Fiscal Pressures Squeezing Vital Public Health Laboratory Services

PHLI Report Proposes Strategies to Balance Function and Funding (page 3)
Dear Members,

When has funding not been a problem for public health laboratories? In our constantly evolving laboratory environment, a core truth remains: labs are under-funded and over-tasked. This lack of money has historically led us to creative solutions. The lead article in this issue of the *Minute* focuses on the non-traditional successes that, despite critical funding shortages, have galvanized laboratory work in some states. It is vital that we all think inventively about the way we work, but it is also important that we pay attention to the political climate and current appropriation realities.

The federal appropriations process for fiscal year 2005 concluded when the president signed the omnibus appropriations measure into law on December 8. Now that the dust is settling, certain key points are emerging. Some good news for us: Congress rejected the proposal to reduce funding for state and local emergency preparedness grants by $105 million. These funds are essential for us to be responsive to disaster scenarios. And, while progress in assuring laboratory capability and capacity has certainly taken place over the past few years, personnel, equipment and material expenses continue to present major challenges. And equally important is that the full use of these funds enables labs to maintain the effort to respond to emerging infectious diseases.

Additional good news surfaced: the CDC’s environmental health laboratory received a $690,000 increase over last year’s funding. APHL had begun in 2004 to advocate for a $20 million increase in this area, which would have enabled CDC and the state laboratories to expand biomonitoring efforts. Adequate funding for this area will likely remain a top priority for the association.

On the down side: despite the preservation of the emergency preparedness funding levels, state and local grants will be reduced by almost $30 million to accommodate the Cities Readies Initiative and by the 0.8 percent across-the-board reduction included in the omnibus bill. There is also a strong likelihood that additional reprogramming by HHS of these funds for new initiatives will further erode their intended use. A perfect example: the bio-surveillance initiative that would have been partially funded by the initially-proposed $105 million cut has been funded at $80 million from other sources.

Overall, CDC funding was increased by $219 million (to a total of $4.534 billion). The omnibus bill adopted a revised budget structure to accommodate the CDC Futures Initiative. However, it does not include the Senate language on the revision that would have allowed the director of the CDC to transfer up to 1% of the funds in any program, project or activity to fund the Futures Initiative; instead, it encourages the reprogramming of existing funds. Appropriations talks for the next fiscal year will begin again in February when the president submits his budget. Initial indications are that there will be at least a 2 percent across-the-board cut in all non-defense discretionary programs.

APHL gives us an organization under which we can band together to speak publicly and to shape the policy changes that need to happen. As we move forward, as we work inventively to make ends meet, we should also focus on ensuring that our governmental leaders recognize our value. The work we do is crucial to the health of America, whether in times of peace or of war.

Sincerely,

[Signature]

Funding: The Continuing Battle
Fiscal Pressures Squeezing Vital Public Health Laboratory Services

PHLI Report Proposes Strategies to Balance Function and Funding

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ver the past decade or so, state public health laboratories have undergone a dramatic evolution that places them at the heart of America’s public health and safety systems. Today public health laboratory leaders are being called upon to address policy and scientific matters pertaining to everything from avian influenza to national homeland security. A 1999 APHL white paper identifies almost a dozen core functions for which state public health laboratories are responsible as the nation moves into the new century. (See Table 1.)

Yet despite their keystone position, a newly-released Public Health Leadership Institute (PHLI) report warns that prevailing trends in laboratory funding now challenge the ability of many public health laboratories to support all of the essential services that they are expected to provide. “Inadequate funding impacts not only what the laboratory can do in terms of equipment and materials,” the report states, “but it also has a major impact on the acquisition and retention of qualified staff to meet today’s enhanced laboratory demands… This problem is major.”

A particular threat: a growing shift from the more-or-less stable government funding that allowed state public health laboratories to take on new roles to fee-for-service funding for discrete testing services. Laboratories now face gradual mission creep, with reduced emphasis on population-based disease surveillance and other core public health activities and increased emphasis on diagnostic testing and other services for individual customers who are able to pay.

Tackling the Big Issues

The report, State Public Health Laboratories: Strategies Addressing the Imbalance Between Function and Funding, was co-authored by four state public health laboratory directors—Norman Crouch (MN), David Mills (NM), Susan Neill (TX), and Lou Turner (NC)—and is based on a review of existing inter-laboratory partnerships as well as interviews with a select group of nine other state public health laboratory directors. It notes:

“While fee-based laboratories in the private sector can operate on a ‘just-in-time’ basis, and do only what is profitable, state public health laboratories must be equipped and staffed at all times to respond to unanticipated public health emergencies like possible environmental contamination, pandemic flu, West Nile virus encephalitis, SARS, or potential acts of biological, chemical or radiological terrorism. As state general funds are reduced, state public health laboratories are placed in a difficult situation. These laboratories are forced to provide services that produce a source of revenue enabling them to maintain a semblance of adequate infrastructure to respond to public health needs, while at the same time they must be careful not to compete unfairly with clinical and environmental laboratories in the private sector (with whom they must partner for routine disease surveillance).”

Norman Crouch, head of the Minnesota Public Health Laboratory and a co-author of the report, said that a likely outcome of restricted or inflexible laboratory funding is compromised disease surveillance. However, he noted that this outcome is difficult to document. Jurisdictions with weak disease surveillance systems probably experience more infectious disease, “but they don’t know it if they don’t look for it,” said Crouch. “People just get sick.”

Communicating Value Effectively to Policymakers

While the PHLI report focuses on innovative strategies laboratories can and must pursue to maintain their capacity to provide core services despite fiscal limitations, Crouch noted that state and national policymakers can further their efforts by boosting funding for routine disease surveillance and supporting salaries commensurate with the high level of technical expertise demanded in complex laboratory environments. He encouraged policymakers to “engage laboratory leaders” and to make an effort to “understand the essential role of the state public health laboratory.” At the same time, he said laboratories must get better at telling the stories that demonstrate the value of their work.

Two activities that epitomize the recent evolution within the public health laboratory are DNA fingerprinting and antibiotic sensitivity testing of microbial isolates to trace the spread of disease organisms and monitor the development of drug-resistant pathogens. In Minnesota, microbial isolates are voluntarily forwarded to the state public health laboratory by private medical laboratories across the breadth and width of the state and subsequently tested in real-time—i.e., immediately. This routine vigilance affords Minnesotans an early-warning system for emerging illness that did not exist 15 years ago. By scrutinizing pathogens statewide, the Minnesota Public Health Laboratory is able to detect related cases of illness early on to help stave off outbreaks before they explode across the state or beyond. (Electronic data repositories like PulseNet and
NEDSS can expand the scope of analyses beyond state and even national borders.)

A few years ago scientists on Crouch’s staff determined, via DNA fingerprinting, that several cases of bacterial meningitis in the southern town of Mankato were caused by the same bacterium, indicating a common source of infection and a developing outbreak. Working closely with state and local epidemiologists, public health laborato-

rarians took thousands of throat cultures to identify carriers of the disease-causing organism, thereby delineating the scope of disease spread. Clinicians subsequently immunized 35,000 people in the local community, undoubtedly preventing illness and saving lives.

Conversely, when cases of the same illness were reported on an Indian reservation in Duluth, the state public health laboratory determined that they were not related; that is, they were spontaneous, isolated cases of meningitis and not indicative of an outbreak. “We didn’t have to do this mass immunization,” said Crouch. “This probably saved as much as a million dollars.” That is the power of laboratory data in the 21st century.

Given the vital importance of maintaining this data stream (especially in an era of bioterrorism and emerging exotic disease), the PHLI report outlines three strategies state public health laboratories can pursue to address the current imbalance between their public health mandates and available funding for public health services. These are 1) laboratory partnering, 2) changes in organizational structure, and 3) proactive laboratory leadership. (See textbox at right.)

Unconventional Partnerships Encouraged

The CDC encourages all state public health laboratories, through its National Laboratory System initiative, to partner with private clinical laboratories to assure high-quality diagnostic testing within the community and to obtain the microbial isolates (taken from patients) that are the basis of ongoing disease surveillance. In Minnesota, the state public health laboratory has taken public-private partnering to a new level to address a separate issue: newborn screening (NBS).

Newborn Screening

In recent years NBS has taken a tremendous leap forward with the introduction

Addressing an Imbalance Between Function and Funding from the PHLI Report

Partnership

Multi-state Consortia. Participating state public health laboratories come together in a formal, but loosely structured cooperative partnership centered on a specific program of mutual interest. Allows connection of multiple laboratory sites with varying strengths to share workload and overflow testing. Offers economies of scale and expanded access to scientific expertise, while enabling a member state public health laboratory to provide certain analytical services to its state without having to maintain that specific capability.

Regionalization. A more formal and specialized interstate arrangement in which specific laboratories are designated as specialized testing sites and charged with providing service to a defined, regional group of states. An efficient approach for highly specialized, expensive services that are difficult to maintain, low volume, and do not require rapid turnaround time for test results.

Public-Public Partnerships. Improve efficiency by capitalizing on technology, programs, and technical expertise already existing at other state institutions, such as public universities or state departments of agriculture. Relatively easy to pursue as it involves moving fiscal resources within the same state government.

Public-Private Partnerships. The basis for the Laboratory Response Network and the National Laboratory System. Essential that partnerships be sustainable for the long-term and include non-financial incentives for the private sector partner to avoid violation of state anti-donation laws and non-profit rules.

Organizational Structure

State Agency-based. The most prevalent model. Especially if the laboratory is based in the state health department, this model offers close ties to public health programs, but perhaps also greater competition for health department dollars.

University-based. Generally offers more operational flexibility and more opportunities for research than in agency-based laboratories, but the relationship with the public health programs served by the laboratory may not be as strong.

Consolidated. All or most state laboratory testing is consolidated under one roof. Offers efficient and rapid integration and analysis of laboratory data across state programs.

