

Lab-Oratory

NC Department of Health and Human Services • State Laboratory of Public Health
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SPRING & SUMMER 2018

From the Desk of the Director

This year marks the 100th anniversary of the 1918 Spanish Flu Pandemic that claimed the lives of 50 million to 100 million people worldwide and nearly 700,000 Americans. Unfortunately, in 1918, it was not understood that influenza was a viral disease since it was not isolated for another 12 years, in 1930, from a specimen collected from a pig. It took until 1933 for scientists to isolate influenza virus from a human (Influenza A) and then, in 1940, influenza B was discovered. These discoveries led to tremendous advances in the field of public health since the virus could be confirmed through laboratory testing. The first vaccines were developed against influenza virus; this led to vast improvements in the response to seasonal influenza.

As the 1918 pandemic waned, the virus that caused such destruction vanished back into the swine population. In the coming years, other strains of influenza arose to create other, less impactful pandemics. On average, influenza pandemics emerge approximately every 30 years. Then in 2009, a strain from the lineage of the 1918 variety emerged to prompt the 2009 influenza A (H1N1) pandemic. The advances of the past century and the changes in the virus led to a very different outcome this time. The 2009 virus infected nearly 24 percent of the world’s population but had a lower fatality rate which resulted in a much milder outcome compared to its 1918 counterpart.

While the US has made tremendous strides over the past century in our ability to combat world-wide epidemics of influenza, much work remains to be accomplished. The infusion of federal dollars toward pandemic and other all-hazards preparedness improved the nation’s surveillance, vaccines and stockpile of antiviral medications. However, despite the success regarding the response to 2009 H1N1, the public health system in the US was tremendously burdened. Moreover, gaps continue to exist in our nations efforts to prepare

for influenza. The US and other countries have a long way to go to better assess influenza within swine and fowl populations; a One-Health approach is so important where the recognition that the health of people is connected to the health of animals and the environment. The production of influenza vaccine continues to rely on outdated and slow processes; the inability to make vaccine quickly and to assure their effectiveness is critical. Many countries do not enjoy the laboratory tools available to US labs that aid in the surveillance and tracking of important influenza characteristics. All these shortcomings emphasize the need for a universal flu vaccine that provide long-term immunity against all flu viruses regardless of how novel or new. However, that solution is nowhere in sight.

So, instead, we must remain vigilant in our efforts to conduct adequate surveillance, stockpile medications and develop new approaches that provide the assurance of a robust public health response. It has been said that influenza is most likely the biggest threat to our communities and the world in terms of scope and negative outcomes. So, while we’ve come so far in the past 100 years, we must be sure to prepare, to the best of our abilities, so that we will be ready for the next pandemic.

Submitted by: Dr. Scott J. Zimmerman, Director; NC State Laboratory of Public Health; NC Department of Health and Human Services



Scott J. Zimmerman, DrPH, MPH, HCLD (ABB) Laboratory Director

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We've Got Mail!

One of the busiest areas at the North Carolina State Laboratory of Public Health (NCSLPH) is our mailroom! While one might correctly assume that a mailroom primarily receives and sends letters and packages, the NCSLPH mailroom does that and much more! This large mailroom warehouse staffs six full-time employees to handle all types of mail from the state courier, United States Postal Service (USPS), United Parcel Service, Federal Express, airborne and other private and commercial carriers.

Along with routine mail items, the SLPH mailroom receives a large volume of clinical and environmental specimens that must be properly handled and delivered to the appropriate lab sections upon arrival. The NCSLPH provides over 125 clinical laboratory tests and more than 65 environmental laboratory tests to the public and private medical health care system in North Carolina. This results in a massive number of samples being handled through the mailroom! Staff must follow established guidelines provided by the USPS, U.S. Department of Transportation and International Air Transport Association to ensure compliance with federal regulations for the shipment of hazardous materials and infectious substances. The mailroom also works closely with the state courier system to establish clear guidelines for the pickup and delivery of specimens. (Please note the state courier is a separate entity under the North Carolina Department of Administration and is not a function of the State Laboratory.)

