



Beyond the SCPE

A publication of the Missouri State Public Health Laboratory



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Our Legacy with the LRN

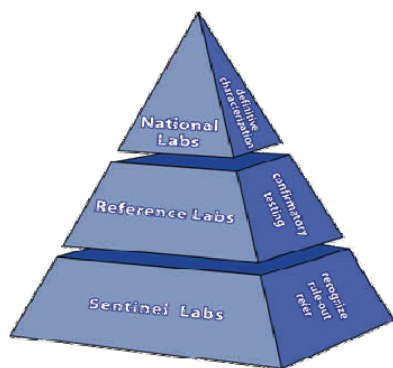
By: Bill Whitmar, Laboratory Director

A little over ten years ago now, bioterrorism was still prominent in the minds of the public. While the anthrax letters had seemingly stopped being delivered, the culprit had not been apprehended and no clear perpetrator had been identified. Overseas a great “bug hunt” was underway in Iraq. Teams were scouring the desert looking for mobile laboratories and repositories containing weapons of mass destruction. Locally, we all became more familiar with duct tape, plastic sheeting, “shelter-in-place” and Cipro. Preparedness was a keyword and in the laboratories we were no strangers to that.



Bill Whitmar, MSPHL Laboratory Director

Earlier than that though, beginning as early as 1999, the CDC, FBI and the Association for Public Health Laboratories (APHL) created a new laboratory concept where three ascending levels of laboratory capability would respond to biological and chemical terrorist-related events in accordance with Presidential Decision Directive 39. This concept is known as the Laboratory Response Network, or LRN. The LRN is a national security asset that, with its partners, would develop, maintain and strengthen an integrated domestic and international network of laboratories to respond quickly to biological, chemical, and radiological threats and other high priority public health emergency needs through training, rapid testing, timely notification and secure messaging of laboratory results.



LRN Structure

The Missouri SPHL joined the LRN in 1999 and increased its capabilities and capacities to respond to bioterrorism. What that meant primarily at that time was to provide increased capacity for anthrax testing. Moving forward to 2001-2003, the federal government responded to outside threats and the anthrax letters by generously funding public health agencies and particularly state public health laboratories. Laboratories began to acquire technologies that were previously unavailable to them due to cost. The MSPHL was able to obtain reverse transcriptase polymerase chain reaction (rt-PCR) instruments, automated extraction devices, Time-Resolved Fluorescence (TRF) instrumentation, gas chromatograph/ mass spectrometers, inductively coupled plasma mass spectrometers (ICPMS), liquid chromatography tandem mass spectrometer (LCMSMS) training for a number of newly hired staff, a dedicated emergency response and outreach unit, a statewide courier service and a host of other modern equipment. The laboratory was supremely outfitted and prepared for the next wave of biological or chemical events.

Our expertise and equipment were not wasted. Continually we test suspicious powders as submitted by the FBI, as intended by the founders of the LRN. But what is truly useful is that the equipment and personnel are utilized by “normal” communicable diseases (*Bordetella pertussis* and seasonal influenza) and newly emerging pathogens. Those emergent pathogens that we have

From the Director continues on page 2...



New Safety Measures Implemented

By: Russ Drury, LPES Director

Hazardous Materials: The SPHL is in the process of updating our hazardous waste collection and disposal program. Generated hazardous waste needs to be collected in an appropriate container and labeled as “Hazardous Waste.” When collecting the waste, be sure to include what the waste is on the label and attach it to the container. You are then required to fill out a “Surplus Chemical-Waste Disposal Form” as completely as possible and include a Safety Data Sheet (SDS). Upon completion contact Central Services to pick up the waste. They will collect it and store it in the proper waste storage room until it is ready for the annual pick up by Safe Harbors.

Door Hazard Signs: The hazard signs on the laboratory doors have all been updated. These updates are in accordance with the mandatory OSHA driven changes to SDS formerly known as Material Safety Data Sheets (MSDS). The signs are now in compliance with current hazard symbols and will match the updated version of the SDS forms.

...From the Director continued from page 1

prepared for or tested over the years include: monkeypox, SARS, H1N1, H5N1, A(H3N2)v, H7N9, and MERS-CoV. In addition, we utilize PCR equipment daily, testing specimens for the occasional *Francisella tularensis* or *Brucella sp.*, and testing samples in the chemistry unit for environmental hazards in water and food using the chemical terrorism equipment. This daily testing is also what the LRN founders had envisioned. Known as **dual use**, the equipment is used beyond that use for biological or chemical terrorism.