Proactive Laboratory Leadership

Leadership, as opposed to management, is deemed more important than organizational structure. In addition to traditional technical skills, today’s leaders must be proficient in team motivation, risk communication, win-win negotiation, and the like. A critical attribute of successful state laboratory directors is their emphasis on professional and personal relationships with key stakeholders to forge partnerships, disseminate and explain laboratory findings, educate important constituencies and secure the resources and expertise to develop the laboratory infrastructure.
of tandem mass spectrometry (TMS), an expensive and complicated technology with the ability to screen for dozens of metabolic disorders that were previously undetected in newborns. After launching a pilot program to test the efficacy of a TMS screening program, Minnesota laboratorians determined that services could be more effectively—and as it has turned out, more quickly—delivered with a tripartite public-private partnership.

Today, the Minnesota Public Health Laboratory tests for five metabolic disorders that do not require TMS and is also implementing assays for additional screening tests, such as the DNA-based test for cystic fibrosis. Experts at the private Mayo Clinic do all the TMS testing, plus a second-level screening assay for congenital adrenal hyperplasia, which otherwise has a high false-positive rate. Finally, genetic and metabolic specialists at the University of Minnesota perform the necessary specialized confirmatory tests on infants with screen-positive findings.

The hardest aspect of partnership, said Crouch, may be ceding a bit of authority. "I think there are states out there that are wondering when Minnesota's NBS program is going to be taken over by the Mayo Clinic," he said. "We don't look at it that way. What it takes is a sense of equality (with partners). Some state laboratories may be suffering from a lack of laboratory self-esteem. You don't have to be arrogant, but you do have to be confident."

Despite the substantial involvement of its partners, Crouch said the program "is really driven by the state public health laboratory in all its aspects." The public health laboratory not only brings the three institutions together on weekly conference calls to effectively utilize the partnership, but also educates parents and physicians and assures that sick children get proper medical treatment.

With new, national NBS guidelines on the horizon, Crouch said, "Every state in one way or another is going to have to expand their NBS panel to include these additional disorders. You can't just have a private laboratory do the tests; you have to have a partnership to have a complete system."

**Biomonitoring**

David Mills, director of the New Mexico Scientific Laboratory Division and also a co-author of the PHLI report, described a second type of partnership that has "been rolling" in the Western US for three years to build regional capacity for biomonitoring—i.e., surveillance of human exposure to environmental toxicants. The partnership is a multi-state consortium involving public health laboratories in New Mexico, Arizona, Colorado, Utah, Wyoming and Montana.

A current consortium focus is arsenic, which is present in exceptionally high levels in drinking water throughout the region. "We're concerned about what are the actual levels of arsenic in exposed populations in this region," said Mills. In addition, states are interested in exploring links between arsenic exposure and health outcomes and in documenting any changes in human exposure that occur as a result of new federal rules that will reduce allowable arsenic levels in drinking water.

The advantages of a multi-state approach, said Mills, are many. By pooling the populations throughout the region for sampling purposes, findings will have greater validity. Moreover, each state gains access to greater technical expertise at very little cost. "Environmental epidemiologists are hard to come by," said Mills. "So instead of having access to perhaps two in New Mexico, we have access to six or eight," in addition to toxicologists and other experts.

In practice, each state is taking on a different role within the consortium to prevent duplication of effort and to

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**Table 1. State Public Health Laboratory Core Functions**

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<th>Core Functions</th>
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<tr>
<td>Disease surveillance to assess, prevent and control the occurrence of infectious, communicable, genetic, and chronic diseases, and exposure to environmental toxicants.</td>
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<tr>
<td>Integrated data management to capture and communicate data for public health decision-making.</td>
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<td>Reference and specialized testing to identify unusual pathogens, verify results of other laboratory tests, and perform tests that are not typically performed by private sector laboratories (e.g., SARS).</td>
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<td>Environmental health and protection to identify potential health threats and ensure compliance with environmental regulations.</td>
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<td>Food safety assurance by testing samples from people, food and beverages implicated in foodborne illness and monitoring radioactive contamination of foods and beverages.</td>
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<tr>
<td>Laboratory improvement and regulation, in both the clinical and environmental areas.</td>
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<td>Policy development, including the development of standards for all health-related laboratories and input into state and federal public health policies.</td>
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<tr>
<td>Emergency response, requiring the human and physical infrastructure to analyze unknown samples that may contain infectious, toxic, radioactive, and/or explosive materials.</td>
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<tr>
<td>Public health related research to improve the practice of laboratory science.</td>
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<tr>
<td>Training and education for laboratory staff in the private and public sectors in the US and abroad.</td>
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<tr>
<td>Partnerships and communication with public health colleagues, allied health groups, academia, private industry, legislators, safety officials, and others to support the core functions outlined above.</td>
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*Defined as essential roles in support of public health activities. Adapted from MMWR 51(RR-14): 1-8, posted at www.cdc.gov/mmwr/preview/mmwrhtml/rr5114a1.htm.*
maximize economies of scale. The Colorado Laboratory Services Division is gearing up to do the analysis of human specimens. The Utah Division of Epidemiology and Laboratory Services is handling database management. The Wyoming Department of Health Laboratory is in charge of the specimen collection kits and specimen processing. Mills’ shop is working on quality control and proficiency testing. And all six states will do data analysis. “Utah, Arizona, New Mexico, Wyoming and Montana don’t have to run the samples in their laboratory,” said Mills. That means they “don’t have to buy the instrumentation to obtain the information and the analytical laboratories get a more efficient batching (of specimens) and greater cost-effectiveness.”

Another consortium activity is a pilot project to test a surveillance method for thiodiglycol—a marker for human exposure to chemical weapons agents—using leftover urine from public health clinics. While recognizing that “not everything” has to be done as part of a group effort, Mills said partnerships will nonetheless be “very important if the public health system is to maximize its opportunities.”

### Looking Critically at Organizational Structure

A second strategy to help public health laboratories make the most of limited resources is to consider changes in organizational structure. Public health laboratories may be based in state agencies or in state universities and in each case the scope of testing may vary considerably. While Crouch cautioned that no one organizational model will “solve everyone’s problems,” he said that laboratory leaders must “figure out” if another organizational model might be more effective given their particular situation. “It’s very complicated,” he said.

In New Mexico the public health laboratory is based in the state department of health, but by statute also performs testing for the state agriculture department, the office of the state medical investigator, and the state environmental agency. Located in the same building are the state reference veterinary laboratory and the official state dairy laboratory. Said Mills, “We are the common collection point for specimens that come through from public health clinics, hospitals, autopsies, wildlife and livestock. We’re seeing the full picture of surveillance across the state.”

When hantavirus first emerged in New Mexico in 1993, it was a convergence of cases from human autopsies and from Indian Health Service patients that led investigators to identify it as a new disease transmitted by deer mice. CDC officials have said that the disease probably would not have been detected in almost any other state because of the occurrence of isolated cases in populations that might otherwise be served by different laboratories reporting to different state agencies.

As far as funding is concerned, Mills said a consolidated laboratory such as his has less redundancy of instrumentation and administrative overhead (including support staff) than would multiple state laboratories providing the same services. There’s “definitely a savings,” he said.

Mills also benefits from “greater depth on the bench” because of the relatively greater number of scientists available for cross-training. Finally, the organizational base within the health agency promotes a close relationship with public health programs, although a third party relationship with other state customers.

### Leadership: Key Factor to Success

More important than governmental structure, however, according to the PHLI report is "the ability of the laboratory to be heard and recognized as an important entity." He stressed that the more state public health laboratories are needed to detect and monitor the emerging health threats of the new century, the more urgent the need to address the imbalance between public health laboratory function and funding . . . and the more laboratory leaders will be called upon to supply and communicate their vision for the new state public health laboratory.
Colorado is one of several states that have seen a gradual erosion in state appropriations for the public health laboratory. In January 2003, the Colorado legislature eliminated virtually all state general funds allocated to the state public health laboratory—just under $1 million per year. David Butcher, who directs the Laboratory Services Division, said customer fees now supply almost three quarters of his budget, with the remainder coming mostly from federal grants.

In the past year, Butcher has seen a decline in some traditional public health testing, which he believes is a result of the new fee system. The number of animals submitted for rabies testing, for example, has fallen from 800 to 400 per year. Said Butcher, “We’re keeping (the laboratory) alive. At what cost to public health surveillance I don’t know. Maybe there are some dead bats or dead dogs that should have been tested for rabies that the local health departments couldn’t pay for because of their own funding problems.”

The Nebraska Public Health Laboratory has been operating without state general funds since 1997, when the laboratory—then part of the state health agency—closed its doors in Lincoln for clinical testing and re-opened at the University of Nebraska Medical Center. The laboratory’s director, Steven Hinrichs, said cost savings have been significant. “There have been a number of challenges we’ve had to face, but overall it’s been very beneficial for both partners: the university and the state of Nebraska.”

As a result of the change in organizational structure, the public health laboratory gained immediate access to beneficial university resources:

- Advanced molecular diagnostic technologies, including automated instruments for antibiotic susceptibility testing.
- An administrative staff with expertise in fee-for-service billing.
- University researchers who have participated in joint laboratory studies that, said Hinrichs, “neither independent party would have been able to accomplish” (including identification of the first cephalosporin-resistant salmonella isolate in the US and identification of a new mycobacteria species).
- It is now easier for the public health laboratory to get and administer grants. The CDC, for example, required its bioterrorism grant recipients to have a number of staff positions dedicated to information technology and liaison with clinical laboratories. “The university was able to open those positions and fill them in a very short amount of time,” said Hinrichs. “We had a cap on hiring and could not have filled them.”

But the laboratory has also had to walk a fine line to maximize fee-for-service income while minimizing real and perceived competition with the private sector laboratories that provide isolates for disease surveillance. Hinrichs said his shop focuses on tests that are not typically performed in the community, such as tests for West Nile virus, Bordetella pertussis, methicillin resistant Staphylococcus aureus, and expanded drug susceptibility testing. Laboratory customers include individual physicians and hospitals, small and intermediate-size commercial laboratories, county health departments, state public health programs, and the state epidemiologist.