Distribution of supplies to customers is another primary responsibility of the mailroom. Each year, mailroom staff assemble and ship over one million medical and scientific diagnostic specimen kits and containers which are sold to hospitals, local health departments, and physician offices. These kits are designed for approximately 30 different tests or groups of tests performed at the State Laboratory. Along with the container, the kits may include appropriate vacutainer tubes or transport media and instructions. The container sizes are specific for the various tests and are wrapped with labels

of designated colors. The laboratory prefers receiving specimens and samples in these containers as the color coding speeds up the sorting and routing of the hundreds of specimens and samples received daily.

While specimen kits and mailing containers make up a large volume of the supplies distributed by the mailroom, other items are available as well. Frequently requested items include supplies for blood lead testing and newborn screening forms and envelopes. A comprehensive list of supplies and pricing may be found on the State Lab website at <http://slph.ncpublichealth.com/> under "Frequently Requested/Order supplies." Pricing is subject to change without notice due to postage rate increases.

With a customer data base consisting of 100 county health departments, approximately 600 private providers, and birthing hospitals across the state, the State Lab mailroom strives to implement processes that improve efficiency and provide quality customer service. The following tips for customers can assist with the prompt and successful delivery of supplies:

- To place orders for supplies as a new customer, follow the guidelines on the State Lab website to register for access to the mailroom portal.
- When requesting supplies, please be aware of using the appropriate terminology designated on the mailroom supply list to ensure receipt of the correct items. Ex. Blood lead collection devices are called capillary devices, not microtainer tubes.



Just a few of the specimens and envelopes received from a mail delivery.



Mail slots help represent the large volume of mail sent out by the mailroom.

- Be aware that some supplies have limits on the amount that can be ordered. When attempts are made to order larger amounts, problems are encountered with invoices, billing, and related computer processes. This can result in a time-consuming process resulting in decreased efficiency.
- Mailroom staff make every attempt to ship orders out the same week they are received. If supplies are not received within five days of placing the order, please contact the mailroom at 919-733-7656 or the Mailroom Supervisor, Bill McDowell, at 919-807-8959.

It is easy to understand why the mailroom at NCSLPH is an integral part of the organization. The functions performed by this group of employees are among the first steps to ensuring that the lab receives specimens and ships ordered products to the respective areas in a timely manner. The supplies and instructions distributed by this group provide guidelines for specimens to be collected in the appropriate tubes and media, then packaged and shipped correctly. When considering the volume of customers and amount of supplies distributed, it is not surprising that the State Lab mailroom constitutes a very busy place engaged in fulfilling the needs of both external and internal customers.

Any questions relating to mailroom processes or activities may be directed to Kathy Carlton at kathy.carlton@dhhs.nc.gov, 919-807-8984 or Bill McDowell at william.mcdowell@dhhs.nc.gov, 919-807-8959.

Submitted by: Patty Atwood Laboratory Improvement Coordinator

Newborn Screening's "Wall of Saved Babies" Celebrates Its First Birthday!

As parents know, it seems such a short time between birth and when their child reaches his or her first birthday. It is a time to celebrate many firsts: first tooth, first steps, first words. For 257 babies and their families across our state in 2017, it indirectly celebrates the behind-the-scenes work of the many partners of the Newborn Screening Program in North Carolina.

In 2017, 257 newborns were diagnosed and began treatments through the efforts of everyone in the program. Submitters of quality heel stick specimens transported the bloodspots to the North Carolina State Laboratory of Public Health (NCSLPH) through an overnight delivery partnership with United Parcel Service (UPS). Expedient and quality screening of those specimens by the newborn screening laboratory staff resulted in reporting of critical abnormal results to follow-up genetic counselors and medical personnel across the state. To complete the process, specialists were able to perform diagnostic testing and initiate treatments upon receipt of abnormal laboratory results and before signs and symptoms of a disorder manifested. During



these crucial days and weeks after the birth of a newborn, these partners worked tirelessly so that babies would successfully reach their first birthday and enable families to make plans for the future. Each of these tiny articles of paper clothing represents five babies, and each sock one baby that has been detected through these efforts.

Now, in 2018, a brand-new newborn screening "Wall of Saved Babies" will display on the wall at NCSLPH and track the efforts of the program. It, too, will represent the efforts of many towards first birthdays for North Carolina's tiniest patients.

