



Spring 2016

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A publication of the Missouri State Public Health Laboratory



Amerithrax 15th Anniversary

By: Bill Whitmar, Laboratory Director

I'm old. With age comes experiences and institutional knowledge. I would also say wisdom but my wife would dispute that. What does this have to with anything? Indulge an old guy for a short bit...

I am fortunate enough to be an instructor for the FBI and CDC for their collaborative course entitled "Joint Criminal and Epidemiological Investigations". We travel throughout the United States each year delivering training courses in collaborative communication between local and state public health personnel and law enforcement personnel, specifically communication during a bioterrorism event. During these courses lately we have been asking the participants this question: "Do you know of the events of the anthrax outbreak of 2001?" In each of the classes there is no one who can answer affirmatively. How many of you can say yes to this question?



Bill Whitmar, MSPHL Laboratory Director

What do **you** think of when you are asked what happened in the fall of 2001? Justifiably so, most people will think of the airliners that were intentionally crashed into the World Trade Center buildings, the Pentagon and into the earth at Shanksville, Pennsylvania. But shortly thereafter another event shook the United States' confidence to its core.

"You can only control what is under your control"

This year, 2016, marks 15 years since pulmonary anthrax was discovered in a patient in Florida. This was the first case of this type in the US in 25 years. Other cases followed. Eventually it was determined that this was intentional and rather widespread. What followed over the next few months was nothing less than spectacular in terms of public health and law enforcement response. The United States federal government response was to fund federal and state agencies with billions of dollars.

Those funds were designated to rebuild and strengthen public health infrastructure to detect and identify biological and chemical terrorism threats and then to protect the citizens from those threats.

The fact that no one in the FBI/CDC classes had any knowledge of these anthrax attacks of 2001, along with other recent personal occurrences where even public health professionals seem to have lost focus on what public health preparedness is and what it means to be prepared, is disturbing to me.



Image from aphl.org

What to do about this? I read once that “you can only control what is under your control”. So between now and September of this year, the MSPHL will sponsor a series of lectures that will spotlight the events of the anthrax outbreak of 2001, or what is now called Amerithrax. We will bring in FBI investigators who worked on the case, laboratorians who tirelessly tested samples, perspectives regarding what the federal funds rendered upon public health and, finally a parting lecture regarding bioweapons development, particularly from the standpoint of the former Soviet Union.

My intentions in doing this series are twofold: first to educate newer staff who may not have real-life experience of this outbreak, and second to refresh memories of those of us who have those indelible images of not only aircraft impacting into the World Trade Center buildings, but also of United States Postal employees standing in line to get their nasal passages swabbed for spores, HAZMAT-suited personnel shuffling into Post Offices, US citizens using tongs to place their mail into plastic bags, crudely printed envelopes that were addressed to senators and news anchormen, and spores, spores, lots of spores. In short and maybe not so subtlety, this is meant for us not to forget that large intentional releases of weapons of mass destruction (WMDs) can happen, and we should be prepared.

Bill

Acronyms



AFB - Acid Fast Bacillus
 APHL – Association of Public Health Laboratories
 CDC – Center for Disease Control and Prevention
 CSF—Cerebral Spinal Fluid
 CLIA – Clinical Laboratory Improvement Amendments
 COOP – Continuity of Operations Program
 DCPH—Division of community and public health
 DHSS – Department of Health and Senior Services
 DNR – Department of Natural Resources
 DPS – Department of Public Safety
 DRL –Division of regulation and licensure
 EB – Environmental Bacteriology Unit
 EiMF – Excellence in Missouri Foundation
 ELC—Epidemiology and Laboratory Capacity grant
 EMAC—Emergency Management Assistance Compact
 FBI—Federal Bureau of Investigation
 FDA—Food and Drug Administration
 ITSD—Information Technology Services Division
 LIS—Laboratory Information System
 LPES – Laboratory Preparedness, Education and Safety
 LRN – Laboratory Response Network
 LSD—Lysosome Storage Disorder
 MGIT—Mycobacteria Growth Indicator Tube

MOLRN—Missouri Laboratory Response Network
 MSDS—Material Safety Data Sheets
 MSPHL – Missouri State Public Health Laboratory
 NBS—Newborn Screening
 P-card—purchasing card
 PART – Post analytical reporting team
 PCR – Polymerase Chain Reaction
 PHEP – Public Health Emergency Preparedness
 PPE—Personal Protection Equipment
 QI—Quality Improvement
 rRT-PCR – Real time, reverse transcription polymerase chain reaction
 SARS—Severe Acute Respiratory Syndrome
 SDS—Safety Data Sheet
 S.C.O.P.E. – Systematically Collaborating for Overall Performance Excellence
 SPHL – State Public Health Laboratory
 TRF—Time Resolved Fluorescence
 USDA—United States Department of Agriculture
 USPS – United States Postal Service
 WHO – World Health Organization
 WMD—Weapon of Mass Destruction



Show Me a Gateway to Healthy Babies

By: Mike Massman, Deputy Director

Newborn screening is a vital public health program with public health laboratories serving at the core of the effort. Each year millions of newborns are screened throughout the world to identify various genetic and metabolic disorders. With life-saving intervention through the newborn screening program, many of these children who would have experienced debilitating or even fatal disorders now lead normal and healthy lives. In Missouri alone the Missouri State Public Health Laboratory (MSPHL) tests approximately 78,000 infants annually to identify approximately 225 newborns in dire need of intervention.