In Nebraska’s fee-for-service system, routine disease surveillance is limited to conditions identified by state epidemiologists—such as vancomycin-resistant bacterial infections—and customers are charged for any testing that has not been pre-approved by state authorities and is also not covered under the laboratory’s bioterrorism grant (which pays for select agent testing).

Yet even within the public health realm, the laboratory faces stiff competition. It lost its newborn screening contract to a private laboratory outside the state and its rabies testing contract to the Kansas state university laboratory.

Hinrichs takes these glitches in stride. “I’m a realist,” he said, “and I’m living in a state where they have to make a decision between funding a lab test and providing milk for children... We’re doing the best we can.” It may be less convenient for Nebraska physicians and hospitals to send rabies samples out-of-state, but “if you’re the taxpayer, it’s better to let Kansas do it.” (Once the state expands its newborn screening panel, Hinrichs believes the state public health laboratory will once again be competitive and will regain the contract for this service.)

Only in a few areas does the laboratory depend on grant funds: to support bioterrorism surveillance and to underwrite its blossoming relationship with private sector laboratories. (The public health laboratory recently arranged the purchase of biosafety cabinets for six community hospital laboratories and has established electronic communication with virtually all of Nebraska’s 94 clinical laboratories. It was a pilot site for CDC’s National Laboratory System demonstration project.)

While Hinrichs concedes that a basic level of government support would be helpful to enable public health laboratorians to participate in regional and national leadership activities, he believes the fee-for-service model is viable—and not just within a setting that offers access to university resources.

In the final analysis, Hinrichs said, “Decisions must be developed locally and adjusted to (each state’s) particular circumstances. There is no one solution.”
Dear APHL,

The November 10, 2004 APHL Minute provided an excellent report of the draft recommendations to HHS from the American College of Medical Genetics (ACMG) regarding national guidelines for newborn screening (NBS) in the US. In the article was a comment that “some authorities” advocate consideration of regional models for program expansion for states with low birth rates. This statement was immediately followed by a cautionary note from Harry Hannon, chief of CDC’s Newborn Screening Branch, who observed that states will want to be self-sufficient in any such NBS program expansion, and he posed the analogy of having one’s own car versus having to ride the bus. While Dr. Hannon’s comments are probably accurate in anticipating the response from the state public health laboratory (PHL) community, I found them to be quite troubling. State PHLs are finding themselves faced with increasing pressures to expand their scope of service offerings at the same time that they are finding their general revenues capped or reduced, as well as being replaced by targeted, restricted funds. In the long run, the only way PHLs will successfully meet the challenge of providing core functions with dwindling available resources is by considering non-traditional approaches in service provision wherever appropriate.

The recommendation from ACMG presents the PHL community with a perfect opportunity to break from the traditional state-centric approach to core programs and to consider non-traditional approaches, e.g. public-private partnering and regionalization, where birth rates are insufficient to enable the program to be mounted economically or where specialized medical resources are inadequate for follow up of positive patients. There are several characteristics of an NBS program expansion that make it an appropriate candidate for such partnering. First, the technology involved is quite specialized, must be dedicated full-time to NBS, and does not lend itself to dual use. As such, a state that foregoes having it in-house does not lose out on any alternative uses for the infrastructure. Second, the technology is quite expensive and a certain minimum annual birth rate (75,000) is recommended to maximize cost effectiveness of the program. For states with low annual birth rates, partnering is more cost effective. Finally, the clinical follow up of infants testing positive for these disorders requires specialized medical resources that are not available in all states; partnering is a way in which access to qualified medical care can be assured, even when unavailable locally.

In fact, several states already utilize regionalization and public-private partnering in their NBS programs quite effectively. However, these approaches have not yet been built into a national strategy for program expansion. The best time to consider such alternative approaches is when a program expansion or new initiative is underway, as one doesn’t have to reverse or dismantle historical or cultural precedents. If new federal funds become available to assist a national expansion of NBS as a result of the ACMG recommendations to HHS, they could be allotted in such a manner as to “encourage” states to consider these alternative strategies. I would hope that APHL will weigh in on the matter to encourage this approach should the opportunity arise.

David E. Mills, PhD, HCLD
Scientific Laboratory Division
NM Department of Health

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Emergency Preparedness

APHL Conducts Third Annual Bioterrorism Survey

In August 2004, APHL conducted the third annual survey of state public health laboratory (SPHL) readiness for bioterrorism. Fifty-two responses were received, representing all states, the District of Columbia (DC) and Puerto Rico. The survey provided much needed information on the status of bioterrorism preparedness at the laboratories, identifying advances in capacity, unmet needs and emerging issues.

A brief summarizing data from the respondents will soon be published and distributed to state public health laboratories, policymakers and other key decision makers. APHL members will be able to review aggregate data on APHL’s LabNet, www.aphl.org/labnet. Unless otherwise noted, data was collected in an 18-month period, covering activities from January 1, 2003 to August 31, 2004.

Funding Improvements and Gaps

Public health laboratories are the backbone of the Laboratory Response Network (LRN), the nation’s system for identifying, testing and characterizing potential agents of bioterrorism and chemical terrorism. The concept of the LRN as a state-federal partnership with assets available in all states was first articulated in the CDC’s Bioterrorism Strategic Plan in 2000. Since then, the LRN has become a critical national asset that coordinates resources for preparedness and response to biological and chemical terrorism.

General Funding Resources

In FY 03, state health departments received $970 million in federal funds for public health preparedness, of which state public health laboratories received $116 million for bioterrorism preparedness.

- As of November 2004, the Association of State and Territorial Health Officials (ASTHO) reported that all but 9.7% of the $970 million funds had been spent or obligated.
- Reductions in state funding continue to pose problems for state public health laboratories. In FY 04, twenty-two states had an average reduction of 12% in state funding.
- Less than 10% (5/51) of state public health laboratories received funding from the Department of Justice for terrorism preparedness.

Food Protection

Funding for food protection is necessary if states are expected to address testing of food triggered by intentional contamination. It is essential to provide this funding so that states can develop and maintain adequate surge capacity in addition to day-to-day operations.

- Forty-three state public health laboratories indicated that they have some type of funding specifically for testing food as part of investigating outbreaks of human illness.
- However, only 25 of the state public health labs indicated that they had funding for the testing of food after a recognized intentional contamination.

Confirmatory Labs

State public health labs continue to engage other partners in the LRN. Since December 2002, an additional 32 confirmatory laboratories, consisting of branch state public health laboratories, city and county public health labs, clinical labs, veterinary diagnostic labs, agriculture labs and food labs, joined the LRN and will provide support to state public health labs in a potential bioterrorism event.

- Forty-eight percent (25) of state public health laboratories shared federal funding with other LRN confirmatory laboratories in their state.

Workforce Concerns

A well-trained and highly-skilled laboratory workforce is essential for national security. However, many states do not have a full complement of trained staff. While some federal funding exists for the hiring of a skilled workforce, this much-needed workforce does not exist. Public health organizations are calling for the federal government to invest more in the education and training of a skilled public health laboratory workforce.

- Twenty-one state public health labs lack a full-time, doctoral-level molecular bioterrorism scientist, a number that has increased since APHL’s last assessment.
- Currently, only 12 states have more than one doctoral level molecular scientist.
- Due to this lack of personnel, in the event of an emergency, many states would be unable to sustain surge capacity testing for an indefinite period.

Building Public Health Laboratory Capacity

Additional BSL-3 Suites Needed

Expanded capacity is necessary to provide geographic coverage, surge capacity, response to additional mandates, and replacement of aging facilities.

- Six respondents noted that they lacked a BioSafety Level 3 (BSL-3) facility, compared with eight from last year.
- However, more than 50 percent of states reported needing at least one additional BSL-3 facility in the SPHL system, bringing the total to an additional 70 facilities needed nationwide.

Guidance on Facility and Protocol Requirements for Triaging of Unknown Samples Needed

- Only twenty-seven states indicated that they had a designated triage area for receiving and screening unknown samples.
- Twenty-two states have purchased new technologies, such as SensIR™, to assist in the screening of unknown samples.

States continue to call on the federal government to provide guidance on the appropriate facility and protocol requirements for triaging of unknown samples.

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In addition to facility upgrades, public health laboratories need updated technologies. There is still a need for additional PCR instruments to meet surge capacity needs and to provide redundancy in platforms. Twenty-three states indicated a need for a Light Cycler or Smart Cycler.

**Smallpox Preparedness and Current Gaps**

All but two state public health laboratories have at least one rapid method for detection of varicella zoster virus (VZV), the causative agent of chickenpox, which is the disease most likely to be confused with smallpox. Expansion of smallpox testing capability depends on meeting biosafety and facility requirements.

- Nineteen labs have a validated PCR assay for smallpox.
- Twenty-six labs are interested in having smallpox specific testing capability.
- The greatest gaps in smallpox preparedness were in electron microscopy (EM) facilities and PCR assays for other smallpox look-alike diseases caused by herpesviruses and enteroviruses.
- Forty-three labs indicated that they had no electron microscopes.
- Among states lacking EM capacity, more than half (27/43) located a nearby site to provide assistance.
- In-house validated, non-FDA approved PCR assays for herpesviruses and enteroviruses are available in the private sector and could be used to assist in rule-out diagnostic testing for smallpox.

**Training and Connectivity with the Sentinel Community**

Public health laboratories continue to reach out to the clinical community. As of August 31, 2004, 49 states sponsored sentinel (clinical) training and offered a total of 717 courses, training over 9,000 laboratorians. The training covered rule-out testing, packaging and shipping, and biosafety guidelines.

- Twenty-nine respondents report that they employ a full-time staff person to coordinate training and other activities with sentinel laboratories.
- Thirteen states have such an individual on staff part-time.
- Fifty-one of the respondents maintain a database of all sentinel laboratories and pertinent laboratorians in their state.
- Forty-four respondents have access to current information on the capabilities of all sentinel laboratories in their state.