Submitted by: Sara Beckloff,
NBS Unit Manager

Biosafety Updates

- We are excited to announce that the North Carolina State Laboratory of Public Health (NCSLPH) website now includes a **Biosafety** page at <http://slph.ncpublichealth.com/biosafety/>. The page provides a comprehensive listing of links to guidance documents, templates, and free online training opportunities that can be utilized by clinical and public health laboratories in North Carolina to build and enhance the culture of biosafety in all labs. Information is included on biosafety cabinets, personal protective equipment, safe work practices, and lab inspections among many others. Please take some time to view the site and tell us what you think!
- Preventing the release of hazardous aerosols into a lab during centrifugation

requires good laboratory practices and properly designed equipment. For Biosafety Level 2 laboratories, centrifuges with sealed rotors or safety cups are recommended to protect personnel from potentially infectious aerosols in the event of a tube break during centrifugation. We investigated centrifuge models which would provide a higher level of protection from aerosols than the traditional open rotor models without breaking the bank. The Drucker 642E centrifuge, when used with the available shield caps (p/n 771301), enhances biosafety without compromising functionality or convenience. It comes with various sizes of tube holders and has a small footprint, making it perfect for a clinical lab. <https://druckerdiagnostics.com/shop/horizontal-centrifuge/model-642e-centrifuge/>



[com/shop/horizontal-centrifuge/model-642e-centrifuge/](https://druckerdiagnostics.com/shop/horizontal-centrifuge/model-642e-centrifuge/) (The description of the Drucker centrifuge is intended to provide a description of appropriate equipment and is not an endorsement for purchase of this particular item.)

As always, please do not hesitate to contact me if you have any questions or if I can assist with your biosafety needs in any way kristin.long@dhhs.nc.gov.

Submitted by: Kristin Long, NCSLPH
Biosecurity Officer

The Rad-Lab and What We Do!!

AN OVERVIEW OF THE ES / RADIOCHEMISTRY LABORATORY

The Radiochemistry Lab, a branch of the Environmental Sciences Unit in the NC State Laboratory of Public Health (SLPH), analyzes a variety of environmental samples submitted by State agencies, nuclear facilities, local health departments, and other local government entities for radiological activity.

The lab provides analytical support for monitoring levels of naturally-occurring and man-made radioactivity in various sample media from sites across the state, including nuclear power utilities, local public health programs, and other state agencies. This is in direct support of the comprehensive Environmental Radiation Surveillance Plan as implemented by the Radiation Protection Section (RPS), now part of the NC Department of Health & Human Services (DHHS). The RPS is the lab's primary client, with the analysis of samples from RPS equating to approximately 97 percent of the work-load. RPS personnel, contractors, and utility personnel collect the samples and forward them to the lab directly or through RPS. RPS is responsible for the compilation of all data results sent to them by the lab via StarLIMS and the SLPH website, where they review the data and format it into a final comprehensive annual report.

Samples for environmental analysis include those for ambient air-sampling (filter and charcoal canister), ground water, surface water, sediment, vegetation, fish, and milk. From a public health perspective, these media types are all very important for establishing potential 'ingestion pathway' or 'vector' dangers to humans that are in proximity to nuclear or other radiologically-related facilities within North Carolina.

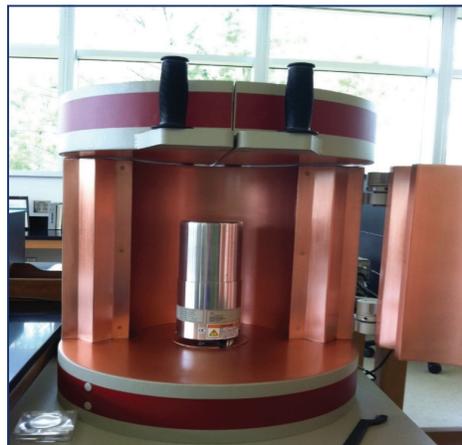


Marinelli beakers with water samples

Depending on the requested analyses, the preparation lab performs bench-chemistry, referencing ASTM and EPA 900 Series of methods.



