The National Animal Health Laboratory Network
Celebrating 10 Years
2002–2012

Letter from the Coordinator

10 Years of Successful Partnership

When the National Animal Health Laboratory Network (NAHLN) was established in 2002, a set of founding principles was established to guide our efforts and support our mission. Over the past 10 years, our activities have continually supported those principles. A decade of partnership and collaboration brought about significant progress and advanced capabilities, but the foundation upon which NAHLN was built remains the same. As NAHLN celebrates its 10th anniversary, it is important to reflect on our accomplishments and look to the future.

Quality Management Standards
We've demonstrated our commitment to quality laboratories and test results throughout our existence. Activities have included: establishing a laboratory review process in conjunction with the American Association of Veterinary Laboratory Diagnosticians (AAVLD) Accreditation Committee; requiring all NAHLN laboratories to implement and continually improve a quality management system (QMS) consistent with international standards; developing and providing QMS training to representatives from NAHLN laboratories, other laboratory networks, and international participants; and developing QMS distance learning modules.

Competency of Laboratory Personnel
NAHLN relies heavily on a Train the Trainer program, leading to a significant increase in the number of personnel trained and proficiency tested—from 24 to hundreds network-wide. As a result, our Nation is better prepared to respond to an adverse animal health event. For example, since Federal fiscal year (FY) 2004, the number of NAHLN-approved laboratories has increased from 12 to 38, and the number of approved analysts for foot-and-mouth disease (FMD) and classical swine fever (CSF) has increased from 24 to 167.

Standardized Protocols, Equipment, and Reference Materials
The National Veterinary Services Laboratories (NVSL) developed, coordinated, and administered standard operating procedures (SOPs) and provided reference materials, including proficiency tests. This ensures comparable diagnostic test results across the network. The NAHLN Methods Technical Working Group (MTWG) has developed processes for methods comparison; reviewed processes related to the release of NAHLN SOPs; discussed critical gaps in assays and related projects; and evaluated projects related to NAHLN capabilities and

capacities. Additionally, the MTWG reviews all data related to assay validation and provides recommendations for use of new or modified diagnostics in NAHLN laboratories.

Secure Electronic Communications and Reporting
NAHLN information technology (IT) experts have created a system for messaging test results in a standardized Health Level 7 (HL7®) format, providing for centralized, standardized laboratory data across the network. Additional IT tools have been developed to capture individual laboratory and network capacity and serve as a secure mechanism for sharing information through the NAHLN Portal.

Adequate Biosafety/Biosecurity and Assessment of Preparedness through Scenario Testing
Animal health professionals across the United States have participated in an extensive series of avian influenza and FMD tabletop exercises. These exercises have helped improve processes, guidance, and overall preparedness for a foreign animal disease outbreak. The exercises have also helped to prioritize gaps, resulting in assay development to address the gaps.

Application of Founding Principles
We used the founding principles when implementing national surveillance programs. We've partnered with stakeholders to conduct testing for wild bird avian influenza, bovine spongiform encephalopathy, classical swine fever, chronic wasting disease, pseudorabies, scrapie, and swine influenza. A number of additional assays have been deployed for emergency preparedness, such as the FMD PCR that can be used during foreign animal disease investigations. These advancements would not have been possible without our partners.

Please join me in celebrating the success of an outstanding network that we have built together.

Happy 10th anniversary, NAHLN!

NAHLN Coordinator
USDA APHIS VS NVSL

Vision
NAHLN is the nationwide model for effective diagnostic networks that respond quickly and efficiently and communicate diagnostic outcomes to decisionmakers. NAHLN is organized and supported so that it has the capacity to respond to animal disease outbreaks nationwide.

Mission
NAHLN's mission is to provide accessible, timely, accurate, and consistent animal disease laboratory services nationwide; provide laboratory data to meet epidemiological and disease reporting needs; maintain the capacity and capability to provide laboratory services in support of responses to foreign animal disease outbreaks or other adverse animal health events; and focus on diseases of livestock (exotic, zoonotic, and emerging diseases) while including diseases of non-livestock species.