In order to assure standardized testing, CDC provides training to state public health laboratories. Indicating that training on confirmatory assays for bioterrorism agents is needed, 50 of the 52 respondents reported that they would participate in future confirmatory laboratory training courses.

The funding made available for bioterrorism laboratory preparedness continues to address a number of readiness gaps identified in previous APHL reports, Public Health Laboratories Issues in Brief: Bioterrorism Capacity. Still, funding levels must be sustained if states are to address staffing needs and changing technologies.

APHL would like to thank all of the states, the District of Columbia and Puerto Rico for their participation in this survey. The valuable data collected will serve to support advocacy and other public health ventures. For more information on this survey, contact Ms. Chris Mangal at 202.822.5227 ext. 244, cmangal@aphl.org.

**Infectious Disease**

**FDA Approves Waived Status for Another HIV Rapid Test**

In the rapidly evolving world of HIV diagnostic testing, manufacturers continue to develop new screening assays that are better able to detect HIV infection; some of these new assays are also available for broad use outside the traditional laboratory setting. The FDA has just granted Clinical Laboratory Improvements Amendments of 1988 (CLIA) waived status to Trinity Biotech’s Uni-Gold Recombigen HIV rapid test for use with finger stick whole blood. Previously, this rapid HIV test was only FDA-approved and CLIA-waived for use with venipuncture whole blood. It is categorized as moderate complexity for use with serum and plasma.

As a result of the expanded waived status for this test with finger stick whole blood, the test can now be used by almost 200,000 testing sites including physician’s office laboratories, clinics and community-based organizations, because it can be administered by non-laborators with little or no venipuncture experience. Currently, the only two other rapid HIV tests that have been FDA-approved for finger stick whole blood specimens are the OraSure Technologies OraQuick and OraQuick Advance rapid HIV test. Public health laboratories involved in rapid HIV test training should consider adding the performance of the Uni-Gold assay to their program content. For further information on the Uni-Gold Recombigen rapid HIV test, visit www.unigoldhiv.com.

**HIV Confirmation After Rapid Testing**

OraSure’s new OraQuick Advance HIV-1/2 Rapid Antibody test, which can be used with either an oral fluid specimen or fingerstick whole blood, has broad appeal for use since specimen collection is less invasive and there is a decreased risk of exposure to bloodborne pathogens.

However, the CDC is currently investigating reports from one site that found a higher rate of false positives with oral fluid specimens compared with fingerstick whole blood. APHL will update the membership when the results from this study are available. If your laboratory performs confirmatory testing for rapid HIV results, report any discordant results obtained from the OraQuick Advance (preliminary positive rapid test, negative Western Blot or IFA) to the CDC’s HIV Blot and Diagnostics Branch in the Division of HIV/AIDS Prevention (DHAP).
FDA Approves Another Rapid HIV Test For Sale in US

The BioRad Multispot HIV-1/HIV-2 rapid test, once only available in international settings, was FDA-approved for sale in the United States on November 12, 2004. The test is a rapid indirect membrane-based enzyme immunoassay (EIA) designed for the simultaneous detection and differentiation of anti-HIV-1 and anti-HIV-2 antibodies in human serum or plasma. It utilizes a test cartridge with four detection “spots” that consist of recombinant HIV-1 protein, synthetic HIV-1 peptide, HIV-2 peptide, and a goat anti-human IgG internal control. The rapid test, classified as a CLIA moderate complexity test, requires several steps and can provide results in ten minutes. The manufacturer’s clinical trials indicate the test is 100% sensitive and 99.95% specific.

The Multispot HIV-1/HIV-2 rapid test could become a useful tool for public health laboratories to differentiate between HIV-1 and HIV-2 infection. Only one other rapid HIV test can detect HIV-1 and HIV-2, but it cannot differentiate between the two. The manufacturer’s package insert also states that this test is suitable for use in multi-test algorithms designed for statistical validation of rapid HIV test results. When multiple rapid HIV tests are available, this test could be used in appropriate multi-test algorithms. For further information on the Multispot HIV-1/HIV-2 rapid test, visit www.bio-rad.com.

Contact Anthony Tran, HIV, STD, TB program manager, at atran@aphl.org or 202.822.5227 ext. 229.

APHL Receives NCHSTP Award from CDC

On November 5, 2004, APHL received an outstanding service award for assistance to the National Center for HIV, STD, and TB Prevention (NCHSTP). This is the first year an external organization has won the award. Dr. Dale Hu, acting associate director for laboratory science, nominated APHL, crediting the association with consistently helping NCHSTP achieve its important initiatives involving laboratories. Rosemary Humes, APHL’s director of infectious diseases and preparedness, accepted the award from Dr. Janet Collins, acting director of NCHSTP, on behalf of the association at a ceremony at the CDC.

Environmental Health

How Radiation Falls Out in the Preparedness Picture

Federal agencies have finally begun to extend the umbrella of preparedness to include radiation this year. Radiation is energy that is produced by a source and travels through any kind of material or space. Sources may include high-energy atoms (e.g. radon, cobalt, iodine) which tend to release or emit excess energy. Radiation can also be produced by high voltage devices such as X-ray machines.

APHL’s Environmental Health (EH) Committee, taking note of the increased federal awareness of radiation, has been tracking and participating in radiation-related activities. On October 27, 2004, APHL staff and Norma Roadcap, group manager, Virginia Division of Consolidated Laboratory Services, attended a workshop centered on whether the Department of Homeland Security should fund REALnet, the Radiological Emergency Analytical Laboratory Network. REALnet would serve as a national network of radiological laboratories that are capable of responding to the analytical needs required in the aftermath of a terrorist attack involving radiological materials. While a decision was not reached at the workshop, a diverse group of laboratories began considering the varied components this network should include: a listing of laboratories, standards, guidelines and protocols, and the ability to exchange information.

Types of labs to be included, types of matrices to be expected, and capability, capacity, and competence of labs were other logical questions that were raised. Workshop attendees included representatives of public health laboratories from NJ, IA, NY, and NC, as well as research, academic, and commercial labs. APHL stressed the administrative difficulties of adding another network to the list of existing networks such as LRN and FERN. However, due to the huge number of radiation laboratories that are not public health laboratories, a separate network may be created. EH committee members are concerned about issues that may arise from a new network, such as how data will be coordinated and used.

An example of how state public health laboratories can utilize radiation science to enhance preparedness is demonstrated in the work of the Yale Biodosimetry Project in Connecticut.

Biodosimetry is an ensemble of physiological, biochemical and molecular tech-
Environmental Health Tracking: A National Public Health System in the Making

In September 2000, the Johns Hopkins University Environmental Health Tracking Team, in coordination with the Pew Environmental Health Commission, released a report, “America’s Environmental Health Gap: Why the Country Needs a Nationwide Health Tracking Network.” This report became a major impetus for the development of the Environmental Public Health Tracking (EPHT) program within the CDC’s National Center for Environmental Health, and provided a possible structure and purpose of a public health tracking network.

What Is It?
Environmental public health tracking is the ongoing collection, integration, analysis, and interpretation of data about environmental hazards, exposure and potential human health effects. To date, environmental pollutants have neither been tracked nor linked to human disease in any efficient manner. The EPHT network, once developed fully, will help monitor environmental toxins to reduce and prevent negative health outcomes by determining what pollutants, and at what levels, present human health risks. Yet, establishing a link between environmental and public health systems is both complex and time-consuming due to a lack of coordination, lack of communication, and the absence of uniform standards.

How Will It Work?
Individual state networks will be integrated in order to form a national EPHT network which is intended to serve as a geographically comprehensive, secure, Web-based system that will offer a gateway to environmental, health, and linked data collected throughout the country. EPHT’s goals include building a sustainable national network, increasing capacity, disseminating credible information, advancing environmental public health science and research, and bridging the gap between public health and the environment. In support of this, Congress allocated $17.5 million in 2002, $27.5 million in 2003, and $27.4 million in 2004 for the program. Since the program’s 2002 inception, the CDC has funded 20 state and local health departments, as well as three schools of public health (University of California Berkeley, Tulane University, and Johns Hopkins University Bloomberg School of Public Health) to support state and local health department tracking activities. Additionally, the CDC expanded the program to incorporate nine more states and New York City in 2003.

Workshop Covers Central Issues, Plans for the Future
In October 2004, the CDC’s Environmental Health Tracking Branch hosted the National EPHT Workshop in San Francisco, CA. This meeting provided a forum for EPHT program grantees and stakeholders to discuss significant program issues. The two-and-a-half day workshop allowed participants to share “lessons learned;” acquire new skills through training and data modeling; small area statistics, risk communication and outreach; and plan for the future of the EPHT program. Concurrent sessions and roundtables covered areas such as: 1. environmental tracking as it relates to drinking water issues; 2. network architecture concepts; 3. targeting the policy audience and stakeholders; 4. mechanisms for recording and sharing data; 5. spatial data linkages; 6. building logical data models; 7. risk communication in the context of EPHT; and 8. small area analysis and clustering techniques.

National Conference, Moving Forward With Plans
Workshop participants were also involved with planning the annual National EPHT Conference, to be held April 20-22, 2005, in Atlanta, GA. The conference will serve as the next step in the development of a nationwide network. Workshop “raconteurs” were pre-selected and recorded discussions among participants in order to highlight key themes and messages for inclusion in the agenda for the conference. Attendees of the conference will include local, regional and national decision makers, researchers, healthcare providers, policymakers and community members. The conference will provide an opportunity for participants to share successful methodologies for integrating environmental and health information.

Continued on page 13
to guide public health practice and policy, communicate important findings from environmental public health tracking projects, and to strengthen collaborations to promote the development of an environmental public health tracking network at the local, state and national level. Last year’s conference included a presentation by APHL’s Ronald Laessig, PhD, on the synergism between biomonitoring and EPHT.

