What It Takes To Be A Leader

Being A Public Health Lab Director Requires A Range of Skills (page 3)
A Message from the President

The Legacy of Laboratory Collaboration

During my morning commute from Napa to Richmond, I try to find a few moments for reflection between phone calls and news updates from NPR. Recently I found myself reviewing the weeks of April 11 and 18 when the destruction of influenza H2N2 proficiency test samples consumed the attention of laboratories in the US and 17 other countries. Although we recognized the true threat from the incident was extremely low, it was a threat nonetheless and an opportunity for some of us to “test the system.” In California, we used it as a drill, standing up our incident command center, and pulling people from their day jobs to assist in its operation.

I was gratified to see public health laboratories excel in the eyes of health officials (including in HHS) as well as the media. I was pleased that APHL pulled together what information there was so quickly and effectively. Matching the various lists highlighted a challenge in these events; the validity of the data. We responded with concerted action and clear explanations of laboratory practice. Yet the American laboratory “system” played poorly. It appeared to be little more than a fragmented collection of private and public sector players.

I think you will agree that this perception, while exaggerated, contains elements of truth. Can you imagine how different April 2005 would have been with a true National Laboratory System, one supported by electronic laboratory information systems, consistent outreach to clinical laboratories, well-funded training programs and mechanisms to assure coordinated, cross-sector emergency response?

It is my hope that with H2N2 fresh in the minds of the public and decision makers, a quintessential APHL message may now have new resonance. We could formulate this as “laboratory systems = public health and safety,” and bolster the statement with a litany of issues: the adverse impact of a $130 million dollar cut on the response capacity of public health laboratories, the value of state and local public health laboratory participation in the Integrated Consortium of Laboratory Networks, the importance of intrastate partnerships for emergency response, and the need for federally validated and standardized protocols for initial screening of unknown samples, to name a few.

I will step down now from my bully pulpit. This is, after all, my last column as APHL president. As I have traveled the country over the last year, I have witnessed APHL’s work as a convener, prime collaborator and strategist in the development of laboratory and public health policy. APHL moves forward with the benefit of these relationships, clear objectives, an expanded membership structure and, periodically, a serendipitous event. It has been my privilege to serve as your president; I thank you for the opportunity.

Sincerely,

Paul Klimov

The APHL Minute
Nation Short of Qualified Public Health Laboratory Directors
Emergency Response at Risk

Three years ago APHL released a study predicting an imminent shortage of qualified public health laboratory directors. Today that shortage is real, with potentially serious consequences for the nation’s ability to respond to a terror attack, pandemic influenza or other public health emergency.

Bernard Jilly, director of the Alaska public health laboratory, said that even without effective leaders or ample staff “lab people will try to get the job done no matter what. Until they burn out and throw up their hands and say, ‘I’m outta’ here. We’ve been limping along for a while and we can continue to limp along for a while longer, but if something really big happens—something big on a national scale—the leadership and expertise won’t be there, (laboratory) results won’t be forthcoming in a timely manner, and everyone will be pointing fingers.”

The 2002 APHL study predicted 13 vacancies in state public health laboratory directorships by 2007, with a pool of replacement candidates described as “not adequate or only marginally adequate in size to meet the future demand.” That warning—considered somewhat dire at the time—has proven overly optimistic. Instead, just between early 2002 and early 2005, 17 public health laboratory directors have vacated their posts, largely due to retirements.

APHL Executive Director Scott Becker said, “The projections we made three years ago were grossly underestimated. In the past 12 months alone, 11 of 56 state (and territorial) lab directors have stepped down. Equally troubling, we expect a similar rate of turnover over the course of the next few years.”

A Potentially Dangerous Leadership Gap

While Becker said the nation’s network of public health laboratories is “taking a hit” from the simultaneous loss of so many experienced scientist-managers, he warned that the lack of qualified replacements—the so-called pipeline problem—is of paramount concern, creating a potentially dangerous leadership gap that could compromise laboratory services the next time the network is stressed, either by one large-scale crisis or multiple concurrent events.

Arkansas’s Department of Health laboratory director, Michael Loefelholz, explained that “a well-functioning public health laboratory requires more than just competent science. You have to tie the science with policy and with politics. And often the need for (laboratory) science comes up at times of crisis, like last year’s shortage of reagents for newborn screening or the anthrax crisis. In those cases it makes a huge difference to have a director who has a base of knowledge, who knows what resources to call upon. Otherwise, you might get no response or, worse yet, an inappropriate response.”

At present, six states—Hawaii, Illinois, Mississippi, New Jersey, South Carolina and Utah—have interim or acting public health laboratory directors. Kentucky has finally succeeded at recruiting a permanent director, after a search of more than two years. The leadership gap is so serious that APHL’s incoming president, Katherine Kelley (director of the Connecticut Public Health Laboratory), plans to dedicate her presidency to finding ways to fast-track emerging leaders into vacant director slots.

At heart, the pipeline problem has three components: 1) declining numbers of students pursuing graduate degrees in laboratory sciences, 2) scant opportunities for interested scientists to acquire the managerial and policy skills necessary to oversee a complex public health laboratory and 3) few incentives for scientists with those rare skill sets to work in public health settings. Over the long-term, all three must be addressed.

Encouraging Students to Pursue Graduate Degrees

The Public Health Preparedness Workforce Development Act of 2005 (S. 506) now pending in the US Senate could help alleviate the first problem by providing scholarships and student loan repayment assistance to individuals who pursue a course of study leading to a health professions degree (including a laboratory science degree) and go on to work in a public health setting for specified periods of time. The bill also provides funds for state and local loan repayment programs that follow the federal guidelines. APHL is actively supporting the bill and has urged its members to do the same. While recognizing that one piece of legislation will not end the public health workforce shortage—and will do little to address the immediate shortage of potential public health laboratory leaders—APHL’s Becker said, “It’s a helpful start.”

Continued on page 4
Learning the Intricacies of Public Health Laboratory Leadership

The second problem—developing the appropriate skill set to be a lab leader—is one that is generally under-appreciated by those unfamiliar with the unique demands of public health laboratory practice. Tom Hearn, who handles laboratory issues in the CDC's Division of Public Health Partnerships, noted that there is huge difference between managing a clinical laboratory in a for-profit setting and managing a public health laboratory. In a public health setting, he said, “You’re providing laboratory services for a population analysis rather than an individual analysis. You have to have an understanding of how government works and how public health policy is derived. It would be difficult without any formal training to have to figure it out on your own.”

Yet formal training is precisely what is lacking. Both Jilly and Loeffelholz said that virtually all of their public health training and most of their managerial training have come from on-the-job experience. Both also noted that were they to vacate their posts tomorrow, there would be no one on their staffs with the right combination of skills and credentials to advance into their positions. “If I leave right now,” said Jilly, “we have to recruit from the outside.”

Indeed, the magnitude of the training deficiency—even among senior scientists now working in public health laboratories—is simply a reflection of the long list of skills necessary to succeed as a public health laboratory director. Among those skills, Loeffelholz cited vision- and goal-setting, conflict resolution, fiscal and personnel management, policy expertise, working knowledge of the legislative process, communication skills, regulatory compliance and “inspiring people to get on board with the mission rather than ordering them to do it.”

Loeffelholz also mentioned in passing that one of the items on his to-do list is figuring out how to trim $750,000 from the cost of a new laboratory building now under construction. He said he devotes about 70% of his time to administrative duties and just 30% to science (a work ratio that is unappealing to many potential laboratory leaders who prefer to concentrate on science).

Jilly described the ideal qualifications for a public health laboratory director more succinctly: “You need to actually be a superhero—a scientist, clinician, manager and politician.”

A complicating factor is the rapidly evolving nature of public health laboratory practice and associated new demands on laboratory leaders. Just a few ongoing developments are:

- Changing technology, including tandem mass spectrometry for newborn screening and molecular diagnostic techniques to identify disease microbes.
- The need to prepare for previously unanticipated crises, notably including biological, chemical and radiological terrorism and an onslaught of emerging infectious diseases.
- Growing imperatives for laboratories to address issues of information privacy, confidentiality, bioethics and public health law.
- Moves in several states to switch public health laboratory funding from general state revenue to user-fees (and the resulting need to find new ways to fund routine disease surveillance and other core public health functions).

NCPHLL, Tackling the Big Issues with Limited Funding

APHL's National Center for Public Health Laboratory Leadership (NCPHLL) was established three years ago—in the wake of the study predicting today's leadership crisis—specifically to prepare current and emerging leaders with the skills to effectively manage a public health laboratory in the midst of these challenges. Last year the center began work on a core curriculum for 21st century laboratory leaders. According to Pandora Ray, who oversees the project along with APHL's Eva Perlman, the idea is to put together a logical sequence of courses covering "budgets, people, politics and other things that are outside the normal educational system for most laboratory directors." Ray said, “Some courses may be appropriate for some folks and not for others.”