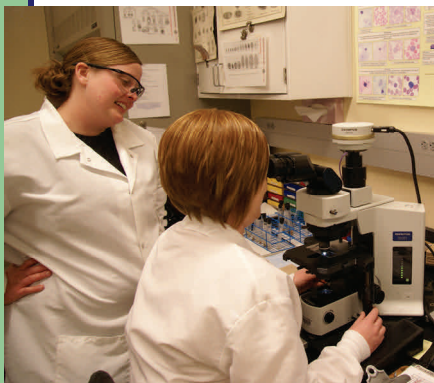
Over the years the preparedness initiatives have also gradually morphed from that of preparing more for the next anthrax-like attack to all-hazards preparedness (terrorist event, extreme weather, catastrophic damage, etc). By doing this, a laboratory can prepare for a wider series of events and also ensure the continuity of services in spite of loss of a facility, electricity, or other essential functions.

In essence this is a brief story of not only how an incredibly modern laboratory capability was built rapidly and then **maintained** over the course of a decade, but then utilized in many differing ways, addressing an array of emerging diseases. Then, over time, the mission parameters were added to and changed from the original intent and new partners were incorporated. From my perspective the laboratory preparedness program is truly one of the top success stories in our field. *Bill*

“Preparedness was a keyword and in the laboratories we were no strangers to that.”

Job Shadowing at the MSPHL

By: Ashley Eiler, Tuberculosis Unit



Above: Ashley Eiler job shadowing Sabrina Ivy in Microbiology

I had been thinking about taking advantage of the job shadowing program for some time and finally on January 15, 2014 I took a day and shadowed the microbiology unit. I have always wanted to expand my knowledge within public health and laboratory testing, so I thought job shadowing would be a great way to start.

I spent the whole day in the microbiology unit, and it was much more than a tour. I had a great experience and really enjoyed it. Everyone welcomed me and all my questions. I would like to encourage more people to take advantage of this great program. It gives you a break from your daily routine and a great insight to what other units do. Who knows, you may come away with ideas of how to better your own unit/testing.

MSPHL Participates in first LEAN Project

By: Laura Naught, Quality Systems Officer and Sandy Jones, LPES

LEAN. What is it? LEAN is a production practice that considers spending resources on anything other than adding value for the end customer to be wasteful. Therefore, that inefficiency needs to be eliminated. With waste eliminated quality improves while time and cost are reduced. This philosophy was actually first practiced by Toyota in the 1950's. While there are many LEAN tools available that aid in improving efficiency, MSPHL management decided to start rather small by doing a LEAN 6S project. This project involves all staff and takes minimal time to complete while working toward a clear outcome.

The LEAN 6S tool is actually fairly simple. There are six stages to this process and, as the name implies, they all start with "S". The 6"S's" are Sorting, Storage, Shine, Standardize, Sustain and Safety. Laboratory management pre-identified storage rooms for either a particular floor or unit that needed a little organizational help and clean up. While the "new" MSPHL has been functioning for almost seven years there were still some areas of the laboratory that looked like they just been moved into. Management felt that using the LEAN 6S tool these spaces could be organized to be used efficiently while eliminating waste such as old, out of date equipment that just happened to tag along during the move. This is how the process worked:

1. Staff team leads were identified for each floor or laboratory unit.
2. Each team lead was given a checklist with deadlines and detailed instructions on how to follow the 6"S's". Each team lead was also given a spreadsheet to track inventory so it would be easy to see what was being kept, surplused or recycled.
3. Pictures were taken throughout the process as documentation.
4. Linear feet gained and weight in pounds removed were used as measures.
5. To make it 'fun' there was a contest to see which room gained the most linear feet and removed the most in weight.
6. Each team made a presentation on how the process worked for them and lessons learned.

This project has been an overwhelming success. The Laboratory gained 581.61 linear feet in storage and removed 8,345 pounds of waste. Because there was some push back initially over concerns about staff workloads the project was allowed to start a little early to take advantage of down time over the holidays. Once the project was completed everyone felt the end project was well worth the time and effort. Some laboratory units are even taking the concept and using it to organize and clean out other areas of the laboratory as part of their 2014 QI goals.

LEAN 6S Project Totals

of estimated linear feet gained
581.61

of pounds removed from laboratory storage spaces
8,345

Unit winner for most linear feet gained
2nd floor Storage Area

Unit winner for most pounds removed

3rd floor Storage Area



Above: Storage space BEFORE the LEAN project.



Left: Storage space AFTER the LEAN project.

Preparedness

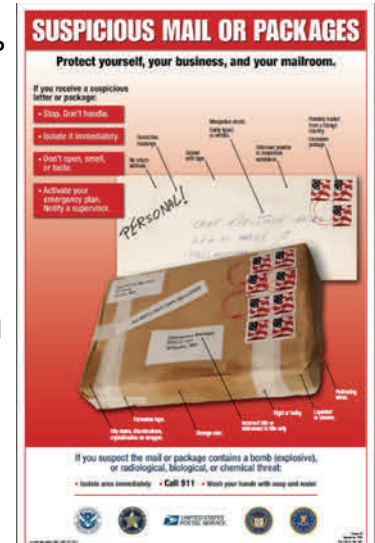
By: Russ Drury, LPES Director

Preparedness. The term is not new, but what does it mean? How does preparedness affect the laboratory? What is it that those “preparedness people” really do all day? Without a doubt many of these questions have been asked a time or two. Hopefully, this article will help answer some of those questions and clear up any gray area that may exist in the perception of preparedness.