This year Missouri was fortunate to host the 2016 APHL Newborn Screening and Genetic Testing Symposium in St. Louis on February 29 – March 3. Newborn screening professionals from around the globe convened in St. Louis for an interactive and compelling conference themed Newborn Screening: Gateway to Healthy Babies. Our own Patrick Hopkins co-chaired the conference planning committee by serving in a year long process dedicated to ensuring an organized and successful symposium. Multiple MSPHL Newborn and administrative staff, along with various DHSS programmatic personnel, took advantage of the close proximity of the conference and made the trip to St. Louis. The keynote address was delivered by Dr. Joe Palca from the National Public Radio Science Desk. MSPHL and DHSS staff moderated several sessions and presented information for Lysosomal Storage Disorder testing as well as the symposium welcoming address.

A key event of the symposium, which was immediately fully reserved, was an afternoon visit to the MSPHL. On March 3, a charter bus arrived at the MSPHL with a group of newborn screening professionals from around the world that had been in attendance at conference. Approximately 50 attendees were greeted in the main laboratory conference room by MSPHL staff and treated to a full display of MSPHL Unit storyboards. As the guests signed in they intermingled studying and commenting on the great representation of our laboratory as told through the storyboards. After a brief welcome the group was provided a thorough tour of the MSPHL Newborn Screening Laboratory. The event was well-received and a product of numerous positive comments regarding the Newborn Screening Laboratory, the facility and the overall organization of our laboratory.

Overall, it was an exciting week and a fabulous opportunity to showcase to the rest of the world the great quality of laboratory services that we provide at the MSPHL.



MSPHL Embarks on New Collaboration

By: Shondra Johnson, LIMS Administrator

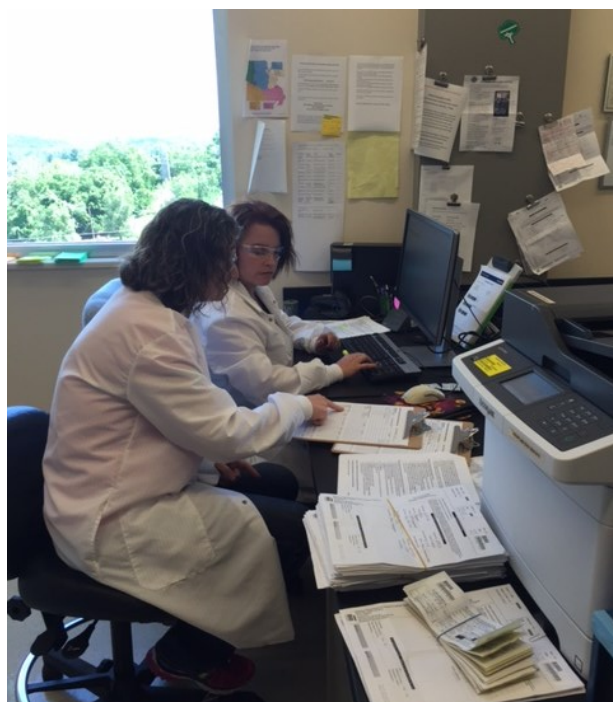


The OpenELIS Foundation is a nonprofit 501(c)3 corporation that supports a global community of professionals in laboratory science, public health, health informatics, and software development whose mission is to develop open source community based solutions and thereby support the informatics needs and best practices of environmental, clinical, and public

health laboratories. The Foundation provides a governance structure that supports contributions of new functionality to the OpenELIS application, while ensuring that all contributions meet standards for quality and functionality. By ensuring a common program code base, the OpenELIS application can be more easily implemented by a larger number of public health laboratories in the U.S. and globally.

The MSPHL has been a part of the OpenELIS community since the first implementation of the OpenELIS application in 2009. Since then many changes in Information Technology resources have changed the relationship that the MSPHL has had with the OpenELIS Foundation. In October of 2014, the MSPHL and OpenELIS Foundation entered into a contract for the Foundation to provide technical support for the OpenELIS application here in Missouri. With this contract in place the MSPHL began implementation of a newer version of the OpenELIS

The OpenELIS Foundation's mission is to develop open source community based solutions and thereby support the informatics needs and best practices of environmental, clinical, and public health laboratories.



Ashley Mehmert (F) trains new employee Gretchen Hagen (B) on OE2 quick entry during sample accessioning in the Environmental Bacteriology Unit.

application that is being used at the Iowa State Hygienic Laboratory (SHL). In December 2015, the Environmental Bacteriology Public Drinking Water, Private Drinking and Non-Drinking Water, and Recreational Water testing sections began using the OpenELIS application for sample tracking from receipt through results reporting. Additional testing sections will begin using the new version of the OpenELIS application as implementations are scheduled throughout 2016 and into 2017.

In the future the MSPHL looks forward to the continued collaboration with the SHL and other Public Health Laboratories that is promoted by the OpenELIS Foundation. Support for public health laboratories is the focus of the OpenELIS Foundation and the OpenELIS application software. The Foundation supports public health laboratories and their efforts to improve the health of all people, particularly those most vulnerable to disease outbreaks.

MSPHL Annual Team Meeting

The MSPHL held its 2015 Annual Team Meeting on January 6, 2016. The theme this year was the Lego Movie and its motto “Everything is Awesome When you are Part of a Team.” The meeting covered department information, SCOPE activities and allowed for the Central Services Unit to share their successful QI project. There was also information shared regarding fiscal status, HIPAA, ethics, COOP and safety as well as recognition for years of service.



