



Tennessee Department of Health Public Health Laboratory Newsletter

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Commissioner of Health

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Courier Service Changes

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The Tennessee Department of Health statewide two-way courier service that provides next day delivery of patient specimens to the Public Health Laboratory has changed courier vendors. This service, which started in 2015, initially was provided through a one-year contract. The State of Tennessee subsequently conducted a request for proposal process for a five-year contract. This contract has been awarded to **Crosstown Courier** located in LaVergne, Tennessee and with offices in Chattanooga, Knoxville, and Memphis. Crosstown has a 20-year history serving medical courier services.

Crosstown tracks each daily pickup site from hospitals/birthing facilities and county health departments as well as the individual sample package. This is done using location barcodes and package barcode

labels. Each pickup location will have a barcode identification label affixed to the inside of each lock box or nurses station window that is scanned by the courier when they arrive. This will record the location, date and time of the pick-up. All facilities will affix the appropriate color-coded laboratory (Nashville, Knoxville, or Shelby) address label to the outside of the package. Crosstown will provide unique barcode labels that are affixed to the package. Their courier scans this package and it is tracked in real time by Crosstown's logistics center. When the package arrives at the public health lab, the package is again scanned to record the date and time received in the lab. This data is archived and available for tracking all packages and is used by the lab to track transport time.

The statewide courier service contract provides pickup and delivery service for all Newborn Screening samples seven days a week and five days a week service to health departments. The contract calls for the courier to visit the site after 5:00 PM local time to pick up the specimens and transport them to each of the three Tennessee public health laboratories by 7:30 AM next day.

The laboratory courier contact is Mona Baggett: Mona.Baggett@tn.gov or 615-262-6381. Mona will be the lab contact to receive information on changes to your facility primary contact information, to handle permanent changes to the pick-up schedule and to add new collection sites.

CDC Funding Accelerates Antibiotic Resistance Efforts

CDC Media Statement, July 27, 2016:

In response to the March 2015 national action plan for combating antibiotic resistant bacteria, CDC is providing \$67 million to help health departments nationwide tackle antibiotic resistance and other patient safety threats, including

healthcare-associated infections. CDC's antibiotic resistance (AR) Lab Network closes the gap between hospital capabilities and data needed to combat AR with a network of state and regional labs fully equipped to detect resistance. The AR Lab Network and its regional labs will transform much of

the current national AR lab landscape by boosting local capacity and technology to detect, support response to, and prevent AR threats and create new innovations to combat AR. When new resistance threats or outbreaks are detected

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Environmental Chemistry Laboratory Earns ISO 17025:2005 Accreditation

On August 1st, the Environmental Chemistry Laboratory received the following message:

“Dear A2LA Accredited Organization,

Congratulations! Your organization has been approved for accreditation by the American Association for Laboratory Accreditation (A2LA). Your A2LA Scope(s) and Certificate(s) of Accreditation will be posted onto the A2LA website shortly.”

This message represented the successful culmination of 3-1/2 years of hard work by the staff members to acquire ISO 17025:2005 accreditation for Environmental Chemistry. Our accrediting body, the American Association for Laboratory Accreditation (A2LA), offers laboratory accreditation in numerous fields of calibration and testing. A2LA offers laboratory accreditation in such diverse fields as acoustics/vibration, mechanical, sustainable energy and environmental.

The general requirements for A2LA accreditation are defined on the A2LA website as follows:

“The general requirements (general criteria) for A2LA accreditation are the international standard, ISO/IEC 17025:2005, General Requirements for the Competence of Testing and Calibration Laboratories. A2LA’s official applications of the ISO/IEC 17025 requirements are contained on the A2LA website (www.A2LA.org) under the section titled, ‘Explanations for the ISO/IEC 17025 Requirements,’ and are updated frequently. It is expected that laboratories will implement the requirements of the standard in accordance with the applications listed there. Otherwise, areas of non-conformance will be identified by the assessor during the on-site assessment.”

