Mission
To promote the role of public health laboratories in shaping national and global health objectives, and to promote policies, programs and technologies that assure continuous improvement in the quality of laboratory practice and health outcomes.

Vision
A healthier world through quality laboratory practice.
Despite Workforce and Budget Hardships, Laboratories Tackle 2009 H1N1

The year 2009 was defined largely by a falling economy and the rise of a novel, new virus. These phenomena dominated the news, fed anxieties in households across the country and posed immense challenges to APHL and its member laboratories.

On the one hand, budget shortfalls generated pressure to cut public health resources already barely sufficient to maintain critical services. The public health laboratory workforce shrank by at least 10% in 2009, and APHL members anticipate further reductions in 2010. The dramatic loss of staff has led to the elimination of entire divisions of laboratory testing in some states and reduced testing in many others.

On the other hand, 2009 Influenza A H1N1—a health threat that emerged not halfway around the world, but across the border in Mexico—reminded us all why the public health system is needed. Throughout the crisis, APHL worked to ensure public health laboratories had the information, equipment and reagents they needed to deal with an influx of specimens. And public health laboratorians worked 14- to 16-hour days, without pay in some states, to complete the necessary testing and report data to health authorities so they could monitor the spread of the virus and plan interventions accordingly.

But 2009 H1N1 was not the only health threat last year. APHL and its members also dealt with several multi-state foodborne disease outbreaks and continued efforts to bolster laboratory preparedness. In such a difficult year, APHL’s role as a voice for public health, environmental and agricultural laboratories took on new significance and urgency.

We are pleased to report some important successes.

• Advocacy for a CDC “home” to support public health laboratories resulted in the creation of the agency’s Laboratory Science, Policy, and Practice Program Office within the Office of Surveillance, Epidemiology, and Laboratory Services. The new office assures a level of visibility and leadership to advance public health laboratory practice across the country.

• Years of outreach to Congressional leaders resulted in provisions in the new health reform law that direct funding to the public health laboratory workforce and public health fellowships, and authorize the Epidemiology-Laboratory Capacity Grant Program for the first time ever. The new Prevention and Public Health Fund will provide governmental public health programs a portion of its mandatory spending of $7 billion over the next five years.

• Persistence in exploring new avenues of funding resulted in the award of federal stimulus money for a training course on the laboratory diagnosis of re-emerging vaccine-preventable diseases (VPD). Since some laboratories wish to re-establish VPD testing programs, the course fills an important gap.

The association also continued its technical assistance to build laboratory infrastructure in developing countries throughout the world. In this regard, we are especially happy to report that APHL’s consultants in Haiti are both safe after January’s devastating earthquake, and the Laboratoire National de Santé Publique in Port-au-Prince remains standing.

APHL begins 2010 with a new strategic plan (see sidebar) and a revised mission statement that reflects our proactive stance toward health policy. We now describe our role as shaping, rather than supporting, national and global health objectives. In 2009, APHL and its members lived up to this mission many times over.

Sincerely,

Scott J. Becker, MS
Executive Director

Susan U. Neill, PhD, MBA, President
Director, Laboratory Services Section
Texas Department of State Health Services

APHL Strategic Plan
Goals for 2010-2013:

• Workforce development

• Advocacy to enhance the influence of member laboratories

• Improved collaboration and information exchange among members and partners

• Improved informatics capabilities

• Improved laboratory science, standards and practice in member labs

• Capacity-building to assure APHL has the resources and partnerships to accomplish its mission
Racing a Pandemic and Improving Disease Detection

APHL provides essential services to support the work of member laboratories conducting infectious disease surveillance and outbreak response. The association serves as a liaison between members and federal agencies and commercial suppliers; provides technical support in various capacities; and works to assure public health laboratories have the resources necessary to carry out their health-critical missions. Last year, 2009 Influenza A H1N1 was a major focus, but other infectious pathogens did not disappear. APHL also worked to improve laboratory-based diagnosis of TB, HIV and STDs.

On April 21, 2009, the CDC confirmed the first cases of a novel, new influenza virus in the United States. Although health authorities had been anticipating a serious influenza outbreak for years, many expected avian influenza would be the causative agent, and no one expected the US to be one of the first countries affected.

Despite these challenges, the public health laboratory system was in a relatively good position to respond. APHL had already collaborated with the CDC to validate and secure FDA approval for the rRT-PCR Seasonal Flu Panel that was quickly modified to confirm 2009 Influenza A H1N1 infection. By April 16, 2009, the APHL/CDC National Laboratory Training Network had prepared more than 70 public health scientists to perform the seasonal flu test.

On April 23—the day 2009 H1N1 was confirmed to be the same virus causing widespread disease in Mexico—APHL hosted the first of a series of 50-state conference calls enabling ongoing communication between CDC subject matter experts and the APHL member public health laboratories doing much of the surveillance testing. The association, in concert with CDC’s Influenza Division, provided input on laboratory testing and reporting guidance. It investigated reagent supply needs and monitored testing backlogs nationwide. And when it became apparent that not all state public health laboratories had the instrumentation needed to perform the rRT-PCR Flu Panel, APHL intervened with the manufacturer to assure availability of loaner instruments and managed the distribution of $4.2 million in CDC grant funds to secure service contracts.

