APHL Provides Leadership in Time of Terror,
Brings ‘Order To Chaos’ For USPS

From the time anthrax was detected in Boca Raton, Florida, last September, it was inevitable that public health laboratories would be called upon to help resolve the emerging crisis, a crisis that quickly escalated into America’s first widespread incident of bioterrorism. What was not so clear at the time, however, was the full scope of the role the Association of Public Health Laboratories would play or the unique relationship it would forge with the United States Postal Service (USPS).

That story—the story of APHL leadership in an unprecedented national emergency—properly begins almost a thousand miles north of Boca Raton about 10:30 P.M. the night after Halloween. Before its conclusion, the Laboratory Response Network (LRN) would be put through its paces in dozens of states, conclusively demonstrating its utility; and testing its limits.

A Late-Night Phone Call
On the evening of November 1, 2001, APHL Executive Director Scott Becker dozed off while watching the ten o’clock news at his home in Bethesda, Maryland. He was still asleep on the couch when his cell phone rang about a half hour later. Jan Nicholson, the associate director for laboratory science at CDC’s National Center for Infectious Disease, was on the other end of the line. “Oh God, I hope this isn’t another (anthrax) incident,” Becker recalls thinking.

Becker had reason to suspect the worst. By this point in time anthrax had been detected in several locations along the Atlantic seaboard, and five people were dead because of it. Authorities knew one or more terrorists were using the postal service to transport anthracis spores to targeted individuals. Postal service to the US Capitol was disrupted. And thousands of postal workers and millions of ordinary Americans were concerned about unwitting exposure to anthrax from contact with cross-contaminated mail or mail equipment.

In fact, Nicholson wasn’t calling to report another incident. She was calling to ask for help. Hundreds of postal facilities through which anthrax-tainted letters may have passed needed to be inspected and possibly decontaminated and reinspected. Could APHL coordinate the testing at LRN laboratories?
Now that we have had time to catch our breath after the events of last fall, I would like to return to my initial plans for my year of presidency of APHL. There were two major themes. First, I proposed to enhance the involvement of new members in the organization. I believe that this is happening both through increased involvement with committees and through the plans of the membership committee to further enfranchise all member categories. It will evolve over the years, however, and we will not celebrate major successes during the first year.

Second, I aimed to address the governance of the organization, to examine ways in which the board might change and evolve. Trivially, for example, matters such as approving the proposed APHL-wide surveys just did not seem to approach board-level importance. And if the board were to dispense with such minor responsibilities, just what higher level activities should it pursue? I will devote this column to our exploration of this question.

Although we have been delayed in our efforts, we have begun to address governance. Fortunately, David Mills, who is president-elect, has expressed an interest in pursuing the issue of governance so our tardy start may not hamper the completion of our goals.

The board retreat on governance was facilitated by Bruce Lesley of the National Center for Nonprofit Boards. Bruce led off with a few guiding principles:

- Great boards make great non-profits.
- Board members are called to the highest common denominator of service.
- Boards always get the “right of first refusal.”
- What you measure will more likely become reality.
- Clarify expectations.
- Boards are made up of individuals but act as a group.

And then Bruce went on to reinforce the policy model of John Carver \( \text{vs.} \) the difference between a strategic/policy board and an operation/implementation board. The concept that board decisions should predominately be policy decisions was discussed. Finally, it was suggested that the board speaks with one voice or not at all.

Bruce summarized The New Work of the Non-Profit Board by Taylor, et al, which proposes that the board:

- Concern itself with crucial do-or-die issues central to the institution’s success.
- Be driven by results that are linked to defined timetables.
- Have clear measures of success.
- Actively engage the organization’s internal and external constituencies.

Then Bruce distinguished the responsibilities of the board from those of the executive director. The board should establish the strategic direction, ensure necessary resources, and provide oversight. The executive director should implement efficient and effective forward paths toward the strategic vision, and within the constraints of policy and resources, all the while remaining responsive to customers.

We all experienced a revelation or two in the discussions that followed. Prior tensions could be resolved by establishing and understanding the relationship between the board and the executive director! Committee relationships require evaluation and attention. The next steps will be revealed during the subsequent months. Stay tuned to learn what types of changes to expect.

In the meantime, devote some attention to the immediate future. Where do the labs need to be in terms of bioterrorism, chemical terrorism and radiological terrorism? The funding issues will slowly resolve themselves and we will begin to advocate for the unfunded categories that demand our attention. This is a time of rapid change and we must keep cognizant of the bends in our pathway. I salute your efforts.

Sincerely,

Mary Gilchrist, PhD, D(ABMM)
President
Executive Director’s Note

As I write this column, we have just learned of the great influx of federal dollars to build state and local capacity to respond to future acts of bioterrorism, including specific support to public health laboratories. This incredible cash infusion into public health laboratories creates great opportunities, but also great challenges.

The opportunities are easy to spot: equipment upgrades, building renovations, enhanced bio-safety and security, among many others. So far, so good. But let’s not kid ourselves; it will be a tremendous challenge to coordinate state laboratory preparedness activities, spend the funds in a timely manner, and—of particular concern to public health labs—find enough qualified scientists to staff the newly invigorated and outfitted laboratories.

A recent GAO report on the adequacy of pharmacy, laboratory, and radiology workers concluded that it is difficult to determine the true workforce supply in these fields, but noted disturbing trends. For example, enrollments in academic laboratory programs declined significantly between the 1995-96 and 1999-2000 school years, dropping 16 percent for specialists in blood banking programs and 33 percent for histotechnologists. Somewhat alarming is the comment that industry representatives and professional groups believe declining enrollments are due more to a loss of interest in these professions than to lack of capacity within the current education system.

In mid-January, APHL held its annual leadership meeting, focusing on the development of a new three-year strategic plan. APHL board members, committee chairs, staff, and invited partners from CDC and other organizations gathered in Atlantic Beach, Florida, to begin the thoughtful work that will be completed by the time we gather in Albuquerque to celebrate the association’s 50th anniversary.

The first key Board decision was to reaffirm the association’s mission and vision statements. With our overarching, long-term raison d’être established, the group honed in on the next big challenge: near-term focus. After some discussion, we departed from the categorical, programmatic goal statements found in former strategic plans, instead developing functional, integrated goals for the association that keep our competencies in the forefront. Thus, instead of writing a separate goal for environmental health, infectious disease, and every other substantive program area, the group drafted crosscutting goals that emphasize the salient issues that affect us all: workforce development, leadership, communications, advocacy, quality assurance, laboratory information systems and management needs, and partnership development, as well as internal issues such as governance and membership.

APHL has been on a path of sustained growth both internally and in the public’s eye for some time. It is incumbent upon us to keep up the pace, focusing all the while on the added value the association brings to the national and global health debate. I’m confident that we can accomplish what is set out before us.

It’s time to get to work, time to begin planning for the allocation of the resources we’ve so dearly needed—finding those bright young scientists to work with us, acquiring the latest technology, dedicating shiny new BSL-3 suites. But first, take a moment to celebrate a little. Oh, the problems we have . . . .

Sincerely,

Scott J. Becker
Executive Director
Honor the Past; Look to the Future

[This is the third in a series of articles on the history of public health laboratories and APHL. A 50th Anniversary history booklet containing all these articles will be available at the 2002 annual meeting. Footnotes are available upon request from the APHL national office and will be included in the booklet.]

The Conference Becomes ASTPHLD: Public Health Laboratory Leadership
By Bill Beck, Lakeside Writers’ Group

The 1951 formation of the Association of State and Territorial Public Health Laboratory Directors (ASTPHLD) from the old Conference of Southern Public Health Laboratory Directors was a sign that the emerging field of public health laboratory science had gained a national, if not international, focus.

ASTPHLD brought together laboratory directors from 48 states and U.S. territories in a collegial atmosphere, allowing the executives to share scientific, administrative and financial expertise at annual meetings and in refereed publications. Until the Association changed its name in the late-1990s, ASTPHLD represented the interests of public health laboratories nationwide.

The 1946 formation of the Communicable Disease Center (CDC) in Atlanta, Georgia, would have an immense impact on ASTPHLD during its first 20 years. Congress had charged CDC in the immediate postwar years to serve as a laboratory clearinghouse for investigation of communicable disease. The far-flung battlefronts of World War II had exposed American GIs, sailors and Marines to a host of microorganisms and insect-borne diseases that military and civilian doctors and laboratory scientists hadn’t seen in decades or had never seen at all. The development of DDT during the war as an effective insecticide lessened the threat of insect-borne disease, a fact that caused CDC to almost immediately shift its focus to combating zoological vectors of disease. Within a few years of its establishment, CDC and its scientific staff were spending a large part of their time studying and preparing against outbreaks of malaria, dengue fever, yellow fever, filariasis, amoebic dysentery, plague and typhus.

CDC’s concentration on essentially tropical and sub-tropical disease left ASTPHLD to deal with many of the native scourges that state and territorial laboratories had faced since the turn of the century. Identification and treatment of venereal disease, the laboratory community’s main nemesis for more than 30 years, continued to be a major priority in the 1950s and 1960s. The incidence of tuberculosis, a disease that was found to be treatable by the antibiotics that came into wide circulation during World War II, gradually diminished in importance as the 1960s wound down. The postwar outbreaks of poliomyelitis, and the resultant public hysteria, also diminished in importance for the laboratory community after the mid-1950s when the Salk and Sabin vaccines came into wide use.

Public health laboratories continued during the postwar period to serve as a first line of defense in the always-critical fight against food- and water-borne illness. The 1962 publication of Rachel Carson’s indictment against insecticides and chemical pollution of America’s water supply, Silent Spring set the stage for increasing public health laboratory involvement in water toxicology efforts during the 1960s and 1970s.

For much of the first 20 years of its history, however, ASTPHLD worked hand-in-glove with the scientists and staff of the CDC. In many ways, CDC handled the “big picture,” while ASTPHLD members attended to the details on the state and local level. For much of the late 1950s and all of the 1960s, the ASTPHLD

See ASTPHLD on page 30...
A Conversation With CDC’s Julie Gerberding About Anthrax, Public Health Laboratories, and the Future

As the acting deputy director of the National Center for Infectious Diseases, Julie Gerberding was one of the senior staff members who supported the CDC’s upper-echelon leaders throughout the recent anthrax crisis and the ensuing multi-jurisdictional outbreak investigation. On February 11, Minute staff Nancy Maddox and Blair Farr interviewed Gerberding by phone to learn her views of the agency’s response to the crisis and lessons learned for the future.

Overall, how well do you think the CDC responded to the anthrax crisis. What were the agencies strengths and in what areas was the response less than optimal?