2015 Years of Service Awards

25 Years

Mike Massman
Jackie Pfenenger

15 Years

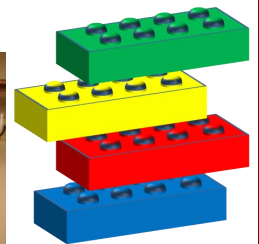
Jonathan Johnson
Matt Renner
Amy Pierce

10 Years

Nicole Ayres
Patricia Longley-Olson
Michelle Rodemeyer

5 Years

Mindy Rustemeyer
Connor Mahon
Megan Eisterhold
Amy Verslues
Alan Jarrell
Paige Welschmeyer
Ashley Steeby



Fun Fact: MOSWIN Radio



The capability to communicate across jurisdictional and discipline lines (interoperability of communications) is one of the top priorities of Missouri’s homeland security program. Ensuring that neighboring jurisdictions and multiple disciplines can communicate with each other leads to better emergency and disaster response and ultimately makes for safer communities.

Missouri has built a statewide public safety interoperable communications system, known as the Missouri Statewide Interoperability Network (MOSWIN). MOSWIN is a network of communications towers, base stations and communications software. The project is providing the infrastructure that will provide interoperable communications throughout the state to both state public safety agencies and any local jurisdictions that wish to use the system for their interoperable communications.

The Statewide Interoperability Network serves two primary functions: 1) Providing internal communications capabilities for state agencies, including the Missouri State Highway Patrol, Department of Natural Resources and State Emergency Management Agency. 2) Providing a statewide interoperability platform and access for local agencies to achieve interoperable communications with local, state, regional and federal agencies. The

The MSPHL maintains a MOSWIN radio in the LPES Unit and conducts monthly tests of the radio with its preparedness partners to ensure the Laboratory will be ready to communicate in any situation. Information taken from <http://dps.mo.gov/dir/programs/intercomm/>



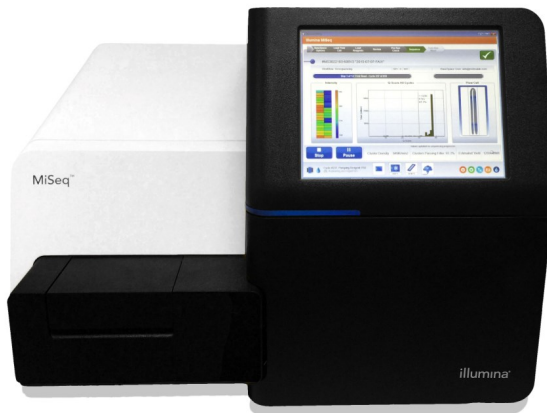
WGS: Transforming Disease Detection at MSPHL

By: Jessica Bauer, Molecular Unit Chief

The majority of foodborne outbreaks in the United States remain unsolved because finding the “smoking gun” food source is often too difficult. However, public health laboratories are beginning to adopt a new technology that helps bridge the gap between solved and unsolved outbreaks. This technology is whole genome sequencing (WGS), a method that allows scientists to identify pathogens by looking at their entire genetic makeup. The current technology used at MSPHL and many other labs in the US to identify and track foodborne disease outbreaks is pulsed-field gel electrophoresis (PFGE). Where PFGE looks at only about 1% of the DNA of a bacterial pathogen, WGS looks at 100% of the bacteria’s DNA.

You can think about it like this: PFGE is like judging the similarity of two books based on the number of chapters they have, but WGS is like judging the similarity of two books by comparing them word by word. It’s obvious which method will provide more detailed and precise data.

PFGE has been the industry standard for foodborne pathogen identification and comparison for the last 20 years, but WGS is slowly taking its place because it is a more powerful and precise method. Implementing WGS will improve the MSPHL’s ability to find and investigate outbreaks and will provide the most accurate bacterial DNA fingerprinting possible at this point in time. Outbreaks can be solved sooner by using WGS because bacteria that may appear to have different PFGE patterns can actually be from the same source. WGS will allow the MSPHL to generate high resolution data about bacteria using only one test. The current process to fully characterize bacteria requires four or more separate tests including culture and PFGE by two or more scientists. By using WGS the MSPHL can streamline that process into one efficient workflow saving time and money and allowing for faster outbreak identification and a greater chance of solving an outbreak. This ultimately means fewer people have to get sick because an outbreak will be identified quicker.



Picture of the illumina Miseq instrument that the MSPHL is currently installing.

WGS helped to solve a very tricky outbreak of *Salmonella oranienburg* that occurred in Missouri last year. In late April the MSPHL reported four cases of *S. oranienburg* from the St. Louis region and all four cases had identical PFGE patterns. This was not a common pattern—it had only been seen in Missouri seven times over the previous twelve years. Throughout the summer months cases continued to increase and still no source had been identified. Other states had seen *S. oranienburg* clusters during this same time, so the MSPHL enlisted the help of our friends from CDC to conduct WGS testing on specimens from our state as well as from other states to see if this outbreak was potentially caused by a local item or by a nationally available product. The sequences of isolates from other states were very different from the Missouri isolates which pointed to this outbreak being caused by a local product. This valuable

information caused our epidemiologists to shift gears and focus back on the implicated restaurant chain even though no *Salmonella* had been isolated from any food or environmental samples taken from the restaurant. During a visit to the restaurant in December, a local provider was making a delivery to the restaurant. After questioning the driver about the product that was being delivered, DHSS personnel visited the facility and collected specimens from the processing site. Lo and behold. . . *S. oranienburg* was isolated from the processing equipment! The PFGE pattern from these environmental isolates matched exactly to the patterns from the ill people's isolates we had been seeing since April. We finally had the smoking gun, and it was thanks to a combined effort of Epidemiology staff, Lab staff, and our CDC partners who provided the WGS testing that steered the investigation in the right direction. If you would like to read more about this particular outbreak investigation, an article in the MMWR is forthcoming.

The majority of foodborne outbreaks in the United States remain unsolved because finding the “smoking gun” food source is often too difficult.