For the Environmental Chemistry Laboratory, the following application package basic requirements had to be provided to A2LA prior to the accreditation audit:

- Proof of purchase of the ISO 17025:2005 Standard
- Proposed scope of environmental testing (Inorganic Chemistry, Radiochemistry and Environmental Microbiology)
- Standard Operating Procedure (SOPs) Manuals
- Quality Manual (The *Quality Manual* (QM) in conjunction with the Standard Operating Procedures (SOPs) provides guidance for the Laboratory operations and serves as the document that defines the criteria necessary to meet the standards of the ISO/IEC 17025:2005 Standard.)
- Proficiency test results for all test parameters for which accreditation was desired
- Organizational structure

With the successful acquisition of ISO 17025:2005 accreditation for Environmental Chemistry, the laboratory is now able to provide its analytical customers certified testing for non-drinking water parameters. As far as drinking water certification is concerned, the environmental chemistry laboratory is the *principal state laboratory* and is fully certified for the analysis of all primary contaminants by the Environmental Protection Agency (EPA) Region 4. Achieving and maintaining drinking water certification is important to the State of Tennessee in maintaining *primacy*, or assuming primary responsibility for the administration and enforcement of the Safe Drinking Water Act and the National Interim Primary Drinking Water Regulations (NIPDWR) as codified in 40 CFR 141.

The environmental chemistry laboratory provides analytical support to several Departments of the State of Tennessee: Tennessee Department of Environment and Conservation (TDEC), Agriculture, Tennessee Wildlife Resource Agency (TWRA), Tourism, and Transportation. Specific Divisions supported within TDEC are Water Resources, Remediation, Solid and Hazardous Waste Management, Air Pollution Control, Underground Storage Tanks, Radiological Health and Department of Energy Oversight (DOEOS).

The mission of the environmental laboratories is to provide quality analytical laboratory support through the generation of

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Tennessee Department of Health General Bacteriology Laboratory Receives Funding to Combat Antibiotic Resistant *Neisseria gonorrhoeae*

Beginning fiscal year 2016, Congress appropriated \$160 million for CDC to fight antibiotic resistance (AR), a testament to the urgent AR threat and highest levels of support for these public health actions. The Tennessee Department of Health Laboratory Services is one of seven regional labs funded to strengthen capacity to respond to domestic infectious disease threats.

The Tennessee Department of Health General Bacteriology Laboratory will conduct CDC-directed antimicrobial susceptibility testing of *Neisseria gonorrhoeae*; collect samples for the ARLN Isolate Bank for the Southeast (Alabama, Florida, Georgia, Louisiana, Mississippi and Tennessee); and effectively communicate findings of resistance for further actions to take place. Gonorrhea has developed resistance against many of our first-line drugs and is becoming increasingly difficult to treat. ¹The

effort to combat resistant bacteria will become an international priority for global health security.

The AR Lab Network and its regional labs will transform much of the current national AR lab landscape by boosting local capacity and technology to detect, support response to, and prevent AR threats and create new innovations to combat AR. When new resistance threats or outbreaks are detected within healthcare facilities or state and local labs, regional labs will provide support, where needed, to characterize, support response, and track these discoveries. This ambitious approach transforms much of the current laboratory landscape by closing the gap between hospital capabilities and data needed to combat AR. The National Action Plan focuses on resistance in bacteria that present an urgent or serious threat to public health.

The Epidemiology and Laboratory Capacity for Infectious Diseases Cooperative Agreement (ELC) supports seven new regional laboratories with specialized capabilities allowing rapid detection and identification of emerging antibiotic resistant threats. The goal is **by 2020, the United States will:** Maintain the prevalence of ceftriaxone-resistant *Neisseria gonorrhoeae* below 2% compared to estimates from 2013. The Tennessee Department of Health Laboratory Services – General Bacteriology - is proud to be a partner in this initiative.

¹National Action Plan for Combating Antibiotic – Resistant Bacteria (March 2015)

Submitted by:

Henrietta D. Hardin

Manager, General Bacteriology



**Microbiologist 4 (CERT)
Serology / Virology
Manager**

**Microbiologist 2 (CERT)
Multiple Departments**

Job openings and applications can be found at:

<http://agency.governmentjobs.com/tennessee/default.cfm>

Environmental Chemistry (continued)

accurate, reliable, and valid laboratory results. The analytical results generated by the environmental laboratories are used in administrative decision-making processes, permit monitoring, enforcement actions, clean-up programs and criminal investigations. In short, they are used to monitor, regulate and formulate policy and/or permits.

With dual certifications in drinking water and non-drinking water, the environmental chemistry laboratory is in the best position that it has ever been in to provide environmental sample test results that have gone through a rigorous and thorough evaluation process based on dual certification requirements. In short, the laboratory is able to provide analytical data that is of the highest quality.