The situation would be characterized as one where there was a level of preparedness that CDC had invested in for several years prior to the event. After the World Trade Center and Pentagon catastrophes on September 11, our level of preparation and vigilance was certainly heightened. And after the initial index case of anthrax exposure was documented we really moved into full gear. It was challenging to have multi-jurisdictional operations going on in an arena where there was so little scientific information to guide decisions. And so we were clearly learning as we went and that creates some difficult challenges for getting health policies made. If you notice, all of the guidance documents that we created during that period of time were labeled as “interim guidance” with the full recognition that these documents would need to be updated or reviewed as more information became available. So the process of making important health decisions with far reaching implications in a time-frame that is necessary in a crisis mode is difficult when you are an agency that is used to having much more time to put together a full evidence base to make public health decisions. I think one of the major strengths of the investigation was the success of the Laboratory Response Network (LRN) and the CDC laboratory system. I think we certainly all experienced the difficulties with the need for more surge capacity and many labs being stretched to the limits of their ability to provide services in a timely manner. But, nevertheless the quality and the importance of the work that was done across the country in this network of laboratories was absolutely outstanding. We certainly could not have had a successful investigation without it.

We’ve heard that you have delivered a number of presentations across the country on the lessons learned from the crisis. In a nutshell, what are the three main lessons?

I think we’ve learned more than three lessons, but probably the most important overriding lesson is the need for capacity development both extramurally and intramurally. We did a lot with what we had but this is a relatively small problem on the scale of things that could happen in the bioterrorism arena. So it’s critical that we scale up and speed up our capacity to be responsive to the broad range of select agents that may come our way.

We also learned that the National Center for Infectious Diseases, as well as CDC at large, needs more support to invest in health communication capacity development. And we need to engage the entire spectrum of health communicators at state and local levels in the laboratory arena as well as the media. Pre-event, there is a great deal we can do to increase people’s knowledge and understanding of the pathogens and the diseases they cause and the appropriate post-exposure care. And during an event we need to be able to provide reliable information to people in a much more timely manner than we were able to do in this past set of circumstances.

I think the final important lesson we learned is that there is a tremendous need for additional development of that capacity in the local arena, in particular—what I refer to as the “Golden Triangle”—between the clinician at the patient care end, the healthcare facility (whether that’s a hospital, a dermatology clinic, or

See Conversation on page 33...
APHL STRATEGIC PLAN

APHL Developing New Strategic Plan

APHL is in the process of crafting a strategic plan to guide the association’s work during the next three years; from July 2002 to June 2004.

With the assistance of consultant Bob Kingon, and under the direction of the association’s board of directors, APHL began the process last fall with a survey and focus groups to determine how key stakeholders perceive that the field of public health testing is evolving and how, in turn, that evolution may impact state public health laboratories and APHL.

In January, members of the APHL board, committee chairs, and invited guests from the CDC and affiliated organizations met in Atlantic Beach, Florida, to review the results of the fall assessments and to begin the hard work of crafting goals and objectives for the association that are both meaningful and realistic. The draft strategic plan developed at this meeting will be refined by the board and a subsequent “polished draft” will be shared with members in the coming months.

The association aims to finalize the new plan in time for its June annual meeting.

SUMMARY OF RECENT BOARD ACTIONS

The APHL Board of Directors met on January 18, 2002. Below please find a summary of recent board actions. For more information, or if you wish to have a full copy of the minutes sent to you, please contact Kelly Deeb via email at kdeeb@aphl.org or at 202.822.5227, ext. 221.

✓ Approved changes to the APHL Policies and Procedures Manual

✓ Approved the association’s current auditor for the next two years

✓ Authorized a member input step into the approval process for position/policy statements

✓ Approved additional individuals who may sign checks for the association

✓ Approved as interim policy two new position/policy statements: “The Role of the Private Laboratory Sector in Public Health Newborn Screening Programs” and “Parental Consent in Public Health Newborn Screening Programs.”
Sadly, APHL has learned of the recent death of Dr. Donald T. Lee. Dr. Lee was an emeritus member of APHL who served in the US Air Force during the Korean Conflict. Dr. Lee received a bachelors of microbiology and a masters of virology from Kansas University. In 1966 and 1968 Dr. Lee obtained a masters of public health and a doctorate of public health from the University of North Carolina in Chapel Hill. Dr. Lee was the director of the Wyoming Public Health Laboratory from 1968 -1987. He is survived by his wife and two sons.

EID Fellowship News

EID Fellows ‘Instrumental’ In BT Emergency Response

Last fall’s discovery of Bacillus anthrasis in the US postal system, cases of anthrax contamination and exposure, and demand for testing of clinical and environmental samples on a scale never before anticipated have thrust public health laboratories into the public spotlight as never before. The demands placed on public health laboratorians were, and continues to be, enormous. During the immediate and continuing crisis, APHL’s emerging infectious disease (EID) fellows joined their host laboratories in the frontline fight against bioterrorism (BT).

At CDC laboratories, Class IV International EID Fellow Arijana Boras (based in the Meningitis and Special Pathogens Branch, Division of Bacterial and Mycotic Diseases, Atlanta) worked on Bacillus anthrasis 16S rRNA sequencing, as well as the database for the samples coming into the lab for testing. Class V Research Fellow Kimberly Brouwer (based in the Molecular Vaccine Section of the Division of Parasitic Diseases, Atlanta) answered phone calls and collected data for the CDC bioterrorism response team.

On the other side of the country, at the National Center for Infectious Diseases’ Arctic Investigations Program in Anchorage, Alaska, Class VII Training Fellow Sarah Levin received firsthand experience in the handling and identification of Bacillus anthrasis. This included wet mount, gamma-phage lysis, and direct fluorescent antibody tests on samples brought to the laboratory.

The anthrax investigations were just as pressing for the local and state laboratories. EID Fellows at the Wadsworth Laboratory, New York State Department of Health, received something of a crash course in bioterrorism response and preparedness. Class VI Training Fellow Stefani Sesler helped answer the 1-800 anthrax hotline and participated in a crisis drill at the State Emergency Management Office (SEMO) bioterrorism bunker. Stefani listened to the weekly statewide bioterrorism conference calls and observed the communication and logistical planning among local health departments, the state health department, law enforcement, and the laboratory.

See Fellows on page 8...
Also at the Wadsworth Laboratory, Class VII Training Fellow Patricia Blevins assisted in the anthrax investigation. Following training in BSL-3 protocols and safety procedures, she processed environmental samples for anthrax testing, performed DNA extractions of environmental samples, and received hands-on training in Level B protocols to identify select agents. As a result of this work, she is now conducting two projects to optimize the processing of bioterrorism samples in the BSL-3 lab. Asked about her role in the crisis, Blevins said, “Upon entering the fellowship, I hoped to gain some experience in the BSL-3 laboratory. Little did I know, I would be an active participant in a national response to bioterrorism.”

At the Division of Consolidated Laboratory Service in Richmond, Virginia, Class VII Training Fellow Sabrina Walker temporarily set aside her primary fellowship projects to process environmental samples for anthrax via conventional microbial analysis, including culture isolation and spore stain assessment. Walker’s laboratory mentor praised her work, noting she was “instrumental” in processing the numerous non-clinical and environmental samples the overtaxed laboratory received for Bacillus anthracis rule-out. Just three months into her one-year fellowship, Sabrina received a DCLS Star Award for significant contributions to the laboratory.

Several EID fellowship alumni are also active in the fight against bioterrorism at state public health laboratories. Both Class IV Research Fellow Kimberlee Musser and Class IV Training Fellow Molly Kelly are members of the Wadsworth Laboratory Bioterrorism Response Team for New York State and, as such, participate in the development of protocols and handling of specimens for BT response operations. Class III Research Fellow Lynne Lucher works on bioterrorism response at the Alaska Public Health Laboratory in Anchorage, Alaska.

Though the immediate anthrax crisis appears to have subsided, APHL recognizes the demand for certified, highly-trained laboratory personnel to collect and test specimens, assist in the development of protocols, and manage the logistics of future BT response operations. In response to this need, we are offering the Environmental Protection Agency’s one-week “Hazardous Materials Incident Response Operations” training course to several current EID fellows. Class V Research Fellow Sandra Smole (from the Massachusetts Department of Public Health State Laboratory Institute) and Class VII Training Fellow Jennifer Kleene (from CDC’s Influenza Branch, Division of Viral and Rickettsial Diseases) will attend this certification training in the coming months.

As APHL continues its recruitment of the next class of fellows and host laboratories, we expect bioterrorism preparedness and response will be a recurring theme. We are confident that our member laboratories and our current and future fellows will be instrumental in meeting these and other public health challenges. We have long promoted the EID Fellowship Program as instrumental in preparing tomorrow’s leaders in public health laboratory service. As the examples above illustrate, our fellows will be well prepared for their roles.

NOTE: Host Laboratory applications for the next class of EID Fellows (with an initiation date of August/September 2002) are due to APHL by March 15, 2002. To obtain the electronic application forms, or for any questions, please contact Heather Roney, Fellowship Program Manager, at hroney@aphl.org, or 202.822.5227, ext. 218.
Emergency Preparedness & Response

Emergency Preparedness and Response Committee Meets in Austin, Texas

APHL’s Emergency Preparedness and Response Committee convened in Austin, Texas in late January to discuss a variety of issues of importance to the association. Jim Pearson, chair of the committee, convened the meeting and outlined an agenda that included the following items: the association’s upcoming strategic plan, an APHL update, bioterrorism/chemical terrorism grant opportunities, the impact of recent bioterrorism events and lessons learned, and issues regarding the make-up and membership of the Laboratory Response Network.

During their deliberations, committee members discussed the need for state public health laboratories to gain as much information as possible regarding the upcoming guidance for the supplemental funding that will be distributed to state public health laboratories in the next few months. Participants agreed that enhancing the laboratories’ capacity and capability is a priority. In addition, members noted that the association needs to ensure that new funds will not represent a one-time cash infusion, but rather a higher baseline level of federal support, augmented by additional funding in future years. The need for the flexible use of these funds was also a priority for committee members.

Committee members spent time detailing the impact that the recent bioterrorism events had on laboratory testing in their states. They outlined lessons learned from their laboratory experiences, as well as overall state operations during the crisis. Finally, the committee discussed the make-up and future of the Laboratory Response Network.

Environmental Health

APHL Convenes Landmark Conference To Define Optimal Laboratory Capacity for Food Safety Testing

On January 31, about 70 individuals gathered in Austin, Texas, to participate in the two-day APHL Food Safety Consensus Conference, the “first and only” quantitative evaluation of laboratories’ capacity to conduct food safety testing. Attendees, representing public health and agricultural laboratories, federal agencies, and professional organizations, were tasked with an ambitious goal: to examine laboratories’ current ability to conduct food safety testing and to define ideal “capability” and “capacity.” That is, as explained by Gregory Hayes, chair of the conference planning committee and director of Rhode Island’s state public health laboratory, to determine “Can we do a specific task?” and “How much and how fast can we do it?” Conference recommendations will be used to develop federal funding streams to address identified deficiencies.

