Andy Lux
PH Lab Scientist 3—General Bacteriology

TRAINING NEWS

TDH WORKSHOPS

TDH Laboratory Services workshops are provided at no charge and are funded by the Public Health Emergency Preparedness Grant. The purpose of these workshops is to provide training to laboratory staff working in sentinel microbiology laboratories in Tennessee. Sentinel hospital laboratories analyze or refer samples that may contain microbial agents, biological toxins, chemical agents, chemical agent metabolites or radiological agents of public health significance, and therefore, function as "sentinels" in the public health laboratory system.

Planned workshops for 2020 include:

- **Infectious Substance Packaging and Shipping Training for Laboratory Personnel**

  Two sessions will be offered in each of the following locations in 2019: Nashville, Knoxville and Memphis.

- **2020 Laboratory Response Network Workshop**

  Laboratory Response Network Workshops are all-day workshops held in Nashville, Knoxville and Memphis.

- **Bio-Threat Preparedness: Rule Out or Refer**

  This workshop is designed for laboratorians working in sentinel microbiology laboratories in Tennessee. This all-day wet workshop is held in Nashville and is offered 6 times per year. This workshop does have selective admission requirements.

- **Biosafety Workshops**

  This all-day workshop focuses on biosafety in the clinical microbiology laboratory. The workshop is held in Nashville, Knoxville and Memphis.

Dates for the 2020 TDH workshops will be announced after the new year.
Details and registration information will be posted on the TDH Laboratory Services Training and Workshops webpage:
https://www.tn.gov/health/health-program-areas/lab/lab-education.html.

2020 Laboratory Response Network Workshop Survey

As we plan the 2020 LRN Workshop, we would like to ask for your help by completing the following online survey:

https://www.surveygizmo.com/s3/5364276/2020-Laboratory-Response-Network-Workshop-Topic-Survey

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TN Department of Health

The Mission of Laboratory Services is to provide high quality analytical services of medical and environmental testing and to achieve the Mission of the Department of Health.

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

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