Founding Principles
- Quality Management Standards
- Competency of Laboratory Personnel
- Standardized Protocols, Equipment, and Reference Materials
- Adequate Biosafety/Biosecurity
- Secure Electronic Communications and Reporting
- Assessment of Preparedness through Scenario Testing

Partnership -Key to NAHLN's Success
Federal, State, and University Groups
- State Animal Health Officials
- NAHLN Laboratory Personnel
- National Center for Food Protection and Defense
- National Center for Foreign Animal and Zoonotic Disease Defense
- National Agricultural Biosecurity Center
- U.S. Department of Agriculture (USDA)
- Agricultural Research Service
- Animal and Plant Health Inspection Service (APHIS)
- National Institute of Food and Agriculture
- U.S. Department of Homeland Security (DHS)

Organizational Partners
- American Association of Veterinary Laboratory Diagnosticians
- American Veterinary Medical Association
- National Institute for Animal Health
- United States Animal Health Association

Animal Agriculture Coalition

NAHLN Timeline

2001

- **FMD Outbreak in the United Kingdom (U.K.) and Anthrax Threats Following 9/11**: The 2001 FMD outbreak in the U.K. and the Anthrax threats following 9/11 demonstrated that the Nation's public health and food supply is at constant risk. These threats prompted the need to leverage diagnostic resources in the United States.
- **Animal Health Safeguarding Review**: In October 2001, the National Association of State Departments of Agriculture's Research Foundation issued a report titled, "The Animal Health Safeguarding Review Results and Recommendations Executive Summary." The primary recommendation was that Congress and USDA provide funding and act to rebuild the State and national infrastructure for animal disease control, emergency disease preparedness, and response.
- **AAVLD/NVSL Memorandum of Understanding (MOU)**: An MOU was developed between NVSL and AAVLD to clarify mutual goals and objectives in the area of promoting and enhancing animal health diagnostic services in the United States.
- **Initial Study on IT Messaging Requirements**: A study was conducted on information technology system requirements for automating test orders to laboratories and the return of laboratory test result data. This led to the NAHLN result messaging pilot project.

2002

- **AAVLD White Paper**: AAVLD submitted a white paper request for USDA to support a shared partnership between publicly funded State animal health laboratories and Federal animal health laboratories in order to effectively respond to adverse animal health events in the United States.
- **NAHLN Created**: Special funds for DHS were awarded to 12 State/university diagnostic laboratory facilities in order to develop capacity and surveillance programs for 8 high-priority foreign animal diseases. The original 12 laboratories formed NAHLN, which would coordinate Federal laboratory capacity with the extensive facilities, professional expertise, and assistance of State-supported laboratories.
- **Public Health Security and Bioterrorism Preparedness and Response Act of 2002, Section 335**: The Act authorized the Secretary of Agriculture to develop an agricultural early warning surveillance system to counteract growing risks of accidental or malicious introduction of exotic animal diseases.
- **NAHLN Information Technology Committee Formed**: The Committee was established to assist NAHLN laboratories in the reporting of standardized animal health and veterinary diagnostic data. This is done through the electronic transfer of data from the laboratories' Laboratory Information Management System (LIMS) to Veterinary Services (VS) databases. The concept of this system was to improve data quality;

increase the speed of reporting laboratory results; and meet the NAHLN goal of a secure communication alert and reporting system.

2003

- **Steering Committee Formed**: The NAHLN Steering Committee was formed to provide oversight and guidance to the network. They ensure that the combined local, State, and Federal diagnostic capabilities are adequate to respond quickly and effectively to a terrorist attack, major disease outbreak, or other disaster affecting the national agriculture or food infrastructure and also provide on-going surveillance for diseases that currently are in or may enter the United States.
- **NAHLN Laboratories Proficiency Tested for Foreign Animal Disease Detection**: NAHLN laboratories were successfully proficiency tested for classical swine fever, foot-and-mouth disease, and vesicular stomatitis.
- **Health Level 7 (HL7®):** NAHLN decided to adopt Health Level 7 (HL7®) as its standard messaging format.

