Nebraska Public Health Laboratory Newsletter

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NPHL Updates

By Peter C. Iwen, PhD, D(ABMM), Director, NPHL

This newsletter provides information to help laboratorians address some of the recent changes in Nebraska law concerning the reporting and control of communicable diseases, Title 173. One noted change is in the reporting of suspect or confirmed carbapenem-resistant *Enterobacteriaceae* (CRE). The complexity of this issue has been addressed in an article by Dr. Caitlin Murphy, Assistant Professor and Associate Director of Clinical Microbiology for Nebraska Medicine. Dr. Murphy, who is coordinating CRE testing in Nebraska as a part of a recent CDC study, provides some insights on how to screen for and interact with NPHL as this national program commences.

Another complicated issue pertaining to reporting concerns laboratory testing to support confirmation of *Clostridium difficile* infection (CDI). Dr. Randy Fowler, a fellow in clinical microbiology at UNMC, provides some guidance in the laboratory processes to detect toxigenic *C. difficile.* Information from laboratories is also being compiled and evaluated further by a statewide Hospital Acquired Infections committee. This committee is assessing in further details how facilities report CDI and determining what additional information from the laboratory might be useful to enhance the capacity to monitor CDI in our state for disease control.

Finally, Karen Stiles, the state training coordinator, provides some insights to the topic of chemical terrorism (CT), a subject that is not generally part of the laboratories discussions. Although it is hopeful that we will never need to engage a mass specimen collection for a CT event, multiple agencies in Nebraska, to include the CT division of the NPHL, have been preparing and exercising to be ready if an event were to occur.

We continue to encourage the medical community to communicate with our laboratory professionals on what they would like to see available from our public health laboratory and we look forward to continued collaborations with our partners.

INSIDE THIS ISSUE:

What is a laboratory to do about *Clostridium difficile*?

By Randal C Fowler, PhD, Fellow, UNMC

The optimal approach to diagnose *C. difficile* infection (CDI) is a subject of much controversy in today's microbiology laboratories. The objective of this brief article is to highlight the complexity of detecting *C. difficile* and provide guidance for detecting *C. difficile* in the microbiology laboratory based on current practices at NPHL and our partner hospital, Nebraska Medicine.

CDI is an important and frequent cause of nosocomial and antibiotic-associated diarrhea in adults and presents a diagnostic challenge to microbiology laboratories. As demonstrated in the literature, many methods can be used to detect *C. difficile* including antigen assays to detect for the glutamate dehydrogenase (GDH) and/or *C. difficile* toxins, as well as nucleic acid amplification tests (NAAT) for detection of *C. difficile* toxin genes. The question that most laboratories are faced with is what is the optimal approach for laboratory diagnosis of CDI? Is it the detection of *C. difficile* toxin genes, the detection of toxin production, or both? Unfortunately, these questions are difficult to answer because there is no reliable clinical or laboratory definition for CDI that accurately distinguishes true CDI from non-CDI related symptoms in all patients.

Current diagnostic tests identify toxigenic *C. difficile* by either production of *C. difficile* toxin proteins or the toxin genes. Two accepted approaches to the laboratory detection of *C. difficile* is a NAAT only approach or a combination of an immunoassay and NAAT to detect GDH antigen and *C. difficile* toxins. The NAAT only approach detects the presence of *C. difficile* toxin genes (particularly *tcdB* gene), whereas enzyme-linked immunoassays are used to detect GDH antigen and *C. difficile* toxins produced in the stool. Both approaches are used to screen patients for CDI because of their increased sensitivity compared to culture-based methods. Recent studies however, have demonstrated that NAATs can be positive in colonized patients without disease, and patients with a positive toxin assays may have a worse prognosis than those with a positive NAAT only test[1,2].

The NAAT only approach has the advantage of being highly sensitive to identify patients that could potentially have CDI, however the challenge is that molecular tests cannot distinguish between colonization and active CDI in patients. Despite this shortcoming, advocates have shown it to have had an impact on infection control of CDI in

(Clostridium difficile, Continued on page 2)

(Clostridium difficile, Continued from page 1)
healthcare settings.

Conversely, immunoassays can detect active CDI based on GDH and toxin production but are not as sensitive as molecular assays with concerns for false negative results[3]. Recommendations now suggest that multiple diagnostic tests be used along with clinical indicators to diagnosis CDI in patients[2]. Based on these recommendations, many laboratories already use a combination of methods in a two-step algorithm.