Preparedness at the MSPHL involves the monitoring and development of capability 12 of the Public Health Emergency Preparedness (PHEP) Grant. The PHEP Grant is the main funding source for all the Laboratory Response Network (LRN) functions at the MSPHL. The grant provides funding for equipment, PPE and reagents necessary for the testing of bioterrorism agents, as well as relevant training for staff on advanced and current testing techniques. Proper monitoring and budgeting in line with PHEP is essential to sustaining the core laboratory functions defined by the LRN and is a major component in laboratory preparedness. The MSPHL is the only laboratory member of the LRN in the state of Missouri. The LRN is key in the preparedness for biological and chemical terrorism events. The LRN mission is defined as “a national security asset that, with its partners, will develop, maintain and strengthen an integrated domestic and international network of laboratories to respond quickly to biological, chemical, and radiological threats and other high priority public health emergencies needs through training, rapid testing, timely notification and secure messaging of laboratory results.” The MSPHL is required to maintain specific testing capabilities in the areas of Chemistry, Environmental Bacteriology, Microbiology, Molecular testing and Virology in order to maintain its status as an LRN laboratory.

The testing of threatening letters (White Powder Letters) submitted by the FBI is a good example of testing the MSPHL provides as an LRN laboratory. The Central Services Unit also plays a significant part in LRN activities by maintaining the state courier service as well as maintaining service contracts for autoclaves, glassware washers, biological safety cabinet and fume hood certification and waste disposal. The Laboratory Preparedness, Education and Safety (LPES) unit is the liaison between the Missouri Laboratory Response Network (MOLRN) and the MSPHL. The MOLRN is a collection of clinical laboratory partners within the state of Missouri that are selected based on specific criteria. Laboratories within the MOLRN play a role in preparedness in addition to their every day role in public health by working closely with local and state public health and federal laboratories to recognize potential biological threat agents and other emerging threats to public health. They are routinely the first to recognize possible agents of bioterrorism in the clinical setting and then rule out or refer those agents to the MSPHL for confirmation.

Planning is another major piece in the preparedness puzzle. Disaster planning is a complex process that involves a great deal of time, effort and funding. Due to the nature of the chemical and biological agents manipulated at the MSPHL, this planning is even more challenging. The LPES unit is responsible for developing, reviewing and updating the MSPHL emergency operations manual (EOM). This manual defines the processes that are to be used during an event at the laboratory. This document is reviewed and updated annually. Along with the EOM, the laboratory’s Continuity of Operations (COOP) plan is used to develop laboratory testing redundancies to ensure that Missouri testing would continue if the MSPHL was significantly damaged or crippled and deemed unfit for testing.



Left: MSPHL during 1993 flood.

Emergency response planning extends well beyond the laboratory as well. Emergency planning also involves activity with local, state and federal response partners. This type of planning involves activity with local emergency response teams and includes drills and exercises to develop clear plans to be used in an emergency event. The MSPHL works closely with local partners to keep them informed on hazards that exist within the building, provides tours to keep them familiar with the building design and then works directly with them during drills or actual event coordination. The MSPHL also participates in numerous drills and exercises with other departments within the state such as the Department of Public Safety (DPS), which houses the State Emergency Management Agency (SEMA), and the Department of Natural Resources (DNR). The laboratory also works very closely with the local Civil Support Team (CST), FBI, LRN and CDC in preparedness exercises and proficiency testing that is often required by the PHEP grant. LPES also works with the Newborn Screening unit in assisting with drills for the Emergency Management Assistance Compact (EMAC), a nationally ratified agreement that states can partner for testing purposes when one of the states has declared a state of emergency.



Above: 2010 Hazmat Exercise held at the MSPHL.

The development of an all-hazard response plan is a very high priority for preparedness. The MSPHL would play a very significant role in any type of biological or chemical bioterrorism or naturally occurring event that posed a public health threat to Missouri's citizens. The all-hazard plan must include a series of key points. Sample collection, transport and receipt are essential parts of laboratory preparedness. A sample must be collected properly, packaged properly and then transported to the MSPHL as rapidly as possible. Once in the laboratory, the specimen needs to be assessed and delivered to the proper testing unit. The capabilities of testing for each unit must be clearly defined in advance.

One sometimes overlooked aspect of preparedness is capacity awareness. A large scale event could lead to very high volume testing. All-hazard planning includes defining the maximum volume of testing that the laboratory is capable of given the equipment it possesses, reagent availability and workforce capability. Again, in an event that resulted in testing beyond our capacities, the MSPHL would be able to reach out to previously identified partners (LRN, MOLRN) for assistance with surge testing. The laboratory workforce is also a piece of a response plan. Having accurate records of staff that are capable and competent to perform specified testing in advance, aids in defining testing capacities over a period of time.