2004

- **Homeland Security Presidential Directive (HSPD)-9**: The White House Office of the Press Secretary released a directive in February 2004 that establishes a national policy to defend the agriculture and food system against terrorist attacks, major disasters, and other emergencies.
- **HSPD-10**: The White House Office of the Press Secretary released a directive in April 2004 that establishes biodefense for the 21st Century. This includes the development of an integrated and comprehensive attack warning system to rapidly recognize and characterize the dispersal of biological agents in animal populations.
- **BSE Surveillance Enhanced**: Following the December 2003 detection of BSE in an imported cow, USDA implemented an enhanced BSE surveillance program to more accurately determine the prevalence of the disease in the U.S. cattle population. Six NAHLN laboratories were proficiency tested and approved to conduct BSE testing.
- **IT System Expanded**: In response to the enhancement of BSE surveillance, the NAHLN IT system electronically combined laboratory results reporting with field epidemiologic data collection. The 'HL7® Implementation Guide for Data Submission to the NAHLN' was published.
- **Train the Trainer Program Established**: The Train the Trainer program was established to increase the number of people trained and proficiency tested to address animal health emergencies.
- **NAHLN Surveillance Testing Expanded**: USDA formally announced that NAHLN surveillance activities would be expanded to also include chronic wasting disease, scrapie, avian influenza, and exotic Newcastle disease.

2005

- **USDA Provided Additional Funding Support to NAHLN Laboratories**: Initial infrastructure funding was provided to NAHLN laboratories. Laboratory designations were also established.
- **NAHLN IT System Implemented**: The NAHLN IT system originally pilot-tested in the six BSE laboratories was made available to all NAHLN laboratories for result messaging.
- **First NAHLN Symposium at AAVLD**: The first NAHLN/AAVLD Quality Assurance (QA) Joint Symposium was developed in collaboration with the AAVLD QA Committee and held in conjunction with the USAHA/AAVLD annual meetings. Since that time, symposia have been held each year, disseminating information and updates and fostering table discussions with NAHLN laboratory personnel and other stakeholders.
- **Proficiency Testing**: Personnel from 39 NAHLN laboratories completed proficiency testing for avian influenza and exotic Newcastle disease virus.
- **Integrated Consortium of Laboratory Networks (ICLN) Established**: The ICLN was established by a memorandum of agreement between senior officials of Federal agencies that have a primary responsibility for current and emerging networks, as well as those with a strong supporting role. The goal is to create the basis for a system of laboratory networks capable of integrated and coordinated response to and consequence management of acts of terrorism and other major incidents requiring laboratory response capabilities. NAHLN is a founding member of ICLN.

2006

- **CSF Surveillance Initiated**: CSF surveillance was implemented as VS' first fully collaborative foreign animal disease surveillance system.
- **NAHLN Strategic Plan Developed**: The NAHLN Steering Committee developed a strategic plan for NALHN.
- **NAHLN Methods Technical Working Group Formed**: The NAHLN Methods Technical Working Group was established to provide input on various aspects of methods validation and methods approval. The group includes NVSL, NAHLN, and international representation. They have been instrumental in developing processes to adapt different sample types and platforms to existing assays, and also in reviewing input on NAHLN-related assays.
- **Train the Trainer Program Expanded**: Proficiency testing for foot-and-mouth disease, classical swine fever, avian influenza, and exotic Newcastle disease virus was added to the Train the Trainer Program.
- **NAHLN Symposium**: A NAHLN Symposium titled "Laboratory Emergency Management" was developed in collaboration with others in VS and held in conjunction with the USAHA/AAVLD annual meetings.
- **IT Messaging Training**: Training was provided to NAHLN laboratories to help them successfully send NAHLN surveillance test results via HL7® messages. As a result of the training, the "Hitchhiker's Guide to NAHLN Messaging" was developed.