So far, six broad topics have been identified (based on discussions with APHL's Council of Chairs and Board of Directors): leadership (strategic planning, organizational design, etc.), human resource management, technical management, fiscal/budgetary manage-

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Creating Incentives to Draw Talent to a Cash-Strapped Field

The third part of the pipeline problem— incentives for qualified people to work in public health—is one that can only be addressed through advocacy to convince federal, state and local governments that, in Jilly’s words, “public health is a worthwhile investment.” Jilly said there is a great need to “educate big policymakers—governors and legislators—that we have to change the paradigm regarding how we remunerate people in the public setting. If a PhD-level microbiologist can make six figures in the private sector, why should he come work for me for less?”

Loeffelholz—who assumed the directorship in Arkansas not quite two years ago—said that salary was not an issue for him. Rather, he was almost turned off by the benefit package offered by the Arkansas Department of Health, which allot the same starting vacation to both senior managers and secretaries. “There is no multi-tiered system that reflects the credentials of new employees,” he said. “In public health, benefits don’t come anywhere near those in academia or the private sector for someone looking at a laboratory director position. In order to be competitive you have to look at those issues.” Despite “regressing” on vacation time and other benefits, Loeffelholz said he took the job because public health is “gratifying and noble.” He said, “I recognized an opportunity to take something and make it better. I wanted that challenge.”

All factors considered, said Jilly, the pipeline problem “is not something that will be fixed in the next two to three years. It’s a really long-term problem. It looks bleak now and I’m hoping it’s less bleak in the future.”

And yet, CDC’s Hearn noted that the problem is fixable: “It’s not like we need a thousand (laboratory leaders). Concern can be translated into doable activities.” Given that the need is both small and crucial, Hearn suggested that training programs for public health laboratory leaders might be designed to meet global needs.

In the meantime, funding is scarce and—aside from the Senate’s public health workforce bill—policymakers are devoting little attention to the matter. Even Hearn concedes, “I’m a little concerned that we’re not going to have public health laboratories that are going to be able to handle routine disease outbreaks with good public health sense.”
Dear APHL,

I want to commend the National Center for Public Health Laboratory Leadership and the workgroup who produced the TEAM APHL project report (highlighted in the January-February issue of the APHL Minute). I am particularly pleased that they are advocating for the utilization of several different models of laboratory delivery systems which previously have either been ignored or discounted as inappropriate or threatening to the public health laboratory. As so aptly stated by Scott, I trust the article will encourage all of us to consider these options in our strategic planning and decision process. This report, and others recently produced by the association, i.e., *The Future of TB Laboratory Services*, Battelle study on NLS demonstration projects, *Assessing America’s Local Public Health Laboratory Capacity* as well as previous publications by ASTPHLD/APHL members, are also extremely important documents which should be used to influence the strategic direction of public health laboratories.

I would recommend as part of the association strategy that the Center and TEAM APHL revisit the history of our association and evaluate whether the initiative (Partners for the Future: Exploring Roles of Public Health Laboratories), which APHL implemented in 1997, was beneficial to states and if so, what progress have they made? The national initiative was designed to create a forum in each state where leaders from both public health and the laboratory community could begin to develop a foundation of collaboration and partnership, establishing the rationale behind a National Laboratory System and Laboratory Response Network. In addition the following was to be accomplished: 1) Critical analysis and prioritizing of issues facing each state’s public health laboratory system; 2) Establish an agenda for the public health laboratory’s participation in a statewide strategic policy planning and development process, which would involve the private sector laboratory community and other major stakeholders in the development of public health laboratory policies; and 3) Create a collaborative environment which would lead to long term partnerships between the public, academic and private sector laboratory community.

Although the process of decision-making in government may vary from state to state it has been my experience in two states (Arizona and Washington) that it is absolutely critical that public participation become central to any governmental agency planning, budget, policy and prioritization process, including our selection of delivery systems. Public policy is not just the vision of an individual public health laboratory director, but the collective wisdom and input from many stakeholders who participate in a transparent process and are empowered to contribute to the development of policies that help to define the role and responsibilities of state and local public health laboratories. As part of this strategy, I would also encourage use of the following organizational principles when working with private sector, other governmental and academic laboratories.

- Identify and cultivate stakeholders and advocates from outside of government who will support and promote the activities and policies of the public health laboratory (our promotion of the laboratory is viewed as self-serving and not objective) and who will want to be a participant in your advisory committees and strategic planning process. This action will ensure that you create an atmosphere of collaboration and partnership to promote a single and consistent message of public health laboratory policies.

- Address issues that are important to the private sector laboratory community and organizations, particularly where you can help to facilitate meetings and discussions with other governmental officials who can assist the laboratory community with problems usually brought on by government policies and regulation.

- Avoid any appearance of establishing public policies that place public health laboratories in competition with private sector or other diagnostic facilities except where you have documented and prioritized public health needs that require public health laboratories to maintain certain diagnostic and analytical core functions.

- Encourage the development of public policies that transition public health laboratories from programs providing routine diagnostic/analytical services to programs that will: 1) assure quality improvement in the private laboratory community which is necessary to improve patient care and disease surveillance, including the assessment of laboratory practice and the adoption of national laboratory practice guidelines; 2) implement new diagnostic and analytical services that are considered to be high priority for disease investigation, surveillance and monitoring of the environment and 3) commit public health laboratories to a process of continuous quality improvement in the core functions and services that they provide.

- Develop a high profile strategy which will ensure that public health laboratories assume and maintain a leadership role in facilitating the development of recommendations and public policy for a integrated and seamless public and private laboratory delivery system for all laboratory testing.

My compliments to the individual(s) who designed the “new” *Minute*, an excellent visual and well written publication.

Jon M. Counts, DrPH, MPH
Emeritus Member, APHL
Clinical Assistant Professor
University of Washington
APHL’s annual Hill Day event took place on April 7, 2005, under sunny skies and cherry blossoms in Washington, DC. Members met with key Congressional offices to present information on both the successes and challenges for their laboratories, and to explain the impact of proposed federal funding decisions. Chief among these decisions is the proposal to reduce funding for state and local preparedness by $130 million in fiscal year 2006. In addition to avoiding these reductions, APHL members articulated the need for significant increases in federal funding for both the current needs and long-term supply of reagents for the laboratories in the Laboratory Response Network.

Providing funding for state implementation of biomonitoring plans continues to be of significant interest to the association, as well as an increase in the Epidemiology and Laboratory Capacity program for improving detection and prevention of current and emerging infectious diseases, especially tuberculosis. APHL members also explained the importance of funding increases for the CDC’s work on tuberculosis, influenza surveillance, newborn screening and food safety. Fact sheets providing additional details can be found on the APHL Web site.

In addition to APHL President Paul Kimsey, members who participated in Hill Day 2005 included: President-elect Kati Kelly (CT); Mary Gilchrest (IA); Jack DeBoy (MD); Norman Crouch (MN); Ann Willey and Jill Taylor (NY); Nancy Warren (PA); James Pearson (VA) and Janet Klawitter, Noel Stanton and Tim Monson (WI).

For more information on Hill Day, contact Peter Kyriacopoulos at pkyriacopoulos@aphl.org.

Noel Stanton, Janet Klawitter, and Tim Monson from the WI State Laboratory of Hygiene discuss strategy.

Ellen Murray, of the Senate subcommittee that provides funding for the CDC, listens to Mary Gilchrist, PhD, describe the importance of reagents.

Nancy Warren, PhD, Kati Kelley PhD, Jim Pearson, DrPH, BCLD, MPH, and Bernd Jilly, PhD, take notes as they are briefed on the Hill Day agenda and strategy.
In February, APHL member Dr. Thomas Rush and APHL’s Director of Global Health Yvette Benjamin traveled to Dar-es-Salaam, Tanzania, to participate in the CDC- and WHO-organized workshop, Providing Training and Supervision for HIV Rapid Testing. This training, offered as a workshop-in-a-box, introduced policymakers and technical laboratory staff involved in training to this thorough instructional tool. It also provided an opportunity to emphasize the need to increase the availability of counseling and testing services in countries identified by the President’s Emergency Plan for AIDS Relief (PEPFAR) and to stress the coordinated effort this plan has with that of the “3 by 5 initiative” of the World Health Organization (see sidebar).

The primary objective for both the US government and the WHO is to diagnose, decrease and eliminate the spread of HIV/AIDS. A focused effort is required to increase the number of sites offering counseling and testing opportunities. Along with this effort, there is also a need to provide rapid and accurate HIV testing to ensure that those testing positive and needing antiretroviral drugs can begin the therapy. The workshop in Tanzania was one step in a strategy to advance the knowledge and use of the rapid HIV test and thus increase the numbers of counselors that can perform the test accurately.

The week-long workshop was attended by representatives from Botswana, Malawi, Namibia, Tanzania, Uganda and Zimbabwe. Opening remarks and presentations were given by Dr. Gabriel Upunda from the Ministry of Health in Tanzania, Dr. Eddy Maganu from WHO, Michael Owen from the US Embassy in Tanzania, and from the Honorable Hussein Mwinyi, deputy minister for health.