The microbiology laboratory at Nebraska Medicine uses a two-step algorithm for routine *C. difficile* testing. This algorithm uses a rapid membrane enzyme immunoassay (EIA) test (C. DIFF QUIK CHEK COMPLETE™ from Alere) as a primary screen that simultaneously detects glutamate dehydrogenase (GDH) antigen and *C. difficile* Toxins A and B. GDH serves as a marker for *C. difficile* in stool, being produced in high quantities by all toxigenic and non-toxigenic strains. A positive GDH result confirms the presence of *C. difficile* whereas a negative GDH result indicates the absence of *C. difficile*. Also, a positive toxin indicates the presence of *C. difficile* toxin. Therefore, a stool specimen that is positive for both GDH and toxin confirms toxigenic *C. difficile* is present in the stool. Since GDH is produced by both toxigenic and non-toxigenic strains of *C. difficile*, stool specimens that are GDH positive but Toxin A and B negative undergo confirmatory testing.

Confirmatory testing is accomplished by a molecular test offered by Great Basin Scientific that detects toxigenic *C. difficile* DNA by targeting the toxin B gene (*tcdB*). The reason for this two-step approach is that the microbiology lab and antimicrobial stewardship team have determined that PCR testing alone is inadequate for accurately identifying those with CDI who require treatment[1,2]. Since a positive toxin gene by PCR only indicates that a colonizing strain is capable of making toxin, the EIA shows the toxin is present which is a stronger indicator of CDI. If CDI is suspected, the *C. difficile* toxin assay as a stand-alone test, is recommended as the preferred method to diagnose CDI by many laboratories.

Although the diagnosis of *C. difficile* remains challenging, there are many methods that can be used in combination to identify CDI. Individual laboratories should decide which screening test and algorithm for *C. difficile* is most appropriate for their laboratory and institution. If interested, more information on the subject can be found in recently published articles[1-4].

References:

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Save the Date
NPHL 2017 Events

ASCLS/CLMA Spring Meeting April 25-27
- **Apr 25 - Building and Sustaining Culture of Biosafety**
- **Apr 26 - Leadership and Biosafety Across Nebraska**
- **Apr 26 - Laboratory Testing in a Chemical Event: Could it happen in Nebraska?**
- **Apr 27 - Engineering Controls and PPE: Basic Biosafety**

New! Quarterly State Lab Webinar
- **Feb 22 - Reportable Diseases Reporting**
- **Jun - Biosafety**
- **Sept - High Consequence Pathogens**
- **Dec - TBA**

New! Workshop Fall 2017! Date TBA
Building and Sustaining a Culture of BioSafety

BT Proficiency Test
- **Nebraska Challenge Set - March/October**
- **LPX - CDC Shipping - April/September**

BT Training - Full Day Workshop
- **September 8 - Omaha @NPHL**
- **Onsite Training - Call to schedule**

STATPack Drills - Quarterly

Packaging & Shipping Workshop
- **April 18 - Ponca State Park**
- **April 20 - Omaha @NPHL**

CT Mass Specimen Collection Exercise
- **Omaha @ CHI-Midlands Hospital for OMMRS, Phase I/II and Ambulatory Surgery Centers - October 27**

Carbapenemase Testing in Nebraska: Is This a CRE or a CPO and What's the Difference?

By Caitlin Murphy, PhD, D(ABMM), Assistant Professor

Gram negative rods belonging to the family *Enterobacteriaceae* are commonly found as normal flora of the gastrointestinal tract but can also cause a range of community- and hospital-acquired infections. Infections caused by these bacteria are commonly treated with β-lactam antibiotics. Of these, carbapenems have the broadest spectrum and are often reserved as a last treatment option. Infections caused by carbapenem-resistant *Enterobacteriaceae* (CRE) are often hospital-acquired and are associated with high mortality rates. Frequently there are little or no treatment options for CRE, and the spread of these organisms is an ongoing threat to public health.