The last component of an all-hazard plan is the reporting element. The MSPHL must have reliable reporting methods for the results generated during an event. The MOLRN clinical laboratory list is updated annually with multiple means of contact information for facilities that can be used for result reporting. There are also a variety of communication mechanisms that can be used between the MSPHL and state and federal partners.

Laboratory preparedness is an essential function of the MSPHL. It involves a great amount of time and attention to detail. The plans developed through emergency preparedness are designed to protect both the employees of the MSPHL as well as the Missouri public. The role the MSPHL would play in a true emergency event could be very significant. The efforts made in preparedness will assist in making a bioterrorism or other type of event run more smoothly and help disrupt the spread of illness.

LPES Trainings

The LPES unit 2014 Training Calendar is located at <http://www.health.mo.gov/lab/training.php>. Below is a listing of various trainings offered throughout the year.

- Packaging and Shipping of Division 6.2 Infectious Substances
- Packaging and Shipping of Category B 6.2 Infectious Substances
- Select Agent Program – Information for Sentinel Laboratories
- Biosafety and Biosecurity: Minimizing the Risk in the Laboratory
- Agents of Bioterrorism: Rule Out/Refer – LRN Guidelines for Sentinel Laboratories
- Techniques in Microbiology: Utilizing Triple Sugar Iron Agar and Lysine Iron Agar as Tools when Identifying Bacteria



2013 MSPHL Annual Team Meeting

By: Laura Naught, Quality Systems Officer

“Much like Clark Kent enters a phone booth and transforms into Superman, MSPHL staff enter the laboratory everyday as ordinary people but emerge as superheroes that work as a team to protect the health of all Missourians and its visitors.”

The MSPHL held its 3rd Annual Team Meeting on December 3rd, 2013. This year’s theme was ‘Avenging Public Health through Science’. With the Avengers superheroes as the theme, management had a lot of fun planning this meeting. Each section of the meeting was introduced by video clips made up of MSPHL staff acting as superheroes. For instance, Jeremy Wilson, Environmental Bacteriology, played Thor taking a customer satisfaction survey; Adam Perkins and Melissa Walker were Iron Man and a scientist describing MPSHL’s Job Shadowing program; and Mike Massman, Administration, was Bruce Banner/The Hulk describing the budgeting process to Colleen Donahue of the Fiscal Unit.

While the meeting provided a lot of entertainment this was also a chance for laboratory management to share some important information and review 2013, as a whole. There were safety reminders, an ethics portion and a recap of what quality improvement activities the S.C.O.P.E. Action Teams accomplished in 2013 and their goals for 2014. There was also a “coming soon” portion which talked about three major projects that the Laboratory will be initiating in 2014, including a LEAN 6S project (see article on page 3), the Show Me More re-assessment (see article on page 7) and a budget efficiency project.

Bill Whitmar, MSPHL Director summed the meeting up best in his closing remarks, “Much like Clark Kent enters a phone booth and transforms into Superman, MSPHL staff enter the laboratory everyday as ordinary people but emerge as superheroes that work as a team to protect the health of all Missourians and its visitors.”



Clockwise from top left; Agent Russ Drury, LPES Director and Safety Officer, presented some helpful safety reminders to staff; Bill Whitmar, MSPHL Director, presented the Ethics section; Iron Man/Mike Massman, MSPHL Deputy Director discussing the new LEAN 6S project; and Bill Whitmar talking to an engaged staff with Gail Vasterling, DHSS Director, present front center

MSPHL Continues Journey Towards Performance Excellence

By: Laura Naught, Quality Systems Officer

The MSPHL is honored to have the opportunity to continue its journey towards performance excellence thanks to the National Public Health Improvement Initiative grant the Department of Health and Senior Services (DHSS) received. A portion of this grant will be used to perform a re-assessment of the Laboratory's business practices by participating in the Show Me More assessment offered by the Excellence in Missouri Foundation (EiMF).

In 2011, the Laboratory participated in the Show Me Challenge self-assessment through the EiMF (featured in the 2011, fall and 2012, spring editions of the *Beyond the SCOPE* newsletter). The Show Me More re-assessment will dig deeper into the Malcolm Baldrige criteria and will allow assessment of how the MSPHL has progressed as a business after participating in the Show Me Challenge and later enacting the S.C.O.P.E. Initiative to address opportunities for improvement. The Laboratory is very excited about this upcoming project and looks forward to sharing the results and next steps in the fall edition of this newsletter.



Left; Show Me More Assessment Team discussing walk around interview questions.

Courier Services for Sample Transport to the MSPHL

By: Jackie Pfenenger, Central Services Unit Chief

In 1998, the MSPHL established a courier service to collect newborn screening samples from a select number of Missouri hospitals for overnight delivery to the MSPHL. Over the years the courier service has evolved into a full courier service which transports all types of laboratory samples. Currently there are 169 daily stops in the state of Missouri including 116 Local Public Health Agencies and 46 hospitals.