By the time the World Health Organization declared the outbreak a pandemic on June 11, the US response had already peaked and was winding down for the summer. APHL met with key CDC officials in June to begin an after-action assessment and to begin preparing for the approaching fall season. Anticipating a second wave of 2009 H1N1, the CDC asked APHL to identify laboratories to help the agency meet national surveillance needs in two areas: a) virus isolation for strain characterization and b) pyrosequencing, a method of RNA sequencing used to monitor the development of resistance to the anti-viral drug Tamiflu®. APHL member laboratories in Iowa, Utah, California, New York and Wisconsin are performing this work on a weekly or biweekly basis to detect changes in circulating influenza strains, thereby reducing the uncertainty of future flu seasons.

Also in 2009, APHL’s Infectious Disease Program:

• Released an updated, self-assessment tool for laboratories performing tuberculosis testing. *Mycobacterium tuberculosis* is of renewed public health concern because of the emergence of multi-drug resistant and extensively-drug resistant strains. The tool reflects profound changes in TB diagnostic testing over the past decade and is designed to help any TB-testing laboratory—public health, clinical or commercial—improve its practices. It addresses everything from specimen collection to biosafety. APHL also released *Core TB Services of Public Health Laboratories*, an overview of public health laboratories’ critical role in TB testing.

• With the CDC, released a proposed menu of updated HIV testing algorithms to augment or replace the algorithm that has been in use since 1989. The new menu incorporates advances in HIV diagnostics, including rapid tests approved for screening at the point of patient contact and highly sensitive and specific laboratory-based tests.

• Developed recommendations for new guidelines for the laboratory diagnosis of chlamydia, gonorrhea and syphilis. The guidelines are based on the recommendations of an expert panel convened by APHL and CDC, and they address major improvements in STD testing technologies, with an emphasis on molecular techniques.
Key Events in the 2009 H1N1 Pandemic

MARCH
First US H1N1 patients develop flu-like symptoms.

7-9 APRIL / 14-16 APRIL
APHL/CDC National Laboratory Training Network hosts “Influenza Detection and Subtyping: FDA-Cleared rRT-PCR Seasonal Flu Panel Assay Training Course.”

21-APRIL
CDC confirms first US cases of 2009 H1N1.

23-APRIL
CDC, the Mexican Ministry of Health and the Public Health Agency of Canada confirm that 2009 Influenza A H1N1 is causing disease in both the US and Mexico.
APHL holds first of five 50-state public health laboratory conference calls with CDC experts.

26-APRIL
US government declares 2009 H1N1 outbreak a public health emergency.

27-29 APRIL
2009 H1N1 cases confirmed in Canada, Spain, United Kingdom.

29-APRIL
CDC begins shipping modified rRT-PCR test kits to qualified state and local PHLs to enable state-based confirmation of 2009 H1N1.
2009 H1N1 cases confirmed in New Zealand, Israel, Germany and Austria.

2-MAY
More than 430 school closures in 18 US states.

5-MAY
First US citizen dies of 2009 H1N1.

6-MAY
Influenza Town Hall Meeting hosted at APHL’s Annual Meeting and via national teleconference.

7-MAY
APHL, CDC host “Influenza Testing Protocol Training Call” for public health and Department of Defense laboratories.

8-MAY
APHL requests a unique LOINC® identifier for 2009 H1N1 to enable electronic transmission of test data in public health laboratories with this capability.

11-MAY
APHL receives approval for LOINC® identifier.

14-MAY
APHL/CDC NLTN offers a free one-hour webcast on H1N1 to clinical practitioners and laboratories.

16-JUNE
74 countries reporting confirmed cases.

11-JUNE
WHO declares Phase 6 Global Pandemic.

16-JUNE
APHL begins after-action assessment.

“Specialized reference testing and laboratory-based surveillance were critical to the H1N1 response. With APHL support, the public health lab community performed magnificently.”

Pete Shult, PhD
Director, Communicable Disease Division
Wisconsin State Laboratory of Hygiene
Along with the FBI and CDC, APHL was a founding partner of the Laboratory Response Network (LRN), which is responsible for detecting and confirming the presence of biological, radiological and chemical threat agents. Last year, APHL commemorated the LRN’s 10th anniversary and continued work to improve the network’s quality systems.

APHL:

- Contracted with member laboratories to carry out studies documenting the limits of detection of biothreat agents in samples submitted for laboratory analysis. This rigorous work further increases confidence in laboratory test results.
- With CDC, delivered four training courses—for scientists at the local, state and international levels—on LRN conventional methods for detecting anthrax, plague and tularemia pathogens. For the first time, APHL and CDC organized a course for laboratory partners in Mexico, enhancing cross-border surveillance capabilities.
- Released an overview of findings from APHL’s second All-Hazards Laboratory Preparedness Survey. Despite notable improvements, APHL found that serious gaps in staffing and real-time electronic data messaging continue to compromise emergency preparedness. State public health laboratories have been tasked with greater responsibilities despite drastically less funding. Gaps are most acute for chemical and radiological preparedness. For example, more than half of state governments have no public health laboratory or other agency capable of measuring clinical specimens for radionuclides.
- Collaborated with the National Guard Bureau (NGB), to establish guidelines for a working partnership between NGB Civil Support Teams and LRN reference laboratories. APHL hopes to facilitate seamless cooperation between these field and laboratory responders to suspected WMD attacks and other all-hazard threats.
- Partnered with the Department of Homeland Security to promote quality systems in APHL member laboratories participating in the national BioWatch program—a laboratory-based surveillance program that provides early warning of the airborne release of select pathogens.