CDC is quickly expanding the use of WGS in state laboratories through funding from the ELC Advanced Molecular Diagnostics (AMD) initiative, and scientists at the MSPHL will soon begin using whole genome sequencing for outbreak investigations of foodborne pathogens. WGS technology can also be used to improve Influenza vaccines, strengthen Influenza surveillance, improve TB detection and surveillance, and most recently to develop a diagnostic assay protocol for the detection of Zika virus (or potentially any other emerging disease).

Roadruck Named DHSS Employee of the Month

Nicoshia Roadruck is DHSS' December Employee of the Month. Nicoshia is an Accountant I with the Fiscal Unit at the Missouri State Public Health Laboratory.

Jessie Bauer, the nominator wrote, “Nicoshia is an extremely hard worker and is very dedicated to performing her job at the highest level. No matter what else she may have going on; she is always ready and willing to help me whenever I need it with a smile on her face and a positive attitude that is absolutely infectious!”

“Nicoshia does an amazing job of keeping track of contracts and renewals for every unit in the building, being a helpful source of information for all things fiscal, and keeping us all on task while navigating the purchasing process. Not only does she do all that (and more, no doubt!), she does it with a smile,” said Jessie.

Nicoshia truly exemplifies the qualities of an outstanding employee. She often serves as the liaison between procurement staff and the laboratory, and ensures that purchasing requests are complete to make the process as seamless as possible.

Nicoshia and her husband have an 8-year-old daughter. They live in Holts Summit.



Newborn Screening Converts to a 6-Day Workweek

By: Patrick Hopkins, NBS Unit Chief & Keith Bock, NBS Manager

Just as Missouri was celebrating its 50-year anniversary of newborn screening, the MSPHL achieved a paramount improvement in its newborn screening (NBS) system by adding Saturdays and most holidays to the newborn testing regimen. This was no easy task for a Unit that tests for over 6 million analytes per year with 10 different testing methodologies. It came with some huge challenges including funding, staffing and the necessary courier enhancements. Thanks to legislative funding a plan was put forth by the MSPHL and the challenges were overcome.

The plan was to first enhance the courier to add holiday and Sunday pickups at the birthing hospitals. It works best if the courier works a day ahead of the laboratory, so starting July 5, 2015 the courier has been picking up Sundays through Fridays. In addition eight birthing centers that formerly were not getting courier service were now added to the pickup routes. These enhancements alone provided a 17% increase in the number of samples that were received by the NBS laboratory within three days of their collection.

Once the courier enhancements were in place Saturday and holiday testing could commence. The goal for staffing was to keep this as a voluntary process where the current NBS staff would not be required to rotate coverage by working Saturdays and holidays. An employment status called "secondary assignment" literally saved the day. The MSPHL was able to hire current MSPHL Scientists via the secondary assignment who wanted to work some Saturdays and holidays for various reasons. This staff of about 18 employees (Scientists and PART employees) is called the Weekend Warriors and is led by a fulltime Laboratory Manager BI position held by Keith Bock. Two of the Weekend Warriors are full time NBS Scientists who have a fixed schedule of Tuesday through Saturday, Alice Hartley and Ashley Keely. The Saturday and Holiday testing began on October 3rd, 2015 and the MSPHL immediately realized an additional 9% increase in samples tested within three days of collection, bringing the total timeliness improvement to about 28%.

The MSPHL has realized several valuable rewards that have come out of the entire NBS work expansion, particularly by the way we have been able to do it. These are:

- NBS timeliness has improved tremendously providing a much improved turn-around-time for the detection of many time-critical NBS disorders.
- A collaborative workforce has been established between the regular NBS staff and the Saturday/holiday team that is working and communicating well.
- The work expansion has assisted in breaking down silos between laboratory units as the Weekend Warriors come from several units throughout the laboratory.
- The work expansion has provided an additional source of income for MSPHL employees if they wish to participate.



The weekend warrior crew consists of Keith Bock, Laboratory Manager and Melissa Reynolds, Alice Hartley, Ashley Keely, Alexis Haslag, Heather Bilyeu, James Christian, Tracy Klug, Amy Pierce, Paige Welschmeyer, Matt Sinn, Roy Tu'ua (Not pictured) Dennis Schmitz, Patrick Hopkins, Brian Inman, Brian Matheny, Cody Joens and Nicole Farnsworth.