The courier service runs Monday through Friday transporting approximately 400 packages daily. Improvements are continually made to this service in order to provide the greatest benefit for MSPHL clients. One recently implemented change began on January 1, 2014. The courier now stops at all 46 hospitals on State and Federal holidays (in the past it did not run at all on official holidays) to facilitate timely result reporting.

A map of pickup locations as well as additional site information can be located at <http://www.health.mo.gov/lab/courierservices.php>.



Above: Samples received from the courier service.

S.C.O.P.E. Action Team Feature: Workforce



Team Goal: The SCOPE Workforce Action Team is unique in that we view laboratory personnel as our customers. Our actions are based on their feedback. The overall arching goal is to provide an effective systematic improvement process. We focus our efforts by assessing employee satisfaction and engagement, and expand professional or personal developmental opportunities to maintain a competent and well trained workforce.

Team Members: Roy Tu’ua, *Tuberculosis*; Laura Naught, *Admin*; Brian Inman, *Central Services*; Nicole Farnsworth, *PART*; Adam Perkins, *Microbiology*; Melissa Walker, *Microbiology*; Amy Pierce, *LPES*; Erica Vaughan, *Molecular*; Lindsay Boyd, *Environmental Bacteriology*

Past Activities:

- ASCP Video Contest in 2012 – Prizes from winnings distributed during Laboratory Week in 2013
- Employee Satisfaction and Engagement Survey 2012 – Results were shared with SCOPE

Teams with the resulting improvements:

- ◊ Laboratory Employee of the Quarter Recognition Award
- ◊ PERforM Review Project
- ◊ “Leader in You” Training opportunity – Leadership development
- ◊ Improving communication from EMT to staff by distributing the Unit Chief meeting minutes
- ◊ Improve personnel safety by increasing the lighting in the employee parking lot



Above (L –R): Melissa Walker, Nicole Farnsworth, Amy Pierce, Adam Perkins, Erica Vaughan, Lindsay Boyd. Not pictured: Roy Tu’ua, Laura Naught, Brian Inman

2014 Activities:

- Laboratory Outreach Video
- Molecular Pathology course
- Increased personnel development opportunities
- Employee Satisfaction and Engagement Survey 2014 to assess trending



Employee Spotlight: Dr. Ella Swierkosz , CLIA Director

By: Mary T. Menges, Assistant Director

You see her name on documents in iPassport. She was introduced at the annual meeting. You have heard her name bantered about when questions arise regarding CLIA. But who is this Dr. Ella Swierkosz? The story begins on a cold and rainy night. The laboratory was in dire need of a CLIA director. But not just anyone would do for THE Missouri State Public Health Laboratory.

It must be someone with high standards, integrity and respected among their peers. It must be someone with the knowledge and understanding of the role that a state public health laboratory supports in the larger picture of the public health system. It must be someone who staff could relate too when discussing the laboratory processes and when seeking advice on quality improvement. But where would we find such a person who has all of these qualities?

The Quest: Many of the laboratory staff had worked with Dr. Ella in the past on various issues and projects. Throughout the 1990s, Dr. Swierkosz consulted with our Microbiology unit. She even served as a member of the Laboratory's Pandemic Flu Advisory Committee starting in 2005. She had all the qualities and attributes that we were looking for in a CLIA director. The offer was made, and she accepted! In August of 2010 Dr. Ella Swierkosz was named the CLIA director of the Missouri State Public Health Laboratory.

The Early Years: Born in Detroit, Michigan, Dr. Ella was a huge Tigers fan and dreamed of one day playing for the Tigers. The Detroit Tiger Slugger, Baseball Hall of Famer Al Kaline was her childhood hero. To this day Dr. Ella will quote his list of accomplishments: lifetime batting average of .297, in 1955 the youngest player to ever win the American League batting title at the age of 20, inducted into the Hall of Fame in 1980 and so on. When Dr. Ella did not realize her dream of making the Tiger team, she turned her attention to academics.

The Academic Foundation: Dr. Ella obtained her B.S. from the University of Detroit and her PhD from Wayne State University School of Medicine in the Department of Microbiology. After completing her post-doctoral fellowship in Medical and Public Health Microbiology at the University Rochester School of Medicine, Rochester NY, she and her late husband moved to St. Louis to take faculty positions at Saint Louis University School of Medicine. There Dr. Ella served in the Pediatrics Department and was Director of the virology and microbiology laboratories of the Cardinal Glennon Children's Medical Center. In 1997 she assumed additional duties as the Director of Microbiology at Saint Louis University Hospital. By 2011, she was the Director of the Sisters of St. Mary's (SSM) St. Louis Network Microbiology Laboratory that serves six SSM St. Louis Healthcare hospitals.

Dr. Ella is an accomplished professional having written numerous peer-reviewed papers and book chapters as well as giving presentations at national microbiology and virology meetings. She is a Diplomat of the American Board of Medical Microbiology and a Fellow of the American Academy of Microbiology. She served as past President of the Pan American Society for Clinical Virology from 2006-2008.