The workshop contained 15 modules covering a variety of topics, including an overview of HIV rapid testing, safety, inventory management, quality control, documents and records, and professional ethics. The workshop-in-a-box provided a template for the countries attending to modify as needed for their particular needs. At the end of the meeting, countries outlined their plan to rollout rapid HIV testing training in their respective countries.

PEPFAR

This program was introduced in President Bush’s State of the Union address in January, 2003. It is a $15 billion, 5-year collaborative government initiative involving the US Department of State, the US Agency for International Development (USAID), the US Department of Health and Human Service (HHS) and other federal agencies. A total of 15 countries have been designated as PEPFAR focus countries. The goals of PEPFAR are to:

- Prevent 7 million new HIV infections
- Treat at least 2 million HIV-infected people
- Care for 10 million HIV-affected individuals, AIDS orphans and vulnerable children.

3 by 5 Initiative

The WHO’s “3 by 5 initiative” is also an effort to respond to the HIV/AIDS epidemic. The target is to treat 3 million people by 2005, ultimately providing universal access to antiretroviral therapy for all people living with HIV/AIDS.
Tick-borne Disease Laboratory Training Produced by Collaboration

Experts from Harvard School of Public Health, Tufts University and the Massachusetts Department of Public Health collaborated with the Northeast Branch American Society for Microbiology and the National Laboratory Training Network to create a half-day laboratory course focused on the identification of ticks and the diagnosis of tick-borne diseases in the northeast. Over 20 laboratory received hands-on training. According to Dr. Richard Pollack, Harvard School of Public Health, despite record-breaking snowfall and a cold New England spring, tick season will arrive as temperatures begin to rise. In fact, he expects to find ticks in his backyard within several weeks of this mid-March workshop conducted at Massachusetts Bay Community College in Wellesley, MA.

Dr. Sam Telford of Tufts University reviewed the biology, ecology, and laboratory evaluation of tick-borne infections. Dr. Alfred DeMaria, assistant commissioner and MA state epidemiologist, discussed the epidemiology of tick-borne infections in Massachusetts and provided an excellent description of the management of Lyme disease, babesiosis and several less common infections.

Pollack provided many preserved specimens for examination. His collection included several tick species in various developmental stages and levels of engorgement. He also included several insects that could be misidentified as ticks. Participants were encouraged to bring specimens from their laboratories that may have been difficult to identify.

In addition to examining 30 prepared specimens, participants gathered to identify ticks using a dissecting microscope provided by Pam Angevine of Nikon Instruments. The microscope, outfitted with a digital camera, was capable of capturing real-time images that were then transmitted through the laptop, LCD projector and onto a screen for all to see. Excellent resolution made it possible to examine minute structural details necessary for accurate tick identification. This course provided an excellent opportunity for hands-on training, as well as information about diagnosis and management of tick-borne diseases.

For more information about this course, contact Betsy Szymczak at eszymczak@nltn.org.

Infectious Diseases

CDC Changes Incidence Surveillance Protocols, Targets Prevention Efforts

Until recently, tracking the HIV epidemic has relied almost entirely on HIV and AIDS case reporting. Over the last several years, serologic techniques became available that can differentiate recent (i.e. incidence) from longstanding infection. With the integration of incidence surveillance, prevention efforts can be targeted towards subpopulations where new infections and greater risk of transmission exists.

The protocol, known as the Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS), makes it possible to estimate HIV incidence nationally. Until recently, STARHS used the modified or "detuned" less-sensitive Vironostika HIV-1 Microelisa. However, because this test requires an investigational new drug from the Food and Drug Administration (FDA), the informed consent and institutional review board requirements make it difficult to integrate incidence testing into routine surveillance. Therefore, CDC scientists developed the BED HIV-1 Capture EIA (now manufactured by Calypte Biomedical Corporation) for STARHS testing.

The CDC has reached agreement with the FDA for using the BED test for incidence surveillance without an investigational new drug or investigational device exemption as long as results of the test would not be returned to patients or providers, nor used for clinical purposes. The CDC also contracted with a single STARHS testing laboratory (currently, New York state's Wadsworth Center) to perform all BED testing for national incidence surveillance. At this time, the BED reagent is available in the US only to the CDC STARHS laboratory.

Currently, the CDC funds 34 state and local surveillance programs (representing more than 85% of all reported HIV/AIDS cases) for HIV incidence surveillance. Each of these areas must collect specific information and remnant sera for STARHS testing from all newly confirmed cases of HIV in their jurisdiction, including those tested in both public health and private laboratories. The CDC has developed protocols for collecting both the information and specimens necessary for incidence surveillance. The CDC, with assistance from APHL, held its 5th incidence surveillance consultation in Washington, DC, in December 2004, to develop guidelines for the transport of remnant sera from public health and private laboratories to the national STARHS laboratory for incidence testing. Surveillance coordinators will provide these protocols and guidelines to all public and private
laboratories serving the funded jurisdictions. APHL will also share these protocols with member laboratories. The CDC is seeking assistance from APHL and public health laboratories for the successful implementation of national incidence surveillance.

**Concerns with the bioMérieux Vironostika HIV-1 EIA**

Many public health laboratories have inquired about the shortage of bioMérieux Vironostika HIV-1 kits, when the new bioMérieux Vironostika HIV-1 plus O kits will be commercially available, and whether the current Vironostika HIV-1 kits will be immediately discontinued once the new Vironostika HIV-1 Plus O kits are released.

According to bioMérieux, the company experienced supply problems with all Vironostika HIV-1 kits due to what they describe as “critical raw material performance issues.” However, bioMérieux is still manufacturing kits and is in “allocation” mode, in which the company delivers products to customers based on long-term production schedules, weekly requirements, and current and projected inventory levels. bioMérieux states that they are doing their best to keep customers with at least a minimal supply of test kits.

The new Vironostika HIV-1 Plus O kit is scheduled for introduction in the summer of 2005. The company indicates that even with the release of the new Vironostika HIV-1 Plus O kits, the current Vironostika HIV-1 kits will be available at least through the end of 2005 to allow all public health laboratories to perform necessary validation studies for conversion to the new Vironostika Plus O or another assay. This period may extend into 2006, if the rate of conversion to the new Vironostika HIV-1 Plus O kit is slower than expected. The expiration date of these kits is 18 months from the date of manufacture so issues with kit expirations should be minimal.

Finally, APHL has learned that nearly half of the state public health laboratories using the oral fluid Vironostika HIV-1 kit have been encountering problems with the test performance characteristics. Problems reported include a significant spike in the negative control (some to the point of running higher than indicated in the package insert, thus having plates fail) and product stability. There have been reports that the serum/plasma Vironostika HIV-1 kits may also have similar issues. APHL has gathered information from numerous state public health laboratories; the FDA is also currently working with bioMérieux to resolve these problems. Although there is no resolution at the time this article goes to press, APHL remains in frequent contact with both bioMérieux and the FDA so that the most up-to-date information on the investigations can be obtained. APHL will update the membership when further information becomes available.

If any public health laboratories are still experiencing shortages in the supply of Vironostika HIV-1 kits or issues with either the serum/plasma or oral fluid kit performance, contact both your bioMérieux technical support representative and APHL’s HIV, STD, TB program manager, Anthony Tran, at atran@aphl.org or 202.822.5227 x229.

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**HIV Diagnostics Conference Presentations Available Online**

The HIV laboratory diagnostics conference took place at the end of February. The conference, “HIV Diagnostics: New Developments and Challenges,” brought together over 200 public health, clinical, and CDC laboratory scientists and epidemiologists to consider new developments, share data, and formulate ideas to meet new challenges in the diagnosis and prevention of HIV. Plenary presentations and discussion sessions addressed numerous topics, including the new HIV enzyme immunoassays (EIAs), nucleic acid amplification testing (NAAT) for acute HIV infection, rapid HIV testing, options for confirmatory testing in different settings, the use of dried blood spots, tests for recent infection, and rapid HIV testing in international settings. Over 40 posters were also presented.

Dr. Jane Getchell, director of the Delaware public health laboratory, Dr. Sally Liska, director of the San Francisco public health laboratory, and Dr. Barbara Werner, infectious disease consultant from the Massachusetts State Laboratory Institute, represented APHL on the program planning committee. The complete program and presentations can be found at www.hivtestingconference.org.
The Advisory Council for the Elimination of Tuberculosis (ACET) met in Atlanta, GA, in February. ACET meets quarterly to discuss important policies, strategies, objectives and priorities in tuberculosis and makes recommendations to the secretary of the Department of Health and Human Services (HHS). Dr. Nancy Warren, director of the Pennsylvania Department of Health, Bureau of Laboratories, is the APHL liaison to ACET. While this meeting’s primary focus was global tuberculosis, the council also discussed needed changes to current domestic tuberculosis infection control guidelines. Quantiferon testing and a general expanded scope of laboratory testing are new items that are not in the current version of the guidelines published in 1994. Once finalized, the new guidelines will be published in the CDC’s Morbidity and Mortality Weekly Report.