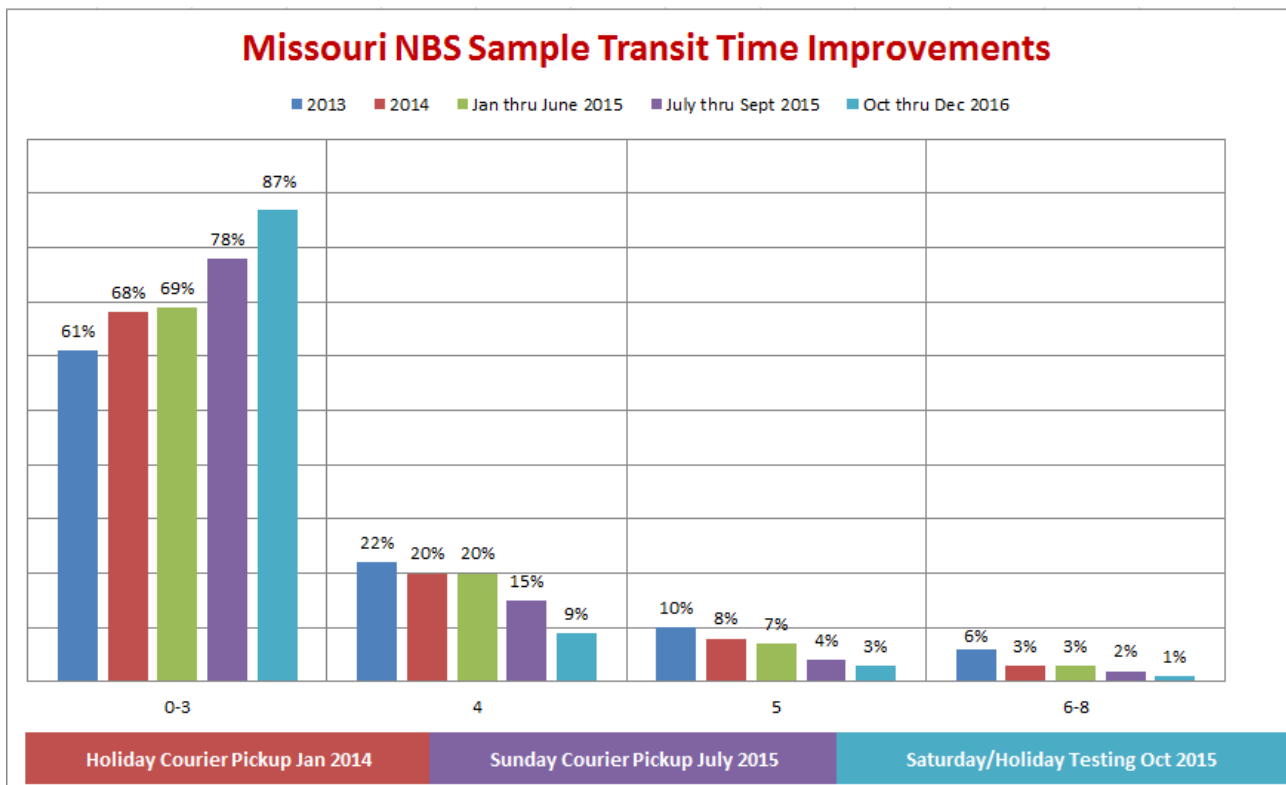
- The Weekend Warrior team has developed an environment of comradery.
- The Saturday and holiday testing has diminished the huge surge days (some as high as 900 samples) that resulted from weekends and three-day weekends, resulting in a more even workflow for all NBS staff.

Only about half of the nations SPHL NBS Laboratories are fully working on Saturdays, but the trend is moving to more and more SPHLs adding Saturday as a regular work day. Missouri’s volunteer model has been inquired about by several other states. This effort has been a tremendous success, and we would like to thank all those that have and are still contributing to this remarkable improvement in Missouri’s NBS program.



Roy Tu'ua (F) and Heather Bilyeu (R) perform NBS testing on a recent Saturday.

NBS Transit Time Improvements



The NBS unit has seen a significant decrease in turnaround times for result reporting due to three critical process enhancements. In January 2014 the courier system added a holiday pickup for drop off sites that increased result reporting turnaround times for 0-3 days by 7%. In July of 2015 the courier was expanded again to add Sunday pickup which allowed for the NBS unit to increase the 0-3 day testing turnaround time from 69% to 78%. In October of 2015 the NBS unit began Saturday and holiday testing which increased the 0-3 days of turnaround for results by another 9%. In total since 2014 with an expanded courier system and expanded testing capabilities there has been a 28% increase in turnaround time for result reporting. This greatly improves the time that submitters and families are notified of test results and could potentially save a life.

By the Numbers: A look into MSPHL's Fiscal Unit

By: Michelle Rodemeyer, Fiscal Unit Chief

If you ask my son Justin (age 9) what I do at work, he will tell you that I have the most boring job in the Laboratory! And he may be right; however, our team is like the silent (ok, sometimes not so silent) partner to all of the other units in the Laboratory. Here's a little bit about what we do...

Contracts

Each unit can order \$3,000 in like-items during the most recent 12 months before a contract is required. The Laboratory has approximately 90 commodity/maintenance contracts. Each of these will be renewed or rebid each year. Nicoshia Roadruck manages all of these contracts and is the liaison between the Laboratory and our Procurement Officer and/or the Office of Administration. New contract bids and current contract re-bids take anywhere from four to six months to complete. Contract renewals usually take three to four months to complete. Once these contracts are in place we can order from the vendor either with a purchase order or by purchasing card if the vendor accepts them.

Purchasing:

There are three ways to make a purchase request:

1. SAMII Purchase Order: contract must be in place
2. P-card: can be for contracted or non-contract items
3. Miscellaneous SAMII payment: non-contract items

FY15 Purchase Requests by type:

- P-card purchase requests = **716**
- SAMII purchase requests = **301**
- Misc. non-contract purchase requests = **74**

	SAMII Purchase Orders	P-Card Purchases	Misc. Purchases
Unit Responsibilities:			
Initiates PGQ document in SAMII	X		
Checks Local Purchase Authority Report (non-contract)		X	X
Submits DH-10 purchase request document		X	X
Fiscal Responsibilities:			
Check contract pricing	X	X	
Check local purchase authority (non-contract)		X	X
Check funding availability	X	X	X
Check funding appropriateness	X	X	X
Obtain Procurement approval (contract)	X	X	
Obtain Unit Chief approval on funding		X	X

Accounts Payable:

Lindsey Jaegers is busy every day processing invoices for payment. She checks contract price; match packing slip with purchase request and invoice (3-way match); makes sure no Missouri sales tax charged; reconciles individual p-card invoices with monthly statements; prepares SAMII payment document for invoices/p-card statement.

In FY15 the MSPHL;

Invoices processed = **2,188**

SAMII payment documents processed = **902**

Number of coding lines on payment documents = **8,906**

Revenues/Receivables

The SPHL also collects revenue for some of the testing that is performed here. We collect fees for Newborn Screening, Blood Lead and Tuberculosis testing. Handling charges are collected on private bacteriological water testing, parasitology and pertussis testing. Lindsay Boeckman and Lindsey Jaegers prepare daily invoices for all of the newborn screening forms orders received. They also prepare weekly/monthly invoices for the other fees/charges that we collect. Submitter invoices are processed and as payments come in, they post those payments to our accounts receivable database.