Newborn Screening and Genetics

IOM Conference: Genomics Implications for Public Health

The Institute of Medicine’s conference, “Genomics and the Public’s Health in the 21st Century,” was held in October 2004, in Washington, DC. Sponsored by the CDC, the two-day conference explored the significance of genomics to population health through three major topic areas: 1. scientific and policy issues related to genomics; 2. challenges in the translation of genetic information into population health benefits; and 3. approaches for the integration of genomic information into strategies for promoting health and preventing disease.

Look Ahead: What is Entailed?

In his keynote address, Gilbert Omenn, MD, PhD, from the University of Michigan, noted that the key components of genomic integration into public health practice include a landslide of genomic information, effective linkages with environmental and behavioral datasets for eco-genetic analyses, privacy and confidentiality protections, breakthrough tests, vaccines, drugs, and regulatory actions to reduce health risks and cost-effectively treat patients. Omenn defined genomics as “a modern subset of the broader field of genetics, made feasible by the remarkable advances in molecular biology, biotechnology, and computational sciences, to examine the entire complement of genes and their actions.” Some of the challenges for genomics and public health include:

- Strengthening prevention in the public health/clinical medicine continuum
- Addressing global infectious and chronic diseases
- Recognizing heterogeneity among patients and populations
- Integrating genetic, environmental and behavioral factors in preventing and treating illnesses and injuries

Genes, the Environment and Risk Communications

Speakers discussed the interaction between genes and the environment. David Eaton, PhD, from the Center for Ecogenetics and Environmental Health at the University of Washington, gave an overview of gene-environment interaction research, a summary of scientific advances, challenges, and ethical, legal and social issues. Common diseases associated with environmental factors include cancer, asthma, birth defects, cardiovascular diseases, chronic neurological diseases and immune dysfunction.

Using beryllium and lung disease as an example, Eaton explained the use of genetic information in risk communication. ‘Berylliosis’ is a debilitating fibrotic lung disease associated with chronic occupational exposure to beryllium. A specific genetic polymorphism (HLA-DPB1 Glu-69 variant) is associated with increased risk from beryllium. The relative risk of disease in Beryllium workers is 1-5% (up to 16 % for some), and the risk is about 3-4 times higher in Beryllium workers with variant HLA. Several public health questions are raised from this example: Should beryllium workers be ‘screened’ for the genetic variant? What are the costs and benefits of genetic screening? How should the information be used in communicating risk to workers/employers or insurers?

Financing Implications

Speakers also addressed the payers’ perspective on population genomics testing. The ‘payer’ in the case of newborn screening includes managed care organizations, Medicaid and Medicare. Marc Williams, MD, FAAP, FACMG, from the Gundersen Lutheran Medical Center in LaCrosse, WI, noted that some, but not many, states cover follow-up and treatment payments. The burden typically falls on the third-party payers. Payers believe that medical costs will escalate, in part due to the expense of new technologies. This may lead to selective insurance coverage for the different newborn screening disorders.

Recommendations and proceedings from the conference will be available at the end of the year. For more information on this conference, visit www.iom.edu/genomics or contact Jelili Ojodu, newborn screening and genetics program manager, 202.822.5227 ext. 235, jojodu@aphl.org.
In the fall of 2004, APHL awarded seven states with nearly $259,000 to implement recommendations from the association’s 2001 food safety report, A Recipe for Stronger Food Safety Programs, available online at https://www.aphl.org/docs/foodsaferreport.pdf. These grants, made possible with funds from APHL’s cooperative agreement with the CDC’s Food Safety Office, allowed recipients to improve the food safety capacity of their public health laborato ries.

APHL is currently evaluating, but no longer accepting, applications received in response to its second round of grants, “Innovative Projects to Enhance Food Safety Capacity in States.” This grant program will provide funds for projects that seek innovative, reproducible ways to overcome process-related food safety problems. These features are shared by the projects undertaken last year by the Michigan and Virginia public health laboratories.

**2004 Pilot Project Highlights**

Michigan’s public health laboratory undertook a pilot project to encourage the submission of PulseNet-tracked isolates to the state public health laboratory. Michigan, like many other states, has no law requiring non-governmental laboratories, such as hospital or private clinical laboratories, to submit such isolates or specimens to the state public health laboratory. Encouraging submissions and keeping communication lines open are both critical to maintaining even a modest rate of isolate submission. Michigan’s project simplified the process by providing clinical laboratories with prepaid express mailers for submitting clinical isolates and specimens, improving submission rates and building stronger ties with clinical labs.

Virginia’s public health laboratory purchased equipment to develop a DNA-sequence database and strain library to cluster and track foodborne pathogens. Existing sequence data developed in-house has been added to the database, and public DNA databases are being incorporated as reference material for the laboratory’s sequencing projects. Virginia has also imported prototype Norovirus sequences from other state public health laboratories, to allow for the rapid comparison and tracking of various Norovirus strains during outbreak situations, as well as to compare known sequences to newly identified ones. Norovirus is thought to be responsible for as much as 50% of foodborne outbreaks.

Additionally, the Virginia laboratory has been working on the creation of foodborne specimen collection kits, which include materials and supplies needed to collect and submit specimens for laboratory testing, as well as a specimen collection form. The lab will distribute a number of kits to each health district and to regional epidemiologists, and will replenish kits as they are sent in for testing.

For more information about APHL’s food safety grants, contact Jeremy Gillissen, APHL’s food safety program manager, at 202.822.5227 ext. 245, jgillissen@aphl.org.

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On January 1, 2005, NCCLS will officially change its name to the Clinical and Laboratory Standards Institute (CLSI). Glen Fine, MT(ASCP), MS, MBA, the newly appointed executive vice president for the organization, explains, “The name change is not a shift of our core organizational mission to develop and distribute standardized best practices for the healthcare and medical testing community. Instead, it is a better reflection of our organization’s expanded standards-development activities, and global membership base.”

CLSI is a 35-year-old, non-profit organization that relies on its members and volunteers for the development of voluntary consensus standards and guidelines. Fine says, “CLSI’s gold standards are invaluable tools that allow our distinct constituencies to meet their responsibilities with efficiency, effectiveness and global acceptance.” He adds, “Our organizational values will remain the same—only our name is changing.”

**Documents and Products Relate to Public Health Labs**

“Many NCCLS/CLSI documents address core public health functions: infectious disease testing, newborn screening, emergency preparedness, and quality assurance, to name a few. CLSI’s accredited, mature, and well-greased standards process depends on active members such as APHL, state public health laboratories, and Centers for Disease Control and Prevention to make it work. In return we all get consensus standards that help us do our jobs and keep people healthy,” says Thomas Hearn, PhD, acting director of the CDC’s Division of Laboratory Systems, Office of Public Health Partnerships, and NCCLS/CLSI president. Some of the products of interest include:

A CLSI video, Making a Difference Through Newborn Screening: Blood Collection on Filter Paper, now in its second edition, was produced in response to an expressed need by state laboratories. It provides a visualization of each step in the blood specimen collection process and depicts the standard of practice, as defined by the consensus process, for collecting specimens on filter paper.

**Planning for Challenges to Clinical Laboratory Operations During a Disaster; A Report (X4-R)** provides a framework for reviewing the infrastructures that support the public health laboratory testing and results reporting during large-scale disasters.

**Protection of Laboratory Workers from Occupationally Acquired Infections (M29)** is intended to be a practical tool for laboratory and healthcare workers,
Several fellows participated in West Nile virus (WNV) testing and surveillance activities.

**Heather Masri**, a Class IX research fellow at Virginia's Division of Consolidated Laboratory Services, is working on a study with the Virginia Department of Health examining West Nile virus seroprevalence in bird handlers, specifically wildlife rehabilitators and environmental health specialists who work in the local health department. The study aims to determine if wild bird handlers in Virginia are at risk for acquiring WNV infection directly from wild birds. It intends to examine potential risk factors which, once identified, may be avoided.

Class IX Training Fellow **Laurie Dizney**, working at the Oregon State Public Health Laboratory, spent most of the summer learning and performing the ELISA for chicken blood and RT-PCR on mosquito pools. Dizney states that “the Oregon state health lab receives weekly shipments of sentinel chicken blood and mosquito pools from around the state to be tested for West Nile virus, as well as St. Louis Encephalitis and Western Equine Encephalitis…now that WNV has actually been found in the state, we are getting more human samples, and I hope to learn the test for that as well.”

**Michelle Crum**, a Class IX research fellow at the New York State Department of Health, is working on a project aimed at producing West Nile virus replicon particles expressing green fluorescent protein (GFP). She is performing studies to identify if the structural DNA which supplies the capsid for the virus will be able to package the WNV GFP replicons when used instead of the full-length virus. Her experiments are in collaboration with another flavivirus group at the Wadsworth Center.

**Kaitlin Rainwater**, a Class X training fellow at the University of Iowa Hygienic Laboratory, is excited about “becoming fully trained in West Nile activities by learning all the laboratory methods, going out with county health departments to take blood from chickens, and visiting other collaborators in the state that are doing surveillance.”

**2005 EID Fellowship Program Deadlines**

APHL is now accepting applications for the 2005 EID Fellowship Program! The application deadline for local, state and federal public health laboratories interested in hosting a fellow for the 2005 EID Laboratory Fellowship Program is March 1, 2005. The application and instructions can be found at www.aphlincare.org/hostlabapplication. The application deadline for prospective fellows is February 18, 2005. For more information, contact Heather Roney at 202.822.5227 ext. 301 or hroney@aphl.org.

Concurrent with the adoption of APHL's new logo, the EID Fellowship Program developed new promotional materials. Vibrant orange brochures and posters were sent to APHL member-laboratories, NLTN field offices and staff, and state training coordinators across the country. Over 750 college and university biology departments and/or medical technology programs. The widespread marketing effort forecasts a projected increase in 2005 fellowship application numbers. Within a week of disseminating the new promotional materials, fellowship staff was flooded with phone calls and emails requesting additional information. In the last month the EID fellowship application was downloaded from the APHL site over 1000 times! Undeniably, the marketing effort is yielding a highly contagious response from prospective fellowship candidates.
The Nashville office of the National Laboratory Training Network (NLTN) presented an award for “Excellence in Education” to Vickie Baselski, PhD, DABMM, FAAM. Baselski has been active in bioterrorism preparedness with the American Society of Microbiology, the Tennessee Department of Health’s (TDH) Laboratory Services and the NLTN.