Sustaining Preparedness for All-Hazard Threats

APHL’s Emergency Preparedness and Response Program bolsters laboratory readiness to respond to natural disasters, terror attacks and other public health crises. Working with member laboratories and partners, the program provides timely communication and technical assistance to ensure implementation of policies and new technologies affecting laboratory testing.

“Strengthening the LRN at home and expanding the network into Mexico are critical to enhance global preparedness for bioterrorism and other public health emergencies.”

Phil Lee
Biological Defense Coordinator
Florida Department of Health
The epidemiology of foodborne diseases is quickly evolving, with the emergence of multi-drug resistant pathogens and the spread of well-recognized pathogens to new food vehicles and to the global marketplace.

With widespread food safety threats, APHL recognizes that efforts to monitor and respond to developing outbreaks must be cross-disciplinary, bringing together public health laboratory scientists with epidemiologists, federal health officials, food sanitarians and scientists in federal and agricultural laboratories. If the association’s food safety work had a theme in 2009, “collaboration” was it.

APHL:
- Organized a series of meetings as part of its leadership role in PulseNet—a national network of public health laboratories that perform a standardized DNA “fingerprinting” technique on foodborne disease organisms, enabling related cases of illness to be linked and traced to a common food source. APHL held two regional PulseNet meetings to discuss the use of supplemental new testing technologies and the development of state food safety action plans; a joint national meeting with OutbreakNet (the US network of epidemiologists who investigate outbreaks of foodborne illness); and a meeting of the PulseNet international steering committee, which is interested in expanding PulseNet into Africa.
- Provided support for public health laboratories during several high-profile, multi-state foodborne disease outbreaks, including those involving *E. coli* O157:H7 in refrigerated cookie dough, *Salmonella* serotype Typhimurium in peanut butter and *E. coli* O157:H7 in beef products. APHL conveyed recommended testing protocols to state-based laboratories and collected test result data on behalf of the US Food and Drug Administration.
- Provided substantive input into the “Guidelines for Foodborne Disease Outbreak Response” released in July by the Council to Improve Foodborne Outbreak Response. The landmark guidelines are the culmination of a three-year, multi-disciplinary process and provide a framework and benchmarks for a more effective, integrated and prevention-focused food safety system. Secretary of Agriculture Tom Vilsack and Secretary of Health and Human Services Kathleen Sebelius issued a joint letter endorsing the guidelines, which require federal funding to ensure robust implementation at the state level.

Strengthening Food Safety Practices

APHL advances food safety laboratory practices to improve foodborne disease surveillance and rapid laboratory response.

Chemical residue in food and beverages is one of the least understood contributors to illness in our society. We’re hoping to change that by documenting exactly what’s in the food and drinks we put in our bodies every day.

Debbie Oglesby
Technical Program Manager
USDA, AMS Pesticide Data Program
Assistant Director, Food Laboratory Division
NY State Department of Agriculture and Markets
Improving Laboratory Systems Worldwide

APHL recognizes that strong public health laboratories are an essential, yet underdeveloped, component of national health initiatives in many resource-constrained countries. Ideally, they provide disease surveillance data to guide policy and planning, conduct specialized testing to assess and direct responses to disease outbreaks and monitor the quality of diagnostic testing. The association’s Global Health Program works with health authorities in developing countries to build laboratory infrastructure by developing national laboratory policy/strategic plans, tiered public health lab networks, quality management systems, training capacity, laboratory information management systems and twinning partnerships.

- In 2009, the Global Health Program was awarded its second five-year Global AIDS Program Cooperative Agreement from the CDC. With funding from the President’s Emergency Plan for AIDS Relief II (PEPFAR II), APHL and CDC will support efforts to develop comprehensive plans enabling ministries of health to integrate diverse donor resources into national health programs, build capacity to train lab technologists and managers and secure laboratory accreditation. The new cooperative agreement marks a shift from emergency assistance to building sustainable laboratory systems—a welcome milestone.

- The APHL-George Washington University International Institute for Public Health Laboratory Management delivered an intensive training seminar focusing on strategic planning, quality management and public health laboratory accreditation. Technical and management tracks were available for 30 participants from 12 countries: Nigeria, Haiti, Mozambique, Ethiopia, Cambodia, Vietnam, Guyana and five others. The Institute—now in its third year—hopes to extend its curriculum through partnerships with universities in developing countries.

- APHL supported strategic planning initiatives in Botswana, Malawi, Namibia, Tanzania, Cote d’Ivoire and Lesotho. The process begins with an analysis of strengths, weaknesses, opportunities and threats and concludes with a multi-day workshop with stakeholders who draft a detailed plan—complete with timelines and responsible parties—to present to the ministry of health for approval. These comprehensive plans bring visibility to national laboratory systems and foster cooperation among national agencies and donor groups to benefit public health systems. The association will be working with officials in Zambia, Sierra Leone and Ghana on more intensive strategic planning initiatives in 2010.