And what does this woman do to relax? Dr. Ella says she enjoys a round of golf and traveling! This is probably what influenced her to accept her position at the Missouri State Public Health Laboratory. She gets to pass many golf courses as she travels to Jefferson City! We are very fortunate to have found such an accomplished person to serve as our CLIA director.



Ella Swierkosz, CLIA Director

“Thank you, Ella, for being a part of our success!”



Picture from one of many Pandemic Influenza meetings in 2006 in which our partnership with Dr Ella Swierkosz was in full swing.

SSM St Louis Health Care Network Microbiology Laboratory

By: *Dr. Ella Swierkosz, Ph.D., (ABMM), F(ABMM)*

How it Began: In the late summer of 2010, I was approached by the Executive Director of Laboratory Services for the Sisters of St. Mary (SSM) St. Louis Health Care Network to coordinate the consolidation of microbiology for the 6 SSM St. Louis Health Care Medical Centers/Hospitals. SSM then contracted with St. Louis University School of Medicine, Department of Pathology, for my services.

Consolidation Plan: At this time, the supervisor of the microbiology laboratory at Cardinal Glennon Children's Medical Center, the Executive Director, and I began the process of identifying existing laboratory space at one of the SSM St. Louis hospitals, usable existing equipment and instruments, and standardizing approximately 200 procedures. We worked with architects to expand and remodel existing laboratory space at SSM St. Joseph Health Center in St. Charles, MO, the designated site of the SSM St. Louis Network Microbiology Laboratory. It was quickly determined that most of existing instruments and equipment needed replacing. We chose the Bactec blood culture instrument with capacity for 2600 blood culture bottles, the Vitek 2 identification and antibiotic susceptibility testing instrument, additional biosafety cabinets, microscopes, new anaerobe glovebox, MGIT system for AFB cultures, new incubators, refrigerators and freezers. This all was accomplished in approximately 3 months. In addition, the 6 hospitals needed to standardize utilization of the SSM laboratory information system (LIS).



Above: Acid fast Biosafety cabinet with row of specimens being digested

Transition phase: The supervisor of microbiology, a core group of senior technologists, and I wrote new and revised many existing procedures, performed validation studies for all new instruments, worked with architects on space requirements and laboratory remodeling, worked with vendors on their space and utility requirements, oversaw installation of new equipment, and oversaw transfer of equipment from each SSM site and oversaw standardization of the laboratory information system (LIS). Talk about chaos.

Consolidation Phase I

In February 2011, the Cardinal Glennon Children's Medical Center (CGCMC) microbiology staff, equipment, and specimens moved to the microbiology laboratory at SSM St. Joseph Health Center now designated the SSM St. Louis Health Care "Network" Microbiology Laboratory. CGCMC was chosen because it had a low to moderate volume of specimens and it offered all disciplines of microbiology. This allowed issues and problems to be addressed before the bulk of microbiology specimen volume moved to the Network Microbiology Laboratory.

Consolidation Phase 2. In March 2011, microbiology staff and usable equipment of SSM St. Mary's Health Center, SSM DePaul Health Center, SSM St. Joseph Hospital-West, and SSM St. Clare Hospital moved to the Network Microbiology Laboratory. Although we believed we had anticipated and solved problems prior to Phase 2, numerous and unanticipated problems arose concerning specimen transport and receipt, LIS issues, instrument interface issues, staff education and competency, demands of 6 different Infection Prevention programs, and physician dissatisfaction.

Right: Technologists Delores Green and Joe Molinaro working on "miscellaneous" cultures.



...SSM St Louis Health Care Network continued from page 10

On-going challenges and accomplishments

After 3 years of integrating and training staff, standardizing procedures, and adoption of a new LIS, Beaker, the SSM St. Louis Health Care Network Microbiology Laboratory operates 24/7 with courier service from each hospital every 3 hours. Bacteriology, parasitology, mycology, mycobacteriology and limited viral services are offered. Approximately 40 technologist and lab assistants provide coverage. PCR for *C. difficile* toxin B gene (for antigen-indeterminate specimens) and for respiratory syncytial virus and influenza A and B viruses are now available. In very near future, PCR for an expanded panel of respiratory viruses and *Bordetella pertussis* will be available. In upcoming months, PCR for herpes simplex virus in CSF will be offered. PCR assays for detection of stool and CNS pathogens are in development by commercial vendors and will be adopted once FDA approval is obtained.

Summary

Consolidation of microbiology services for 6 SSM St. Louis hospitals has permitted great cost-savings by upgrading of equipment for only one laboratory rather than for 6. Moreover, consolidation of staff has improved patient services by allowing 24/7 coverage of many laboratory services. Because of specimen volume in the Network Microbiology Laboratory, reagent, media, and proficiency testing costs are lower, and we have been able to justify acquisition of new molecular testing platforms. An important consideration and driving factor in on-going acquisition of new technologies is our ability to perform testing in-house less expensively than our commercial reference laboratory.