Submitted by
Dr. Bob Read

Antibiotic Resistance (continued)

within healthcare facilities or state and local labs, regional labs will provide support, where needed, to characterize, support response and track these discoveries.

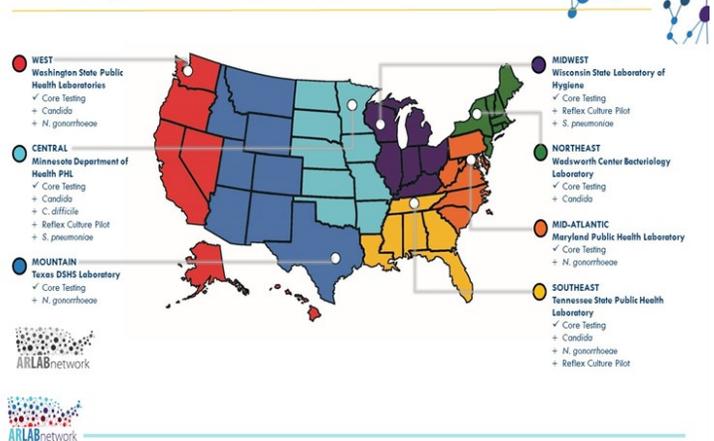
The AR regional lab (ARLN) efforts will be coordinated by seven state health departments in Maryland, Minnesota, New York, Tennessee, Texas, Washington, and Wisconsin. All regional labs will perform core testing for their region, including:

- Molecular testing to detect colonization of carbapenem-resistant Enterobacteriaceae (CRE)
- Threat assessments, special threat assessments by request on new or known threats like MRSA, VRE, and VRSA
- Isolate collection for use in CDC's AR Isolate Bank and whole genome sequencing projects

Tennessee has been selected to provide additional testing including:

- Fungal susceptibility of *Candida* species to identify emerging resistance
- Increased testing of *Neisseria gonorrhoeae* for antimicrobial susceptibility
- Reflex Culture pilot with *Salmonella* and Enterotoxigenic *E. coli*

2016 Regional Lab Awardees



As a result of this grant award, the Tennessee State Public Health Laboratory is establishing a new ARLN Department, involving over 20 new positions as provided by the Epidemiology and Laboratory Capacity grant.

For more information on ARLN and position opportunities please contact Dr. Amy Woron at amy.woron@tn.gov

TDOH Special Microbiology Department Chosen to Identify and Track *Candida* Antifungal Resistance and Emerging Resistant *Candida* Species

The Antibiotic Resistance Laboratory Network will also provide funding for testing of *Candida* species in addition to the *N. gonorrhoeae*, *Salmonella*, and Enterotoxigenic *E. coli* testing. Tennessee is one of four states that chosen to collect, confirm and characterize *Candida glabrata* and other species isolates recovered from sterile body sites. The TDOH

laboratory will serve hospitals, regional health care facilities and other state public health laboratories in the Southeast region. States within this region include Alabama, Florida, Georgia, Louisiana, Mississippi and Tennessee. Beginning January 2017, the Special Microbiology department will

begin accepting *Candida* species from sterile body sites for identification and sensitivity testing.

Submitted by:
Dorothy Baynham
Manager, Special Microbiology

Tennessee Department of Health Laboratory Services to Provide Commercial Transport Media for *N. gonorrhoeae*

Beginning October 2016, The Tennessee Department of Health (TDH) Laboratory Services will provide a commercial transport for the isolation and identification of *Neisseria gonorrhoeae* to local County Health Departments. The selective media modified Thayer-Martin agar is enclosed in a microbiology cassette tray with built in components that will generate the 5% CO₂ environment conducive for the growth of *Neisseria gonorrhoeae*. The shelf life of the culture media is extended and will not have to be replaced as frequently.

To become familiar with the product and with further instructions on specimen collection, inoculation, generation of the CO₂ conditions and incubation, you may follow the links below. If you have questions, contact Robin Rasnic or Henrietta Hardin at 615-262-6300.

<https://www.youtube.com/watch?v=1Ks4H7Aj1PA>

<https://www.youtube.com/watch?v=vkd578kJesE>



Spotlight on Safety

Biorisk Management is the buzz word of the day. **Biorisk** is the system or process to control the safety and security risks associated with the handling or storage and disposal of biological agents and toxins in laboratories and facilities.