Resistance to the carbapenems in *Enterobacteriaceae* (and other Gram negative bacteria) can be caused by multiple mechanisms. For example, low levels of carbapenem-resistance in the *Enterobacter* species is frequently observed. Research has shown that resistance can often be caused by an overexpression of their chromosomal *ampC* coupled with modifications or decreased expression of porins-channels in the membrane that are responsible for the selective uptake of compounds including antibiotics[1]. This also occurs in *E. coli* and *Klebsiella* species. Since this resistance is due to a combination of genetic elements, it is not as worrisome as resistance that can be passed directly from one organism to another.

What is a greater concern from a public health prospective is carbapenemase-producing organisms (CPOs) or carbapenemase-producing *Enterobacteriaceae* (CPE). Carbapenemases are enzymes that hydrolyze carbapenems and make them an ineffective treatment option. Typically, carbapenemase genes are located on plasmids or other mobile genetic elements which allows them to spread from one organism to another. This occurrence has been documented in Nebraska[2].

There are a variety of different carbapenemase enzymes classified based on their amino acid sequence. Carbapenemases fall into three classes, Ambler class A (e.g. KPC), Ambler class B (e.g. IMP, VIM, NDM) and Ambler class D (e.g. OXA-48). While KPC is the most common carbapenemase seen in the United States, increased surveillance is necessary to determine the incidence of a wider range of carbapenemases in an effort to stop their spread.

If your laboratory is using the most recent CLSI breakpoints, the recommendation is to report organisms as CRE based on their MIC to the carbapenems[3]. A recently created Antibiotic Resistance Lab Network of the CDC now provides states and local public health laboratories with the funds to perform follow-up testing on these isolates. To support this effort, the Nebraska Public Health Labotatory is asking laboratories in Nebraska to submit isolates that meet the following criteria:

1. All *Enterobacteriaceae* that are non-susceptible (intermediate or resistant) to any carbapenem.
   Exceptions are *Enterobacter cloacae* and *E. aerogenes*: only submit these isolates that are non-susceptible to carbapenems other than ertapenem and *Enterobacteriaceae* with known intrinsic resistance to carbapenems; i.e. *Proteus* species, *Providencia* species, and *Morganella morganii*
2. All non-mucoid isolates of *Pseudomonas aeruginosa* that are non-susceptible to carbapenems other than ertapenem and isolates from non-cystic fibrosis patients
3. All isolates of in-house or reference laboratory confirmed carbapenemase-producing *Enterobacteriaceae*

To expand on this program, NPHL is also requesting other species within the family *Enterobacteriaceae* that are resistant to carbapenems other than ertapenem. We know from experience that in our state, we have seen KPC positive isolates with low-level resistance (intermediate MICs) to carbapenems in species other than *E.coli* and *K. pneumoniae*.

To test for carbapenemase, an FDA-approved assay from Cepheid (Sunnyvale, CA) called the Carba-R will be used at NPHL. This test is a rapid assay and run on the GeneXpert platform. It tests for the presence of KPC, NDM, VIM, IMP, and OXA-48 like genes. Upon receipt of isolates, NPHL will provide results of testing within 48 hours. Additionally, a test called the Carba-NP will also be performed[3]. This test phenotypically detects the production of a carbapenemase by looking at the hydrolyzation of imipenem. Isolates that are positive in the Carba-NP assay but negative on the GeneXpert will be sent to a CDC reference laboratory for further investigation.

NPHL encourages the submission of any presumptive isolate. Additional information can be found in the NPHL test directory.

References:

1. 1.Lavigne JP, Sotto A, Nicolas-Chanoine MH, et al. Membrane permeability, a pivotal function involved in antibiotic resistance and virulence in *Enterobacter aerogenes* clinical isolates. *Clin Microbiol and Infect*. 2012;18:539-545.
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3. Clinical and Laboratory Standards Institute (CLSI). Performance Standards for Antimicrobial Susceptibility Testing. 27th ed. CLSI supplement M100S (ISBN 1-56238-923-8 [Print]; ISBN 1-56238-924-6 [Electronic]). Clinical and Laboratory Standards Institute, 950 West Valley Road, Suite 2500, Wayne, Pennsylvania 19087 USA, 2017.