Baselski’s development of the first hands-on wet workshop dedicated to the presumptive identification of agents of bioterrorism began prior to 9/11 when she agreed to work with the NLTN and TDH Laboratory Services, serving as the primary speaker for workshops on bioterrorism (BT). To date, she has led fourteen workshops, most recently revising pertinent material into an information-packed, two-hour audioconference presented regionally. Additionally, since she generously agreed to share her lecture and handout material through the NLTN, her material forms the basis of much of the BT preparedness training in the US.

Baselski is active in key arenas which have prepared her to be a force in the area of bioterrorism. She is the technical director of microbiology for the Memphis Pathology Laboratory, and a professor of pathology at the University of Tennessee Health Science Center in Memphis. She serves on the American Society for Microbiology committee that worked with the CDC to develop the sentinel protocols to define rule-in/rule-out agents of bioterrorism. Additionally, Baselski maintains a keen public health perspective as she serves as the clinical consultant for the Memphis-Shelby County Health Department.

The NLTN deeply appreciates the contributions that Baselski has made to its educational efforts. She has made a difference in bioterrorism preparedness for many hospital laboratorians and stands as a model of public health work at its very best.
Public Health Series and Focus Courses: Education in Real-Time

The National Laboratory Training Network (NLTN) strives to provide workforce development opportunities to the public health laboratory community. Toward that end, the NLTN routinely surveys public health laboratory directors to determine where development and training is most needed. In 1996, the first survey indicated a need for hands-on laboratory training programs on rabies, virology, mycobacteria and food microbiology. The NLTN staff, with input from public health laboratory and CDC staff, developed curricula for four-to-five day, hands-on laboratory workshops on these topics. During the same time period, the Massachusetts State Laboratory Institute invited NLTN to collaborate with the planning of a similar type of workshop on mycobacteria. In 2003, a course on molecular techniques was added. These training sessions are now called Public Health Series (PHS) courses.

PHS courses are NLTN-sponsored courses that are open primarily to state public health laboratory personnel and devote at least 40% of the length of the course schedule to a hands-on (wet laboratory) component. Subject matter experts from CDC and other federal agencies, industry, academia and state and local public health laboratories participate as faculty for the courses. PHS courses are presented at least biannually on a defined schedule and are funded through the CDC cooperative agreement, as well as registration fees and vendor educational grants.

Since 1996, the NLTN has held eighteen PHS courses with 342 students from state and local public health laboratories. Students have come from all fifty states, Puerto Rico and Washington, DC. Every state has utilized at least two of the PHS courses for their staff. Twenty-three states have sent students to all five courses in the series. The next PHS course is on virology, scheduled for July 2005.

Based on the success of the PHS, some of the programs at the CDC approached APHL with requests for cosponsoring hands-on laboratory training for specific disease testing and new testing technologies. As a result, the NLTN developed a new series of courses called Public Health Focus (PHF) courses. PHF courses are defined as those which topics are articulated and funded by the CDC, but channeled through an APHL program. Much like the PHS courses, the PHF courses are multi-day, hands-on wet workshops targeted to public health laboratory personnel. The faculty is primarily, but not limited to, CDC subject matter experts; the faculty supplies the general content of the course. The appointed NLTN planning team provides input to ensure that the final product will meet the needs of the public health laboratory community. Unlike the PHS courses, the PHF courses are not on a set schedule, but are conducted as needed.

The NLTN has conducted four PHF courses. Two sessions on norovirus and two on influenza have been held. To date, sixty-two students representing forty-five states have attended either one or both courses. Arrangements have been made with CDC staff for individual training at the CDC to accommodate those who were not able to attend the norovirus course. A third and final influenza course will be held in April 2005 for those states who have not yet sent a student to a previous course.

A new training needs assessment will soon be sent to all state public health laboratory directors to determine which of the PHS courses should continue and what additional topics should be included to continue to develop the public health laboratory workforce. For more information on Public Health Series or Public Health Focus courses, contact your local NLTN office at 800.536.NLTN (6586) or at www.nltn.org.

Laboratory Scientists and Epidemiologists Meet: Three Northeast States, Three Unique Programs

In the previous issue of the Minute, the feature article concentrated on how vital the laboratory-epidemiology partnership is to maintaining the public's health. In that vein, the NLTN office in Boston collaborated with the Massachusetts Department of Public Health (MDPH) in November 2003, to create and host a conference, “Infectious Disease Surveillance: A Team Approach.” A mixed crowd of clinical microbiologists, infection control practitioners, MDPH epidemiologists and laboratory attended.

The conference highlighted useful information on identification and control of nosocomial antibiotic resistance, prevention of pediatric pneumococcal pneumonia, as well as a discussion of the current state of electronic reporting.

MDPH staff reported on recent outbreak investigations and a number of MDPH poster presentations were displayed. The success of the meeting was illustrated by the favorable reaction of the more than 80 attendees, and the flood of suggestions for future discussions. In light of the positive reception of the conference, several northeast states requested assistance in planning similar state-specific programs for the fall of 2004.

This fall, New Jersey, Connecticut and Massachusetts planned laboratory-epidemiology conferences targeted for a similarly diverse audience. Each state, however, developed unique programming.

New Jersey

New Jersey’s “Managing an Infectious Disease Outbreak: The Laboratory-Epidemiology Partnership” focused on the many resources available at the public health laboratory, and provided a detailed description of how outbreak investigations are coordinated. An explanation of PulseNet and its success in managing foodborne outbreaks was followed by a case example of a multi-state outbreak of salmonellosis that affected the local area. There were discussions of rapid reporting by hospital and local health and of the New Jersey Labo-
The APHL Minute

Connecticut
Connecticut is one of the first states to host an Emerging Infections Program (EIP) and this fall, the NLTN worked with the Connecticut Department of Public Health (CT DPH) to facilitate “The Connecticut Emerging Infections Program – Celebrating 10 Years of Infectious Disease Surveillance, Prevention and Control Activities.” Jim Hadler, director, infectious diseases, CT DPH, described many key accomplishments and future challenges for Connecticut EIP. Kati Kelley, director of the Connecticut public health laboratory, and Robert Howard discussed the major changes that have taken place in the past 10 years, most notably in the area of molecular technology. Robert Pinner, director of the CDC’s Office of Surveillance, NCID, delivered the keynote address: “The EIP: Leading Public Health Surveillance in a Changing World.”

Massachusetts
Using the previously successful format, MDPH and NLTN planned a second “Infectious Disease Surveillance: A Team Approach.” George Eliopoulos of the Beth Israel Deaconess Medical Center discussed the challenge of Gram-positive hospital infections and John Fontana, MDPH, discussed community associated methicillin resistant Staphylococcus aureus (MRSA). David Katz, CDC Epidemic Intelligence Service officer, presented an outbreak investigation of giardiasis. A panel of infection control practitioners discussed management of Gram-positive infections, followed by Janet Hindler, APHL consultant, on extended spectrum beta lactamases (ESBL). Cheryl Gauthier, director, BioThreat lab at MDPH, closed the program with a description of resources at the MA PHL.

Sentinel Lab Training: The Real NYC Marathon

On November 7, 2004, over 36,000 runners participated in 35th annual New York City (NYC) marathon. The winner, Hendrik Ramaala, finished in just over two hours. For the Boston National Laboratory Training Network (NLTN) office, the “real” NYC marathon started 9 days later, took over 16 hours, and attracted 83 participants. The CDC, NLTN and New York City Department of Health and Mental Hygiene (DOHMH) collaborated on an intensive training program: “Agents of Bioterrorism — A Hands-on Learning Exercise for the Sentinel Laboratory.” All NYC clinical laboratories, of which there are more than 70, were invited to send a representative. Because hands-on laboratory training works best with small groups, four separate four-hour sessions, each with 20 participants, were scheduled over the two-day program.

Leslye LaClaire, bioterror response training director, DOHMH, Steve Glenn, CDC, and Shoolah Escott, NLTN, developed a curriculum featuring an overview of five bacterial agents, a description of the role of the DOHMH in managing a suspicious isolate or bioterrorism event, and laboratory exercises.

Sara Beatrice, assistant commissioner, DOHMH Public Health Laboratories, welcomed each group. Steve Glenn described the microbiology of Bacillus anthracis, Yersinia pestis, Francisellula tularensis, the Brucella species and strains of Burkholderia species associated with potential for BT. Lillian Lee, DOHMH chief of general microbiology and biothreat response microbiology, reviewed preparedness planning and communication networks for the NYC laboratory.

Small groups were then directed to one of the five stations. Each station allowed participants to examine the microscopic and macroscopic features of BT agents excluded from the Select Agent List, as well as mimic or “look-a-like” organisms that can sometimes be misidentified when using automated microbial identification systems. Alice Agasan, John Kornblum, Jose Mediavilla, Elliot Rank, and Rodger Silletti, DOHMH scientists, and Betsy Szymczak, NLTN, served as station trainers.

Unlike the New York marathon, once the first four-hour training session ended, three more sessions had yet to start and finish. While intense, this collaborative effort provided hands-on training for a representative from almost every clinical microbiology laboratory in NYC and was both an efficient and effective use of training resources.