- The Global Health Program began a partnership with officials in Sierra Leone to support an antenatal clinic sentinel surveillance study estimating the prevalence of HIV infection among pregnant women—a proxy measure for overall prevalence. APHL will help assess equipment and training needs; purchase rapid test kits, solar-powered refrigerators and other necessary items and arrange for delivery to Sierra Leone; and train the national laboratory staff who will oversee the study and the clinic staff who will conduct the tests. Study results will inform national planning and commitment of resources to reduce HIV infection rates.

- APHL’s popular laboratory management workshop received a makeover, with improved content and more instructional tools. Renamed “Foundations of Laboratory Leadership and Management,” the enhanced program provides APHL’s national laboratory partners with the tools to teach the program with their own faculty. The highly effective workshop addresses everything from budgeting to staff communication to decision-management. APHL will develop additional modules on biosafety, laboratory information management systems and laboratory design.

- APHL’s Laboratory Twinning Initiative expanded last year. The program, which receives funding from the World Health Organization and CDC, is a form of institutional mentoring, partnering laboratories in developing countries with “expert” institutions to improve quality laboratory practice and disease surveillance and response. Seven APHL member laboratories have been working with national reference labs in Mozambique, Ethiopia and Barbados. The newest partnership, funded by WHO, is between the San Diego County Public Health Laboratory and Paraguay’s Laboratorio Central de Salud Pública.
In the past decade, America’s NBS programs have faced both tremendous opportunities and dire challenges. On the one hand, new technologies have enabled dramatic expansion of the panel of congenital and hereditary disorders NBS laboratories test for. On the other hand, these sophisticated programs have proven vulnerable to crises as disparate as the unexpected FDA closure of an NBS test kit manufacturing plant in 2004 and hurricane Katrina in 2005.

Last year, APHL carried out activities to help public health laboratories capitalize on promising developments and prepare for emergencies:

• Hosted a webcast and hands-on training program on molecular NBS techniques, which enable scientists to identify specific genetic mutations associated with NBS disorders. Molecular data not only help physicians diagnose conditions such as cystic fibrosis and galactosemia, but may also impact the clinical management of these conditions. More than half the nation’s NBS programs now conduct some molecular testing.

• Purchased more than 300,000 FDA-approved NBS filter paper cards—enough to supply the entire country for 30 days. The cards, used to collect infant bloodspot specimens, are being stockpiled at the CDC and can be quickly delivered to state-based screening programs should the need arise.

• Surveyed its members to document the effects of the lingering economic downturn on NBS activities. APHL found that a handful of NBS programs are understaffed or expect to be in the near future, due to hiring freezes. More than a third face severe restrictions—or a ban—on travel to out-of-state training programs. Eight programs are either postponing plans to add new disorders to their screening panel or reducing the number of screening tests they perform. And six programs have decreased the number of days they operate.

APHL presented these findings at meetings of the National Academy of State Health Policy and the Advisory Committee on Heritable Disorders in Newborns and Children, which advises the Secretary of the US Department of Health and Human Services.

• Sent members and staff to Nigeria to advise on development of that country’s NBS program, using sickle cell disorder as a model—one example of APHL’s commitment to global health promotion.
Is the Environment Making You Sick?

Congressionally allocated biomonitoring funding is being used to:

- Assess exposure to depleted uranium in a group of Upstate New York residents and in former workers of a metals manufacturer in Albany County, New York.

- Assess population-wide exposure to total and speciated arsenic and 25 other metals in Washington State.

- Examine exposure to chlorpyrifos, a pesticide linked to birth defects, in a California agricultural community.
Building Capacity to Measure Pollution in People, the Environment

APHL works to raise awareness of environmental health issues; to inform public policies that help the nation detect, reduce and prepare for environmental threats; and to improve environmental health laboratory practice. The association serves as a liaison between member laboratories and federal agencies, including the CDC’s National Center for Environmental Health and the US Environmental Protection Agency (EPA).

Human exposure to potentially harmful chemicals—such as arsenic in drinking water or phthalates in children’s toys—has long been a concern to health professionals, policy makers and the public. Last year, APHL helped to spearhead one of the nation’s most ambitious undertakings to build capacity to measure such chemicals or chemical metabolites directly in people’s blood, hair, urine or other specimens. The rigorous analytical process is called biomonitoring, and APHL’s goal is a state-based National Biomonitoring Network that will provide data to determine whether there is a need to mitigate suspected exposure pathways.

In October, the association convened a meeting of multi-disciplinary experts to map out the elements of a robust biomonitoring network, such as study design guidelines to ensure comparability of data across states and communities. The next step is to establish a coordinating council to oversee the development of the network as funding becomes available. In conjunction with this work, APHL also developed a database to capture and share information about existing biomonitoring capabilities of state and local public health laboratories.

Last fall, after years of advocacy by APHL and partners, Congress appropriated $5 million for state-based, biomonitoring programs. Thirty-three states competed and were approved for this much-needed funding, which the CDC awarded to health agencies in California, New York and Washington State. With the continued support of legislative leaders, including House Speaker Nancy Pelosi, APHL is hopeful that additional funding will be allocated to fund remaining applicants.

In other areas, APHL:

- Developed a decision tree for first responders and laboratory scientists responding to an incident involving a suspicious, unknown environmental sample, such as an unidentified white powder. The tool includes chain-of-custody protocols and an algorithm for chemical testing. A second algorithm for biological testing is under development.