Above: Row of Bactec blood culture instruments. SSM has capacity for 2600 blood culture bottles and receive approximately 150 blood culture sets per day.

Acronyms

AFB - Acid Fast Bacillus
 APHL – Association of Public Health Laboratories
 CDC – Center for Disease Control and Prevention
 CFS—Cerebral Spinal Fluid
 CLIA – Clinical Laboratory Improvement Amendments
 COOP – Continuity of Operations Program
 CNS—Central Nervous System
 DHSS – Department of Health and Senior Services
 DNR – Department of Natural Resources
 DPS – Department of Public Safety
 EB – Environmental Bacteriology Unit
 EiMF – Excellence in Missouri Foundation
 EMAC—Emergency Management Assistance Compact
 FBI—Federal Bureau of Investigation
 H1N1— Swine Influenza A
 H3N2— Swine Influenza A
 H5N1— Avian Influenza A
 ITSD—Information Technology Services Division
 LIS—Laboratory Information System
 LPES – Laboratory Preparedness, Education and Safety
 LRN – Laboratory Response Network
 MERS-CoV – Middle East Respiratory Syndrome Coronavirus
 MGIT—Mycobacteria Growth Indicator Tube

MOLRN—Missouri Laboratory Response Network
 MSDS—Material Safety Data Sheets
 MSPHL – Missouri State Public Health Laboratory
 OSHA—Occupational Safety and Health Administration
 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
 SEMA—State Emergency Management Agency
 SPHL – State Public Health Laboratory
 TRF—Time Resolved Fluorescence
 USPS – United States Postal Service
 WHO – World Health Organization



Lab Blab



New Employees

Thomas Berens, PART, Brianna Medranno, Chemistry, and Rio Schondelmeyer, Virology

Conferences & Trainings

Jackie Pfenenger, Jessica Connell, Brian Inman, Raymond Tucker, Johnathan Johnson, Don Daniels, Charles Jameson, Lindsey Brandl, Clayton Toebben, Tom Boyd, attended the New OSHA Chemical Standard webinar at MSPHL

Dianne Veasman attended a Bio-Rad Laboratories Continuing Education Seminar in St Louis, MO

Nicole Ayres attended a Baldrige Conference

Lindsay Boyd attended FF201 FERN Food Microbiology and Rapid Methods training in Shoreline, WA

Leon Luebbering attended a National FDA Evaluation of Milk Laboratories Workshop in New Orleans, LA

Jason Herstein attended an Inform Conference in San Antonio, TX

Pat Olson and Ashley Eiler attended Gram Stains: Gaining Proficiency in Diagnostic Interpretation and Results Review training at the St Luke's Hospital in Kansas City, MO

Alan Schaffer attended the LRN-C Level I meeting in Madison, WI

Fran Thompson attended the FDA/FERN Gas Chromatography—Mass Spectrometry Training Course in Richmond, VA

Promotions

Lindsay Boyd was promoted to a Public Health Laboratory Scientist in Environmental Bacteriology

Brandy Schafer was promoted to a Public Health Laboratory Scientist in Chemistry

Staff happenings in the Laboratory

Congratulations! Thank you for your years of service

Years of service as of July 1, 2012 through December 31st, 2013.

THANK YOU

30 Years

Jessica Connell
Patrick Hopkins
Ralph Horne

25 Years

Patrick Shannon

20 Years

Leon Luebbering
Alan Schaffer

15 Years

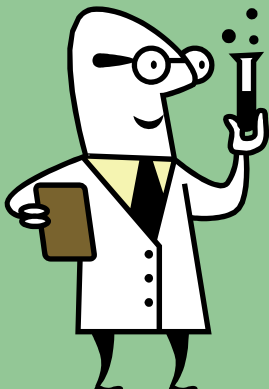
Michelle Rodemeyer
Dana Strope
Dianne Veasman

10 Years

Jessie Bauer
Julie Buckley
Jason Herstein
Charlie Jameson
Shondra Johnson
Phil Schott
Sarah Sharr
Fran Thompson
Jeremy Wilson

5 Years

Carol Day
Nicole Farnsworth
Amy Hagenhoff
Natasha Voss
Joel Williams



Introducing Lab Employee of the Quarters

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

Sarah Sharr, Microbiology, Quarter I 2014 Recipient

Sarah Sharr began her career 10 years ago and is currently a Senior Scientist in the Microbiology Unit. Sarah was selected as the January 2014 Employee of the Quarter for all her hard-work, positive attitude no matter the situation and idealistic "team player" attitude. The Microbiology Unit houses Special Bacteriology, Enteric Pathogens, Parasitology, Pertussis (Whooping cough) and Media. Sarah is currently being trained in the Special Bacteriology section, but her tenure in the Microbiology Unit allowed her to become cross-trained in many aspects of the Unit. Her expertise within the Unit become valuable throughout the year when each section experiences cycles where one section would receive an influx of samples that exceeds the norm. On numerous occasions Sarah would assist other sections