HIV Diagnostics: New Developments and Challenges
February 28-March 1, 2005
Orlando, FL

Discussion Topics:
HIV Rapid Tests: Implementation and Quality Assurance
Multi-test Combination Algorithms and Validation
New FDA-approved EIAs: Sensitivity and Validation
NAAT Screening for Acute HIV Infection
HIV-2: Recommendations for Screening and Confirmation
HIV Incidence Surveillance

Scheduled immediately before the APHL Infectious Disease Conference. Organized by CDC. More details to be announced.
At the Epicenter of Crises, NYC Laboratory Emerges Stronger Than Ever

Director
Sara T. Beatrice, PhD, who holds advanced degrees in medical microbiology and immunology, came to the New York City (NYC) laboratory in the early 1980s when AIDS was a top public health priority. “It was interesting timing,” said Beatrice. “We still didn’t know what caused AIDS and I was coming to the epicenter of the epidemic as a virologist.” Beatrice developed and ran the city’s HIV laboratory until 2001, when she took over the local lab response to a new public health threat: anthrax. Six months later she was asked to head the laboratory as an assistant health commissioner.

Location
Midtown Manhattan on First Avenue, a.k.a. hospital row. “We’re across the street from the VA Medical Center and Bellevue—the oldest public hospital in the US—and just down the street from NYU and the United Nations. Whenever public dignitaries come to town they close off First Avenue and it becomes a parking lot for the hospitals.”

Facility
The laboratory occupies 8 floors of a 14-story Department of Health building. Other occupants include the Aaron Diamond AIDS Research Center and the NYU medical research laboratories. The city laboratory is “overcrowded and needs updating,” but a two-phase renovation is in process and consultants have recommended that an option is to move the laboratory to a new location that may be less expensively customized.

# Staff
About 255 positions.

Relationship to the State Lab
A municipal laboratory governed by NYC regulations and funded with city and state dollars, supplemented by federal grants. “The mayor is my boss, but we try to make sure that our systems run parallel to our partners’ (systems) at the state level.” The laboratory has a relationship with state laboratories in Hartford, CT, and Trenton, NJ, for surge testing, as both are nearer than the NY state laboratory in Albany.

Distinguishing Characteristics
- First municipal public health laboratory in the US (established in 1892).
- Chemistry laboratory has been operating continuously since 1869.
- Pilot laboratory for a number of homeland security projects, including Biowatch.
- Developed the national interpretive criteria for HIV Western Blot testing within the lab.
- Home to what is probably the largest HIV-2 and HIV-1 variant testing program in the country.
- First US laboratory to “be hit with” West Nile virus. “We’re actually a port city, although I don’t know that people think of us that way.”

Highest Volume Testing
The laboratory tests roughly four hundred blood samples every day for lead followed closely by HIV and STD tests for gonorrhea and chlamydia.

Notable Success Stories
Establishing a strong bioterrorism response program. NYC established brand new Biosafety Level 2 and Biosafety Level 3 laboratory suites for bioterrorism and TB work. “We were able to bring in leading scientists to not only maintain the CDC’s LRN protocols but to work with top scientists around the country... to evaluate more comprehensive, probably less expensive, multiplexing assays that may eventually replace the current LRN protocols.” The city laboratory also instituted a training unit to work with sentinel laboratories in hospitals and other clinical settings to beef up the city’s disease surveillance capabilities and, with NYC’s 40,000 or so police officers, tens of thousands of fire fighters and various other HAZMAT groups, to ensure uniform sample collection and the speedy involvement of the public health laboratory whenever crises arise. “They all understand what our protocols are, what we’re all about, and how to reach us. The training unit has done a phenomenal job.” Finally, the laboratory has cross-trained a large number of its own scientists so that they can take on new emergency response roles should the need arise.

Re-establishing a clinical virology laboratory. “In the early 80s we had to close our virology laboratory so the resources could be used on the HIV epidemic. But we felt it was very important in the age of monkeypox, SARS, West Nile virus, avian flu and maybe smallpox to re-establish that capacity and to take on a leadership role in the community.”

Biggest Challenge
Staffing. “This is more of a crisis than a challenge. We lost 40 people in the last three years who are not being replaced. Now we’re going through yet another round of retirements. Our salaries are not necessarily competitive with the private sector, and we have a residency requirement so people have to live in the city. NYC is a great place to live; it’s just very expensive. Having trained clinical biologists and trained chemists who understand public health and are willing to work for public sector salaries is a huge challenge.”

# Vacancies
At least 25 approved vacancies and counting.

Goals
Develop a bureau-wide laboratory information system. The laboratory invested two years in bringing LITS Plus online before the CDC stopped funding the software. Then the laboratory turned to a private vendor—one of only two to respond to an RFP—and is currently testing the resulting new software in the lead laboratory.

Complete Phase II of the ongoing renovation project, which will revamp the underlying bones of the laboratory: HVAC systems, water tower, acid tanks, fire alarms, contemporary security, biosafety systems, etc.

Continue to reorganize and evolve services, staffing and facilities to meet ever-changing public health needs.
While some states boast famous cityscapes and urban attractions, what most characterizes North Dakota is the land itself. Indeed, Meriwether Lewis and William Clark spent a quarter of their entire 19th century scouting expedition in what is now the state of North Dakota. Replete with tallgrass prairies, bur oak savannas, and hundreds of species of wildflowers, even two hundred years later the countryside, said Bonna Cunningham, is “unbelievably fantastic.”

Cunningham, who directs the state public health laboratory in Bismarck, describes North Dakota as primarily a rural state with about 635,000 people occupying 70,000 square miles. Agriculture is a major industry. The official North Dakota Web site notes that last year the so-called “peace garden state” produced enough beef for 113 million hamburgers, enough potatoes for 207 million servings of French fries, and enough wheat for 16.2 billion loaves of bread.

While ranching, farming and hunting have played a large role in shaping residents’ roughrider reputation, they have also influenced the work of the state public health laboratory—virtually the only public health laboratory in the state. The laboratory, officially known as the North Dakota Department of Health, Division of Microbiology, is authorized under the FDA’s Grade A Pasteurized Milk Ordinance to certify and evaluate milk laboratories that engage in interstate commerce. It also tests Grade A and manufacture grade dairy products and monitors for antibiotics in milk on a fee-for-service basis for the state department of agriculture.

Although the laboratory’s name has changed through the years, the Division of Microbiology remains known to its customers as the North Dakota Public Health Laboratory (NDPHL). The NDPHL provides services to complement and guide disease prevention and control programs (including maternal and child health, environmental health, immunization, and TB control programs); develops new laboratory methods to address specific public health problems (lately including emerging infectious diseases, antibiotic resistance, and bioterrorism preparedness); and is the reference laboratory for local health units, veterinary services (for rabies testing) and private and community health care facilities.

Given the abundance of cultivated and wild flora, pollen is a concern, and, in the absence of another laboratory to do the work, the NDPHL has taken on the task of testing for aeroallergens in the Bismarck area. Laboratory-generated pollen counts are regularly broadcast on local television networks throughout the spring, summer and fall months.

The largest chunk of laboratory testing, however, is for chlamydia and HIV, two problems that are shared with the rest of the nation. The ND public health laboratory runs a large statewide screening program and also performs testing on behalf of the Indian Health Service, which serves a half dozen native tribes including the Turtle Mountain Band of Chippewa, Standing Rock Sioux, Hidatsa, Mandan, Arikara and Spirit Lake Nation.

While a separate state laboratory handles chemical environmental testing, the NDPHL performs the microbial testing for surface and ground water (under the EPA Clean Water Act), drinking water (under the EPA Safe Drinking Water Act), and monitors lagoons (under the EPA National Pollutant Discharge Elimination System). In addition, the NDPHL is the certifying agency for the state drinking water program.

Each year, the North Dakota Mosquito Surveillance Program, housed at the NDPHL, operates from May to September. Two statewide mosquito trapping networks are the backbone of the program—the New Jersey Trap

Dairy Farms, Wheat Fields, Whooping Cough Shape Agenda of North Dakota Laboratory

“Game is abundant. The country appears much more pleasant and fertile than that we have passed for several days...the high country on either side of the river is one vast plain, . . . consisting of a dark rich mellow looking lome.”

Meriwether Lewis--May 1, 1805

The North Dakota lab’s Diagnostic Bacteriology Lab, circa 1936. In its nearly 100 years, the lab has seen many changes and improvements. Photo courtesy of North Dakota Public Health Laboratory.
The NDPHL receives about half of its funding directly from state appropriations and additional state monies indirectly through fee-for-service testing from other state agencies and federal dollars through grant awards. Said Cunningham, of all the state health department divisions, “we rely the greatest on general dollars and so it greatly affects us when the legislature cuts general fund spending.”

Lately Cunningham has been ramping up the laboratory’s emergency response program. A centerpiece of the program is the HELP Force, a group of scientists who are cross-trained to act as first responders within the laboratory. (HELP, an acronym borrowed from the Wisconsin State Laboratory of Hygiene, stands for Health Emergency Laboratory Personnel.) She is also working with colleagues on the other side of the state’s long border with Canada: exchanging ideas and exploring “the mechanism for cross-border laboratory testing in an emergency situation.” Cunningham explained that “if we have an event on the northern border, the closest electron microscope may be in Saskatchewan.”

“In the near future, Cunningham looks forward to the implementation of a new laboratory information management system—STARLIMS—that will enable remote ordering of laboratory tests, remote test status inquiry, and real-time reporting to various government agencies, the National Electronic Disease Surveillance System and other stakeholders on a 24/7 basis. In addition, the NDPHL, as the reference laboratory for the North Dakota Laboratory Response Network, is building a Web site for the network to enhance communications with allied health laboratories. The site, funded through the APHL-CDC Public-Private Laboratory Integration Project, will function as an information clearinghouse, as well as a mechanism for proficiency testing and agent specific quizzes.

With a full staff, a brand new building, and updated communication systems in the works, the North Dakota Public Health Laboratory is sitting pretty on the prairie. Said Cunningham, “We feel so good.”

“These past few years, the lab has been taxed as never before—from testing for suspected anthrax in letters and packages to testing for West Nile virus, SARS and whooping cough. Through it all, lab personnel have provided timely and valuable services to the people of North Dakota.”