- Is expanding the focus of its EPA partnership. APHL serves as a liaison between the EPA and over 500 environmental laboratorians. APHL is conducting outreach to recruit water utility and other local laboratories to the agency’s Water Laboratory Alliance—a nationwide network of laboratories able to analyze water samples for chemical, biological or radiochemical pollutants in the wake of a water contamination incident.

- Placed six environmental health fellows in member laboratories to work on a range of projects, including developing methods to measure bisphenol A (BPA) and polychlorinated biphenyls (PCBs) in human serum and running analyses for volatile organic compounds in blood and urine. Two of the fellows—in Arkansas and Texas—have been hired by their host laboratories.

- Held the third annual state environmental laboratory conference in conjunction with the APHL annual meeting in Anchorage, Alaska.
APHL Training Courses—2009

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Finding Funding to Maintain the Workforce

Thanks to the work of APHL’s Public Policy Program and partners, the health reform law includes measures to expand funding for a range of public health activities. The law authorizes the Epidemiology-Laboratory Capacity Grant Program (an important source of funding for public health laboratory salaries) for the first time ever, with funding of up to $195 million/year. The newly created Public Health Workforce Recruitment and Retention Program will fund loan reimbursements and scholarships to students who commit to work in public health. And the new Fellowship Training in Public Health authorizes $5 million annually for APHL’s laboratory fellowship program and $5 million annually for a public health informatics fellowship program. Finally, a portion of $500 million set aside for the new Prevention and Public Health Fund may be directed to governmental laboratories.
Ensuring the Public Health Laboratory Workforce

APHL strives both to attract students to the field of public health laboratory science and to develop the skills of mid-level professionals to prepare the next generation of public health laboratory scientists and leaders. At a time of rapid change and economic uncertainty—and with the United States in the midst of an acute shortage of laboratory professionals—this work is among APHL’s highest priorities.

In 2009, APHL:

• Recruited the 15th class of Emerging Infectious Disease (EID) Fellows, comprising 12 post-doctoral scientists and 23 bachelor’s and master’s level scientists. About half were placed in state or county public health laboratories and half in CDC laboratories. APHL is working to add a Ron Laessig memorial fellowship in newborn screening and an informatics fellowship.

• Celebrated the 20th anniversary of the APHL/CDC National Laboratory Training Network™, an acclaimed resource for continuing education in laboratory science and one of the only resources for some public health spheres of practice, such as rabies and anthrax testing.

• Launched an APHL-branded training program, geared for those working in physician office laboratories and other clinical settings.

• Delivered a training program to over 400 public health laboratorians on two important re-emerging infectious diseases: measles and mumps. In the wake of serious US outbreaks involving these vaccine-preventable diseases, the training explores various standardized testing techniques and the relative utility of assays to confirm illness in vaccinated populations. The training—a collaborative effort involving APHL’s Laboratory Systems and Standards, Infectious Disease and Workforce programs—was funded through the American Recovery and Reinvestment Act of 2009.

• Showcased Public Health 101, a course created by the first cohort of emerging leaders to introduce laboratory and public health professionals to the world of public health laboratory practice. This one-of-a-kind offering uses case studies, interactive games and other learning devices to explore topics such as laboratory-epidemiology partnerships. A second course module—focusing on strategic planning, human resources and conflict and change management—is in draft form.

• Sponsored the development of a curriculum to introduce high school students to public health laboratory science. Based on the criteria of the National Science Teachers’ Association, the curriculum includes lesson plans built around real-world events, such as infectious diseases outbreaks.

• Published “A Practical Guide to Public Health Laboratories for State Health Officials”—a concise overview of the role state health officials must play to address challenges, exploit opportunities and mitigate threats facing public health laboratories today.

APHL’s National Center for Public Health Laboratory Leadership was established in 2002 to prepare current and emerging leaders with the strategy and decision-making skills to shepherd America’s public health laboratory system through a period of evolving challenges. In 2009, the Center:

• Recruited a second cohort of emerging public health laboratory leaders to participate in skill-building activities, networking and peer-based mentoring. The cohort has selected “marketing public health laboratories” as the focus of its group project.

“In my academic research, I worked not knowing if my results were going to affect anyone or not. Even though we’re behind the scenes, it’s a good feeling to know that things I’m doing are making a difference.”

Brock Neil, PhD
APHL EID Fellow
University of Iowa Hygenic Laboratory
When 2009 Influenza A H1N1 began showing up north of the Mexican border, state public health laboratories in Colorado, Iowa, Nebraska and Virginia had a huge advantage over other public health laboratories performing confirmatory testing for the virus: they could send test data to the CDC electronically, in real-time.

This meant overworked staff were spared the additional burden of sending hundreds or thousands of test results via fax, phone, e-mail or a special web-based portal requiring manual data entry. It also meant national health officials had the benefit of timely information on disease transmission in those states.

This critical advance was the result of APHL’s Public Health Laboratory Interoperability Project (PHLIP)—a collaborative effort also involving CDC’s Offices of Infectious Diseases, Public Health Preparedness and Response, and Surveillance, Epidemiology, and Laboratory Services.