In his welcome address, Hayes emphasized that food safety is a “major challenge for everyone in public health,” and delineated the health and fiscal issues at stake. The Centers for Disease Control and Prevention, he said, estimates that each year due to foodborne illness:

- 76 million Americans get sick
- 300,000 are hospitalized
- 5,000 die
- $3 billion is spent on hospitalization costs alone

See Capacity on page 10...
"The nation’s public health system must be strengthened," said Hayes. “An essential component of this strengthening is the nation’s ability to detect and respond effectively and rapidly to outbreaks of foodborne illness.”

Asked about the timing of the conference, Emilio Esteban, the assistant director of the Public Health Food Safety Office in the CDC’s National Center for Infectious Diseases, explained that for the last four years Congress has allocated specific funding to the CDC for food safety surveillance activities. The CDC, in turn, has distributed most of those funds to states. This conference, he said, helps to answer two pressing questions: "What has our money bought?" and "How good are we at what we do?"

Although the work leading up to the Food Safety Consensus Conference began about two years ago, last summer’s terror attacks provided a sober subtext for the meeting. "Deficiencies in the current public health surveillance system were highlighted by the events of September 11," said Esteban. And the conference’s keynote speaker, Michael Osterholm of the University of Minnesota, averred that it would be a “major mistake” if conferees failed to consider issues related to biofood security and bioterrorism, including rapid assessment of biological agents in the environment and inclusion of food safety protocols in the Laboratory Response Network.

Much of conferees’ deliberations were based on 80 pages of data generated by the Laboratory Capacity Assessment Questionnaire, a survey tool developed by the conference planning committee and completed by state public health labs in July 2001. This data served as a reference point for existing laboratory capability and capacity and—as the survey components correspond to CLIA (Clinical Laboratory Improvement Act) certification areas—also provided a framework for conference recommendations.

The recommendations themselves touch on virtually every aspect of laboratory infrastructure and practice, ranging from staffing and training to specimen rejection criteria to PulseNet certifications to data and specimen storage. Esteban noted that while the scope of the conference was limited to food safety, many of the recommendations will have a broader impact when implemented in states. “When you test for E. coli,” he said, “those tests are not necessarily related to food-borne illness.” Laboratory facilities and protocols related to foodborne illness may have many applications.

Overall, the recommendations fall into two broad categories: short-term, quantifiable issues, such as real-time reporting of polymerase chain reactions (PCR) and pulse field gel electrophoresis (PFGE), and longer-term matters such as technology development.

A recurring, cross-cutting theme is communications. The preliminary conference consensus report notes that “organization of laboratories is not as significant as their ability to communicate and share resources for surge capacity.” Optimally, the report notes, “the laboratory, epidemiology and environmental health programs are co-located in the same building, but regardless of location, communication and interaction must take place.” This point was also stressed by Osterholm, who said in his keynote presentation, “We can’t any longer live in a vacuum (in post-September 11 America). The line between epidemiology and laboratory must be blurred. If it is not blurred in your laboratories and if it is not blurred in your agencies, then your agencies will no longer be first-rate . . . .”

The preliminary report stresses other channels of communication, as well, noting that:

- Hospital and national clinical labs should be mandated to refer isolates or specimens associated with foodborne infections to the patient’s state or local public health laboratory.
ENVIRONMENTAL HEALTH

- Laboratory information management systems that comply with National Electronic Disease Surveillance System standards should be in place in every state public health lab.

- Electronic uploading of data into the Public Health Laboratory Information System should occur automatically on a daily basis.

Ideally, conferees agreed that each lab should have the capability to do confirmatory testing of isolates for at least 15 pathogens associated with foodborne illness: *Salmonella*, *E. coli* O157:H7, *Listeria monocytogenes*, *Shigella*, *Campylobacter*, *Vibrio*, *Bacillus cereus*, *Clostridium perfringens*, *Staphylococcus aureus*, *Yersinia enterocolitica*, Norwalk-like virus, Hepatitis A, *Cyclospora*, *Cryptosporidium*, and *Giardia*.

At a minimum, laboratory equipment should include one biological safety cabinet that is fully vented (no re-circulated air), radiation detectors, real-time PCR and PFGE equipment, and a complete set of telediagnostic tools. In addition, every lab should have access to an animal facility and to specialized apparatus such as a DNA sequencer and tools to accomplish organic and inorganic analyses of chemical contaminants.

In a telephone interview, Esteban noted that “when we first started this project . . . people thought we were going to create report cards” and were hesitant to move forward. Now, he said, “It is my sense that people have flipflopped” and taken ownership of the project. “The government and CDC are working together with the laboratory community.” Over the next few years, the CDC will collaborate with APHL to develop laboratory capacity milestones and a timeline to achieve those milestones.

Esteban pointed out that public health and agricultural laboratories comprise one of several vital components of the national food safety infrastructure. The CDC, he said, plans to look at other components as well. The agency is funding the Council of State and Territorial Epidemiologists and the National Association of County and City Health Officials to conduct complementary assessments among their members.

A complete set of survey results and preliminary conference recommendations are posted on the Internet at www.aphl.org/docs/consensusconference. Formal proceedings will be published later this year. In the meantime, for more information contact Dwayne Johnson, Food Safety Program Manager, at 202.822.5227, ext. 228.

A Synopsis of Keynote Presentations at the APHL Food Safety Consensus Conference

The consensus conference began with the welcome, given by Gregory Hayes, chair of the Consensus Conference Planning Committee. Hayes provided an overview of the Laboratory Capacity Assessment Survey and its different components of the survey. There were four keynote speakers for the Opening Plenary Session: Michael Osterholm of the University of Minnesota, Bonnie Buntain of the United States Department of Agriculture (USDA), Robert Buchanan of the Food and Drug Administration’s (FDA’s) Center for Food Safety and Applied Nutrition (CFSAN), and Michael Olson of the FDA Office of Regulatory Affairs.

See Keynote on page 12...
Osterholm, in a presentation entitled “Food Safety and the Public Health Laboratory System: A Future Perspective,” stressed the importance of collaboration among public health partners to reach common goals, and specifically to achieve consensus on capability and capacity building of public health laboratories. Osterholm discussed the 11 core functions of public health laboratories, and noted that great improvements are needed in prevention and surveillance. Molecular typing must occur in real-time with daily communications to epidemiologists. Research should focus on new pathogens, especially those arising from veterinary medicine and agriculture. Data management must be integrated at the national level and specialized testing should be defined for each agent. Osterholm explained the importance of rapid assessment of chemical agents in the environment in detecting biological agents. In regards to food safety, he said that food safety is conducted by a large community whose members must interact with one another in order to be effective. Laboratory improvements and quality assurance need to be streamlined; laboratories should not be accredited by numerous organizations. In the area of emergency response, Osterholm noted that emergency response capabilities need to expand upon the successes of the Laboratory Response Network, which should include food safety protocols. Finally, he mentioned that public health training is in a crisis. There is a serious shortage of epidemiologists; training is inherently related to infrastructure building.

Buntain, in turn, provided an overview of various food safety issues. She stressed the importance of the role participants play to help prevent, diagnose, and ultimately reduce foodborne illnesses associated with the consumption of meat, poultry and egg products regulated by the FSIS. Buntain emphasized the farm-to-table approach as one way to continue to improve food safety. Protecting the public health is believed by many to begin on the farm. Many serious zoonotic diseases have been reduced through good production practices. The goal of FSIS is to reduce foodborne illness caused by meat, poultry, and egg products to the maximum extent possible through available science and technology. The regulatory and non-regulatory approaches to improving food safety have stimulated scientific endeavors to find ways to prevent, reduce, and control hazards in foods. Buntain spoke on the Pathogen Reduction/HACCP 1996 Rule. FSIS’ data so far indicate that since the Pathogen Reduction/HACCP rule was enacted, there have been significant reductions in Salmonella prevalence across all meat and poultry product categories to which the Salmonella standards apply. FSIS believes the Pathogen Reduction/HACCP system has had a ripple effect on industry, causing each part of the food chain to consider its suppliers and how best to prevent safety hazards that are reasonably likely to occur. The top priority foodborne pathogens in meat, poultry, and egg products are Campylobacter, E. coli 0157:H7, Listeria monocytogenes, and Salmonella non-typhoidal. The National Residue Program was another important topic discussed by Buntain. The National Residue Program focuses on public health protection by ranking compounds by relative human health concern in an interagency collaborative group, called the Surveillance Advisory Team. The National Residue Program helps maintain and improve consumer confidence. By assessing and communicating human exposure to residues in meat, poultry, and eggs, the program functions as a deterrent to potential violators.

Buchanan spoke specifically about the role of laboratory sciences in the FDA Food Safety Program. He began his presentation by sharing the “FDA approach” which considers a strong food safety system to be an integration of good science and good law, in combination with a strong compliance program. The FDA Food Safety Program recognizes laboratory capability as a key component of a strong national food safety system. This requires the different components of the laboratory network to work together to support each other. Buchanan touched upon CFSAN’s laboratory programs, which include:

1. Acquisition of data for new policies
2. Analysis of data on status of industry
3. Methods development, adaptation, and validation
4. Emerging public health concerns
5. Certification programs
6. Specialized analyses
7. Regulatory backup
Finally, **Olson** provided a field laboratory perspective, beginning with an overview of the Department of Health and Human Services FDA and the relationships among its various departments. The Field Laboratory Program identifies the problem, contains and controls the problem, and pursues regulatory action. The regulatory analysts define the problem and develop evidence. In the process of doing so, FDA analysts must conduct sample analysis and team inspections, and also monitor contracts. Issues such as methods, security, regulatory use of information, sampling issues, and sources of contamination are among the everyday challenges of the Field Laboratory Department.

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**Notes from the Methods Board Meeting**

**Jack Krueger**, Maine's state lab director, acting as a state representative delegate and member of APHL, attended a meeting of the Methods and Data Comparability Board (MDCB) in Albuquerque, NM, January 28-30, 2002. Here are some highlights:

1. Water quality data elements have been established for reporting analytical data and associated metadata for chemicals. Biologic and toxicity elements are under development. An opportunity exists to develop a format for this data and potentially implement a system resembling the National Electronic Disease Surveillance System to track environmental indicators. Linking public health laboratory (PHL) drinking water data to the Safe Drinking Water Information System (SDWIS) could be a first step; developing a system to collect environmental toxicity data from different states might be another.

2. A position paper has been drafted listing advantages for federal agencies to adopt the National Environmental Laboratory Accreditation Program (NELAP) as a national accreditation program. Prime objectives of the MDCB related to this effort are to 1) correspond with workgroups of the National Environmental Laboratory Accreditation Conference (NELAC), 2) establish a uniform national accreditation process including the use of a performance-based methods system (PBMS), and 3) develop uniform and consistent accreditation-related policies suitable for federal and state agencies. Discussion of this topic may provide an opportunity for increased PHL involvement at the NELAC annual meeting in July. There are a number of accreditation standards that PHLs may wish to review. One example is a standard to address small batch testing in specialty labs. (In Maine, to run a single analyte in 24 hours requires six proficiency samples and two duplicates.)