Terry Dwelle, MD
North Dakota State Health Officer

Cunningham was also happy to report that a major outbreak of Bordetella pertussis, or whooping cough, finally appears to be subsiding. The bug, she said, hit the state in July, and by the end of October the laboratory had performed molecular testing on roughly 6,400 patient specimens, compared to a total of 200 in a normal year. (Pulsed field gel electrophoresis was handled by the Minnesota Public Health Laboratory under a regional testing arrangement.)

Cunningham said the outbreak “taught us how to respond to surges.” At the height of the outbreak, the laboratory was receiving 200 to 250 specimens per day, but had the capacity to process only about 150 specimens daily. The testing backlog, coupled with delays of up to two days for specimen transport from remote areas, generated some negative media coverage. However, the crisis also spurred enhanced electronic communications with the state epidemiologist and helped to educate North Dakota policymakers about the laboratory’s central public health role. “(Policymakers) could see that the laboratory was the supporting element for the outbreak investigational process,” said Cunningham.

Network monitors mosquito populations and the CDC Light Trap Network provides samples for detection of specific arboviruses, such as West Nile virus. NDPHL staff coordinate the program, speciate the mosquitoes and perform molecular testing for viral detection.

Since the public health laboratory was first established in 1907 (with a generous $2000 appropriation for equipment and $5000 for annual maintenance), it has come a long way. Today the NDPHL, located in Bismarck, is fully staffed with 24 employees and is in the midst of moving to a new, 13,112-square-foot facility that has a BSL-3 suite containing seven isolation labs. With this relocation, the NDPHL is joining a laboratory complex also housing the chemistry environmental laboratory and the forensic laboratory. Even though staff are relocating from the banks of the Missouri River to “out by the pen”—the North Dakota State Penitentiary, that is—Cunningham said, “We are extremely happy.” The new laboratory is about five miles from the state capitol complex where the state health department is sited.

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“The Division of Microbiology is doing amazing work,” said North Dakota State Health Officer Terry Dwelle, MD “These past few years, the lab has been taxed as never before—from testing for suspected anthrax in letters and packages to testing for West Nile virus, SARS and whooping cough. Through it all, lab personnel have provided timely and valuable services to the people of North Dakota. I’m very proud of our public health laboratory and the vital work they do every day.”
The writer proposed to give a lecture on the topic and then bring in a panel of broadcast and print media journalists who would provide their perspectives and answer questions. Following that, the writer would conduct an interview of University Hygienic Laboratory (UHL) staff. Over the lunch break, he would write a story and submit it to the newspaper. At the end of the training, staff members would review the submitted story and discuss their reactions. And a further bonus, we would all get to see how the submitted story compared with the printed story in the newspaper. At the end of the training, staff members would review the submitted story and discuss their reactions. And a further bonus, we would all get to see how the submitted story compared with the printed story in the newspaper the next day. I signed on to the idea.

Finding a Focus
Since this training process was going to produce a published article, I had to identify a subject and prepare staff for a real output. The newspaper was motivated to cover the UHL's proposed 24/7 initiative, dubbed Iowa Vanguard. In this initiative, specimens will be picked up each afternoon throughout the state. Work on these specimens will begin as soon as they reach the lab that evening. With most newborn screening specimens, for example, results would be out that this training imparted. The most pertinent take-home message was to not say anything that you don't want to see in print or on the evening news. We walked through a couple of the sample message palettes and then started work on our own choice of messages. Staff members dug in and started brainstorming candidate messages.

At a follow-up meeting with the two staff members who were to be interviewed, we polished up the message palette. Two training points became evident. First, it was important to focus on outcomes rather than process—for example, the babies' health instead of the courier service. Second, the words that are used are important; focus should be on the positive—healthy babies. Staff members were glad that they had a couple days' lead-time so that the messages could sink in before the upcoming media-training day.

The Day of the Interview, A Successful Outcome
The lecture and panel discussion played out as planned, but took a bit longer than anticipated. The subsequent interview was intense as time was running short and the deadline was imminent. While the reporter wrote the story, staff members discussed their reaction to the interview. We had succeeded in including in our answers some three-fourths of the messages in the palette. We had intentionally excluded the other messages because the story line was obviously not going to go in that direction.

The story ran on the front page of the Saturday paper, above the fold, and was virtually unedited. The baby's picture and story in the side bar attracted the reader's attention. It was a unique and different approach to media training and it worked relatively well.

promoting the essence of good laboratory practice. Currently under revision, the document will include laboratory precautions for performing diagnostic tests on specimens that may contain SARS.

Future Global Initiatives
A key strategic initiative for CLSI is to provide guidance documents for resource-limited laboratories around the world. In its latest effort to increase international access to standards and guidelines, CLSI formed the Task Group on Resource-Limited Laboratories. Yvette Benjamin, PA, MPH, APHL's director of global health, and member of the task group, notes, "The task group has taken the first steps to reach its goals including: simplifying relevant documents; developing basic work instruction documents and educational programs to accompany them; and partnering with organizations and donor agencies."

CLSI has long championed global harmonization in medical testing and healthcare standards. Along with developing globally applicable standards for health care, CLSI serves as the Secretariat for the International Organization for Standardization Technical Committee 212 (ISO/TC 212). In this role, the organization is responsible for harmonizing the standardization concepts within healthcare services at the international level.

For more information about CLSI, visit www.clsi.org.
Dear APHL Members,

First, I hope that this note finds you well and that you enjoyed a festive holiday season. I spent some much-needed time with family and friends. I also decided to take advantage of Washington’s museums, including a first-ever trip to the new annex of the Air and Space Museum near Dulles airport, the Steven F. Udvar-Hazy Center. Why am I telling you this? Simple. As I walked through this wonderful new museum, I began to think about the technological marvels that surround us, and the people that make all of it possible—all of which I too often take for granted.

I have now visited about half of this nation’s public health laboratories, and it never fails to energize me when I meet lab scientists, who are so pleased to show me their latest instrumentation. It was not always so commonplace to see molecular tests employed in public health laboratories; now it’s routine. On each visit I see innovation after innovation—and not only as it relates to equipment, but also to leadership within the lab.

Following a recent talk I gave at the University of South Carolina, I had the privilege of visiting with laboratory staff from the South Carolina state lab. It was an unexpected benefit of being asked to speak in Columbia, but ended up being the best part of the trip. In each area of the lab, I saw the gleaming instruments (some just being unboxed), but more importantly I was able to meet with a number of the new staff that had been added since 2002, or, as I now call that time, “when public health labs rose out of the white powder.” I asked what drew them to work in a public health laboratory, and to a person they responded that the work was not only exciting but important. In short, they felt that they could make a difference in their community, their state, and the nation by working in the public health environment.

This issue of the *Minute* headlines laboratories’ innovative efforts to combat tight financial situations. Our feature article is based on a recent member effort—the Public Health Leadership Institute report. The report highlights ground-breaking ideas and tactics that have worked. I hope you will take a moment to read the article, but also to read the report itself, authored by Norm Crouch, Lou Turner, Dave Mills and Susan Neill; it is available at https://www.aphl.org/docs/phil_report_aphl.pdf. These four leaders strove to examine current issues without simply accepting some of the long-held “stereotypes.” Their report and the feature article detail some non-traditional thinking—ideally it will encourage discussion and thought among us all.

My hope, as this new year begins, is that with continued support for leadership training, innovative laboratory practice and management, and those ever-improving testing instruments, laboratories are able to capitalize on their individuality, strengths and purpose. And certainly, my hope is always that future generations won’t walk into the Museum of American History and find an exhibit on that grand old institution that used to be known as the public health laboratory.

Sincerely,

Scott J. Becker, MS
Executive Director

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On each such visit, I see innovation after innovation—and not only as it relates to equipment, but also to leadership within the lab.
Staff News

Lynette Hawkins is APHL’s new administrative assistant for the infectious diseases and environmental health programs. Hawkins will support the work of both program areas by helping with the administrative details for several committees, scheduling travel, and planning meetings and conferences. Hawkins’ background includes years of administrative support at Oracle, Netscape and AOL. She began work at APHL on December 8, 2004.

Jaime Hidalgo, MPA, is APHL’s new research analyst, effective December 6, 2004. Hidalgo will coordinate the entire lifecycle of survey development, leading members and staff through question development, survey validation, deployment, and subsequent data analysis and report generation. He will also coordinate with the database and website manager to distribute the survey on one of the association’s electronic survey platforms. Hidalgo’s background includes years of survey and data collection analysis at the American Association of Health Plans, PAREXEL International and GlaxoSmithKline.

Devereaux Milburn, APHL’s Web and information systems manager, has accepted a Web development position with Virtual Alert, effective January 4, 2005. During his time at APHL, Milburn provided technical support for a number of the association’s information technology initiatives. The association wishes him the best in this new position.

Kajari Shah, MPH, APHL’s global health advisor, left the association on December 15, 2004, to concentrate on her growing family in Charlotte, NC. Shah has been working in the global health department for 6 years, first as director and then as an advisor. Shah has been an integral part of the global health program and was instrumental in overseeing the Hurricane Mitch project, the Laboratory Management Pilot Workshop, the development and production of the External Quality Assessment for AFB Smear Microscopy manual, as well as numerous other important activities. APHL wishes Shah the best in all of her future endeavors.

Recent State Laboratory Director Retirements

Hawaii
Vernon Miyamoto, PhD
The acting director is David Horio, MD.

New Hampshire
Veronica Malmberg, MS, effective January 28.
The new laboratory director is Christine Bean, PhD, former chair of the medical laboratory science department at the University of New Hampshire.

Pennsylvania
Bruce Kleger, DrPH
The new director is Nancy Warren, PhD, former assistant laboratory director.

South Carolina
Harold Dowda, PhD
The acting director is Arthur Wozniak, DrPH, director of the division of diagnostic microbiology.

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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. This publication was supported by Cooperative Agreement Number 303019 and 319522 from the Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC or imply an endorsement by APHL officers, members, staff or management.

To submit an article for consideration, contact Emily Mumford via email, emumford@aphl.org.

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