The project relies on the use of standardized Health Level 7 message formats and a harmonized vocabulary mapping test procedures and outcomes to specific SNOMED® terms for clinical data and LOINC® codes for laboratory procedures. At the behest of the CDC, APHL petitioned the Regenstrief Institute—the developer of LOINC®—for an identifier for the 2009 H1N1 virus, and this was available soon after state laboratories began confirmatory testing.

State public health laboratories in Idaho and Florida began transmitting electronic influenza data in November, and—with $2.5 million in supplemental CDC funding—APHL plans to transition up to 15 additional laboratories to electronic flu reporting in 2010.

APHL’s ultimate goal is multi-directional data exchange among public health laboratories, local partners and CDC for all nationally notifiable diseases. The project has already developed a harmonized vocabulary for syphilis, pertussis, tuberculosis, Salmonella and ten other diseases, but the bulk of the development and implementation work depends upon future federal funding.

Also in 2009:

• The APHL Board of Directors approved the association’s first research agenda. Among the priority research questions are: What is the impact of the public health laboratory system on the public’s health, quality of life, and economics? And, what does the ideal public health laboratory system look like? APHL is creating a mini-grant program to fund the studies needed to answer these questions.

• APHL launched a web-based survey resource center, enabling members to view and download their own current and historical APHL survey data, as well as national averages for all survey questions.

“Through PHLIP, we received electronic laboratory H1N1 test results as quickly as 24 hours after specimen collection, compared to several weeks after in many states reporting manually.”

Lynnette Brammer
Epidemiologist
CDC Influenza Division
Financials

APHL Domestic Program Expenditures

- Annual Meeting: 151,944
- Emergency Preparedness & Response: 1,006,107
- Environmental Health: 733,330
- Food Safety: 1,058,758
- Infectious Disease: 2,427,375
- Informatics: 1,538,893
- Knowledge Management: 487,017
- Laboratory Systems and Standards: 639,169
- Leadership Development: 3,462,405
- Member Services: 1,497,696
- Newborn Screening: 522,523
- Training: 3,358,983
- Administration: 683,491

Total Domestic Programs: $17,567,691

APHL Global Health Program Expenditures

- Angola: 23,417
- Botswana: 225,802
- Côte d'Ivoire: 70,658
- Democratic Republic of the Congo: 70,776
- Ethiopia: 97,310
- Guyana: 18,314
- Haiti: 269,876
- Kenya: 496,862
- Lesotho: 86,355
- Malawi: 9,808
- Mozambique: 3,080,500
- Namibia: 34,867
- Nigeria: 277,850
- Other Global Health: 448,031
- Rwanda: 12,627
- Sierra Leone: 27,600
- Tanzania: 223,429
- Vietnam: 84,043
- Program Management: 1,655,323

Total International Programs: $7,213,448

Total Expenses: $24,781,139
Emerging Leader Award
APHL’s Emerging Leader Award honors an individual whose leadership has been instrumental in one or more advances in laboratory science, practice, management, policy or education within his/her first five to ten years in the profession.

Grace Kubin, PhD, Manager, Emergency Preparedness Branch, Texas Department of State Health Services, Laboratory Services Section

Gold Standard Award for Public Health Laboratory Excellence
The Gold Standard Award for Public Health Laboratory Excellence is given to an APHL member who has made significant contributions to the advancement of public health laboratory science and/or practice.

Stan Inhorn, MD, Emeritus Director, Wisconsin State Laboratory of Hygiene

Lifetime Achievement Award
The Lifetime Achievement Award honors individuals who have established a history of distinguished service to APHL, made significant contributions to the advancement of public health laboratory science or practice, exhibited leadership in the field of public health and/or positively influenced public health policy on a national or global level.

Charles Sweet, DrPH, Emeritus Director, Texas Public Health Laboratory

On the Front Line Award
The On the Front Line Award honors an individual or organization outside of the APHL membership which makes significant contributions to APHL, its membership and mission.

Allan Antley, Retired Operation Liaison, Homeland Security Laboratory Response Center, Environmental Protection Agency, Office of Solid Waste and Emergency Response

Presidential Award
The Presidential Award is presented at the discretion of the APHL president to an individual who has made significant contributions to the association’s work to promote policies that strengthen public health laboratories.

Thomas Hearn, PhD, Acting Director, CDC National Center for Zoonotic and Emerging Infectious Diseases
APHL Service Recognition

Outgoing Board Member

Victor Waddell, PhD, Board Member-at-Large, 2006-2009, Bureau Chief, Arizona Bureau of State Laboratory Services

Outgoing Committee Chairs

Norman Crouch, PhD, Chair, Emergency Preparedness & Response Committee, 2004-2009, Emeritus APHL Member

Jane Getchell, DrPH, Chair, Infectious Diseases Committee, 2008-2009, Director, Delaware Public Health Laboratory

Gary Jones, BS, Chair, Informatics Committee, 2006-2009, IS Manager, Minnesota Public Health Laboratory Division

Robert Rej, PhD, Chair, Knowledge Management Committee, 2006-2009, Director, Clinical Chemistry & Hematology, Wadsworth Center

Board of Directors

Susan Neill, PhD, MBA, President, Chief, Bureau of Laboratories, Texas Department of Health

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Frances Downes, DrPH, Past President, Director, Public Health Laboratory, Michigan Department of Community Health