3. A beta version of a National Environmental Methods Index (NEMI) is about to be released. The NEMI database is a web-searchable tool that allows users to find laboratory method summaries for regulated and non-regulated water quality analyses.

4. The use of performance-based methods parallel to or in place of standard reference methods continues to raise debate. The MDCB is supporting pilot studies to better evaluate the appropriateness of data quality objectives as part of PBMS in analytical testing. The board supports the sound use of new accredited technologies that will yield comparable quality data.

The MDCB meets several times a year and reports to the multi-federal National Water Quality Council. If there are issues that your lab would like to see addressed by the board, please contact Krueger at 207.287.2727 or johnakrueger@state.me.us.
APHL Launches Subcommittee on Newborn Screening and Genetics Quality Assurance and Quality Control

Newborn screening, which reaches approximately 4 million infants each year according to the Centers for Disease Control and Prevention, is one of the largest disease prevention programs in the United States. Because the consequence of a false-negative test result can be injury or death, it is also a program that demands a high level of testing accuracy. Recognizing this need, APHL has recently created the APHL Subcommittee on Quality Assurance and Quality Control (QA/QC) for Newborn Screening and Genetics, a subcommittee of the APHL Newborn Screening & Genetics in Public Health Committee.

Members of the subcommittee are:

- **Ken Pass**, chief of the Laboratory of Genetic Services at New York’s Wadsworth Center.
- Anne Comeau, deputy director of the New England Newborn Screening Program at the University of Massachusetts Medical School.
- **Willie Craft**, head scientist of the Neonatal Chemistry Lab at the Kansas Department of Health and Environment.
- Gary Hoffman with the Newborn Screening Unit at the Wisconsin State Laboratory of Hygiene.
- **John Sherwin**, chief of the Genetics Disease Laboratory at the California Department of Health Services.
- **Susanne Norris Zanto**, technical supervisor of the Montana Public Health Laboratory.

The subcommittee’s inaugural meeting this past January featured presentations by staff of the Newborn Screening Quality Assurance Program (NSQAP) of the CDC National Center for Environmental Health. The NSQAP has been an APHL partnership program with a 20-year history of providing quality assurance services.

**Harry Hannon**, chief of the Newborn Screening Branch, welcomed the efforts of the subcommittee and stressed the importance of forming a strong relationship between the NSQAP and state newborn screening programs. To this end, he discussed the establishment of a ‘stakeholders network’ for newborn screening. The subcommittee, he said, will provide a communication conduit to help meet the CDC’s identified need to form a bridge between its voluntary, non-regulatory QA/QC/ proficiency testing programs and state laboratories to enhance the quality of test results. NSQAP currently provides services to over 256 labs in 45 countries and 60 domestic locations.
Subcommittee Chair Ken Pass noted that the group will aim to provide input into ongoing quality assurance and proficiency testing activities for newborn screening programs and related laboratory efforts, and to facilitate a partnership between the CDC and state newborn screening programs.

During the meeting committee members produced a well-crafted mission statement detailing the subcommittee’s role and responsibilities. The subcommittee will:

- Serve as a liaison to organizations, programs, and activities that address issues concerning quality assurance of newborn screening systems.
- Provide APHL input to the CDC/NCEH Newborn Screening Quality Assurance Program on procedures, policies and activities for the quality assurance of laboratory testing.
- Provide a communications conduit between NSQAP and newborn screening systems.
- Examine quality assurance concerns as identified by the subcommittee and APHL members, newborn screening systems, NSQAP, and other organizations.

If you have any questions about the subcommittee, please contact Farhia Mussa, program manager for newborn screening and genetics at 202.822.5227, ext. 235.
APHL’s Infectious Disease Committee Explores BT, AR, STD’s and More

The Infectious Disease Committee met in Atlanta, on February 2-3. This year all of the committee members were able to participate in the meeting, which was chaired by Kati Kelley (CT). The meeting provided an excellent opportunity to share information about current issues in public health laboratory capacity for infectious diseases. For example, speakers presented updates on topics ranging from bioterrorism to vaccines for laboratory workers.

On the first day of the meeting, committee member Michael Ascher presented an activity report from the Department of Health and Human Services (DHHS) detailing the funding plan for bioterrorism. Rich Meyer, from the bioterrorism Rapid Response and Advanced Technology Laboratory (RRAT) at CDC, updated the group on technology development for potential agents of bioterrorism. Validation of real-time PCR assays for Brucella sp., Francisella tularensis and Burholderia mallei should be completed in the next few months. Time-resolved fluorescence (TRF) immunoassays for Ricin, Staphylococcal enterotoxin B, Brucella sp and Coxiella burnetii are in development. And an evaluation of the performance characteristics of commercial hand held detection devices is in progress.

Hal Margolis, Inger Damon, Russ Regnery, and Scott Schmid of the National Center for Infectious Diseases (NCID) discussed CDC’s Interim Smallpox Response Plan and Guidelines. The full plan is available at www.bt.cdc.gov/DocumentsApp/Smallpox/RPG/index.asp. Margolis explained that the plan is a “working document that will be updated regularly.” Damon reported on ongoing research efforts to develop PCR assays for smallpox identification. Margolis and Schmid emphasized that critical laboratory capabilities to support smallpox preparedness include expertise to diagnose varicella and other febrile rash/smallpox look-alike illnesses at the local level. The Infectious Disease Committee will serve as the APHL liaison to CDC to address surge capacity for laboratory diagnosis of smallpox. Additional information will appear in future issues of The APHL Minute as the planning for laboratory capacity for smallpox is refined.

Members also had the opportunity to discuss potential improvements to the Epidemiology and Laboratory Capacity (ELC) cooperative agreement process with the NCID’s Pat McConnon and Debbie Deppe. The group explored potential strategies to expand the Emerging Infectious Disease Fellowship Program to address workforce needs in the states. J. Todd Weber of NCID provided an update on the Antimicrobial Resistance (AR) Program, including concern over the limited funding that has been made available to implement activities outlined in the 2001 Public Health Action Plan to Combat Antimicrobial Resistance (www.cdc.gov/drugresistance/actionplan/index). An annual report is due to be released in June, and a public meeting to hear comments will be held June 26. In order to address the need to better define the public health laboratory role in addressing AR, APHL, the Council for State and Territorial Epidemiologists and CDC will convene an AR working group.

Ronald Ballard, the new chief of the syphilis and chlamydia branch at NCID and Robert Johnson of the National Center for HIV, STD
INFECTIOUS DISEASE

and TB Prevention (NCHSTP) closed out day one of the meeting with a comprehensive presentation on
the current status of laboratory diagnosis of Sexually Transmitted Diseases (STD’s). Ballard reports that
molecular detection methods, including multi-plex PCR assays, will play an increasingly important role
in the diagnosis of STD’s. Johnson stated that the Guidelines for Laboratory Detection of Chlamydia
tra-chomatis and Neisseria gonorrhoeae have been reviewed and approved by his and other divisions at
CDC. The guidelines are in final editorial review for publication in Morbidity and Mortality Weekly
Report, with anticipated release this spring or summer.

On the last day of the meeting, presentations focused on the issue of vaccines to protect laboratory
workers. Diane Simpson of CDC’s National Immunization Program (NIP) discussed the development
of the guidelines for anthrax and smallpox vaccines. Recommendations regarding anthrax vaccine for
laboratory workers are currently being reviewed at DHHS. Dr. James Sejvar (NCID) reviewed the final
draft of an upcoming MMWR report on laboratory-acquired meningococcal disease. Members of the
Infectious Disease Committee reviewed and commented on an early draft last August. The report, expected
to be released in a few weeks, will include new safety recommendations for working with invasive isolates
of Neisseria meningitidis as well as considerations for vaccination of laboratory workers. At the conclusion
of the meeting, members were treated to a tour of the Georgia State Public Health Laboratory, kindly
conducted by Betty Franko and Karl Hoenes.

Fluorognost IFA kit for HIV-1 confirmation testing

The Fluorognost HIV1 IFA is the only FDA-approved alternative to Western Blot as a confirmation
assay for HIV-1 for blood, plasma, and dried blood spot (DBS) testing. This HIV1 IFA confirmation
assay was licensed by the Food and Drug Administration (FDA) in 1992, and, since then, has been widely
used by public health labs, blood screening centers, hospitals, and diagnostic laboratories in the United
States. It is also FDA-cleared for screening purposes for those labs needing small or stat HIV screening
testing.

The confirmatory assay is a 90-minute procedure that necessitates the use of a fluorescent microscope and
an incubator (37°C). Sanochemia provides the Fluorognost HIV1 IFA assay to approved labs that have
passed a self-taught course and proficiency panel provided by the company.

The Fluorognost HIV1 IFA is currently produced and licensed by Sanochemia Pharmazeutika (formally
Waldheim). Kits are available with 25 or 50 tests and have a shelf life of up to ten months. They are
shipped direct from Vienna, Austria, through a distribution agreement with Home Access Health of
Hoffmann Estates, IL.

For further information contact Chip Stephens, Director, Diagnostics USA, at 203.227.6880 or
sanochemi@prodigy.net.
**APHL LabNet**

**APHL LabNet is Back!**

We are pleased to announce that APHL LabNet will be back online by the end of February. We are inaugurating the newly improved system with the Membership Profile Survey. The goal of this survey is to obtain comprehensive data on the expertise of our members so that we may continually improve training programs, lobbying efforts, and new program development. Moreover, with the national attention APHL has received since September 11, this information will also help us respond to national, state and local inquiries regarding public health laboratorians.

Watch your mail for the APHL LabNet brochure and an information packet with survey materials.

**DON’T BE LEFT OUT!**

**Electronic Information Systems**

**Using Standards to Simplify Electronic Reporting Of Public Health Information**

In the beginning there were log books. And log books begat computerized measurement devices. Then there were isolated laboratory information systems and independent hospital information systems. Add to this the unique information systems used by state health departments, the CDC, and other public health partners and what do you have? A true Tower of Babel. And how do we get all these systems to speak a common language? **Standards.**

Standards have always been the basis for communications, and those in the information world recognize that “any meaningful exchange of utterances depends upon the prior existence of an agreed upon set of semantic and syntactic rules.”

Our daily conversations, in fact, are made up of vocabulary (the words we choose), grammar (how we string the words together) and context (the environment in which we speak).