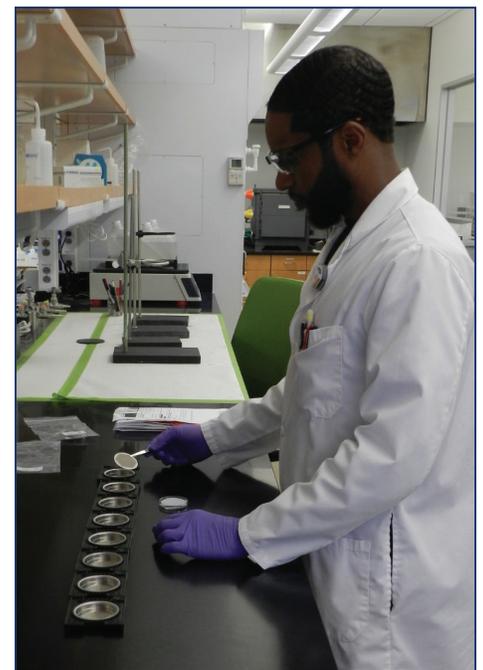
Countroom (2902) - Gamma-Spec system w/HPGe detectors, Zhong Zhang at APEX console.



Ultra-high efficiency HPGe Detector No. 1 (with open shield) - Radiochemistry Countroom

Should there be an accident at a nuclear facility where radiological contamination may have been released, air sampling is the first line of defense. If a nuclear reactor was to have a 'breach of containment', certain gasses including Iodine-131 (I-131) and particulates that are highly radioactive are the first to be emitted into the surrounding air and water. Radioactive particulates can be lifted high into the atmosphere where high-velocity winds (jet stream) can carry these contaminants around our planet several times.

Air-samplers in various field locations across the State are used for the collection of particulate matter onto a small filter, and any radioactive gases that might also be emitted are trapped in a plastic canister or cartridge containing activated charcoal. When precipitation washes out the atmosphere, solid particulate matter is absorbed into the soil and vegetation. Milk is another important indicator, largely in part due to the nature of how and what a cow eats. Any contamination in the air and soil can be absorbed by the vegetation the cow eats and concentrated in its milk.



Carter Holmes loading air-filter samples onto planchets for counting (2901)

While there are other isotopes of concern during a reactor accident, Iodine-131 (gas), Cesium-137, and Cobalt-60 have the greatest impact on public health. Iodine-131 (I-131), while having a very short half-life of a little more than 8 days, can be absorbed into the thyroid of anyone initially exposed to it.

Exposure to I-131 during a nuclear-related emergency can impose health effects on humans. Therefore, Potassium Iodide

THE RAD-LAB AND WHAT WE DO!! CONTINUED

(KI) tablets can be distributed to the population by State, county, or utility emergency response staff to mitigate such impacts on human health. The KI will saturate the thyroid, preventing any future absorption of radioactive I-131. Cs-137 and Co-60 have very long half-lives and if in sufficient quantity, present a direct radiation threat to all internal organs of anyone exposed.

A prime example of the circulation mechanism at work was the release of Cs-137, Co-60, and other reactor-related nuclides into our planet's atmosphere during the 2011 nuclear accident at the Fukushima plants in Japan. Trace amounts of these isotopes were still detectable in air samples here in the United States after over a week of global circulation. The lab's ultra-sensitive gamma-spectroscopy system in conjunction with special software called 'APEX' enabled the Radiochemistry Lab to detect and quantify even minute amounts of the radionuclides. Samples of milk and vegetation from around the U.S. also showed detectable (trace-levels) of specific isotopes found only in nuclear reactors.

Keep in mind that certain natural nuclides, such as Potassium-40 (K-40) found in the earth and Berlyium-7 (Be-7) found in the atmosphere, are routinely detected in samples analyzed by gamma-spectroscopy, as well. The gamma-spec APEX software contains a 'library' of known isotopic energies, enabling the system to readily discriminate between man-made and naturally-occurring radionuclides.

The lab maintains a variety of instrumentation including sensitive analytical equipment such as four gas-proportional counters used for detecting gross alpha/beta contamination of air, water, and soil samples, four solid-state HPGe detectors for Gamma-Spectroscopy detection and quantification of natural and man-made radionuclides, and a Liquid Scintillation Counter (LSC) used for detecting alpha/beta (and sometimes gamma) radiation for the isotopes

Tritium (H3) in water, and Nickel-63 (Ni-63) leak-test analyses of Gas Chromatography devices with Electron Capture Devices (ECDs).