Lindsay and Lindsey also submit claims to Medicaid and MC+ plans for Newborn Screening, gonorrhea/chlamydia, syphilis, HIV, and blood lead testing. The payments received for these claims are reconciled in our database and if needed, Lindsay researches any differences and resubmits if necessary. The fee revenues get deposited into either the Missouri Public Health Services or Childhood Lead Testing funds. And just like your bank account at home, these accounts get reconciled monthly. Melissa prepares the cash fund reports and projects out revenues and expenditures for this cash.

Payroll

You may only get paid twice a month, but Colleen McPheeters is working hard ALL MONTH LONG making sure that DELTA codes are set up correctly and funding is available for paychecks, because we all like to get paid!

Grants

The laboratory is funded heavily with Federal Grant funds. Throughout the year Melissa Brown and Colleen assist on grant applications and reports.

Budget Preparation/Fiscal Notes

We start the budget process 14 months in advance. The FY17 budget was approved by the Legislature earlier this month and has been signed by the Governor. We have already been given the budget instructions for FY18.

We are required to inform the Legislature and Governor if there is a fiscal impact on pending legislation. During the Legislative Session (January through mid-May) we respond to fiscal note requests from the DHSS Budget Services & Analysis section – most with a very short turn-around-time.

Annual Cost Report

Ever wonder what it costs to run this place? Well, I'll tell you! Total laboratory costs in FY14 (July 1, 2013 – June 30, 2014) were almost \$12 million. And the costs are rising!

It's hard to describe all of the projects/tasks our team works on, but ...this time of the year we are working in four different fiscal years:

FY 15 Annual Cost Report is in the final stages.

FY 16 ends on June 30, 2016.

FY 17 starts July 1, 2016. We are currently preparing the SAMII budget setup.

FY 18 budgeting has already begun the planning phase.



The MSPHL Fiscal Unit. Front row (L to R) Melissa Brown, Michelle Rodemeyer and Lindsey Jaegers. Back Row (L to R) Lindsay Boeckman, Colleen McPheeters and Nicoshia Roadruck.

Employee Spotlight: Michelle Rodemeyer

By: Mary Menges, Assistant Laboratory Director



*Michelle Rodemeyer, Unit Chief,
Fiscal Unit*

As Benjamin Franklin once said, “In this world nothing can be said to be certain, except death and taxes.” And if you are like most Americans, you dread the fact that you have to deal with the latter on an annual basis. But for one particular individual at the Laboratory, tax season is just one more endeavor on her long list of activities. Michelle Rodemeyer, Fiscal and Administrative Manager of the Laboratory, has over 17 years of State Service, eleven of them at the Missouri State Public Health Laboratory. In addition to her career at the Laboratory, Michelle works for Advanced Tax Solutions during the tax season which runs from February 1st through April 15th. She is a woman of many talents and generously shares her time with family and community.

With her extensive financial background Michelle volunteers on numerous boards and committees. She serves on the United Way funding allocation panel which reviews four agencies’ budgets in order to make funding recommendations to the United Way Board. Another position she holds is as a member of the Samaritan Center Community Board. Along with that role she helps with their annual auction. She also helps teach Sunday school and participates in Vacation Bible School at Grace Episcopal Church in Jefferson City, MO.

State work has been personally beneficial for Michelle. While working for the Department of Mental Health she met her husband Todd. Todd and Michelle are celebrating 20 years of blissful marriage. They have two very active sons, Justin (age 9) and Jacob (age 4) who keeps them busy playing T-ball, swimming and football. And if that does not seem like enough to keep them hopping, in a weak moment Michelle

relented and took in two Puggle puppies. Of course, these Pug and Beagle mix puppies have endeared themselves to the Rodemeyer household.

So what does Michelle try to do in her spare time? Well, she will laugh and tell you she tries to sleep! But the fact is she and her family loves the Chiefs, Royals and Cardinals. And as long time season ticket holders of Missouri football, they spend many a fall Saturday at MIZZOU tailgating and going to the games. Thank goodness for Michelle’s sake most of these sports occur outside of tax season!



Michelle and her family at a St. Louis Cardinals baseball game.



Michelle, Todd, Justin and Jacob Rodemeyer.

MSPHL Designated as a Zika Virus Testing Laboratory

From: DHSS Snapshot Newsletter Vol 32, No1

The Missouri State Public Health Laboratory (MSPHL) was recently approved by the Centers for Disease Control and Prevention (CDC) to test for Zika virus. It was the culmination of many weeks of planning, training and conducting validations to meet the CDC analytical requirements. This capacity will help facilitate accurate and more rapid testing results for Missouri's public health system.

Identifying Zika virus is difficult in that depending on the timing of sample collection it can require a series of molecular and serological tests and those tests include additional examination to rule out Chikungunya and Dengue. Chikungunya, Dengue and Zika are viruses that are closely related. Scientists in multiple MSPHL Units collaborate each day to analyze the surge of samples that are approved and submitted from across Missouri for Zika testing. The MSPHL works closely with state and local epidemiologists to coordinate sample approval, receipt and reporting.

The Zika virus response at DHSS is a great example of how local, state and federal partners work together through preparedness and response activities every day to promote, protect and partner for the health of Missourians.