- How do you identify these risks?
- Which steps do you take to manage these risks?
- How do you know your risk management is working and will continue to work?

The questions above may be answered by establishing a laboratory policy and procedure for assessing, mitigating and performing checks on activities that pose hazards in the workplace. Implementation of a comprehensive biorisk management system is critical to reduce both the safety and security risks associated with biological agents. Some key factors for establishing and implementing a successful program include commitment by top management and a focus on continual improvement. Biorisk management is not static, but fluid in nature and specific to each individual laboratory.

If you were unable to attend the "Laboratory Biosafety and Risk Assessment" webinar broadcast August 3, 2016 you may listen to the recording via the link below.

<http://stateofennessee.adobeconnect.com/p4u3d8aexx7/>

Continuing education credit for this webinar is no longer available.

As your Public Health Biosafety Officer, I am here to assist you by answering questions and offering resources and tools to help as we "do safety together" to improve our preparedness to respond to infectious disease. I am also traveling across the state and making visits to sentinel clinical laboratories. I am at your service and look forward to partnering with you on a more personal basis. I can be contacted at Rolinda.Eddings@tn.gov or 615-262-6318.

Rolinda Eddings
Biosafety Officer

Tennessee Department of Health Laboratory Hosts Summer Interns

Tennessee Department of Health Division of Laboratory Services hosted eight summer interns. Interns were chosen based on their major of study, interest in the science field and desire to work in a laboratory setting after college. Students represented six schools throughout Tennessee. Each intern was assigned a project within his or her designated department.

- **Maya Spann** (TSU) was assigned to Environmental Microbiology. She worked with various agencies within the public health sector. She assisted in water collections for testing and evaluated data generated from laboratory testing. She also reviewed documents for compliance with ISO 17025 accreditation procedures. She performed testing to validate PCR instrumentation for food testing of Salmonella and Campylobacter.
- **Yucera Salman** (MTSU) was assigned to Newborn Screening. Her project included testing presumptive positive samples for VLCAD and CUD. She applied the Mayo Clinic Algorithm to determine which specimens required follow-up versus those with minimal risk of disease. Her project also included entering positive NBS case information in the NewSTEPS 360 data repository for the years 2014-2016. She also worked with the nurse manager from Vanderbilt and the director from Meharry Sickle Cell Center in collecting missing diagnostic information. She also trained with Perkin Elmer to perform the NeoBase2 assay to assist in FDA submission.
- **Jason Pepper**, recent graduate from the APSU Medical Technology Program, was assigned to the Molecular Biology Department. His project included assisting with the validation and implementation of the Enterovirus D-68 outbreak strain specific rRT-PCR procedure. During his internship, he prepared samples, performed parallel studies between manual and automated extraction methods, performed PCR amplification and reporting using the ABI 7500 Fast DX system. He collected data to validate the procedure. Jason also learned other procedures involving Norovirus and Zika testing, as well as sample accessioning.



Gabriell Gassaway (ETSU) left pictured with M. Christine Dorley, Newborn Screening Division Manager

- **Katherine Roberts** (APSU) was assigned to the Media Preparation department. She revised over 400 formulas and entered them into Excel formats. She rotated freezer inventory with fresh ATCC stock cultures, and completed cleaning and reorganization of the freezers. She did comparisons of Old MSDS sheets with current SDS sheets. She collected data for 2 QA monitors in Lab Support Services.

Continued on next page

Summer Interns (continued)



Front: Maya Spann (TSU), Yucera Salman (MTSU), Jason Pepper (APSU). Back: Fiona Retzer (UT Knoxville), Amanda Uhls (MTSU), Katherine Roberts (APSU), Daniel Edwards (TTU)

- **Fiona Retzer** (UT Knoxville) was also assigned to the Molecular Biology Department. Her project involved completing Phase 1 of a Salmonella serotyping study by PFGE. She was able to complete this Phase and began the second Phase. She also conducted a multi-pathogen detection study of 148 pediatric stool samples previously positive for norovirus, astrovirus, or sapovirus. Fiona will present a poster regarding the pediatric study at the annual EIP scientific day in October. Dr. Woron will also present this material at the 6th International Calicivirus Meeting in October.