Electronic reporting of public health information (data flow) is analogous to conversation. Vocabulary is governed by content standards, independent of software. Grammar is governed by transmission structure standards, also independent of software. And context is provided by operating systems and software standards, which are software dependent (e.g., DOS, WinX, NEDSS, LITS Plus). The recommended public health electronic reporting standards for content are the code sets LOINC\textsuperscript{ii} (Logical Observation Identifier Names and Codes for laboratory tests) and SNOMED\textsuperscript{iii} (Systemized Nomenclature of Medicine for microorganisms). For transmission, Health Level 7 (HL7, www.hl7.org) is the recommended standard.

**LOINC (Logical Observation Identifier Names and Codes).** The original intent of LOINC, introduced in the 1990’s, was to unambiguously identify a laboratory test used to produce a result. Since its introduction, the LOINC database has expanded to include other types of tests as well,
such as clinical and emergency department tests, creating two main categories within the code set ("lab" and "clinical"). Over 24,000 different laboratory tests and clinical observations can be found in the database; the majority of which are laboratory tests. The laboratory portion of the LOINC database contains the following categories: chemistry, hematology, serology, microbiology (including virology and parasitology) and toxicology. Each LOINC record (concept) corresponds to a single test and has six fields (axes) that are used to define it (Table 1.). Most LOINC concepts used for public health are associated with microorganisms and the test name (component axis) can be either the organism name alone or the organism name appended with a code, as seen in the title of Table 1 (AB = antibody, IGG). When a new concept is assigned in the LOINC database, the identifier takes the next sequential number with a check digit appended; hence the form nnnn-x.

Table 1. LOINC # 23424-5 [Salmonella enteritidis AB.IGG: ACNC:PT:SER:ORD:EIA]

<table>
<thead>
<tr>
<th>Axes*</th>
<th>Example</th>
<th>Abbreviation Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Component (e.g., test name)</td>
<td><em>Salmonella enteritidis AB.IGG</em></td>
<td></td>
</tr>
<tr>
<td>2. Property of measurement (e.g., concentration)</td>
<td>ACNC</td>
<td>Arbitrary concentration</td>
</tr>
<tr>
<td>3. Time Aspect (e.g., 24 hours)</td>
<td>PT</td>
<td>Measure at a point in time</td>
</tr>
<tr>
<td>4. System (e.g., specimen type)</td>
<td>SER</td>
<td>Serum</td>
</tr>
<tr>
<td>5. Scale Type (e.g., quantitative)</td>
<td>ORD</td>
<td>Ordered categorical response, 1+, 2+, 3+</td>
</tr>
<tr>
<td>6. Method Type (e.g., method name)</td>
<td>EIA</td>
<td>Enzyme immunoassay</td>
</tr>
</tbody>
</table>

* each axis is separated by a colon (see Table title)

**SNOMED (Systemized Nomenclature of Medicine).** Developed by the College of American Pathologists (CAP) over the last 30 years, SNOMED originally served to identify anatomical sites and tissue morphology for pathology. Over the years, the nomenclature has expanded to include all areas of medicine. Presently, public health interest in SNOMED is confined to its list of living organisms, in particular those describing microorganisms. SNOMED contains a list of over 17,000 living organisms arranged in standard microorganism taxonomy. SNOMED codes for public health take the form of L-nnnn and the organism identifiers can vary from formal genius-species nomenclature to common names.

See SNOMED on page 20...
SNOMED is commonly used to code the results to LOINC concepts. Many LOINC concepts have results that are numbers and do not require a SNOMED code. However, when LOINC concepts do result in the identification of an organism, the corresponding SNOMED code is used. Additionally, those concepts that have straightforward “positive” results also use the corresponding SNOMED code to identify the organism.

Linkage of LOINC and SNOMED

In collaboration with the Regenstrief Institute, the Council of State and Territorial Epidemiologists (CSTE), under the lead of Diane Dwyer, investigated the use of LOINC and SNOMED code sets for public health reporting. This project resulted in three tables, informally known as the Dwyer tables. The Dwyer tables identify LOINC and SNOMED concepts that are associated with 80 conditions reportable to public health authorities. Table I lists the reportable conditions for each state, Table II contains LOINC codes that match the reportable condition names, and Table III lists organism names that match the reportable condition names. These linkages (LOINC to laboratory test and SNOMED to organism name) can be pre-assigned in many laboratory information systems and will be included in a future release of the CDC laboratory information system, LITS Plus.

A typical scenario for laboratory reporting would be to first assign a test a LOINC concept from the LOINC Table (Table II). If the result is an identified organism, the appropriate SNOMED code corresponding to the specific organism would be assigned (usually at the genus-species level, Table III). After completing a laboratory determination, the test and result would then be sent electronically in an HL7 message, whose format is beyond the scope of this discussion.

Currently, the CDC is working with APHL to update the proof-of-concept tables developed by CSTE for release early this summer. These tables will also be found in the National Electronic Disease Surveillance System (NEDSS) Base System. CDC and APHL plan on a future version of these tables that will simplify the coding process. Meanwhile, the present tables allow for the unambiguous electronic reporting of laboratory results to public health authorities.

[The author appreciates and acknowledges the technical assistance of Steve Steindel, CDC.]

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2 LOINC is copyrighted by the Regenstrief Institute and they maintain the code set. LOINC is provided without charge through their website at www.regenstrief.org/loinc.

3 SNOMED is copyrighted by the CAP and they maintain the code set. CAP charges yearly licenses fee for the use of SNOMED codes for any purpose. CDC currently has a limited number of SNOMED licenses that are available for designated pilot sites. The CDC is working with other federal agencies to secure a pre-paid license for the use of SNOMED for reporting to public health agencies by health care entities. As this article was written, the status of that license was uncertain. More information on SNOMED can be found at http://www.snomed.org/.
On January 7, Susan Neill, chief of the Texas Department of Health (TDH), welcomed 24 laboratorians to the third National Laboratory Training Network (NLTN) Rabies Public Health Series Course, held in St. Philip’s College in San Antonio, Texas. Throughout the five-day workshop, participants attended lectures and took part in hands-on laboratory sessions that familiarized them with use of fluorescent microscopes, preparation of FA slides, cell culture procedures, necropsy techniques, microwave and acetone fixation, bat identification, and monoclonal antibody typing.

CDC faculty provided the draft “Protocol for Postmortem Diagnosis of Rabies in Animals by Direct Fluorescent Antibody Testing: A Minimum Standard for the United States,” on which feedback was requested. The final version of this document should be available sometime this spring. The CDC video, “The Removal of Animal Brains for Rabies Diagnosis,” was shown during the course.

Judging from participant evaluations, the workshop was a huge success. Several laboratorians noted that, armed with new knowledge and new skills, they plan to make changes in the practices in their own labs upon their return. One wrote that workshop faculty and TDH support staff “helped to make the course outstanding in every facet.” And another declared that this was “the best workshop on any topic” that he had ever attended. Susilakanthi Nanayakkara, a visiting scientist from Sri Lanka assigned to the CDC Rabies Laboratory, attended the course specifically to learn more about rabies testing and to network with participants. Fortunately, since both faculty and participants stayed at the same hotel on the San Antonio Riverwalk, networking outside of formal course sessions was easy.

The workshop’s success is due in large measure to the nonprofit agencies and organizations and for-profit companies whose support made it possible. Staff from the TDH Bureau of Laboratories, led by Pushker Raj, ably facilitated the laboratory sessions. Other faculty included Charles Rupprecht, Jean Smith, and Lillian Orciari from the CDC/NCID Division of Viral and Rickettsial Diseases; Ed Cooper from the Fort Sam Houston Veterinary Laboratory; and Jim Powell (WI), Ernest Oertli (TX), and Robert Rudd (NY). Chemicon International donated most of the laboratory reagents. Fort Sam Houston personnel loaned the workshop eight fluorescent microscopes. The Nikon Instrument Group, Olympus International, Leica, and Zeiss provided the remaining 26 scopes used in lab sessions. And the Department of Defense Veterinary Laboratory, the Army Medical Department Center and School, and the South Central and Western offices of the NLTN also provided generous support.

Correction: In last month’s The APHL Minute, the “Packaging and Shipping of Biological Materials” workshops-in-a-box (WIB) was mistakenly referred to as an “APHL WIB.” The APHL Minute wishes to clarify that this product was developed and implemented solely by the National Laboratory Training Network (NLTN), an APHL program. We regret any confusion this may have caused.
Anthrax: It’s Not Just for Training Anymore
By Diane Luck, NLTN Training Advisor

It’s October 24, 2001. The phone rings and it’s Tom Hearn with CDC’s Public Health Practice Program Office (PHPPO), not a guy who usually calls to chat about the weather. Am I willing to accept an assignment in the field? Most people consider the National Laboratory Training Network’s (NLTN’s) Western office “in the field” already, so I can’t wait to hear more. Because of my position as a CDC training advisor in the NLTN, my name and “anthrax” were being used in the same sentence. Last year, Betty Franko, director of the Georgia Public Health Laboratory, invited CDC to use her excellent training facilities for the hands-on Level B bioterrorism courses attended by microbiologists from over 50 public health laboratories. My experience setting up the laboratories for those courses gave me the opportunity to get to know anthrax, plague, tularemia, and Brucella firsthand. In fact, Hearn wants me to join the CDC National Anthrax Response Team.

A few hours later, I am on a plane heading to Washington, DC, to meet May Chu, a bioterrorism specialist with the National Center for Infectious Diseases (NCID), and a huge cast of epidemiologists, laboratorians, and public health specialists. It seems that B. anthracis was not just for training anymore. We had come to the hot spot of human anthrax cases where several postal workers were showing symptoms. Maurice Knuckles, director of the Washington DC Public Health Laboratory, welcomed us to his facility where a lab had been set up to plate environmental samples. The theory was to let the organisms incubate while in transit to CDC in Atlanta. It worked well, and isolated colonies were ready for confirmatory testing upon their arrival at CDC. Then our focus changed. The next human case of anthrax was a New York City resident.

The time was right to set up a surge capacity laboratory at CDC. As every public health laboratory director was hearing, everyone and everything seemed to need an anthrax test. Public Health Rule #1—never unpack completely—was invoked and off we went to Atlanta, to Building 17 and the laboratory of Harvey Holmes, chief of the Diagnostic Microbiology Section, Hospital Environment Laboratory Branch. After positive air pressure respirator training, and time spent proving I was not a bad guy, but a long-time CDC employee, I received the coveted card key and gained access to the building containing some real hot bugs. The guards at CDC were getting serious; actually carrying weapons, and scrupulously checking IDs.

The laboratory team consisted of personnel from PHPPO and NCID-Atlanta and Fort Collins. We claimed the research biological safety cabinets for our own use, donned our personal protective equipment, and started working on the hundreds of environmental specimens from the American Media, Inc. building in Florida, hot spots in DC, New Jersey post offices, and the New York subway system. Any microbiologist can imagine our excitement when we saw the first real anthrax colonies: dry, flat, whiter than the Pasteur strain, and dangerous. Rob Wyant, of CDC’s Rapid Response and Technology Transfer Laboratory, came and read cultures with us to fine tune our skills of colony discrimination. No sense in running direct fluorescence antibody (DFA) testing or polymerase chain reactions (PCR) on every Bacillus species. To use Wyant’s term, “our boy,” the wild strain, grew well on sheep blood agar overnight at 35 degrees, and demonstrated a distinctive ground-glass appearance. Medusa head formation was not usually seen the first day, but we did notice some formation on 48- to 72-hour colonies.