Mosquito Bite Prevention

Mosquito bites can be more than just annoying and itchy, the bite of an infected mosquito can make you sick. The best way to prevent diseases spread by mosquitoes is to protect yourself and your family from mosquito bites. Steps you can take to avoid mosquito bites while outdoors include wearing EPA-registered insect repellent with DEET, wearing pants and long sleeves when the weather permits, or remaining indoors in an air conditioned environment at the time of day when mosquitoes are active.

As of April 6, 2016, the Missouri Department of Health and Senior Services confirmed three cases of Zika virus. All three patients have recovered from their illnesses. The first case was a Missouri man who had travelled to Haiti; the second case involved a pregnant Missouri woman who had travelled to Honduras; and the third in a Missouri man who had travelled to Colombia. All three areas are known areas of Zika transmission. Zika virus has not been spread by mosquitoes in Missouri.

"If you are traveling to a location with a tropical climate, check the CDC's website for travel information about Zika to see if your destination has any travel health notices," said Dr. Howard Pue, state public health veterinarian. "Because the mosquitoes that spread Zika virus are found throughout the tropics, outbreaks are likely to continue. Pregnant women should not travel to an area with ongoing Zika transmission. If travel to an area with Zika virus is necessary, pregnant women should first talk to their healthcare provider. If a pregnant woman does travel, she should strictly follow steps to avoid mosquito bites during the trip."

Nearly 80 percent of people infected with the virus will have no symptoms. Typically, symptoms are mild and include fever, rash, joint soreness and/or redness of eyes. People usually don't get sick enough to go to the hospital, and they very rarely die of Zika.

International health officials are examining the connection between pregnant women contracting the virus and a birth defect called microcephaly in their newborn infants. According to the CDC, babies with microcephaly often have smaller head sizes and brains that might not have developed properly. Zika virus has the potential to be spread through a mosquito bite, through unprotected sexual contact, through blood transfusion and an infected pregnant woman can pass Zika virus to her fetus during pregnancy or around the time of delivery.



Picture courtesy of CDC.org

"As the weather warms up and we head outdoors, always take precautions," said Dr. Pue. "Mosquitoes are pesky little creatures that can have a huge impact on your health. They typically lay eggs in standing water in things like buckets, animal bowls, flower pots, and vases. A simple way to reduce the number of biting mosquitoes is to look for and eliminate these kinds of containers around the home."

In additions to the well-known repellent active ingredient DEET, other EPA-registered insect repellents that CDC recommends are those with picaridin, IR3535, oil of lemon eucalyptus, or para-menthane-diol. Choosing an EPA-registered repellent ensures the EPA has evaluated the product for effectiveness.

Lab Blab



Staff happenings in the Laboratory

New Employees

Mary Barrioz– Molecular, **Matthew Berry**– Tuberculosis, **Derek Bulson**– PART, **Heather Cornelison**– Virology, **Rachel Hardy**– Environmental Bacteriology, **Gretchen Hagen**– Environmental Bacteriology, **Heather Moser**– Central Services, **Daniele Rawlings**– Environmental Bacteriology.

Promotions

Lindsay Boyd-Virology, promoted to a Senior Public Health Laboratory Scientist, **Amy Hagenhoff**-Newborn Screening, promoted to Senior Public Health Laboratory Scientist, **Cody Joens**-PART, promoted to SOSA, **Matt Sinn**-Molecular, promoted to a Public Health Laboratory Scientist, **Amanda Williams**-PART, promoted to AOSA

Conferences & Trainings

Dana Strobe, Immunology, attending the 2016 HIV Diagnostic Conference in Atlanta, GA. **Roy Tu'ua**, **Pat Olson** and **Alan Jarrell**, TB, attended SWACM Training: "Gram Stain: Gaining Proficiency in Diagnostic Interpretation and Results Review" in St. Louis, MO. **Alan Schaffer**, Chemistry, and **Russ Drury**, LPES, attended the LRN-C Level 1 and 2 Meeting in Portland, ME. **Mindy Rustemeyer**, Chemistry, and **Ashley Mehmert**, Environmental Bacteriology, attended the USDA FERN Grant Meeting in Richmond, VA. **Monica Beddo**, Molecular, attended CDC training for PulseNet PFGE and BioNumerics in Atlanta, GA. **Matt Sinn**, Molecular, attended CDC training for Newborn Screening Molecular Methods training in Atlanta, GA. **Josh Featherston**, Molecular, attended CDC training for Influenza Molecular Methods training in Atlanta, GA. **Russ Drury**, LPES, attended the CDC Biosafety Symposium in Atlanta, GA. **Amy Pierce** and **Russ Drury**, LPES. Attended ABSA Principles and Practices of Biosafety in San Diego, CA. **Steve Gladbach**, Microbiology, attended the In Person Food Safety Committee Meeting in at APHL in Silver Springs, MD and attended the 2016 ELC grantee meeting in Atlanta, GA. **Adam Perkins**, Microbiology, **Mindy Rustemeyer**, Chemistry, continue to attend training for the DHSS Next Steps leadership Program in Jefferson City, MO. **Pat Shannon**, Environmental Bacteriology and **Laura Naught**, Administration, attended the FDA Governmental Food and Feed Laboratories Accreditation Meeting in Louisville, KY. **Josh Berry**, Environmental Bacteriology, attended the Bacillus anthracis and Yersinia pestis in Food in Jamaica, NY. **Pat Shannon**, Environmental Bacteriology, attended the Missouri Milk, Food and Environmental Health Association Annual Education Conference and the Mid-America Dairy Expo in Springfield, MO. **Rachel Hardy**, Environmental Bacteriology, attended the FERN: Food Microbiology and Rapid Methods training in St. Paul, MN. **Melissa Brown**, Fiscal, completed her Grants Management Certificate. **Connor Mahon**, PART. went to Making the transition from staff to supervisor and to HIPAA training in Springfield and Columbia, MO. **Amanda Williams** and **Nicole Farnsworth**, PART, attended Assertiveness Skills training. **Bonnie Ricks**, **Darla Eiken**, **Paige Welschmeyer**, **Keith Bock**, **Tracy Klug**, **Jessie Bauer**, **Shondra Johnson**, **Mike Massman**, **Laura Naught**, **Patrick Hopkins** and **Dennis Schmitz** attended the APHL Newborn Screening Symposium in St. Louis, MO. **Nicole Ayres**, Immunology, attended MQA Examiner Training in Columbia and Jefferson City, MO.