Tennelec XLB-5 Gross Alpha/Beta Counters (2902)

Samples are initially handled in the SLPH's Central Accessioning area. From there, samples are delivered to the Radiochemistry lab where they are opened only by the Radiochemistry Lab staff who have special radiation survey meters and are trained to handle this media. This restriction is necessary due to radiological rules and safety protocols as defined in the State Lab's Radioactive Material (RAM) license, SLPH safety policies, and Federal regulations. All Radiochemistry Lab personnel are issued special radiation dosimeter 'badges' that measure potential radiation exposure to the wearer over a monthly period when working with potentially radioactive samples.

Besides managing overall laboratory functions, the Radiochemistry Supervisor/RSO (Radiation Safety Officer) is responsible for maintaining the Radioactive Materials (RAM) license and associated documentation, distribution and collection of personnel dosimetry for monthly factory reading, leak-test records, receipt, inventory, and disposal of radioactive material/standards, and inventory and annual calibration of the portable survey meters used by the lab.

In addition to routine environmental samples, our lab analyzes periodic leak tests from other state and county agencies. These samples include swipes taken by the client to test for leakage of radioactive devices such as the XRF lead-detection devices used in the DHHS Children's Health program, and moisture/density gauges as used in highway construction by NCDOT.

Lastly, the SLPH Radiochemistry Lab directly supports the Radiation Protection Section of DHHS during incidents across the State where swipe-samples are taken to check for leakage of radioactive material from objects or devices found after damage, theft, or from improper storage. Provided safety precautions, proper packaging, and manageable radiation dose rates are implemented, these 'special' samples can be processed by Radiochemistry Lab staff as well.

It's worth noting that while the lab is capable of handling small amounts of radioactivity in samples, outside of the 2011 Fukushima accident in Japan, routine samples coming into the Radiochemistry Lab have rarely ever displayed any radioactivity in our testing.

Submitted by: Roger Brown,
Radiochemistry Supervisor/RSO

NCSLPH Customer Service: Helping Us Help You

On December 1, 2012, the North Carolina State Laboratory of Public Health (NCSLPH) turned the key on a new chapter of its future by not only opening a brand-new facility, but also establishing a new customer service department. This department was set up to assist over 5000 customers and clients with an efficient way to retrieve information on specimens that have been submitted for testing. Duties of the customer service employees include answering the phones, providing general information, retrieving requisitions, assisting data entry with corrections on reports, and faxing information. This permits the data entry personnel to continue to enter data from submitted requisitions uninterrupted, which in turn, helps to ensure that you receive your reports with little to no errors in a timely manner. This department also maintains the customer service database and the new lab result website, CELR (Clinical and Environmental Laboratory Results) that was launched in November 2017.

Staffed with a knowledgeable and upbeat team of three, the customer service department is consistent in helping clients that use NCSLPH daily as well as those that need services less frequently. Janet Marseglia serves as the Customer Service Supervisor. Sam Mayes and Kristina Busbin complete the team which strives continuously to form outstanding working relationships with clients. Calls requiring simple answers are handled expeditiously by this team without having to be forwarded to the corresponding labs. However, calls may be transferred to the labs or to the supervisors for answers to more technical questions, and that may occasionally take a little longer. If your transferred call does not reach someone in the lab immediately, we ask that you leave a detailed message, and someone will return your call as quickly as possible.

There are several ways that the customer service department can help you locate test results. Patient identification numbers, medical record numbers and social security numbers are used to aid in the retrieval



The NCSLPH customer service team: Kristina Busbin, Sam Mayes and Janet Marseglia

of results; however, the best and most important information to have ready is the patient's name and date of birth. This helps to locate a result as quickly as possible. Certain tests such as newborn screening may require more information. You may be asked for the mother's information (name, address, and phone number) as well as baby's date of birth to confirm the identity of the patient and receive the correct report. Every effort is made to locate the test results, and we even employ a date range search in hopes that we can find your newborn screening results and possibly prevent recollection of a specimen. Whenever possible, keep copies of your test requisitions so that you know what was sent to us and if you must re-fax the form, it is already filled out and ready to go.