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402-559-2440

Mass Specimen Collection in Local Events

by Karen Stiles MT(ASCP)SM[CM], State Training Coordinator NPHL

On March 20, 1995, during rush hour on one of the world's busiest commuter transport systems, an act of domestic chemical terrorism (CT) occurred. This was perpetrated in a Tokyo subway by members of the cult movement *Aum Shinrikyo*. The chemical attach resulted in the deadliest incident to occur in Japan since the end of World War II, killing 12 people, critically injuring 17, and causing temporary vision complications in nearly 1,000 others. Ambulances transported 688 patient to local hospitals with an additional 5,510 patients presenting to hospitals that day. A majority were the "worried well," now termed "psychologically wounded", which had to be distinguished from the actual physically ill.

After the chaos, emergency services were criticized for the handling of this attack. Subway authorities failed to halt several trains despite passenger injury. Media filming at the scene, hesitated to transport patients when asked. Health services refused to initially admit victims, or turned them away.

Sarin gas, the chemical agent used, was a little known terror agent at that time. American scholars did not believe that the religious group could even produce the amount of sarin used. But, when Japanese police had discovered the sophisticated laboratory on the cult's main compound, thousands of kilograms a year of the chemical were being produced.

Sarin is a clear, colorless, and tasteless liquid that has no odor in its pure form. This liquid can evaporate into a vapor and spread into the environment. Sarin is a human-made chemical warfare agent classified as a nerve agent. Nerve agents are the most toxic and rapidly acting of the known chemical warfare agents. They are similar to certain kinds of insecticides (insect killers) called organophosphates in terms of how they work and what kind of harmful effects they cause. However, nerve agents are much more potent than organophosphate pesticides

Could it happen in Nebraska? Maybe not at that capacity and certainly not in a subway. Never-the-less, the NPHL and Omaha Metro Medical Response (OMMRS) Coalition have a plan in place, in the event it would happen even in smaller scale. All incidents involving chemical agents in the Omaha area would be treated as HazMat situations and the area isolated immediately with limited access. All personnel and equipment would be considered contaminated and go through a decontamination process unless indicated by the Omaha Fire Department HazMat (OFD-HM).

Victims presenting to the hospital would receive gross decontamination in the field prior to arriving at the hospital. The hospital then should be prepared to complete the fine decontamination. Hospitals are notified of a CT event and need to be prepared to handle these situations and have decontamination protocols established. Each hospital should also have a well-defined lockdown procedure/plan that could be implemented.

Release of an unknown chemical may also warrant future investigation by the OFD-HM division, and involve the FBI if any covert action is suspected. Patients arriving at hospital emergency rooms would require blood and urine specimens collected to establish the of level exposure. In the event of a CT exposure, Nebraska's Health and Human Services, Public Health Division would proved the permission to collect specimens for testing.

Environmental specimens are initially collected by first responders or the Nebraska National Guard. These mobile units have sophisticated laboratory methodologies capable of testing for a number of agents. However, if the unknown agent cannot be determined by first responders, testing specimens from affected victims may be the only way to determine the causative agent. Agencies which collect and test environmental specimens are not set up to handle human samples. The CDC's Emergency Response Branch has developed the Rapid Toxic Screen (RTS), which is a series of tests that analyzes blood and urine and determines the levels of 150 chemicals likely to be used by terrorists. The branch also works with public health laboratories in states, territories, cities, and counties through the Laboratory Response Network to assist in expanding local laboratory capacity and preparedness for chemical-terrorism response.

The Nebraska Public Health Laboratory Chemical Terrorism Division, under the direction of David Moran, can test for a limited number of the most hazardous chemicals, including nerve agents (sarin and organophosphate pesticides), metals (arsenic, lead, mercury), and biotoxins (ricin and hydrogen cyanide).

Whether testing at the CDC or at the NPHL, local mass specimen collection in such an event will be a challenge. Hospitals may be overwhelmed with physically affected victims. Acute care hospitals may also be asked by the FBI or NeDHHS to collect specimens from 40 of the most affected patients. These hospitals should have a plan in place to accomplish this feat, in conjunction with their on-site laboratory to store and ultimately transport to NPHL. Eighteen laboratories across Nebraska have received training and maintain shipping material to appropriately handle such a request. Special DOT permits and chain-of-custody would be required when transporting human samples for the RTS.

The OMMRS coalition likely will open their emergency operations center to active their preparedness plan. Their primary goal is to alleviate congestion in the emergency room and move patients to a alternate care site. Physically wounded victims may be moved to Phase I and Phase II clinics, designed to treat victims with minor medial issues, leaving more resources for the seriously affected patients in the emergency rooms.