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**Centers for Disease Control and Prevention**
- Center for Global Health
- Office of Infectious Diseases, National Center for Immunization and Respiratory Diseases; National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention; National Center for Emerging and Zoonotic Infectious Diseases
- Office of Noncommunicable Diseases, Injury and Environmental Health; National Center on Birth Defects and Developmental Disabilities; National Center for Environmental Health/Agency for Toxic Substances and Disease Registry
- Office of Public Health Preparedness and Response
- Office of State, Tribal, Local and Territorial Support
- Office of Surveillance, Epidemiology and Laboratory Services

**Other Federal Agencies**
- Centers for Medicare and Medicaid Services, Division of Laboratory Sciences
- Department of Defense
- Department of Homeland Security, Office of Health Affairs, Science and Technology Directorate
- Department of State, Office of Global AIDS Coordinator
- Environmental Protection Agency, Office of Water, Office of Solid Waste and Emergency Response
- Federal Bureau of Investigation, Hazardous Materials Science Response Unit; Hazardous Materials Response and Training Unit; Chemical, Biological, Radiological Nuclear Sciences Unit; Weapons of Mass Destruction Directorate
- Food and Drug Administration, Center for Biologics and Evaluation Research, Center for Devices and Radiologic Health, Center for Food Safety and Applied Nutrition, Center for Veterinary Medicine, Office of Regulatory Affairs
- Health Resources and Services Administration, Maternal and Child Health Bureau
- National Institutes of Health, National Institute of Allergy and Infectious Diseases, Regional Centers of Excellence
- US Department of Health and Human Services, Office of the Assistant Secretary for Public Health Emergency Preparedness, Office of the National Coordinator for Health Information Technology

**Associations and Non-Governmental Organizations**
- Alliance to Make US Healthiest
- American Clinical Laboratory Association
- American Nurses Association
- American Public Health Association
- American Society for Clinical Pathology
- American Society for Microbiology
- American Thoracic Society
- ANSER (Analytic Services, Inc.)
- Association of Maternal and Child Health Programs
- Association of Schools of Public Health
- Association of State and Territorial Health Officials
- Booz Allen Hamilton
- Canadian Public Health Laboratory Network
- Children's Environmental Health Network
- Clinical Laboratory Standards Institute
- College of American Pathologists
- Columbia University Mailman School of Public Health, University Technical Assistance Program
- Council of State and Territorial Epidemiologists
- Council to Improve Foodborne Outbreak Response
- Elizabeth Glaser Pediatric AIDS Foundation
- The George Washington University, Schools of Medicine & Health Sciences and Public Health & Health Services
- Jeffrey Modell Foundation
- Management Sciences for Health
- March of Dimes
- Miami Dade College
- National Alliance of State and Territorial AIDS Directors
APHL Sustaining Members

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Abbott  
www.abbott.com
Applied Biosystems  
www.appliedbiosystems.com
Gen-Probe  
www.gen-probe.com
HDR CUH2A  
www.hdrcuh2a.com
PerkinElmer, Inc.  
www.perkinelmer.com

**PLATINUM**
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www.labware.com
Luminex Corporation  
www.luminexcorp.com
QIAGEN  
www1.qiagen.com
STARLiMS Corp.  
www.starlims.com

**GOLD**
BD Diagnostics  
www.bd.com
Bio-Rad Laboratories  
www.bio-rad.com/diagnostics
DiaSorin  
www.diasorin.com

**SILVER**
The Baker Company, Inc.  
www.bakerco.com
bioMérieux, Inc.  
www.biomerieux-usa.com
BioSearch Technologies, Inc.  
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Common Cents Systems  
www.commoncentssystems.com
Epic Systems Corporation  
www.epicsystems.com
Northrop Grumman  
www.northropgrumman.com
OZ Systems  
www.oz-systems.com
Quidel Corporation  
www.quidel.com
River Diagnostics, Inc.  
www.riverd.com
VWR International  
www.VWRSP.com/Government

National Association for Public Health Information Technology
National Association for Public Health Statistics and Information Systems
National Association of County and City Health Officials
National Coalition of STD Directors
National Conference of State Legislatures
National Environmental Health Association
National Newborn Screening and Genetics Resource Center
National Tuberculosis Controllers Association
Pan American Health Organization
Pew Charitable Trusts
Physicians for Social Responsibility
Public Health Accreditation Board
Public Health Informatics Institute
Public Health Laboratory Centre, Hong Kong
The Robert Wood Johnson Foundation
Trust for America’s Health
World Health Organization
2009 APHL Timeline

January
- APHL participates in response to *Salmonella* Typhimurium outbreak, eventually linked to peanut butter.
- APHL meets with federal officials to discuss the National and Regional Biocontainment Laboratories in Biodefense.
- APHL Board of Directors approves the association’s first research agenda.
- APHL and CDC convene a meeting of experts to update guidelines for laboratory diagnosis of *Chlamydia trachomatis*, *Neisseria gonorrhoeae* and *Treponema pallidum*.
- APHL participates in Asia Pacific PulseNet BioNumerics training workshop.

February
- President signs FY09 omnibus bill with $8 million for CDC’s newborn screening quality assurance program (the second year of dedicated funding for the program) and $0.5 million in biomonitoring grant funding.
- APHL formalizes its partnership with Miami Dade College Medical Campus to support Global Health program activities in medical technology and medical library services.
- Canadian Public Health Laboratory Network and APHL representatives meet to discuss influenza and cross-border emergency preparedness.