It is very important to inform the customer service department if your facility moves to another location, changes its name, or is acquired by another company. Failure to provide a correct mailing address will prevent receipt of test results in a timely manner. This may also result in a modification of your Employer Identification Number (EIN) which correlates with your mailing address and can result in reports being sent to an incorrect address (especially challenging

with medical practices with multiple facilities). We often are not aware of these types of changes until you call to inquire why you haven't received reports. To submit revised or new information, the "Client Change of Information" and "New Client Information" forms should be used. These forms are located on the NCSLPH website at <http://slph.ncpublichealth.com/>. The forms can be located under the "Forms and Miscellaneous Documents" section in the bold blue bar to the left of the page.

The customer service department also helps to provide corrected reports. Our policy is to correct errors that were made by our data entry staff within a six-month period. Corrections due to submitter error may be made if it is significant to the patient's medical record or is required for linking patient samples. A written request must be submitted and contain the name and initials of the submitter requesting the correction. When you are requesting a newborn screening correction, the request must be on your facility's letterhead and contain the infant's last name, date of birth, the mother's first and last name, and the error that needs to be corrected. The request must be signed and dated and include some form of electronic documentation from the medical record that shows

NCSLPH CUSTOMER SERVICE: HELPING US HELP YOU

the correct information. Once you have provided the customer service department the information needed for the correction, the requisition originally sent by your office is retrieved from our files. Due to limited space, we are not able to maintain the large number of requisitions in our Pre-Analytical Services area which may necessitate a search of the archives on another floor for the correct form. This may cause a delay in

processing your request, but we do try to supply corrected reports in a timely manner.

With this small glance into the customer service world, it is our hope that this overview of our area has been helpful and enlightening. The NCSLPH customer service department is a small part of a large process from receiving and processing samples to testing and reporting on your

submissions. We try very hard to make sure that we do all we can to answer questions and aid in the retrieval of information that has somehow not found its way to you. It is our hope that your interaction with our area is always a pleasant one.

Submitted by: Janet Marseglia with assistance from Sam Mayes and Kristina Busbin

Scientific Services: Three Areas, One Team

Did you know that the North Carolina State Laboratory of Public Health (NCSLPH) has a Scientific Services area that prepares media, cleans glassware, and decontaminates biohazard waste? Scientific Services consists of three sections including Media Preparation, Glassware Preparation and Decontamination. Because the media prepared and biohazard waste that's decontaminated is for both clinical and environmental lab areas, Scientific Services is regulated by the Clinical Laboratory Improvement Amendments (CLIA), Environmental Protection Agency (EPA) and Food and Drug Administration (FDA).

MEDIA PREPARATION

The Media Preparation section of Scientific Services prepares media, reagents, buffers and other items that may be needed by the various laboratories at NCSLPH. Media requests are received from Atypical Bacteriology, Bioterrorism and Emerging Pathogens (BTEP), Enterics, Environmental Microbiology, Laboratory Improvement, Molecular/PFGE, Mycobacteriology, Mycology, Parasitology, Special Bacteriology, Special Serology, Viral Culture/Rabies, and the Mailroom. Media requisitions are sent via e-mail from the lab areas to Scientific Services on a weekly basis. There are currently over 200 standard operating procedures (SOP) used to prepare the items that are requested, so there's a wide variety of media to choose from.

Why is there a Media Preparation area when there is already prepared media

available to purchase? Reasons include the flexibility to make various types of media, buffers, and reagents that are needed in testing, rapid turnaround times especially in emergency and outbreak situations where the media is needed quickly, and the ability to prepare new media items. In 2017, over 60,000 tubes, 44,000 plates, and 20,000 vials were prepared. This does not include the bottles, carboys and miscellaneous items that are also prepared. Every individual item prepared, including every tube, plate, vial and miscellaneous item, must have its own label. With over 60,000 tubes to label, Scientific Services is pleased to have a tube labeling system that prints labels on each individual tube, which greatly helps with turnaround times. Scientific Services also performs quality control on media items to verify the product is working properly before being used in testing.