More of a concern are those who are psychologically affected, as was seen in the Tokyo event. Local personnel concerned of exposure, may show up at the local emergency room for testing, which will to exacerbate the problem. OMMRS has identified five possible sites in the local area to accommodate specimen collection on such patients, if

(Mass Specimen Collection, Continued on page 5)

(Mass Specimen Collection, Continued from page 4)
testing is required. These sites may differ from vaccination or Strategic National Stockpiles (SNS) sites, as additional facility prerequisites are necessary.

Setting up an alternate site for mass specimen collection would take the efforts of an entire community. Resources would need to be pooled, involving multiple medical facilities. OMMRS has recognized the staffing needs and recruited Ambulatory Surgery Center (ASC) nursing staff across the area to assist with collection of blood and urine. Floor plans and patient flow charts have been developed. To test the effectiveness of this plan, an exercise was held last October to evaluate three objectives:

⇒ Patient flow (throughput) from entry point into the facility, to patient registration and identification, through collection of urine and blood and finally patient exiting process. Reasonable time and patient care/comfort were included in the evaluation.
⇒ Actual specimen collection and labeling process according to CLIA regulations, and storage/transport, to maintain specimen integrity.
⇒ Response of an ASC member being exposed to potential blood borne pathogens via a sharps injury.

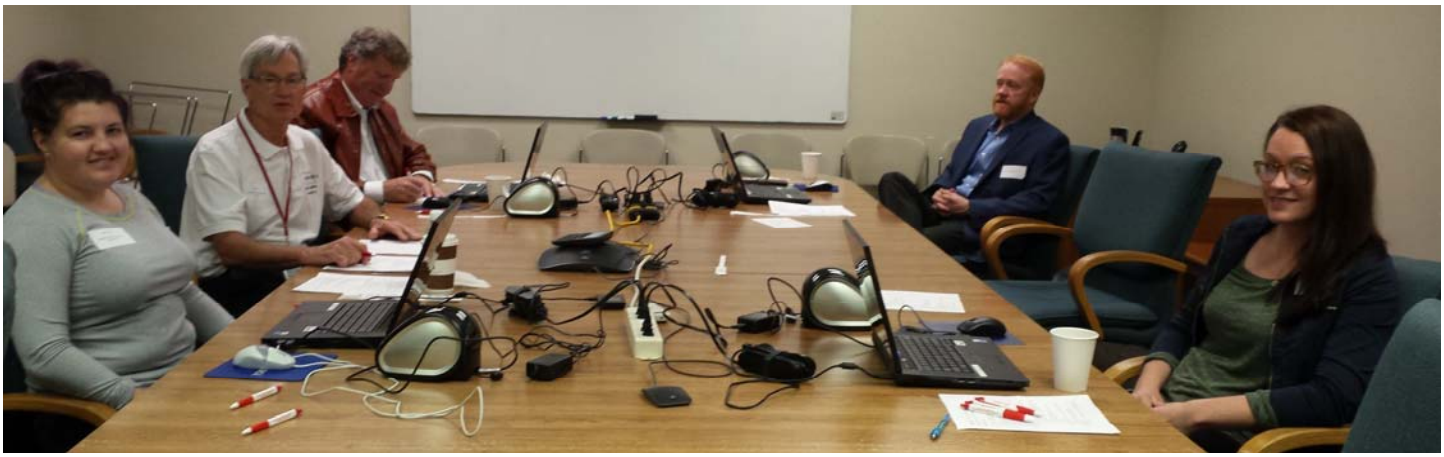
Other aspects important to an event such as community security, crowd control, signage, behavioral and language barriers were not included in this exercise, but will be exercised at a later time. The aim of this exercise was to establish a floor plan for patient flow, to allow patients time to complete paperwork at a registration desk, to capture patient demographics an LIS computer system, to print specimen labels, and to collect urine and blood specimens in a timely basis.

During this exercise, the floor plan was tested using 25 volunteers recruited as patients and 5 volunteers to draw blood. Others assisted in maintaining order or filled the role of observer. To make the exercise as real as possible, phlebotomy training arms were used and colored water was place in bathrooms to simulate urine collection. Despite a slow start, the plan did handle all 25 players within an hour.