I was very proud to be a member of the CDC National Anthrax Response Team. The anthrax event showcased the public health system in action, encompassing emergency responders, laboratorians from state and federal agencies, epidemiologists, and many other behind-the-scenes individuals. It also demonstrated basic microbiology in action using good old blood agar and the human mind.
Help Celebrate National Medical Laboratory Week: April 14-20

ON YOUR BEHALF

APHL is pleased to announce that National Medical Laboratory Week (NMLW) will be celebrated April 14-20. NMLW provides us with a unique opportunity to join with the 280,000 professional laboratory scientists in the US to increase awareness of the importance of laboratory testing.

This year’s theme, “Laboratory Professionals: Quality Care Through Quality Testing,” highlights the quality focus of the work that is performed in every public health laboratory every day. As one of the co-sponsors of this week, APHL will be distributing posters and buttons to state training coordinators in public health laboratories, along with a sample news release and a sample gubernatorial/mayoral proclamation. Last year, several public health laboratories took advantage of NMLW to set up informational laboratory displays, host employee appreciation receptions, and hold open houses for community visits. One lab even hosted a nationwide educational teleconference on the Human Genome Project.

Other NMLW sponsors are the American Association of Blood Banks, American Association for Clinical Chemistry, American Medical Technologists, American Society for Clinical Laboratory Science, American Society for Clinical Pathology, American Society of Cytopathology, American Society for Microbiology, Clinical Laboratory Management Association, College of American Pathologists, and National Society for Histopathology. APHL’s representative to the NMLW committee is Linette Granen, Regional Coordinator for the NLTN South Central Office.

Bhavna Lall, APHL GAP Program Manager; John Pfister, APHL delegate member from WI; and Steve LaCroix, APHL associate member from WA, attended the International Proficiency Testing Conference (Global Odyssey 2002) in Atlanta, GA, February 24-27, 2002.

Dwayne Johnson, APHL Food Safety Program Manager, represented APHL at the Food and Drug Law Institute’s Food Law Course in Washington, DC, January 2002.

Rosemary Humes, APHL Infectious Disease Program Director, represented APHL at the FDA In Vitro Diagnostics Professional Group Roundtable, February 19, 2002.


We want to know where you have represented APHL. Please send the following information to APHL’s Newsletter Coordinator, Kelly Deeb, at kdeeb@aphl.org:

- Your name and title
- Name of meeting
- Date of meeting
- Where meeting was held
The APHL business meeting will be held on Sunday June 9, 2002 at the APHL Annual Meeting in Albuquerque, NM. *** This constitutes official notice to APHL members. The purpose of this meeting is to discuss items of strategic importance to APHL.***

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**Minute Readers: We want to hear from you!**

The APHL Minute is your newsletter, and we are very eager to highlight happenings in your public health laboratory and your personal career experience, including:

- Profiles of public health laboratory leaders.
- Case studies of interesting laboratory investigations.
- Significant changes in the physical infrastructure of your state’s public health laboratory system.
- Anything else of potential interest to your colleagues and peers.

In fact, we are so eager to share your news, that you don’t even have to write the story. Just contact Kelly Deeb, Membership and Newsletter Coordinator, at (202) 822-5227, ext. 221, or kdeeb@aphl.org, and we will have someone call you back to document your news.
**MARK YOUR CALENDARS...**

**FUTURE MEETINGS OF INTEREST**

**2002 PulseNet Update Meeting** will be held at the Sheraton Inn in Ann Arbor, Michigan, from April 8 through April 10. The theme for this year’s meeting is “The Role of PulseNet in the Public Health Response to Bioterrorism.” Hotel and registration information was sent via email to participating laboratories and to all state laboratory directors. Please note the following deadlines:

- Registration: March 8
- Hotel reservation: March 8
- PulseStar nominations: March 11

The PulseStar award is presented annually by CDC/FDDLS and APHL to any PulseNet participant whose efforts have contributed significantly to the advancement of program activities during the previous year. Please consider nominating someone from your health department for this award. The award consists of a plaque and a check for $500 from APHL.

**Annual Molecular Virology Workshop**
April 26-27, 2002 (prior to the 18th Annual Clinical Virology Symposium, April 30-May 1, 2002), at the Hilton Clearwater Beach Resort, Clearwater Beach, FL. Topics at this workshop include Real Time PCR, TMA, and validation of new molecular methods. Access the program and registration form online by going to www.virology.org and clicking on the caption for the workshop, go directly to hsc.usf.edu/ MEDMICRO/ virology/ workshop.

**18th Annual Clinical Virology Symposium**
April 28 - May 1, 2002 at the Hilton Clearwater Beach Resort, Clearwater Beach, FL. Topics at this meeting include: BSE, Herpes viruses, HIV genotyping vs. Phenotyping, Nucleic Acid Testing Systems, anti-virals and Influenza vaccines. Access the program and registration form online at www.virology.org.

**3rd National NEDSS Stakeholders Meeting** will be held May 8-10, 2002 in Atlanta, GA.

**2002 APHL Annual Meeting** will be held June 9-11, 2002 at the Sheraton Old Town in Albuquerque, NM.
[The US Postal Service had originally contracted with a private laboratory to do the testing, with overflow samples directed to the CDC and later—out of sheer desperation—to whatever public health labs would take them. This arrangement, however, was untenable given the volume of tests involved, the large number of suspect postal facilities spread out across the nation, and a lack of coordination at upper echelons. Charles Vidich, acting director of the USPS Unified Incident Response Center would later comment that “one (private) lab was not going to be able to solve . . . the United States of America’s problems. Three hundred locations to be sampled and one point-of-entry: This is the weak link theory.”]

Nicholson’s phone call prompted a brisk chain of events that would ultimately involve LRN laboratories in virtually every state in the country. APHL, in effect, would be at the hub of the Laboratory Response Network—a multi-level system, which at the time comprised about 100 public health labs capable of conducting sophisticated tests to identify biological organisms used in terror attacks. Although LRN labs had been busy for weeks responding to the anthrax crisis, they were about to get busier.

The next day Becker raised the issue of APHL involvement during a weekly staff call with the CDC. The APHL members who were on the line, said Becker, gave a “positive response” to his suggestion that the association offer to coordinate anthrax testing for the USPS.

Pulling Off ‘A Nearly IncredibleFeat’

APHL’s decision to take on this mammoth task moved the association squarely into uncharted territory. Yet APHL officials had little time to reflect on the significance of the move. Within two hours of that staff call, Becker was back on the phone in a 50-state conference call with public health laboratorians, CDC personnel, and USPS officials to determine the parameters of the work ahead and what, exactly, had to happen next. At the end of that call, several APHL members volunteered to serve on a working group to bring the high-stakes project to fruition. Among those members were:

- APHL President Mary Gilchrist.
- Frances Downes, director of the Michigan state public health laboratory.
- Paul Kimsey, director of laboratory science at the California State Department of Health Services.
- Norman Crouch, director of the Minnesota state public health laboratory.
- Anthony Sambol, a program advisor and coordinator for the Nebraska public health laboratory’s special pathogens lab.

Late that same evening and again the next day, a Saturday, the working group conferred by phone to discuss a fundamental prerequisite for project success, something that, despite all the lab work going on, did not yet exist: a protocol for anthrax sampling and testing applicable to postal facilities. Richard Kellogg, who manages the LRN from the CDC side, participated in those discussions. In a telephone interview, he noted that the primary focus of the LRN before September 11 was clinical isolates. “We didn’t fully anticipate (a large) level of work-up around environmental samples,” he said. “We had to morph overnight.”

Kellogg’s comment was not much of an exaggeration. In little more than 48 hours, he and the working group developed a draft protocol “aligned to assure operational integrity within the Laboratory Response Network,” based on existing instructions for anthrax testing at Level A and Level B laboratories. By 1:00 A.M. on Monday morning, Kellogg said, “we finally had slugged through the major issues.” The new protocol was immediately sent for review to APHL members on the West Coast (for whom it was still Sunday evening). Those individuals edited the draft and sent their work eastward for further review. Finally, the protocol was approved by a third party at the CDC who was then crafting the agency’s official anthrax test recommendations. By Tuesday, the job was done; a major hurdle had been cleared.

[In an email drafted two months later, Gilchrist writes that the “protocol . . . was handed off westward across the nation, migrating with the time zones until it was essentially done the next morning. Almost makes the basis for an interesting movie . . .”]
In the meantime, other business was afoot. At about 4:00 P.M. Sunday evening Becker, Gilchrist (who had flown in from Iowa) and a few other APHL representatives joined a packed room of postal and government employees at USPS headquarters in Washington, DC, for a strategy meeting. “It was . . . a cast of thousands,” said Becker, including members of the US Army Corp of Engineers and officials from the Environmental Protection Agency. As Becker recalls the meeting, “It was a real emergency situation. The men in the room had been working for three days straight. They were disheveled, unshaven, and bombed out of their minds (from exhaustion).” He noted that APHL officials originally planned to coordinate the testing from the association’s main office just three miles away, but “quickly realized we needed someone on-site.”

The agreement banged out at that meeting was the following: USPS subcontractors would collect between 30 and 50 dry swab samples from each of up to 500 postal facilities nationwide. Upon APHL approval, those samples would be directed to the nearest state public health laboratory or another LRN resource identified by the association. Results for specimens testing negative would be reported within 72 hours of receipt of the specimen at the laboratory, while results for specimens requiring further work-up would be reported within 120 hours of initial receipt. Any positive findings would be simultaneously reported to both the USPS and appropriate public health agencies.

The gist of this arrangement was quickly communicated to state public health labs and, via the Association of State and Territorial Health Officials (ASTHO) and Council of State and Territorial Epidemiologists, to other state health department staff as well. On Wednesday, November 7, ASTHO received an email from an official with the Michigan Department of Community Health commenting on the hastily achieved agreement:

Our public health lab directors working in concert have pulled off a nearly incredible feat, and have brought some sanity to what would have otherwise been a very confused and confusing process, to put it mildly.

Tony Sambol Goes To Washington

The situation for the postal service was about to improve. Sometime after the Sunday meeting, Becker called Steven Hinrichs, director of the Nebraska state public health laboratory, to ask if he would be willing to spare Anthony Sambol to work on the USPS project on-site. Sambol had been part of the working group that devised the protocol governing the collection and testing of postal samples. He was also one of the first program advisors hired as part of CDC’s National Laboratory System demonstration project, and, as such, had had specialized laboratory training and considerable experience collaborating with public health stakeholders. Hinrichs, said Becker, “was supportive of my request for Tony to pinch-hit for APHL.”