GLASSWARE PREPARATION

The main responsibility of the Glassware Preparation section of Scientific Services is cleaning, washing and preparing glassware to be used. After all the media that is prepared, there is a large amount of glassware that needs to be cleaned. After hand-washing, the glassware washers are used where cycles are set depending on the items being washed. It is important that the glassware is clean and free of residues. After the glassware is removed from the glassware washer, a 0.04% solution of Bromothymol Blue is used to verify that there is no residue remaining on the glassware.



DECONTAMINATION

A laboratory the size of NCSLPH generates a lot of biohazard waste! The Decontamination section of Scientific Services autoclaves and decontaminates biohazard waste from all areas of the laboratory daily. Biological indicators containing *Geobacillus stearothermophilus*, autoclave tape and thermometers or data loggers are used to verify the autoclave is working properly.

There are three laboratory technicians in the Media Preparation area that are cross-trained and can assist one another, especially when there is a higher volume of media requested, in an emergency or outbreak situation, or when the same media is requested from more than one lab area. The Glassware Preparation and the Decontamination areas each have one laboratory assistant who can also work together when the work volume is high. Because of their effective skills in working as a team, Scientific Services efficiently and successfully offers valuable support to the lab areas at the NCSLPH.

Submitted by: Jolene Hieronymi, Supervisor, Scientific Services

New Additions, Retirements and Kudos!

The North Carolina State Laboratory of Public Health (NCSLPH) has welcomed several new employees in recent months. They each bring their own set of skills and talents to all areas of the laboratory. We would like to congratulate these new employees and wish them the best:

- **Microbiology** – Joy Barwick, Nandhakumar Balkrishnan
- **NBS** – Mislady Parker
- **IT** – Haitham Dawuid
- **Central Accessioning** – Peggy Proctor
- **Virology/Serology** – Scott Strong, Rowena Porter, Robert Burnham
- **Operations** – Miana Issac
- **PreAnalytical** – Lynn Berla, Miriam Thomas, Kimberly Ramsey

After contributing many years to NCSLPH, we would like to wish the following staff members well in their retirement:

Karen Sanderson retired on December 31, 2017 after 41 years as a Medical Technologist, working the last 7 years at NCSLPH as the Quality Assurance Manager. Karen

had previously worked at Wake Med, UNC Medical Center, Rex Hospital, and LipoScience. Before joining NCSLPH, Karen also worked for the North Carolina Division of Health Service Regulation as a state CLIA surveyor. Karen stated she has been involved with regulatory or quality assurance responsibilities since 1994. She plans to enjoy retirement by traveling and volunteering with programs such as Meals on Wheels.

David Yoder retired on December 31, 2017 after 30 years at the NCSLPH. David started out in the mail room, then became a warehouse stock clerk, and lastly, he was promoted to Business Services Coordinator. Along with working at NCSLPH, David served in the National Guard. David plans to spend his retirement playing music, riding motorcycles and volunteering with his church.

Laurie Burkhardt also retired on December 31, 2017 after 23 years at NCSLPH as a Medical Laboratory Technologist. She began her career in Newborn Screening

and later transferred to the Serology section. Laurie stated after becoming accustomed to not going to work, she plans to take care of projects around her house!

Linda Graham retired in December after 28 years of service. Linda started her career at NCSLPH on March 17, 1992 as a Medical Laboratory Assistant III. She worked most of her career in the cytology prep area, transferring to Central Accessioning when the Cytology Unit closed in 2015. She also worked in Scientific Services for a short time. Linda will be spending her retirement enjoying time with her husband, children and grandchildren.

Norm Good of the Environmental Sciences Unit retired on February 28, 2018 with 32 years and 3 months of service, 11 years and 8 months of that service being at NCSLPH. Norm has a BS degree in chemistry, but also studied engineering. He was an apprentice electrician and helped install the runway lights at RDU! Norm plans to raise chickens and bees, do some fishing and camping, and maybe