An after-action report revealed a number of interesting issues, including congestion in hallways, poor lighting for blood draw, the need for a more logical patient flow and additional staff to monitor and to answer questions. Upon re-evaluating the entire plan, patient flow was drastically changed to accommodate the needs of the patient. A circular flow was developed to work with the designated site, with larger patient waiting and registration areas, private blood draw sites and additional staff included in the planning algorithm.

The lessons learned from this full-scale exercise were invaluable. With future exercises, OMMRS hopes to improve their plan and test other sites along the way.

Specimen Collection Players (Left to right):
Fran Petersen, Phyllis Dutton, Ambulatory Surgery Center Staff



Registration Team (left to right): Allison Dye, Tony Sambol, Brian Lenz, John Glock, Mandi Heeg

Message from CDC - Culture Still Required

by Karen Stiles MT(ASCP)SM[CM], State Training Coordinator NPHL

Laboratorians called in to perform a STAT Gram stain on CSF may remember the original counter-immune electrophoresis (CIE), a rapid screening process. The methodology provided a pre-made gel plate and small electric field, testing for 3-4 of the most common bacterial pathogens. The procedure took about an hour, from centrifugation, set up, to final read-out of the results. Today's technology still has a 1 hour turn-around-time, but hands-on time is only 2 minutes and the test can screen for a myriad of bacterial, viral and fungal pathogens. The new technology involves a multiplex PCR assay method. Each laboratory that considers bringing this testing technology on, however, cannot overlook what additional testing must be done if a specimen is positive. The CDC shares with us through Scott Becker, President of the Association of Public Health Laboratory, the reasons why:

Subject: Best Practices for Using PCR to Diagnose *Haemophilus influenzae* and *Neisseria meningitidis* and Identify Serotype or Serogroup

Dear Scott Becker,

We're writing to ask for your help in communicating with laboratory scientists and clinicians about the limitations of newly available rapid diagnostic tests for identifying *Haemophilus influenzae* (*Hi*) and *Neisseria meningitidis* (*Nm*) species. These limitations can impact public health investigations and responses.

Several newly available commercial multiplex polymerase chain reaction (PCR) assays are capable of simultaneously testing a single specimen for an array of pathogens that cause blood infections, meningitis, or encephalitis. While these assays can rapidly identify *Hi* and *Nm* species, most do not determine serotype or serogroup. Determining serotype for *Hi* and serogroup for *Nm* is crucial for identifying potential outbreaks and determining appropriate public health responses.

CDC is aware of recent instances in which it was not possible to determine whether cases of *Hi* were serotype b or whether cases of *Nm* were part of a cluster due to the lack of serotype and serogroup data. For these cases, the above-mentioned multiplex PCR assays were used. In light of this, laboratories should continue to perform culture and if available, use validated, specific real-time PCR assays capable of detecting and differentiating all six serotypes (a-f) of *Hi* and six serogroups (A, B, C, W, X, and Y) of *Nm*; otherwise, additional steps need to be taken including performing a simultaneous culture or at a minimum retaining a clinical sample for further testing.

Learn more about use of PCR for diagnosing *Hi* and *Nm* in the newly released CDC Best Practices document and CDC Health Advisory.

Elizabeth Briere, Medical Officer, Division of Bacterial Diseases, NCIRD Centers for Disease Control and Prevention

The NPHL currently offers the FilmArray Meningitis/Encephalitis Panel, with culture reflex and will provide consultation with other laboratories using or planning to use this technology. For more information, please contact Dr. Caitlin Murphy at caitlin.murphy@unmc.edu.

2016 PHOTO CONTEST WINNERS

First Place MCCH Medical Detectives

ASCP 2016 National Photo Contest Winners - Morrill County Community Hospital, Bridgeport Nebraska
(Front left to right): Rex Famitangco, Gabriel Argamosa;
(Back left to right): Agnus Sajulla, Fergielynd Andres, Crystal Mead, Christine Carrrido

Meet the Laboratorian, Linda Papik BA, MT(ASCP)

by Karen Stiles MT(ASCP)SM^{CM}, State Training Coordinator NPHL

I had the distinct privilege to interview one of Nebraska's outstanding laboratorians, Linda Papik. Linda hails from the Crete, Nebraska area and graduated from Gustavus Adolphus College in Minnesota. She completed her laboratory training at Bryan/Lincoln General Hospital School of Medical Technology in Lincoln. Linda shared at that time, the students staffed the 11-7am shift on-call; even stayed in labor delivery rooms overnight to cover and be available for early morning blood draws.