willingly and makes it seem like there is no extra effort when help is needed. An example of her effort was assisting the Enteric scientist with their workload by accessioning the specimens received for the day and inoculating enteric biochemical's. While during the same day, she assisted in the Parasitology room analyzing wet mounts, trichrome and FA slides while the other scientist provided training to a new employee. When asked what is the best part of her job, she stated "the people she works with in her Unit". She goes on to say, "if a room needs help because they are super busy or experiencing an outbreak people will pitch in and help out and even volunteer to come in on weekends. I feel like the people in this Unit have each other's backs and really care about the accuracy and precision of the

work we are doing". A characteristic seen throughout the entire laboratory.

Sarah is well respected within the Unit and has proven to be a hardworking, determined, and dedicated individual. Sarah always has a positive attitude and her strengths are found in her motivation, initiative, and excellent organizational skills. Her attitude about her job is to "do the best job...to really master whatever room" she is assigned to and learn from the experts. Sarah approaches each day as a new challenge. This is especially true working in the Special Bacteriology section. "Each day could bring anything from *Bacillus anthracis* to *Neisseria gonorrhoea*" says Sarah. In laymen terms, *Bacillus anthracis* is a really bad bug and *Neisseria gonorrhoea* is an STD.



Sarah Sharr, Microbiology, 2014 Quarter I Employee of the Quarter.
Congratulations Sarah!

Shondra Johnson, Administration, Quarter II 2014 Recipient

Although we know Shondra to perform lots of duties for the laboratory including OpenELIS, website updates and everyday IT inquiries, Shondra has been selected for her efforts with a laboratory wide data management database. Shondra is the laboratory LIMS administrator and a member of the SCOPE Measures Team who was instrumental in assisting the team to create a laboratory data management system where administration and units alike have the ability to retrieve valuable testing information by a simple click of a button. Shondra had single handedly taken on the tremendous responsibility of creating 100's of Access queries that linked to each unit's database information. Shondra spent countless hours mapping

these queries by meeting with individual units to understand their testing and how each unit determine the number of samples received, test performed, etc., and improving the new user friendly database. This information was compiled to formulate all the queries that run behind the single click of one button to produce results in a more consistent manner. The database improves laboratory efficiency when it comes to gathering the numbers requested by department and division administrators involving laboratory samples and testing by each unit or as a whole. In addition to this project, Shondra has volunteered to work with ITSD and Newborn Screening to set up queries in a similar fashion that will access the

newborn database.

Shondra has demonstrated great determination and initiative to improve the database so that the information is retrieved as easily and consistently as possible by performing the required background work. Shondra's work ethic, initiative and impressive determination prove to be a valuable asset to the laboratory and is willing to go above and beyond her required work duties in whatever she is tasked .



Shondra Johnson, Administration, 2014 Quarter II Employee of the Quarter.
Congratulations Shondra!

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Around Jefferson City, MO

Jefferson Landing Historical Site

After the seat of government moved to the city of Jefferson in 1826, the lower end of Jefferson Street became a lively commercial and transportation hub on the Missouri River. In 1839, James A. Crump built what is now known as the Lohman Building, a sturdy stone structure that would serve as a grocery store, warehouse, tavern, telegraph office and hotel for the growing capital city. With the coming of the Pacific Railroad, business boomed in the 1850s. The capital city became the transfer point for goods coming from the east by rail and heading west by steamboat. Much of this activity occurred at the landing. The Lohman Building was placed on the National Register of Historic Places in 1969, and in 1974, the state's bicentennial commission adopted the Jefferson Landing proposal as the state's official bicentennial project. The Lohman Building and Union Hotel were restored, and the Lohman Building was opened to the public on July 4, 1976, as the cornerstone of Jefferson Landing State Historic Site.

Jefferson Landing State Historic Site, or as locals like to refer to as Lohman's Landing, is significant as a rare Missouri River landing. The Lohman Building depicts an 1850s general store and warehouse and features a film on the history of the site and of Jefferson City. It also serves as a support facility for the Missouri State Museum, located on the main floor of the Capitol. The Union Hotel houses the Elizabeth Rozier Gallery with rotating exhibits emphasizing Missouri's history, art and culture. The ground floor of the former hotel keeps up the tradition of providing transportation to the heartland of the state by serving as the city's Amtrak train station.

Information courtesy of www.mostateparks.com.



Current picture of the historic Union Hotel locating at Jefferson Landing. It currently serves as the Amtrak Train Station.



This is a turn-of-the-Century photo of Lohman's Landing, located at the foot of Jefferson Street, in Jefferson City. The Lohman Landing building is the oldest existing building in the city. It was the second most busy point for commerce in Jefferson City. Notice the Old Missouri State Capitol Building in the background. This is the building that burned in September 1911 when struck by a bolt of lightning. Photo courtesy of the Cole County Historical Society.