March
- APHL convenes key partnership meetings for the LRN Joint Leadership Committee and Partners Workgroup.
- APHL convenes LRN National Meeting in Orlando, FL, marking ten years of LRN achievements.
- APHL and DHS convene conference call on assay validation and quality control for BioWatch laboratories.
- APHL hosts strategic planning workshop at the African Center for Integrated Laboratory Training in Johannesburg, South Africa.
- APHL releases report outlining proposed, new HIV diagnostic testing algorithms.

April
- APHL convenes LRN Operational Workgroup Meeting, addressing surge capacity and data exchange issues.
- APHL staff tour the DC Public Health Laboratory and discuss opportunities to expand its testing capabilities and capacity.
June
• APHL, USDA and FDA convene national Food Emergency Response Network meeting in Dallas, TX.
• The APHL/CDC NLNTN hosts a national conference in Orlando, FL, for laboratory training coordinators and celebrates its 20th anniversary.
• APHL co-hosts 2nd CalciNet training at CDC in Atlanta, GA.
• APHL organizes 50-state call for public health laboratorians regarding laboratory testing of E. coli O157:H7 in cookie dough products.
• The APHL/CDC National Center for Public Health Laboratory Leadership hosts conference to launch the development of competencies for biosafety laboratories.
• 12 Mozambican students complete placements at US clinical and public health labs, part of a five-month training program in diagnostic medical technology.

July
• Kenyan health officials visit the DE and MD state public health labs to study their organizational structures, quality systems and LabWare information management system.
• APHL organizes CIFOR cost-benefit study workgroup meeting in Atlanta, GA.
• APHL launches electronic version of its TB laboratory assessment tool.

August
• APHL’s Global Health Program finalizes its “Foundations of Laboratory Leadership and Management” workshop. Courses are offered in Lesotho and Ethiopia.
• The APHL/CDC National Center for Public Health Laboratory Leadership launches its second emerging leader cohort. 14 new recruits begin formulation of their project objectives.
• APHL participates in meeting of the CDC Office for Terrorism Preparedness and Emergency Response board of scientific counselors.
• APHL EPR Program staff participate in BioWatch workshop in Denver, CO.

September
• APHL co-hosts joint conference of 13th Annual PulseNet and 5th Annual OutbreakNet in Salt Lake City, UT.
• APHL and Canadian Public Health Laboratory Network staff meet in Winnipeg, Manitoba, to discuss incident command systems, lessons learned from the 2009 H1N1 pandemic and plans for a tri-national summit.
• APHL participates in 5th Annual Directors of Public Health Preparedness Meeting in Scottsdale, AZ.
• EPA launches the Water Laboratory Alliance (WLA) in connection with Phase II of the Environmental Response Laboratory Network.
• APHL participates in first WLA emergency preparedness exercises: response to a biological agent in a drinking water supply and to airborne release of mustard gas/lewisite.
• APHL is awarded American Recovery and Reinvestment Act funding for training and quality improvement activities related to vaccine-preventable disease testing.
• APHL assists with strategic planning meeting in Botswana to obtain key stakeholder input on proposed national laboratory strategic plan.

October
• APHL convenes landmark, multi-disciplinary meeting to discuss a state-based, national biomonitoring system.
• In collaboration with APHL and CDC, the College of American Pathologists issues a laboratory preparedness exercise to over 1,300 laboratories.
• APHL Executive Director Scott Becker attends WHO Global Twinning Program Steering Committee meeting in Lyon, France.
• The Wyoming Public Health Laboratory becomes the 20th laboratory to complete its assessment in the Laboratory System Improvement Program.

November
• APHL hosts 2nd Annual PulseNet International Steering Committee meeting in Buenos Aires.
• APHL implements laboratory information management systems at four sites in Botswana.
• National Center for Public Health Laboratory Leadership staff promote public health laboratory careers at the National Biology Teacher Association Conference in Denver, CO.

December
• CDC releases its Fourth National Report on Human Exposure to Environmental Chemicals.
• APHL participates in 6th Annual PulseNet Asia Pacific Meeting.
• Public health laboratory leadership 101 module is piloted. APHL’s workforce committee gives conditional approval for its delivery to the laboratory community.
• APHL staff present at the Texas Laboratory Directors’ Meeting and the Texas Chemical, Biological, Radiological and Nuclear Preparedness Conference. Topics include cross-border preparedness and analysis of unknown environmental samples.
• APHL’s Survey Resource Center opens to members.
APHL Member Dues

Centers for Disease Control and Prevention:
  Center for Global Health
  Office of Infectious Diseases
    National Center for Immunization and Respiratory Diseases
    National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention
    National Center for Emerging and Zoonotic Infectious Diseases
  Office of Noncommunicable Diseases, Injury and Environmental Health
    National Center on Birth Defects and Developmental Disabilities
    National Center for Environmental Health/Agency for Toxic Substances and Disease Registry
  Office of Public Health Preparedness and Response
  Office of State, Tribal, Local and Territorial Support
  Office of Surveillance, Epidemiology and Laboratory Services

Environmental Protection Agency

President’s Emergency Plan for AIDS Relief

World Health Organization

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