Of potential interest to public health laboratories is the tuberculosis and multi-drug resistant tuberculosis (MDRTB) crisis among Hmong refugees in the United States. The estimated rate of active tuberculosis among this population is 3,294/100,000 with MDRTB rates of 227/100,000. This problem has been deemed severe enough that government authorities have halted the immigration of this population into the US, due largely to a funding and resource drain in states where Hmong immigration has been high. ACET drafted a letter to the secretary of HHS to identify these problems and request additional funding to support tracking, follow-up and treatment of cases. The first draft of the letter failed to mention the drain on laboratory resources to perform nucleic acid amplification testing (NAAT) and drug susceptibility testing; it is currently being revised to reflect the laboratories’ role in managing this outbreak with a request that the proper funding be provided.

Developing National Tuberculosis Program Objectives

The CDC’s Division of Tuberculosis Elimination (DTBE) has formed a workgroup to assist in developing updated national tuberculosis program objectives. These objectives will help shape tuberculosis surveillance, treatment, and testing for the foreseeable future. The goal of the workgroup is to discuss, review, and reduce the 30 current proposed objectives to no more than a dozen for final consideration by DTBE. Some of these objectives are associated with the Government Performance and Results Act of 1993 (GPRA) and Healthy People 2010 goals. Others are linked to 2005 Cooperative Agreement performance measures. APHL representatives on the workgroup include Dr. Nancy Warren, director of the Pennsylvania Department of Health, Bureau of Laboratories and Anthony Tran, APHL’s HIV, STD, TB program manager.

For additional information on ACET and CDC’s national tuberculosis program objectives, please contact APHL’s HIV, STD, TB program manager, Anthony Tran, at atran@aphl.org or 202.822.5227 x229.

The CDC has released its version of APHL’s TB Task Force report, The Future of TB Laboratory Services, as a Morbidity and Mortality Weekly Report (MMWR). The report, aiming to eliminate TB in the US, stresses necessary improvements in laboratory services to support treatment, prevention, and control. The MMWR, in its entirety, can be viewed at www.cdc.gov/mmwr/preview/mmwrhtml/rr5406a1.htm.

2005 APHL ID Conference: Emerging Infectious Diseases – Emerging Responses

“Great scientific and technical information,” “high quality speakers,” and “good coffee” were a few of the comments received from participants at the 2005 APHL Infectious Disease Conference, held in March. Over 250 participants attended the two-and-a-half day conference that addressed new technologies in the detection of infectious diseases, respiratory diseases, regulatory issues, blood safety, partnerships, surveillance and reporting of infectious diseases.

Need for Fast and Effective Detection

In his opening remarks, Dr. Mitchell Cohen, director of the CDC Coordinating Center for Infectious Diseases, discussed the ongoing public health challenges involved with addressing infectious diseases, including the need for fast and effective detection, communication, integration, and action. A later session devoted to emerging technologies highlighted this need for rapid detection. Among other presentations, Dr. David Wang, assistant professor of molecular microbiology and pathology at Washington University, explored new tools for pathogen discovery, focusing upon viral detection and discovery using DNA microarrays. Wang described the “Virochip” that simultaneously screens for all known viruses.

Respiratory Infections Gain Renewed Attention

Adenovirus infections once thought to be relatively benign have seen a virulent resurgence, as recent outbreaks in long-term health care facilities and military establishments have shown. Dr. Gregory Gray, director of the University of Iowa Center for Emerging Infectious Diseases, discussed the National Surveillance for Emerging Adenovirus Infections during a conference session on respiratory diseases. The NIH-funded adenovirus project will serve to document the emerging problem, identify human and viral risk factors for severe adenovirus disease, and, in the long-term, reduce adenoviral morbidity.
through use of adenoviral vaccines among high-risk civilian population. Dr. Judith Lovchik, of the NYC Department of Health, also presented during the respiratory session on enteroviruses and their association with asthma. Dr. Guy Boivin, of Laval University, presented on human metapneumovirus as an emerging pathogen. CDC updates on influenza and surveillance for respiratory diseases were given and finally, Dr. Susan Poutanen from Toronto Medical Laboratories rounded out the session with a review of the epidemiology of the 2003 SARS outbreak and a description of its impact on the clinical laboratory.

**Partnerships Key to Success**

Dr. James Hughes, former director of the CDC National Center for Infectious Diseases, opened the partnership session with genuine scenarios from recent outbreaks, highlighting the need for increased collaborations among laboratories and public health communities. The session continued with presentations on public health laboratory relationships with veterinary, clinical, and academic laboratories, as well as with federal partners. Dr. Willie Reed, current president of the American Association for Veterinary Laboratory Diagnosticians, discussed the National Animal Health Laboratory Network (NAHLN) and the need for integration with existing networks such as the Laboratory Response Network (LRN) and the Food Emergency Response Network (FERN). Dr. Michael Loeffelholz of the Arkansas Department of Health presented the public health laboratory perspective of the Arkansas Public/Private Laboratory Integration Project, the goals of which are to increase coordination between laboratories of all types, as well as to conduct educational programs on the state laboratory system.

Speaker presentations from the 2005 APHL ID Conference can be accessed at www.aphl.org/conferences/proceedings.cfm.

### Newborn Screening and Genetics

APHL’s Newborn Screening and Genetics in Public Health (NBSGPH) Committee met in March in Washington, DC, with much to discuss: newborn screening policy statements; updates from federal partners; the committee’s strategic plan agenda; the Health Resources and Services Administration (HRSA) report on newborn screening; and the committee members’ “Hill Visit.”

Committee members visited Capitol Hill to meet with staff of House and Senate leaders from their individual states. The committee educated Congressional staff about the role of laboratories and stressed the importance of supporting the public health and newborn screening laboratory systems. The members focused on conveying the need to ensure a robust infrastructure, including workforce capacity needs, for newborn screening systems across the country.

On March 8, 2005, HRSA released for public comment a report, *Newborn Screening: Toward A Uniform Screening Panel and System*. Prior to the report, there had been no national guidance to assist states in deciding which conditions are most critical for inclusion into state newborn screening panels. The report is the result of a HRSA contract with the American College of Medical Genetics (ACMG), and recommends that state newborn screening programs:

- Mandate screening for 29 core panel conditions¹.
- Mandate reporting of 25 secondary target conditions² and of any associated abnormal results.
- Maximize the use of multiplex technologies.
- Consider that the range of benefits realized by newborn screening includes treatments that go beyond an infant’s mortality and morbidity.

Scott Becker, APHL’s executive director, encouraged every state newborn screening program to send comments on this important report. The NBSGPH committee then drafted a letter to HRSA on behalf of APHL, submitting it to the Board of Directors for approval. (Visit hyperlink to read the full letter.)

On April 22, APHL member Frances Downes presented comments and concerns formally before the Secretary’s Advisory Committee on Heritable Disorders and Genetic Diseases in Newborns and Children.

In January, the board approved two new interim newborn screening policy statements. APHL voting members are currently casting their votes for the *Retention of Specimen for Newborn Screening and Quality Assurance in Newborn Screening Program policy state-
Food Safety Committee Visits Capitol Hill; Tackles Prominent Food Safety Issues

APHL’s Food Safety Committee convened in March for its second annual meeting. The two-day meeting provided time for the committee to tackle important issues and events in food safety, and also for members to visit Capitol Hill to discuss food safety laboratory concerns with legislative staff.

**Meeting with Congressional Staff**

Committee members met with staff of House and Senate leaders from their individual states. In addition to educating staff about the role of their state’s public health laboratory in food safety, members discussed: local examples of the public health laboratory in action, the national impact of foodborne diseases, the labs’ important role in preventative efforts, and the large number of federal agencies operating simultaneously in the food safety arena.

The committee focused on conveying the negative impact that the federal cuts to the CDC’s food safety budget are having on core programs (such as PulseNet) which directly support the food safety activities of states, as well as the corresponding impact on the amount of food safety funding that the CDC provides to laboratories. State public health laboratories from Illinois, Florida, California, Minnesota, New Hampshire, Oklahoma, and Iowa were represented in these meetings. Peter Kyriacopoulos, APHL’s director of public policy, organized the meetings, which leverage members’ presence in Washington to help the association build key relationships with Congressional staff, while strengthening the laboratory voice provided by APHL.

**Finalizing Position Statements on Key Issues**

Communicating the importance of public health laboratories to the nation’s food safety system was a goal the committee also pursued at this meeting. The committee finalized a position statement advocating the addition of APHL members to federal advisory committees with food safety responsibilities, and subsequently passed the statement on to the Policy, Planning and Legislation committee for approval.