Linda was recruited by her hometown physician to expand testing capabilities in the small laboratory at the Crete Medical Clinic. Her work included radiology and ultrasound with training acquired on the job. Linda stated that "you did whatever was needed!"

With close ties to Doane College in Crete, she was recommended for the Assistant Director of Admissions position. This position was outside of the laboratory field, but afforded her the opportunity to work in post -secondary education administration and to enroll in business classes. Ultimately, Linda worked her way to Director of Financial Aid, where she learned to work with federal regulations and become involved with the profession association of financial aide administrator and conduct training classes and seminars for other college financial aide directors. This position required extensive travel and entailed marketing, client services, and even testifying in front of congressional committees.

In 1990 and married with two small children, Linda returned to laboratory medicine. She was persuaded by Larry Warrelman of Clinical Laboratory of Lincoln (Quest Diagnostics), who needed a laboratory supervisor with a "sense of quality." Eventually she came full circle, returning to the Crete Hospital as the lab manager.

This time, her education in business and laboratory experience motivated her to help organize a regional laboratory supervisor group in central and southern Nebraska, which met quarterly or when needed. The purpose was to keep up with technology, share common concerns, solutions and ideas. The consortium utilized the unique strengths and skills of the members to benefit all of them. Sandy King, MT (ASCP)SBB brought expertize in blood banking and helped transition the group from tube to gel technology. By coordinating instrumentation, controls, and reagents, they were able to establish their own peer group for better quality control correlation and method evaluation.

In 2008, the opportunity arose to manage the laboratory at the Arthritis Center of Nebraska (ACN) in Lincoln. Again, her expertise became essential to maximize efficiency and consistency of testing. The ACN is not your typical physicians office lab. ACN performs specialized testing not found in most other laboratories in the state. Their immunology analyzer detects very specific antinuclear antibody's and extractible nuclear antigens for rheumatoid arthritis, lupus and other autoimmune diseases. The center was also one of the first physician office facilities in Lincoln to bring up a new electronic medical record system!

Linda attributes her success at the ACN to the physicians who took an active interest in laboratory work. She persuaded them to complete laboratory training for physicians. She was grateful they provided adequate staffing and allowed hiring of highly driven, qualified laboratorians who displayed good laboratory practices and capable to cross-train in all aspects of lab responsibilities.

Linda believes education and critical thinking skills are key to a qualified laboratorian. A well-rounded laboratorian must also have a good business background in order to move to management. Knowledge in federal regulations, finance, contractual agreements, marketing and consortiums are areas to master for successful management.

Linda's success is exemplified by the ACN laboratory being awarded the COLA (Commission On Laboratory Accreditation) Laboratory Excellence Award or the fifth consecutive year. Accreditation is given only to laboratories that apply rigid standards of quality in day-to-day operations, demonstrate continued accuracy in the performance of proficiency testing, and pass a rigorous on-site inspection. Federal law requires that all medical laboratories be inspected by an accrediting agency, but less than 3% nationally receive the Laboratory Excellence Award. It is uncommon to receive this award once, and rare to have achieved this recognition consistently[1]. This is recognition to the excellent work Linda and her staff performed to care for their patients. Linda is now retired, but feels the laboratory is in good hands with Ryan Nelsen MT(ASCP), who is continuing the strong history of laboratory excellence at ACN.

COLA Excellence Award Team 2014 (left to right): Julie Miller MLT(ASCP), Aimee Craft MLT(ASCP), Sandy King MT(ASCP)SBB, Linda Papik, Amy Bohmont BS,MLT (ASCP), Dana McGuire MT(ASCP), Kandi Dion MLT(ASCP)

COLA Excellence Award Team 2016 (left to right): Amy Bohmont BS, MLT(ASCP), Julie Miller MLT(ASCP), Ryan Nelsen MT(ASCP), Joyce Vrbka MT(ASCP), Dawn Lehr, phlebotomy, Kandi Dion MLT(ASCP). Not pictured Sandy King MT(ASCP)SBB.

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IN THIS ISSUE

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