Summer 2018 LABORATORY IMPROVEMENT

May-August 2018 Workshop Schedule

DATE	TITLE	APPLICATION DEADLINE
June 5, 2018	Packaging and Shipping Regulations (Lenoir)	May 5, 2018
June 14, 2018	Evaluation of a Stat Male Smear	May 14, 2018
June 28, 2018	Microscopic Examination of Urine	May 28, 2018
July 11, 2018	Microscopy: Viewing and Reviewing	June 11, 2018
July 12, 2018	Examination of a Vaginal Wet Mount	June 12, 2018
July 24-26, 2018	Bacteriological Methods for the Analysis of Drinking Water	June 26, 2018
August 14-17, 2018	Process Control Chemistry	July 17, 2018
August 24, 2018	Policy and Procedure Writing	July 24, 2018

Disclaimer: These Workshops are not intended to replace formal education but to enhance skills and promote use of recommended standard techniques. For more information, consult our website or contact Lab Improvement at 919-733-7186 or <http://slph.ncpublichealth.com>

NEW ADDITIONS, RETIREMENTS AND KUDOS! CONTINUED

throw in a cruise as part of his retirement. He stated he plans to just enjoy life.

Beverly Dew of the Virology/Serology unit retired on March 29, 2018 with 30 years and 7 months of service. She began her career at NCSLPH in August 1987 and worked in Microbiology, Newborn Screening and finally Virology/Serology. She graduated from Bennett College with a BS in biology. Beverly can recall daily “war stories” while performing necropsy in the Rabies unit. She also stated that during the 2009 flu pandemic, she put in many long hours which she will not miss! Beverly plans to enjoy her retirement by working in her yard, going on long walks, traveling, enjoying life and continuing to grow her “Dew Drop Chocolate” business.

Angela Pulley of the Microbiology Unit retired on March 29, 2018 after 28 years at NCSLPH. Angela has her certification as a CNA 1-3. While at NCSLPH, she was a technician in the Scientific Services area and was able to observe how different laboratory tests are done and how they impact the lives of North Carolina citizens. “It is a great feeling when you can get your work done and have great laughs with your co-workers,” Angela said. She noted that the Scientific Services group has always been “one big family.” Her plans for retirement are to enjoy her grandchildren (with a new one on the way), to travel and live life to the fullest.

Susan Kilpatrick retired from the Virology/Serology Unit on April 30, 2018 after 32 years of service with the state. Susan started off her career during college, working in the chemistry lab at N.C. Memorial Hospital in Chapel Hill. Her most recent position at the State Lab was working as a Virology Specialist focusing on influenza. Susan has also previously worked at NCSLPH in the areas of rabies, viral culture, chlamydia testing, Lab Improvement, and Bioterrorism and Emerging Pathogens. Along with degrees in biology and zoology, Susan attended Bowman Gray School of Medicine to complete her training in Medical Technology. She especially remembers the 2009 flu pandemic as an event where the entire lab pulled together to manage a public health emergency effectively. During retirement, Susan plans to spend time with her family, volunteer, read, rest and travel with her husband and dogs, Bailey and Sophie.

Juanita Harris also retired on April 30, 2018 after over 30 years with the state. She worked for one year as a Medical Technologist at Dorothea Dix Laboratory and the remaining time at the NCSLPH in the serology section of the Virology/Serology Unit. Juanita has a B.S. in Medical Technology and a minor in chemistry from Bowman Gray School of Medicine and Bennett College. Juanita started as a Medical Technologist in

the Serology Unit and was promoted to supervisor. With perseverance and determination, Juanita has supervised what she considers to be an outstanding team. She stated that working at NCSLPH has been a very rewarding experience as she has played a key role in providing diagnostic testing services to the citizens of N.C. She plans to travel, visit family and would like to open her own event venue as a part of her retirement.

Kudos to our Employee of the Quarter!

Lori Mulhern of Environmental Sciences was named the winter NCSLPH Employee of the Quarter. She is being recognized for her efforts in coordinating recent celebrations such as a Christmas potluck and Valentine’s Sweets Day, complete with Valentine bags for all staff members. Her attitude has contributed towards boosting morale and employee engagement in both the State Lab and Office of the Chief Medical Examiner. Lori has many plans for the coming months. Thank you, Lori!

Submitted by: **Angie Bradley**,
Lab Improvement

MISSION STATEMENT

The State Laboratory of Public Health provides certain medical and environmental laboratory services (testing, consultation and training) to public and private health provider organizations responsible for the promotion, protection and assurance of the health of North Carolina citizens.

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