A second position statement on the importance of increasing the priority of and funding for PulseNet activities was also finalized. That PulseNet should be widely considered a critical national priority for food safety was a sentiment the committee expressed strongly. Particularly, the group noted that though PulseNet funding is small (PulseNet has received level funding of approximately $2.7 million for the last 3 years), its impact on the incidence of foodborne illness via early detection is enormous. With estimates of the yearly medical cost of foodborne illness ranging from $10 billion to $83 billion, from a cost-benefit perspective, the committee emphasized that the foodborne disease surveillance conducted under PulseNet is a significant opportunity to greatly decrease the incidence of these diseases.

**Addressing Priority Issues**

Other topics discussed by the committee included proficiency testing, laboratory accreditation, and standardizing protocols, as well as the priority food safety issues it identified in last year’s strategic planning: leadership and coordination; technical; marketing; and resources.

In order to address the leadership and coordination issue, the committee worked on a plan to create a map of all

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1 These conditions all have specific and sensitive screening tests, a well-understood natural history, and available and efficacious treatments.

2 A secondary target is one that is identified while searching for the primary target, or a clinically significant condition that is likely to be detected when performing a comprehensive profile of a given group of biochemical markers.
On March 21, 2005, the National Academy of Sciences’ National Research Council convened the first meeting of the Committee on Human Biomonitoring for Environmental Toxicants in Washington, DC. The committee, comprised of foremost authorities on biomonitoring from both the US and abroad, has been tasked with reviewing current practices and recommending ways to improve the interpretation of human biomonitoring data for environmental toxicants. Among the committee members is APHL member George Eadon, PhD, director of the Division of Environmental Disease Prevention for the New York State Department of Health and associate professor in the Department of Environmental Health Sciences at the State University of New York (SUNY), Albany. Eadon is actively involved in a number of biomonitoring studies currently underway at SUNY and serves on the advisory board of New York’s Environmental Public Health Tracking Grant.

This first meeting was designed to be an information-gathering session. In order to provide committee members with technical and policy-based information regarding biomonitoring, two panel presentations were organized. The first panel offered federal and state perspectives on biomonitoring: panel members included representatives from the EPA, the CDC, and the Washington State Department of Health. The second panel offered perspectives on biomonitoring from representatives of the International Life Sciences Institute, Health and Environmental Sciences Institute, the Environmental Defense, and the American Chemistry Council.

Following these presentations, panel experts took questions from committee members, providing a clear picture of the scientific data and the current policy issues surrounding biomonitoring programs in the US. The committee plans to use this information to structure an overall research agenda that will address the uncertainties surrounding the science of biomonitoring. Such an agenda would serve to improve evaluations and characterizations of health risks and the monitoring of changes resulting from environmental policies that are potentially relevant to public health. The committee will then generate a report that defines key principles and uncertainties in estimating and interpreting toxicant exposures and health risks from biomonitoring data.

At the conclusion of the meeting, APHL gave a statement in support of state biomonitoring programs. The statement highlighted the role that public health laboratories play in biomonitoring analyses, and drew attention to the ties that exist between biomonitoring and environmental public health tracking, chemical terrorism, and the need to increase understanding of the human impact of environmental exposures. APHL’s statement can be viewed at www.aphl.org/programs/environmental_health/biomonitoring.cfm.

Montana Legislature Supports Biomonitoring for PBDEs

The discussion at the National Academy of Sciences is just one aspect of the nationwide movement in support of biomonitoring. Senator Carol Williams introduced a joint resolution of the Senate and the House of Representatives supporting the phasing out of polybrominated diphenyl ethers (PBDEs) that are harmful to humans. The resolution also supports environmental and human testing for PBDEs, development of industry alternatives to PBDEs, and maintaining the practice of breastfeeding while reducing the level of toxicants present in breast milk.

During informational testimony in support of this resolution, Dr. Kammy Johnson, an epidemiologist with Montana’s Department of Public Health and Human Services, provided strong testimony regarding available health effects data concerning PBDEs. Johnson is the epidemiologist for the Montana Biomonitoring Project and a representative from the six-state Rocky Mountain Biomonitoring Consortium. The consortium, currently in its first year, received limited funding from the CDC to initiate biomonitoring activities in the Rocky Mountain region.

The National Association of County and City Health Officials (NACCHO) is seeking input on their effort to define what people can reasonably expect from their local public health agencies. Please visit the following Web address to submit your comments on the Operational Definition of a Functional Local Public Health Agency: http://naccho.org/topics/infrastructure/operational_definition.cfm
Achieving “Full-Use” for Biomonitoring & Chemical Terrorism:
CDC Cooperative Agreement on Public Health Preparedness and Response for Bioterrorism

State biomonitoring programs have strong links to the response efforts for chemical terrorism and chemical exposure incidents. To monitor individuals that either have or may have been exposed to a chemical during an incident, the same equipment, supplies and trained staff can be used to analyze samples. Thus, biomonitoring funds also assist in building needed infrastructure to protect the public from domestic or international terrorism, a concept known in the public health community as “full-use.”

With the announcement of the CDC Preparedness cooperative agreement around the corner, state laboratories stand to gain increased preparedness for chemical terrorism and enhanced biomonitoring capacity. States will be able to use cooperative agreement funding to acquire new instrumentation to perform chemical terrorism analyses on clinical samples and will be trained in various new methods for analysis of chemical agents and their metabolites in clinical samples. Similar techniques and testing methods are applied when conducting human biomonitoring. As a result, as states enhance their testing capability for chemical terrorism agents, they simultaneously succeed in building upon the skill sets that are critical to biomonitoring. The result will be laboratory scientists making full-use of their training and instrumentation by applying skills to two separate, albeit closely related, areas of laboratory science.

APHL continues to actively support the development, implementation and maintenance of state biomonitoring programs. For more information on the role of public health laboratories in human biomonitoring, contact Lauren DiSano, at 202.822.5227 x204 or ldisano@aphl.org.

Chemical Terrorism or Simple Negligence? The Results Can Be the Same

Industrial accidents often involve the exact same chemicals that might be employed in a chemical terrorism (CT) attack. As such, public health laboratories need the same equipment and the same skilled scientists to help contain them. Just one example is the story of a toxic tanker in Utah’s largest metropolitan area.

Early on a Sunday morning in March 2005, railroad workers spied something bubbling through the seams of a tanker car sitting in a train yard in South Salt Lake City. A plume of noxious, orange fumes was spreading downwind. Yet, 15 hours after the disintegrating car was discovered, city officials still were not certain what was in the tanker due to conflicting reports from its owner (Kennecott Utah Copper) and a second company (Philip Services Corp.) that had leased the car to transport hazardous wastes. On-site field tests were inconclusive. In the meantime, thousands of gallons of chemicals were soaking into the soil beneath the tanker (and threatening to contaminate groundwater), as many as 6,000 people were evacuated from nearby homes and some of Utah’s busiest stretches of freeway were shut down.

At 11:15 that evening, officials contacted Barbara Jepson, head of the Utah public health laboratory, to respond to “a public health disaster in the making.” “We were,” she said “called to take this toxic soup and identify what was in it.” Jepson called in a team of environmental chemists, led by Dr. Sanwat Chaudhuri, that worked through the night. Screening tests, confirmatory tests and back-up tests yielded the answer. The soup was a witch’s brew of seven agents: acetic acid, ammonia, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid and—the nastiest of the lot—hydrofluoric acid (a recognized CT agent). The chemical cocktail could burn skin on contact. The fumes alone could corrode the respiratory system, trigger vomiting and damage the eyes.

The laboratory initial analysis and follow-up testing were critical to determine possible human health risks, necessary abatement measures (e.g., excavation of contaminated dirt), when residents and business owners could safely return to the area and, along with other information, whether it was appropriate to bring criminal charges against those responsible for the crisis. The FBI investigated to rule out terrorism.

Continued from page 13

those involved in food safety at the state, local, and federal levels, including partner non-governmental organizations. This map will show the relationships among stakeholders, and demonstrate the roles, responsibilities, and authority of groups and governments involved in food safety.

For more information on APHL’s food safety program, contact Jeremy Gillissen at jgillissen@aphl.org, 202.822.5227, x245.
Building State and Local Preparedness: A Strong Foundation for National Response

The CDC’s Coordinating Office of Terrorism Preparedness and Emergency Response convened the 2005 Public Health Preparedness Conference in February in Atlanta, GA. Over 400 public health professionals, including many APHL members and staff, participated in this conference. APHL members Norman Crouch and Julianne Nassif participated on the external planning committee and assisted with the program development.

The conference provided a forum for public health leaders and technical experts to share best practices and learn new approaches to developing and enhancing public health plans, infrastructure, and systems in preparation for, and in response to, bioterrorism, emerging infections and other public health emergencies.

State, local, and territorial public health professionals responsible for implementing the critical capacities and critical benchmarks of the CDC cooperative agreement participated in the first half-day discussions. CDC staff took advantage of the opportunity to provide states with sought-after technical guidance. Additionally, the CDC explained that support staff to Focus Areas C (Biological Capacity) and D (Chemical Capacity) will, in the future, have a more coordinated approach in their interactions with grantees. For example, joint biological and chemical terrorism preparedness conference calls will be conducted on a regular basis.