Introducing Laboratory Employee of the Quarters

By: Roy Tu'ua, TB Unit Chief and S.C.O.P.E. Team Leader

Quarter I

Please join us in congratulating **NICOSHIA ROADRUCK** on being selected as the Missouri State Public Health Laboratory Employee of the Quarter (EOQ) for the first quarter of 2016.

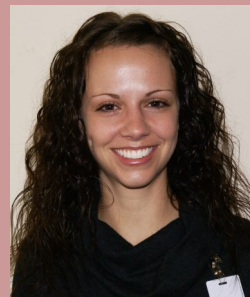
Nicoshia was selected for her hard-working ethic and dedication to perform at the highest level of excellence. She is friendly and easy to speak to and will go above and beyond showing great initiative and extra effort to assist anyone with anything

requested of her with a positive attitude that is absolutely infectious. Nicoshia tirelessly keeps track of over 90 contracts and renewals for the entire Laboratory by serving as the liaison between procurement and laboratory staff to make the equipment or supply acquisition process seamless as possible. She is an excellent resource of information for all things relating to fiscal along with her ability to keep the Laboratory leadership on task while

navigating the purchasing process.

Nicoshia exemplifies the qualities of an outstanding employee and makes our jobs easier with her hard-work, knowledge and sincere desire to help.

Nicoshia was also honored as the Department of Health and Senior Services Employee of the Month in December of 2015. See page 7 for more about Nicoshia.



Congratulations Nicoshia!



Quarter II

Please join us in congratulating **LINDSAY BOECKMAN** on being selected as the Missouri State Public Health Laboratory Employee of the Quarter (EOQ) for the second quarter of 2016.

Lindsay was selected for her enduring dedication to perform at the highest level of excellence during her tenure within the Post-Analytical Reporting Team (PART). Lindsay had discovered an issue with the archived Newborn Screening forms when the State of Missouri archive program switched to a new online system, SMART. She learned the newborn screening information had

been incorrectly entered into the online system for years 1999 through 2007. A major problem because what the SMART system indicated was inaccurate by approximately 4-years.

When an archived Newborn Screening requisition form was requested the unit received the incorrect box and incorrect year. Lindsay notified the archive representative of the issue and was told the issue could not be resolved on their end. Lindsay knew it would cause an issue in the future when it was time to destroy the records after the retention period. Lindsay reviewed 299 archived boxes, documented the contents of

each box, and updated the SMART system with the corrected information. Lindsay had taken this important and arduous journey to correct this issue while maintaining her current duties as the SOSA in PART.

Lindsay exemplifies the qualities of an outstanding employee and is recognized for her persistence and commitment to excellence at MSPHL.

Again, it is our pleasure to congratulate **LINDSAY BOECKMAN** for her outstanding service and dedication.



Congratulations Lindsay!!

2016 MSPHL Summer/ Fall Training Calendar

Workshops offered:

Packaging and
Shipping of Division
6.2 Infectious
Substances

July 21, Kansas City
Sept 21, Jefferson City

Agents of
Bioterrorism: Rule
Out/Refer – LRN
Guidelines for
Sentinel Laboratories
Sept 29th, Jefferson City

[https://
webapp03.dhss.mo.gov/
snapwebhost/
surveylogin.asp?
k=145288687846](https://webapp03.dhss.mo.gov/snapwebhost/surveylogin.asp?k=145288687846)

Webinars offered:

Packaging and
Shipping of Category
B Division 6.2 Infec-
tious Substances
August 24

Select Agent
Program:
Information for
Sentinel
Laboratories
August 25

[https://
webapp03.dhss.mo.gov/
/snapwebhost/
surveylogin.asp?
k=146290885272](https://webapp03.dhss.mo.gov/snapwebhost/surveylogin.asp?k=146290885272)

Around Jefferson City, MO Jefferson City National Cemetery

The Jefferson City National Cemetery was established in 1867 as a burial place for Union soldiers who died in the area. While the city saw little military action in the war, the Union maintained a strong force in the city, whose residents were sympathetic to the secessionist cause. Jefferson City National Cemetery retains many of its original features, including its superintendent's lodge.

As the Civil War neared, Jefferson City was a town torn between the North and the South. In May 1861, Jefferson City residents took to the streets around the state capitol demanding secession from the Union. An influx of Federal troops determined to keep Missouri in the Union negated residents' calls for secession. Given the public's sentiments the Union held Jefferson City under martial law until 1865.

Just inside the main gate is the superintendent's lodge, a one-and-one-half story brick building of the Second Empire style. The lodge's design follows the standard plan issued by U.S. Army Quartermaster General Montgomery C. Meigs. The lodge is one of the 17 remaining Second Empire-style Meigs lodges found at Civil War-era national cemeteries. Built in 1870, the L-shaped building was constructed of ashlar stone and features stone quoins on the corner of the building. Typical of Second Empire architecture, the lodge is topped by a Mansard roof covered in hexagonal slate tiles of varying colors. *Excerpt is from www.nps.gov.*



*Meigs' Superintendent's lodge
Courtesy of the Department of Veterans Affairs,
National Cemetery Administration, History Program*

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