As Sambol tells the story, “After Sunday, Dr. Hinrichs told me Scott Becker would be giving me a call. Scott called and asked, ‘Do you want to come out to Washington, DC?’ I said, ‘Sure.’” By Saturday, Sambol had arrived at the USPS Unified Incident Response Center at L’Enfant Plaza and “hit the ground running.”

His presence had an immediate effect. Charles Vidich, acting director of the response center, said “It was like night and day. (Sambol) was a godsend for us. It’s like you’re stumbling in the dark and someone brings a flashlight and says, ‘Look, this is the way you need to go.’”

What did Sambol do? According to Vidich, he “brokered all the relationships,” achieving “a seamless transition” from the collection of samples through dissemination of test results. Vidich added, “It’s not possible to say what he did, because he did so much. We don’t even understand the depths of everything he did.”

See Sambol on page 28...
For his part, Sambol remembers, “We were in crisis mode. Nothing was really written yet. We had to come up with a role for the APHL liaison. That role was very fluid and evolved over time.” Sambol stayed in his four-foot cubicle for 12 to 14 hours a day for ten days straight. Although he had many duties, including developing reporting requirements and quality assurance procedures, he boils them down succinctly: “I was the phone guy for the lab, basically.”

The labs, meanwhile, were working to capacity. Some were working on a 24/7 basis. Sambol estimates that in a five-week period 40 LRN labs in 34 states processed at least 3,600 samples for the postal service, work that they accomplished in addition to whatever anthrax testing they were doing for their own states and counties.

Jafar Razeq, deputy chief of public health microbiology for the Maryland Department of Health, was one of the laboratorians doing the testing. His lab received upwards of a hundred samples from the Brentwood and other DC-area postal facilities. When prodded, Razeq conceded that the extra work was “tough on us.” He quickly added, however, “We definitely feel that this is a public health issue, and we needed to be involved. It was our obligation to do this.”

By Sunday, November 18, Sambol was able to send an email to key staff at APHL stating that “the situation has greatly improved for all of the major stakeholders. . . . The stress level and frustration level for all parties has greatly decreased as APHL has become involved . . . .”

Lessons Learned
Looking back, the USPS project was a great success on many levels. It quelled the immediate crisis and forced public health officials to reexamine existing bioterrorism response plans and the assumptions behind them. The lessons learned from this project and from the overall anthrax scare will help officials better prepare the nation for future crises.

All of those questioned about the LRN for this article agreed that, when push came to shove, the system worked. CDC’s Richard Kellogg noted that in aggregate the anthrax crisis was the first real test of the Laboratory Response Network. As far as the emergency response is concerned, Kellogg rates the test a success. However, he also said the crisis was a “wake-up call” and credited the happy ending largely to state and local public health laboratories that provided service “above and beyond” reasonable expectations. Kellogg made a sharp distinction between capability—“How do you do it?”—and capacity—“How do you do a lot of it?” “What we learned is, what are you gonna do to be prepared for that level of response?”

Sambol, now back in Nebraska, echoed those thoughts. He said the project proves “the LRN works and that we can step up to the plate.” But he noted that public health laboratories “probably would not have been able to continue to do what they were doing.”

Both Kellogg and Sambol cited a need to expand the network. And, in fact, expansion has already begun. As of January 31, about 25 additional laboratories have been certified as Level B or Level C LRN facilities. “Everyone wants in now, everyone,” said Becker.

The emergency highlighted other issues as well. Virtually all models for infectious disease surveillance are designed to track naturally-occurring disease outbreaks for which at least some historical data are available. The anthrax crisis, being man-made, did not fit the models.

Doug Drabkowski, director of program development at APHL and a behind-the-scenes facilitator of the USPS project, mentioned that some within the public health community did not think surveillance testing was necessary at sites with no known anthrax exposure. “I’m not sure that anyone has really thought this through,” he said. “Where do you stop? Everyone’s receiving mail; you could test every facility across the country. Where do you draw the line?”

In practice, screening occurred at sites selected by the postal service. The USPS, after all, knew the routes the four identified anthrax-laced letters had followed. Nonetheless, argued Drabkowski, “we really didn’t have specific protocols available” for the situation at hand. The USPS project, he said,
raised questions that remain unanswered. “Are there scenarios that really need to be evaluated that we haven’t evaluated yet?” Probably so.

Finally, the project demonstrated a need for tighter collaboration among all the emergency responders and especially between epidemiologists and laboratorians. As Kellogg pointed out, “often the (disease) case definition is so tied into the laboratory investigation that not to have good cooperation between those groups can be problematic.” He said the CDC will redouble its efforts to promote integration between lab and “epi” staff.

Overall, however, the USPS project is most notable not for the questions it raised, but for what it accomplished for the various stakeholders involved.

Diane Barden the bioresponse lab coordinator for the Connecticut Department of Public Health Laboratories, remarked in a phone interview that, from a technical standpoint, the project demonstrated that HEPA-vac sampling is “by far the best for recovery of small amounts of \textit{anthrax}.” Barden, whose lab processed more than 200 samples using the newly minted collection and testing protocol, said, “We actually have data to prove that now.”

The postal service, on the other hand, was simply grateful that the worst of the crisis was over; postal officials could now tell employees that it was safe to report to work. “What could have been a nightmare became one of our most successful activities,” said Vidich two months later. In his words, deciding to work with APHL was a “no-brainer.” The association offered “local access immediately available, immediate lab support, and immediate ties with local and state government.” Moreover, remarked Vidich, the USPS wants to maintain a relationship with APHL “as an insurance policy.”

And for APHL? Executive Director Scott Becker noted proudly that “very quickly APHL helped bring order to what was chaos. As an organization we took a leadership role and were able to help effect a national response in which virtually every state had a role.” The successful completion of the USPS project, said Becker “proves to us that we can react very quickly, very competently for testing of public health significance, and effectively communicate results to multiple audiences.”

In his November 18 email, Sambol expressed a similar sentiment:

\begin{quote}
The main point is that the state public health laboratories, through the APHL/CDC LRN has provided a critical service to the USPS (and nation) for this incidence of bioterrorism. I feel that the APHL/CDC LRN will be asked to coordinate this type of service in the future and that we should be ready.
\end{quote}

If you have a personal perspective on the events outlined in this article, came away from the crisis with other lessons learned, or simply want to commend a colleague for work that was ‘above and beyond,’ we’d like to know. The next issue of The APHL Minute will devote space to your comments on the USPS project and the overall anthrax scare. Please email comments—no more than 150 words please—to Kelly Deeb at kdeeb@aphl.org by Friday, April 12, along with your name, title, and organizational affiliation. Type “Story Comments” in the email subject line. The APHL Minute reserves the right to make minor edits for clarity and brevity.
annual meeting each year took place in Atlanta in what amounted to a yearly field trip for public health laboratory directors and staff. Still, the relationship allowed public health laboratories to stay current with the latest developments in the fight against communicable diseases. Many state public health laboratory directors got valuable experience during the 1950s and 1960s with a stint on the CDC staff in Atlanta.

ASTPHLD Emerges

ASTPHLD held its founding annual meeting at the Mark Hopkins Hotel in San Francisco during the first week of November in 1951. Truce talks were going on in far-off Korea, and Americans were falling in love with redheaded Lucille Ball in “I Love Lucy,” the first blockbuster television situation comedy.

Against that backdrop, a group of 19 state public health laboratory directors gathered in a ballroom at the Mark Hopkins for the 31st annual meeting of the Conference of State and Provincial Public Health Laboratory Directors. Their task was to begin planning a new organization exclusively for the nation’s state and provincial public health laboratory directors.

The conference itself had outgrown the original Southern Public Health Laboratory Association back in the late 1920s. Public health laboratory directors from states outside the South had been clamoring to join the organization during the 1920s. In 1927, the conference changed its name to the State Laboratory Directors Conference and widened its membership to include public health laboratory directors from the entire United States.

Ten years later, in 1938, M.H. McCrady opened the 18th annual meeting in Kansas City by suggesting that the members reflect about the need for a constitution and by-laws. McCrady’s suggestion was received enthusiastically by the membership. The next year, at the annual meeting in Pittsburgh, the members unanimously adopted a new constitution and by-laws reorganizing the conference and changing the name of the organization to the Conference of State and Provincial Public Health Laboratory Directors.

The reorganized conference became much more of an activist organization, publishing its annual meeting transactions in 1938 and the initial Bulletin of the Public Health Laboratory in 1942. The transactions and Bulletin were combined in 1946. The conference continued to hold its annual gathering in conjunction with the American Public Health Association’s (APHA) annual meeting.

The 1946 creation of the CDC and the nearly simultaneous establishment of the Venereal Disease Research Laboratory and the Sanitary Engineering Center assigned new importance to the public health laboratory. “In the postwar years,” historian Charles Duffy noted, “the white-coated medical researcher came to symbolize all that was good and noble in the brave new world of science, and the vast amounts of money awarded for research in the health sciences were devoted primarily to basic research and medical technology.” Public health laboratories shared in American society’s fascination with the “white-coated medical researcher.”

That fact became stunningly clear in September 1946 when the U.S. Public Health Service, at the request of the Association of State and Territorial Health Officers (ASTHO), called together the nation’s public health laboratory directors to discuss ways the federal health apparatus could work together with the state laboratories. It was the first time the Public Health Service had asked to meet with the laboratory directors. Two members of the Conference of State and Provincial Public Health Laboratory Directors were on the planning committee for that landmark meeting.

The conference worked with the U.S. Public Health Service primarily through its Committee to Study Ways and Means by which the U.S. Public Health Service Can Assist Public Health Laboratories through 1949. According to the conference historian, the committee “was primarily responsible for the development of a better understanding of the programs of the federal laboratories and the fuller utilization by the state laboratories of the services and facilities available from the U.S. Public Health Service Laboratories.” The Committee’s work with the Public Health Service would in many ways be a precursor of the relationship that ASTPHLD established with the CDC in the 1950s and 1960s.
The conference’s relationship with the booming federal health community in the late 1940s was one of the principal reasons that state laboratory directors began pushing for creation of a separate organization within the conference to represent their interests. The membership increase that had accompanied the reorganization of the conference after 1939 had been heavily weighted toward associate memberships, to the extent that by the postwar years, two-thirds of the members were associate or non-voting members. Many of those members were county and municipal public health laboratory officials, an increasingly important voice in the conference’s affairs.

The conference board of directors understood the need of the state and territorial laboratory directors to have a forum to discuss pressing matters involving administration, policy and relations with the quickly expanding federal public health presence. Since at least the mid-1930s, the conference and its predecessors had concerned themselves primarily with providing members a forum for discussing scientific and technical issues. At conference meetings, policy and administrative questions usually took a back seat to the reading of scientific papers.