Opening Plenary – Building Public Health Preparedness

Captain Charles Schable, MS, director, CDC’s Coordinating Office of Terrorism Preparedness and Emergency Response, stressed the importance of prepared clinicians, veterinarians and laboratorians. Schable highlighted the role of the Laboratory Response Network (LRN) in terrorism preparedness and mentioned that the LRN continues to expand to address emerging public health threats.

William Raub, PhD, principal deputy assistant secretary for public health emergency preparedness, HHS, reviewed the origins of bioterrorism funding, current funding request levels, and other preparedness initiatives, such as BioSense, BioWatch, BioShield, and the Cities Readiness Initiatives. Raub further discussed the improvements in information technology, workforce, and the LRN, as well as gaps, such as quarantine procedures, at the state level.

John Agwunobi, MD, MBA, MPH, secretary of health and state health officer, Florida Department of Health, delivered a compelling keynote address calling for increased collaboration among the federal government, state and local health departments, and health organizations. Agwunobi discussed the recent hurricanes in Florida and the coordinated efforts of all the federal, local and state partners. Some highlights from Dr. Agwunobi’s presentation:

- Agencies need to consider preparedness from an all-hazards perspective
- All events and subsequent response are local issues that succeed when there is a unified collaboration
- After-action collaboration is critical to every exercise and event
- Health departments should share infrastructure, conduct joint training, and share technologies

The public health community needs to increase their visibility and communicate their roles and responsibilities to the public

Measuring Performance Plenary Session

Bradley Perkins, MD, deputy director, Office of Strategy and Innovation, CDC, provided a first look at the latest version of performance measures that the CDC will soon be implementing. Other speakers presented examples of state and local efforts to measure preparedness.

HHS-DHS Integration Plenary Session

Michelle McQueeney, special assistant to the NIMS integration center director, Federal Emergency Management Agency, DHS, discussed how the National Incident Management System (NIMS) integrates model practices in emergency preparedness and response into a comprehensive national framework for incident management. Key features of NIMS are the standardized organizational structures, processes and procedures; standards for planning, training and exercising, personnel qualification, equipment acquisition and certification; interoperable communications processes, procedures and systems; information management systems; and supporting technologies – voice and data communications systems, information systems, data display systems and specialized technologies. It is anticipated that by fiscal year 2007, preparedness funding will be linked to NIMS compliance.

Barbara Yagerman, Operations and Response Division, Headquarters Integration Staff, DHS, and lead for the National Response Plan Writing Team, discussed the new National Response Plan (NRP), which fully incorporates the Federal Response Plan, the Domestic Terrorism Concept of Operations Plan,
the Federal Radiological Emergency Response Plan, the initial NRP, and other national level contingency plans. Together the NRP and NIMS are the principle guidance tools for national incident response providing a framework for coordination across the complete spectrum of incident management and activities.

Brian Kamoie, special assistant, Office of the Assistant, Secretary for Public Health Emergency Preparedness, HHS, described their role in developing the activities for Emergency Support Function (ESF) #8 and the Biological Incident Annex of the National Response Plan. ESF #8 – Public Health and Medical Services Annex provides the mechanism for coordinated federal assistance to supplement state, local and tribal resources in response to public health and medical needs.

**Biological Lab Capacity: Building the “Local” LRN**

Bonnie Rubin, MT (ASCP), MBA, MHA, and Angela Van Houten, MS, used examples from Iowa and Wyoming to highlight the successful and critical role public health laboratories play in providing training and outreach to sentinel laboratories.

James Beebe, PhD, discussed the application of triage guidelines in response to bioterrorism threats. Beebe discussed how these guidelines have been utilized in Colorado for both clinical suspect samples and unknown environmental samples.

As the LRN continues to expand, state and local laboratories are faced with a wide variety of issues, such as adequate reagent supplies, surge capacity, and sentinel lab connectivity and outreach. It is essential for these laboratories to be well prepared to respond to emerging threats.

**Chemical Lab Capacity: “The Blueprint for Success in Chemical Terrorism Lab Preparedness”**

Duane Boline, PhD, member of APHL’s Environmental Health Committee, discussed traditional roles of the environmental health laboratory and the newly acquired chemical terrorism roles and responsibilities that environmental health laboratories must integrate into their existing programs. Boline provided an excellent overview of the issues related to chemical terrorism preparedness in the laboratory and shared some preliminary data obtained through APHL’s 2004 Chemical Terrorism Preparedness Survey. Boline also addressed remaining gaps in chemical terrorism laboratory preparedness and shared his thoughts on the path ahead.

Lisa Benton, MD, MPH, outlined steps involved in building health department capacity for chemical terrorism response. She covered the challenges of sampling in chemical terrorism incidents, such as sample collection, chain-of-custody procedures, packaging and shipping of specimens, triage, and the need for appropriate personal protective equipment. Benton also addressed the importance of good risk communication skills.

Paul Moyer, MS, described a tiered approach that the Minnesota state public health laboratory has developed for conducting all-hazards laboratory testing of unknown environmental samples. In the absence of any set federal guidelines for triaging of unknown environmental samples, Moyer’s talk provided attendees with an excellent example of a state-specific solution for addressing the existing environmental sampling gap.

**Public Health and Environmental Labs: A Strong Foundation for Readiness**

Findings from the recent APHL Bioterrorism Survey were presented by Norman Crouch, PhD, chair of APHL’s Emergency Preparedness and Response Committee. Successes include improved laboratory facilities, enhanced detection and reporting capability and capacity, and effective partnerships in training and response. The significant challenge of sustaining the capacity improvements was noted to reinforce the need for continued funding for laboratory preparedness. Crouch encouraged public health laboratories to actively pursue funding from the Department of Homeland Security and the Department of Justice to assist in meeting growing preparedness needs. Key findings from the APHL survey will be published in an issue brief and shared with policymakers, state and local health departments, and federal and non-federal partners.

Christina Egan, PhD, discussed the validation of LRN testing algorithms and methods for orthopox virus analyses, following employment of New York state collection protocols and kits.

In “Operation Wildfire: The Anatomy of a Statewide LRN Laboratory Readiness Drill, Utilizing Surrogate Organisms,” Cynthia Vanner described two exercises of sending out surrogate organisms to clinical labs to test their ability to rule in/rule out and then sending the sample to state public health laboratory for confirmation.

At the time of this publication, the CDC Preparedness Cooperative Agreement had not been announced to states. APHL will continue to work with the CDC’s Office of Terrorism Preparedness and Response, other partners and members to ensure that public health laboratories have the necessary tools, expertise and training to prepare for and respond to emerging threats.

For more information on this conference, visit www.bt.cdc.gov/planning/preconf2005/. For specific questions about laboratory preparedness, contact the following APHL staff: bioterrorism preparedness, Chris Mangal, cmangal@aphl.org or 202.822.5227 x244; chemical terrorism preparedness, Lauren DiSano, ldisano@aphl.org or x204; and Laboratory Response Network, Lena Lago, llago@aphl.org or x216.
Fellowships

APHL Fellows Attend the Infectious Disease Conference

APHL's Emerging Infectious Disease (EID) fellows were well-represented at the recent Infectious Diseases Conference in Orlando, FL. Nineteen current and previous fellows attended the meeting, and eleven were primary or co-authors on poster presentations.

Posters Presented by EID Fellows

Shelley Campeau, Molecular Approach to Characterize Community-Associated Methicillin-Resistant Staphylococcus aureus Clones from Arkansas; also co-author of Detection of West Nile RNA in Bird Eye Swabs.

Kimberly Cook, co-author, Brucella Melitensis in the Age of Select Agents.

John Duczkowski, Detection of Enterotoxin-encoding genes in Staphylococcus aureus by Real-time Fluorescence PCR.


Aquanetta Henry, Screening of Community Acquired Bacterial Respiratory Pathogens Through the Development of a Respiratory Panel Using Real-Time PCR.

Joan Kenney, co-author, A Comparative Analysis of Methods for Identification of Fungi and Bacteria.

Haiyan Li, Antigenic and Genetic Characterization of H1N1 Influenza A Viruses Isolated From Pigs in China, 2001.

Shannon Manning, Detecting Neisseria meningitidis Isolates with Decreased Penicillin Susceptibility in Michigan.

Heather Masri, Evaluation of an IgA Antibody Capture Enzyme-linked Immunosorbent Assay to Detect Recent West Nile Virus (WNV) Infection in Humans.

Desiree Notyce, Real-Time RT-PCR as a Surveillance Tool for Influenza A, Influenza B, and Human Metapneumovirus in Clinical Specimens in the State of Colorado.


Recent Fellow Publications

From the Oregon public health laboratory, Laurie Dizney presented The Link Between Diversity and Disease as a poster at the joint meeting of the Society of Northwestern Vertebrate Biologists and the Oregon Chapter of the Wildlife Society, and as an oral presentation at the Oregon Academy of Sciences in February.