- **Amanda Uhls** (MTSU) was assigned to Enteric Microbiology. Amanda's project involved validation of the IMP/VIM PCR test. The IMP target proved not to work according to procedure, leading Amanda to complete troubleshooting activities. Her work with the VIM target provided data for the PCR test. She also assisted with gathering and writing Quality Assessment monitors, quarterly reports and FoodCore metrics. She assisted with maintenance and cleaning activities, while also helping pull samples, plating and preparing for testing or shipment.
- **Daniel Edwards** (TTU) was assigned to the Radiochemistry Department within the environmental lab section. Daniel validated a new method, specifically for use by the state laboratory, for the determination of Strontium-89 and Strontium-90 in water. During the validation process, he completed method adjustments, determination of calibration efficiencies and determination of windows of analysis on the liquid scintillation counter.
- **Gabriell Gassaway** (ETSU), who is obtaining her masters in Public Health, was assigned to assist the director of the Knoxville Regional Laboratory with overseeing a NewSTEPS 360 grant to improve timeliness of Newborn Screening in Tennessee. She has evaluated a survey of birthing hospitals in Tennessee to gauge a baseline of knowledge and processes. She has been the lead on creating educational modules for metabolic dried blood spot, critical congenital heart disease, and hearing loss screening programs. These modules will eventually be placed on the State of Tennessee's website for access.

2016 Employee Service Awards



Left Photo: Daniel Golson, Faith Hite, Johniene Fentress, Sandra Buchanan, Susan Burchfield, DeAnne Sharp, Christina Moore, Robin Rasnic and Craig Edwards



Right Photo: Zach Perry, Marka Smith, George Guirguis, Carrie Perry, Rolinda Eddings, Rhonda Kellem and Pat Alicea. Not pictured Jessica Barnes and Travis Avey

The 2016 Employee Service Awards were given September 1, 2016.

Craig Edwards	35 yrs	Jessica Barnes	10 yrs	Sandra Buchanan	5 yrs
Faith Hite	30 yrs	Susan Burchfield	10 yrs	Rolinda Eddings	5 yrs
DeAnne Sharp	30 yrs	George Guirguis	10 yrs	Daniel Golson	5 yrs
Pat Alicea	25 yrs	Christina Moore	10 yrs	Rhonda Kellem	5 yrs
Johniene Fentress	20 yrs	Robin Rasnic	10 yrs	Zach Perry	5 yrs
Carrie Perry	15 yrs	Travis Avey	5 yrs	Marka Smith	5 yrs



Sign up to Receive Notifications Related to TDH Training Opportunities!

Tennessee Department of Health Division of Laboratory Services now has an online registration to allow you to be notified of upcoming training opportunities! Register today to receive email notifications and newsletters from TDH Laboratory Services! From time to time, we might also ask for your input on future training topics. You may unsubscribe at any time. Follow the link below to register!

<http://www.surveygizmo.com/s3/3036915/Laboratory-Services-Training-Notification>

Welcome New Employees!

May 2016

Brielle Davis—Laboratory Technician 2

Courtney Fisher—Laboratory Technician 2

T'Nia Ford—Laboratory Technician 2

Diana Van Wart—Newborn Screening

June 2016

Shane Allen—Immunoserology



July 2016

Darlene McDuffie—Data Entry

August 2016

Kristin Dunaway—Chemist 2



Congratulations on your Promotions!

May 2016

Christina Moore—Molecular Biology Sequencing Supervisor

Valerie Ragland—Newborn Screening Supervisor

June 2016

Amanda Grider—Administrative Services Assistant 4

Simeon Ayton— Procurement Officer 2

Congratulations on your Retirement!

June 2016

Jacqueline Johnson

July 2016

Frances Christianson

August 2016

Bob Clouse



Happy Fall!



**Tennessee
Department of Health**

**Division of
Laboratory Services**

**630 Hart Lane
Nashville, TN 37216
615-262-6300**

I V T P J S S R G S I X V X G A B S I H V A G O D W R E O
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ACORN
AUTUMN
BONFIRE
BROWN
CORNUCOPIA
FALL
FOLIAGE

GOURDS
HARVEST
HAYRIDE
LEAVES
NOVEMBER
OCTOBER
PUMPKINS

RAKE
RED
SCARECROW
SEASON
SEPTEMBER
YELLOW



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Website only