The first meeting of what would become ASTPHLD took place on Friday, November 2, 1951, when members appointed a planning committee consisting of M.E. Koons (ND), S.R. Damon (IN), William Levin (OR), F.L. Mickle (CT) and C. Hunter (KS). The five-member committee promised to set up a plan for organization for the new association and to report on that plan at the conference’s 1952 annual meeting in Cleveland.

With a mechanism in place for reorganization of the conference into two separate associations the conference serving the broader interests of the public health laboratory community and ASTPHLD representing state and territorial laboratory directors exclusively events soon took another turn. The CDC, which wanted a high-level association of state laboratory directors to Atlanta to participate in a seminar on identifying and dealing with typhus. Hogan had at least one thing in common with the vast majority of state laboratory directors. Much of his career with the federal government had been spent in the Public Health Service’s Venereal Disease Division. Like most of the state laboratory directors, his research efforts had been grounded in blood serology studies.

Hogan’s matchmaker efforts yielded results. At the typhus seminar, the planning committee appointed the previous November in San Francisco completed its work on a constitution and by-laws. At a meeting on June 6, 1952, the final day of the seminar in Atlanta, the 38 state laboratory directors in attendance voted to formally establish ASTPHLD.

Indiana’s Samuel R. Damon was named the organization’s first president, and E.J. Sunkes of Georgia would serve as the initial vice president. Members elected the popular Mel Koons of North Dakota as ASTPHLD’s first secretary, an office he had held with the conference since 1945. Minnesota’s Henry “Hank” Bauer, William Levin of Oregon and George Cameron of Tennessee were elected to ASTPHLD’s first executive committee.

Damon, an urbane Hoosier, was a protégé of John N. Hurty, the dynamic leader of the Indiana State Board of Health, perhaps the best-run state department of public health from the 1920s to the 1940s. Koons, with his work as secretary of the conference since the end of World War II, was probably the best-known public health laboratory director in the U.S., albeit from one of the smallest states in the union. Dapper, balding and always the first one on the dance floor at conference and
ASTPHLD functions, Koons’ friendly manner and commitment to professional organizations for laboratory directors made him uniquely suited to serve as ASTPHLD’s ambassador for the next 15 years.

ASTPHLD’s first annual meeting was held on October 16-17, 1952, the two days preceding the conference’s annual meeting in Cleveland on October 18-19, 1952. The conference, which had served as the midwife to ASTPHLD’s birth, would continue in existence for most of the rest of the 20th century. But after the 1952 reorganization, the voice of state and territorial public health laboratory directors in the U.S. would most definitely be through ASTPHLD.

The Public Health Laboratory in the 1950s and 1960s
One reality that ASTPHLD would face during its first 10 years in operation was the efficiency of antibiotics against many of the public health threats that their laboratories had primarily been concerned with for most of the last 30 years. Syphilis serology programs the mainstay of most state public health laboratories during the 1930s and 1940s were downgraded in importance during the 1950s as sulfanilamide and penicillin wreaked havoc on syphilis and gonorrhea. The death rate for syphilis still 14.4 per 100,000 in 1940 plummeted to 2.5 per 100,000 deaths in 1955.

Tuberculosis, which had been a major concern of public health laboratories during the 1930s and 1940s, all but evaporated as a significant health threat in the immediate postwar years. In 1949, chemists at Reilly Tar & Chemical isolated a synthetic isonicotinic acid. The next year, chemists at Roche Laboratories turned the compound into the first effective treatment for tuberculosis. Deaths from tuberculosis declined from 113.1 per 100,000 in 1920 to 9.1 per 100,000 in 1955.

Polio had captured the attention of many public health laboratory staffs in the years following World War II. Outbreaks were widespread, and the resulting public hysteria presaged a trend that would become more common in the second half of the 20th century. When Carl Blank joined the Utah Public Health Laboratory in 1952, he was the 18th employee in the department. At that time, the laboratory in Salt Lake City “was still doing a lot of tuberculosis testing,” according to Blank. “We did 50 specimens a month, and most of the TB we saw was from migratory workers and Native Americans. At that time, we were the only facility in the state doing the TB tests.”

The eradication of poliomyelitis that was set in motion with the 1954 pilot distribution of the Salk vaccine began diminishing the role that public health laboratories had played in identifying the polio virus, although many of the state laboratories had gotten valuable virology experience during the polio crisis.

Traditional childhood killers such as whooping cough and diphtheria all but disappeared from the public health community’s memory during the postwar years. Only 89 U.S. children died of whooping cough between 1950 and 1954.

The electrification of American society was essentially complete by 1950, a phenomenon which had implications for the public health laboratory’s traditional role in guarding against food and milk contamination. Electrification of the food plant and home made refrigeration a way of life by 1950, and all but eliminated spoiled food and milk.

Even given the virtual elimination of many traditional health threats, public health laboratories in the 1950s and early 1960s found themselves with much to do. The continued existence of marital testing laws meant that many state public health laboratories had a seemingly endless chain of syphilis serology samples...
to attend to during the period. “We had gotten a lot of funding from the U.S. Public Health Service to work on syphilis serology,” noted Nathan Schneider, retired lab director of the Florida Department of Public Health in Gainesville. “In a lot of ways, that determined what our budget was.”

Stan Inhorn, retired director of the Wisconsin State Laboratory of Hygiene in Madison, recalled that when he started with the laboratory in the 1950s, “Our lab was doing a lot of other primary testing, mostly parasitology and mycology. We were seeing a lot of changing workloads in the 1950s and 1960s.”

The Wisconsin laboratory was one of the first in the nation to initiate a trend that would become widespread during the 1970s and 1980s. Inhorn recalled that when he started at the Madison laboratory, the state was dotted with small hospitals that had very limited laboratory services. “They sent a lot of their primary reference cultures to the state laboratory,” he said. “Wisconsin was one of the first states to start charging for those services.”

Charles Sweet, who succeeded J.V. Irons as the head of the Bureau of Laboratories of the Texas State Health Department in Austin, remembered the small volume of specimens in the 1960s compared to the number in 1993 when he retired. “In 1962,” Sweet said, “we had 183,000 specimens in the Central Laboratory in Austin and about that many in the bureau’s 23 regional laboratories.” Thirty years later, he added, the number would exceed five million specimens. Sweet also recalled the bureau’s attempts in the 1950s and 1960s to acquire new instrumentation. “The instruments back then were so complicated and so unique,” he said. “It seems like none of them ever survived and cut the mustard.”

One of the topics that state laboratory directors inevitably discussed at every get-together was training and licensure. It was a subject that would consume a great deal of ASTPHLD’s time and effort in the 1960s and 1970s.

...Conversation from page 5

some other outpatient setting) and the local public health system. Because ultimately the preparation and the response to this set of problems was highly dependent on the integration of those three elements at the local level. So greater integration locally? Yes, between the healthcare delivery system, the individual clinicians, and the health department.

Given all of the lessons that the agency has learned, what changes are afoot?

We are in the process of evaluating the best way to use the resources that have been appropriated and the highest priorities for implementation of those resources as we try to support state and local health departments that are scaling up their own preparation and response capacity. We are not in a position to really be able to comment yet on exactly how those resources will be used at CDC because that’s under negotiation right now. We remain hopeful that we will be able to make investments in laboratory capacity development, rapid diagnostic tests, some of the really critical communication needs that must be addressed. Certainly the agency will be making large investments in vaccine development and the pharmaceutical stockpile.

Are the Laboratory Response Network and the National Laboratory System on the list programs that might receive more funds?

I can’t really phrase it in black and white but I can say that certainly CDC recognizes and prioritizes the importance of the Laboratory Response Network and intends to expand that and improve connectivity with a broad spectrum of clinical microbiology labs.

What role, if any, did you play in APHL’s project to coordinate the provision of laboratory support to the US Postal Service?

We were very supportive of the concept of having the evaluation of postal facilities be conducted with full communication with the laboratory and health officers in the region where those facilities were located simply because there would be local consequences of whatever information that process
obtained. So by working with APHL and the health officers and the state epidemiologists, we were able to try to ensure that the quality of the data being collected from the laboratory perspective was adequate and appropriate and that the individuals who needed that information in order to make public health decisions were in the information loop. So we were very supportive of the inclusion of APHL.

**Do you consider the project a success?**

I don't know if I could really say if it was a success. It depends on how you would define the stated goals. But I think that from the options that were available at the time it was the best solution and seemed to go very well from our perspective.

**From your vantage point, if a similar situation were to arise in the future, what would you do differently, if anything, in terms of coordinating the laboratory response?**

I think there are a number of ways to improve coordination. One of them would be to have an information system that allowed shared exchange, through secure data networks, of the laboratory test results as they became available. I think it's also important to make sure that everyone involved in laboratory assessment, particularly the environmental samples, is using similar methodology and means the same thing when they report a result. I think that's been one of the real advantages of the Laboratory Response Network; the testing methods are the same and the results mean the same thing from one place to another. Unfortunately, other labs that have been involved in sampling and patient evaluation have used different criteria, and so in the future we would hope to develop a much more uniform method for reporting results so that everyone understands them the same way.

**And the information system you mentioned—do you have something in mind like the National Electronic Disease Surveillance System (NEDSS)?**

We've made a commitment to build all information platforms on the NEDSS standards and the NEDSS architecture. So, developing a module for the laboratories that are involved in real-time assessment of bioterrorism specimens is a new module, but it certainly can and should be built on the NEDSS architectural framework.

**What specifically is the Emergency Operation Center and do you think it functioned well during the anthrax crisis?**

The Emergency Operations Center is a standard way that agencies conduct and manage the operations involved with a variety of crises. For example, it is typical to have a system like that in the midst of a natural disaster such as a hurricane or earthquake. We already had a plan and a capacity for developing an Emergency Operations Center. The way an operation center works is basically (that) field investigators have information and pass that information into the operation center. The operation center in turn distills the information and presents it to the decision-makers who see the big picture, make decisions, (and) inform the operations center. Then the center deploys the necessary resources to allow the field teams to implement those decisions. This particular operation center was supported by a whole array of cross-cutting teams including a postal team, an environmental team, a communications team, a state liaison team, and various other teams of people necessary to support and facilitate the operation. It involved more than 200 people over the course of the investigations.
Do you have any other comments on the crisis in general or anything you would like to say to public health laboratorians?

I have one very specific statement and that is: It's not over until the perpetrators are caught. We are extremely grateful for what the laboratory system was able to do during the crisis but we all recognize that we have to maintain the high priority of vigilance and preparation and not give into the feeling that “okay, it’s over, it’s back to business as usual.” It’s not business as usual and we really must be prepared to gear up and speed up at a moment’s notice.

That’s an important message. Thank you.
To submit an article for consideration, contact the Newsletter Coordinator: Kelly M. Deeb via email kdeeb@aphl.org