Yashieka Blount co-authored Real Time RT-PCR based assay on blood clot specimen for diagnosis of HIV-1 infection in children, Malawi at the CDC HIV Diagnostics Conference in February 2005. Blount works in the Division of HIV/AIDS Prevention at the CDC.

From the CDC’s Division of Viral and Rickettsial Diseases, international fellow Ivan Kuzmin co-authored “Survey for Bat Lyssaviruses, Thailand” in the February Emerging Infectious Diseases journal.

Katie Kurkjian co-authored “Kala-Azar Risk Factors in Highly Affected Community, Bangladesh” in the May 2005 Emerging Infectious Diseases journal. Kurkjian works in the CDC’s Division of Parasitic Diseases.

Mary Kate Yost-Daljev published “Think Pertussis!” in the Winter 2005 issue of the American Academy of Pediatrics Virginia Chapter Newsletter. Yost-Daljev’s fellowship assignment is in the Virginia Division of Consolidated Laboratory Services.
**Fellow Recognition**

Heather Masri, of the Virginia Division of Consolidated Laboratory Services, was recognized at the National West Nile Virus Conference for her participation in a multi-site validation of the WNV/SLE Microsphere Immuno Assay.

Michelle Crum was elected as the Division of Infectious Disease post-doctoral association representative for the Wadsworth Center, New York State Department of Health.

Kaitlin Rainwater and her mentor were awarded a $25,000 initial seed grant through the University of Iowa Center for Health Effects of Environmental Contamination for a project investigating West Nile virus in deer sera.

Out of the Virginia Division of Consolidated Laboratory Services, fellow Angela Fritzinger and her mentor Denise Toney were awarded an APHL grant from the “Innovative Projects to Enhance Food Safety Capacity in States” program. The application was based on Fritzinger’s research to implement a nucleic acid sequencing method for typing Norovirus outbreak strains.

Two APHL EID fellows were recently accepted into the 2005 class of the Epidemic Intelligence Service – congratulations to Ryan Novak and Ann Schmitz!

**Fellows Traveling Abroad**

Catherine Speake, of the Massachusetts State Laboratory Institute, spent a week in February at the Peruvian National Institute of Health’s TB lab in Lima. While at the lab, she validated the lab’s performance of the APP method of drug sensitivity testing, and presented technique and safety recommendation to the lab director and technician who will be testing patient samples and training other technicians to test samples.

Jennifer Bracher, of the CDC’s Division of Vector-Borne Infectious Diseases, spent a month in Madagascar in early 2005 investigating a pneumonic plague outbreak in several villages. Bracher was the CDC supervisory clinician/epidemiologist in two on-site plague trials. She worked with an Epidemic Intelligence Service officer on a pneumonic plague outbreak. Of the experience, Bracher states, “My stay in Madagascar was invaluable for the knowledge I obtained not only in epidemiology but in observations of the health care system in a resource-poor country, interactions with native clinicians, and participation in the treatment of several patients with bubonic plague. I now have a better appreciation for the complexities involved in defining and validating an outbreak of an infectious disease and treating patients with bubonic plague.”

Application submissions for the EID fellowship program were up 57% this year! A total of 359 young scientists applied to APHL’s EID Fellowship Programs. APHL looks forward to selecting the 2005 EID fellows in June.
Elizabeth Franko, director of Georgia’s state public health laboratory, often points out to visitors that Georgia is the largest state east of the Mississippi River. “People don’t realize that,” she said. Nor do they know that the primary state industry is agriculture. “Atlanta is a huge metropolitan area,” said Franko, “and people see our big airport; but we have cotton and sorghum and peaches growing all over the state. We are, after all, the peach state.”

Franko, a transplant from Trenton, New Jersey, has come to appreciate Georgia’s size—ample to accommodate 159 counties, each with its own health department. “Here in Georgia,” said Franko, “there is a strong public health tradition; a strong sense of providing to the citizens a safe environment and a modicum of health care. There are parts of Georgia where the health department is the only local health care provider.”

The state public health laboratory—100-years-old this year—historically has maintained close ties to each of those 159 local health departments, which, said Franko, “use us as their laboratory of choice.” But after a century of service, perhaps it is inevitable that those relationships evolve. Franko, for one, has overseen several major changes in laboratory practice during her 20-year tenure in Georgia, but expects that the most profound changes are yet to come.

Perhaps the biggest break with tradition will be the institution of fees for laboratory services that used to be funded with state money. Fully three-quarters of the laboratory’s workload now comes from county health departments, while the laboratory budget is based almost exclusively on state and federal funding (55% and 45% respectively). “We get about $80,000-per-year from fee-for-service work. It’s not significant to our budget,” said Franko.

But as government funding becomes less secure, Franko said, “We need to operate more like a real business.” The state Board of Human Resources has just authorized the laboratory to develop a newborn screening fee system for third-party payers—including county health departments. Franko said this will be “a huge culture shock.” And yet she sees it as perhaps the only viable means to support expanded testing and follow-up for the 136,000 infants born in Georgia every year. In January the laboratory added medium chain acetyl dehydrogenase to its panel of ten newborn screening tests, and additional disorders will likely be approved by the Board of Human Resources.

But newborn screening will not be unique. “We’re going to charge fees across-the-board,” said Franko. “That is what I have been directed to do. And those fees need to be fully burdened for the building, electricity, gas. That is new territory for us; we have never even had to factor personnel costs into our fees before.” An associated challenge will be assuring that fee-generated revenues are allocated back to the laboratory budget and not diverted to general state coffers.

This new way of doing business will likely impact the services the laboratory provides, such as syphilis serology and other clinical diagnostic work performed on behalf of county health departments. Franko expects that the laboratory will discontinue some clinical tests “if we cannot do them as cheaply as the private sector can.” Speaking generally, she said, “State labs need to figure out which part of the pie is theirs and do it very, very well and charge for it.”

The Georgia public health laboratory is actually comprised of three facilities (a fourth fell victim to budget constraints), and the main laboratory—a free-standing, 67,000-square-foot building—sits in close proximity to a panoply of
potential partners or potential competitors. The laboratory is just east of Atlanta, across the street from a Veterans Administration hospital, two miles from the Centers for Disease Control and Prevention, and not much further from Emory University, Quest Laboratory, and several major tertiary hospitals.

In the aftermath of several lengthy hiring freezes, Franko said “We’re moving heaven and earth to hire as many people as possible while we can.”

Already, said Franko, “We are in direct competition for staff.” And the state is at a disadvantage on at least two counts, not being able to match the best private sector salaries and subject to state laws requiring certification for bench scientists. (The CDC and area medical schools are exempt.)

The main public health laboratory currently has 25 vacancies, representing about 16% of its 152 established positions. Not too long ago a full third of its positions were vacant. In the aftermath of several lengthy hiring freezes, Franko said “We’re moving heaven and earth to hire as many people as possible while we can.”

Yet while Franko is working hard to stabilize her budget as resources shrink, she notes that the laboratory has made significant progress in many areas; for example, getting three tandem mass spectrometers in place and up and running for newborn screening and piloting the use of digital camera technology (DPDx) for electronic transmission of parasite specimens. (Atlanta’s large immigrant population is a source of many of the parasitology specimens that come through the laboratory.)

The state-of-the-art Atlanta laboratory complex is just seven-years-old and plans are underway for a new $12 million, 29,000-square-foot facility to replace the aging regional public health laboratory in Waycross. “We made the suggestion that we need a modern back-up laboratory in south Georgia in case this lab is incapacitated for whatever reason,” said Franko, who expects groundbreaking by fall. (The future of the second regional laboratory facility—in Albany, Georgia—is not yet determined.)

She said that in addition to its usual bacteriology, TB, virology, parasitology, immunology, and infectious disease work, the public health laboratory has implemented all of the latest protocols for bioterrorism testing and is in the process of adding a chemistry unit. Testing for some of the newest emerging diseases—such as West Nile virus—has become routine.

Last June Franko’s staff was able to stand up a 55-foot, modular BSL-3 laboratory to support the G-8 meeting held on Sea Isle. “It was a big deal,” she said, noting that the unit weighs 30,000 pounds and has a freestanding power supply and its own ventilation system. “We had to move up delivery, installation, licensure and Select Agent inspections by about four months to accommodate the G-8,” Franko explained, “but we did it.” Today the unit provides BSL-3 space for the Waycross regional laboratory and is ready for testing suspicious powders and other samples collected by law enforcement officers in south Georgia.

Reflecting on plans to celebrate the laboratory’s centenary, Franko noted what a difference a 100 years can make. The original Georgia public health laboratory opened New Year’s Day, 1905, in the basement of the capitol building, with a budget of $3,000 for two years. The first director brought his own microscope to the laboratory and hired a Civil War veteran to help him clean out the basement and set up shop. The workload that first year consisted of 400 specimens that were tested mostly for TB, syphilis and malaria. In the 1930s Director Thomas Sellers developed the Sellers stain for rabies and began a tradition of epidemiology-laboratory cooperation.

Looking back on her own career—spent entirely in the laboratory at either a bench or a desk—Franko observed that change is ever-present. When she was
San Joaquin County Public Health Laboratory: 
Lessons from the Great Central Valley

Director
Dennis Ferrero became the youngest public health laboratory director in California history when he took over the Yolo County laboratory in 1972. He left three years later to move to the San Joaquin Local Health District—now the San Joaquin County Public Health Laboratory—where he still works today. Ferrero directs not only the public health laboratory, but also the health department's Disease Control & Prevention Division. This dual role, he says, “has certainly helped the laboratory,” by enabling him to carve laboratory services into programmatic grants and cooperative agreements and to “see where the program people come from.” Ferrero is also executive director of the California Association of Public Health Laboratory Directors.

Location
In an older residential area in the city of Stockton (pop. 250,000), about 30 miles south of Sacramento, 70 miles from Silicon Valley and 80 miles due east of San Francisco, Stockton sits in the Great Central Valley, a fertile agricultural basin producing billions of dollars worth of livestock, fruits, vegetables and dairy products each year, which prompts concerns on agri-terrorism. Stockton maintains an inland port for a thousand miles of delta waterways, raising additional security concerns.

Facility
“The building has been there for too long—since 1964.” The laboratory occupies one floor—about 6000 square feet—of the county health department. It has working BSL-2 suites with capability for some BSL-3 practices. Plans have been developed for a replacement facility.

# Staff
28 laboratory staff and 105 additional employees within the Disease Control & Prevention Division.

Revenue
Prior to 1978—when California’s infamous Proposition 13 was enacted to overhaul the state’s property tax laws—the laboratory received 70% of its funding from real estate taxes, 30% from grants and contracts and 0% from fees. In the aftermath of the new law, the laboratory was forced to rethink its modus operandi. Today it receives about half of its funding from fees, 25% from local revenue, and 25% from grants and contracts. “We’re chasing fees,” said Ferrero. “We have funding sources we have no control over. It forces us to offer some services that maybe we wouldn’t otherwise, in order to sustain core public health services.” Importantly, Ferrero is authorized to waive fees at his discretion if there is an overriding public health need. “Any specimens that we really want to see we don’t charge for—that flexibility is an important element of any fee-based operation.”

Distinguishing Characteristics
- Largest regional public health laboratory in California (est. 1923), serving 1.8 million people in eight counties.
- In the first group of four local California public health laboratories admitted into the Laboratory Response Network in 1998.
- One of few public health laboratories in the state with full virus isolation capabilities.
- Has corona virus and West Nile virus molecular identification capabilities.
- Has extensive molecular experience, with many articles published in the Journal of Clinical Microbiology and other peer-reviewed international journals.
- Known internationally for its research on cutting-edge molecular procedures to detect chlamydia, gonorrhea and other communicable diseases.
- A center of excellence for laboratory research. “We’ve made millions of dollars and funded several positions for the county by doing research with diagnostic companies and evaluating new tests. We have access to specimens in large quantities that other sectors don’t have.”

Highest Volume Testing
On the clinical side: STDs (including HIV), followed by TB, hepatitis C and other communicable diseases. On the environmental side: drinking and bathing water, followed by rabies and vector and foodborne disease testing.

Notable Success Stories
- Dealing with an influx of Southeast Asian refugees in the early 1980s. “At least 20,000 refugees came to San Joaquin County. It became the local jurisdiction’s responsibility to screen the refugees and follow up on any communicable diseases detected. Screening was important because many of these refugees went to work in local restaurants where there was potential for disease transmission.”
- Responding to major local floods—afflicting several thousand people—in 1997. The laboratory tested for shigella and other enteric diseases, in addition to re-certifying drinking water wells that had been flooded.
- Dealing with the anthrax scare of 2001. “We tested hundreds of powders. We rotated people in and out on a 24/7 basis and did the job.”
- Recently, the laboratory has pushed the envelope in molecular diagnostics to add new tests for many LRN procedures, including tests for ricin, influenza and corona virus (SARS).

Biggest Challenges
- Continuing to survive in the post-Proposition 13 world with limited funds and “dramatic need.”
- Communicating the public health laboratory’s vital role to the public, to decision makers and to the public health professional team.
- Dealing with a population surge Contd. on page 24
The 2005 annual meeting is upon us: it’s hard to believe! It really crept up on me this year, perhaps because the 2004 meeting was in September, which seems like yesterday, or perhaps because the last few months have been a blur of activities: Hill Day and the spring board meeting, three regional leadership forums and media trainings, testimony before the House Committee on Government Reform, Subcommittee on National Security, Emerging Threats, and International Relations. Then we had a couple of weeks of “lab issues in the news” first with the anthrax testing fiasco at DOD postal facilities quickly followed by the H2N2 proficiency testing debacle. In addition, we wrote and submitted the five-year renewal of the APHL/CDC cooperative agreement, which supports much of our collaboration with that agency, including all of the NLTN. Phew.

Some thoughts about our Hill Day: This was APHL’s sixth trek to the Hill. Each year we hear some version of the same story (i.e., It’s going to be tough this year. We have little money and many competing priorities, etc.). This year we heard the old refrain plus new verses on the burgeoning cost of the war and the soaring national deficit. On top of this, we were challenged with the query, “Didn’t the states get lots of money for terrorism preparedness, infectious diseases and environmental health already?” Our members did a fine job of addressing this myth and explaining ongoing needs in plain, clear language. We emphasized the implications of the proposed $130 million cut in the CDC state and local preparedness line, the shortage of LRN reagents, and the lack of laboratory coordination at the federal level.

At the 2005 annual meeting, you will see many new faces. Since last year, nearly a dozen new directors have assumed the helm at state laboratories. Our laboratory director orientation program filled and had a waiting list. This is the second year we’ve held this event, which includes a team-building exercise and a day-and-a-half of introductory meetings with partners from CDC and APHL. Be sure to introduce yourself to your new colleagues at the meeting. They are eager to meet each and every one of you.

Lastly, I want to express my appreciation to our outgoing president, Paul Kimsey. Dr. Kimsey and I shared frequent early morning and/or late night phone calls—many with my girls giggling in the background. Paul was always available to me and to our staff by phone, and willing to travel cross-country countless times for association events, meetings and activities. Paul also traveled the globe: first to Johannesburg, South Africa, for regional HIV/AIDS laboratory meetings last spring, and this winter to Lyon and Geneva to collaborate with WHO on global lab systems development. Oh, did I mention Paul always brought a different type of wine each time he came East? We always found time for a toast to APHL, its members and its mission.

I do hope to see you in Salt Lake City.

Cheers!

Scott Becker, MS
APHL Executive Director
Staff News

Anna Dillingham was hired as APHL’s new membership manager, effective April 27. A graduate of Brigham Young University, Dillingham comes to the association from Trust for America’s Health.

Emily Mumford, APHL’s membership manager, left on April 29 after nearly three years with the association. Following the impending arrival of her first child, she will continue in her role as editor of the APHL Minute.

Doris Riley, APHL’s human resources manager, left on April 12 after more than seven years with the association. During her tenure, the association’s staff expanded rapidly, and she helped develop a modern suite of employee benefits to enhance staff retention. APHL wishes her well in all of her future endeavors.

Ava Sheffield began employment as the administrative assistant to the environmental health and infectious disease departments on March 31. Sheffield has years of experience as a legal secretary.

Ralph Timperi, MPH, retired from his position as director of Massachusetts’ State Laboratory Institute and joined APHL staff on April 4. As a longtime state public health laboratory director, Timperi brings valuable experience and insight to his role as senior advisor to the global health program.

Kentucky
Stephanie Mayfield, MD, has been appointed as director.

Louisiana
Henry Bradford, Jr., PhD, retired. The acting director is Stephen Martin, PhD.

Massachusetts
Ralph Timperi, MPH, retired. Alfred DeMaria, MD, is acting director.

Mississippi
K. Mills McNeill, MD, PhD, FACPM, formerly acting director, has been officially appointed laboratory director.

Montana
Paul Lamphier and Mike Spence, MD, have left the laboratory. The acting director is Anne Weber, MS.

Rhode Island
Gregory Hayes, DrPH, has resigned to pursue other opportunities. The acting director is Ken Jones, DrPH.

Recent State Laboratory Director Changes

Local Laboratory Director Listserv Launched
In March, APHL launched a new listserv for local laboratory directors. Intended to facilitate interaction and collaboration, the listserv will serve as a practical means of working through shared issues in a peer-focused environment. Email membership@aphl.org with any questions about this new member benefit.

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The Association of Public Health Laboratories (APHL) is a national, non-profit dedicated to working with its members to strengthen public health laboratories. By promoting effective programs and public policy, APHL strives to provide public health laboratories with the resources and infrastructure needed to protect the health of US residents and to prevent and control disease globally.

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