2007

- **Exercises and Drills Working Group Formed**: The Exercises and Drills Working Group was established. Members include representatives from core member, member, and contract laboratories, as well as from VS. This group assisted in developing laboratory-based questions used in the AI tabletop exercises and assisted in developing and implementing future drills for the NAHLN laboratories. The group has been instrumental in addressing recommendations from the NAHLN high pathogenic avian influenza exercise program.
- **AAVLD/NAHLN Toxicology Working Group Formed**: The Toxicology Working Group was established in recognition of the need for a national plan to support, coordinate, and establish formal lines of communication among the existing State veterinary analytical toxicology laboratories and appropriate governmental agencies in the United States. It is comprised of professionals from State veterinary diagnostic laboratories and Federal representatives who analyze and diagnose chemical toxicoses and deficiencies in animals.
- **Diagnostic Testing Capacity Increased**: In order to ensure adequate capacity to respond to diagnostic testing during an outbreak, high-throughput equipment was purchased and distributed to NAHLN laboratories based on a risk-based model for the introduction and spread of highly pathogenic avian influenza.
- **NAHLN Symposium**: A NAHLN Symposium titled "Methods Validation and Assessment" was developed in collaboration with the Methods Technical Working Group and held in conjunction with the USAHA/AAVLD annual meetings.
- **NAHLN Program 5-Year Review**: The Phase 1 review was completed and released in September 2007, identifying the following areas as needing further evaluation and study or more progress: NAHLN Program Leadership, Management and Organization, Laboratory Network Structure, Information Technology, Communication, Priority Agents, and Laboratory Quality.
- **Wild Bird Avian Influenza Surveillance Program Initiated**: The wild bird avian influenza surveillance program was initiated in NAHLN laboratories as a collaborative effort with APHIS' Wildlife Services program. This strengthened collaborative relationships, expanded the scope of NAHLN surveillance, and expanded electronic messaging capabilities.
- **High-throughput Training Conducted**: Training workshops were held for high-throughput equipment for avian influenza, CWF, and FMD testing in collaboration with NVSL's reference laboratories. Workshops continued into 2008.

2008

- **NAHLN Program 5-Year Review - Survey Results**: The results and recommendations of the NAHLN Phase I Review indicated that additional input was needed from the

Laboratory Directors, State Veterinarians, and VS. A survey was developed by the NAHLN Steering Committee and administered by AAVLD. A summary report indicated that there was consensus among the three surveyed groups. The data collected from the NAHLN Phase 1 Review and the survey were used to establish priorities and determine goals.

- **NAHLN Symposium**: A NAHLN Symposium titled "Emergency Response" was developed in collaboration with VS units and held in conjunction with the USAHA/AAVLD annual meetings.
- **AI Tabletop Exercise Series**: Laboratory preparedness was assessed during a series of highly pathogenic avian influenza (HPAI) tabletop exercises. In total, 38 exercises were held, involving animal health responders from 45 States.
- **Authorized Foreign Animal Disease Investigation Testing in NAHLN Laboratories**: VS Memorandum 580.4 outlines procedures for investigating a suspected foreign animal or emerging disease incident. The memo includes procedures for NAHLN laboratories testing in foreign animal disease investigations in specific situations. This memo continues to be updated as needed to provide clear, up-to-date information.

2009

- **SIV Surveillance Developed and Implemented**: Veterinary Services developed and implemented a surveillance plan for swine influenza virus (SIV), including the pandemic H1N1 2009 virus (pH1N1), in swine. The surveillance plan aimed to identify the pH1N1 strain and other non-typical strains of SIV. Initially, 36 NAHLN laboratories participated in the SIV surveillance activities. Collaboration with the NAHLN Methods Technical Working Group, APHIS, and the Agricultural Research Service led to rapid deployment of influenza assays used to detect the novel 2009 H1N1.
- **Monitored Performance of Assays Used in NAHLN Laboratories**: NAHLN laboratories participated in a pilot project providing real-time analysis and reporting quality control data from serology and nucleic acid testing. The intent of the pilot was to monitor the performance of the assays used in NAHLN laboratories and make recommendations on how to monitor the performance of NAHLN assays.
- **First Issue of The NAHLN Newsletter Released**: The first issue of The NAHLN Quarterly, an electronic newsletter with the purpose of increasing communication with stakeholders, was distributed to NAHLN Laboratory Directors in February 2009. Since that time, subscriptions have increased to over 1,500 and include laboratory directors, State animal health officials, APHIS program staff, animal industry representatives, and other State, Federal, and international representatives.
- **Annual Reports Distributed to NAHLN Laboratories**: The NAHLN program office initiated the distribution of customized annual reports to the NAHLN laboratories. Each report details the previous Federal fiscal year's accomplishments and activities for the individual laboratory in addition to those of NAHLN overall.

- **NAHLN Symposia at WAVLD and AVMA**: A NAHLN Symposium titled "Development and Implementation of Veterinary Diagnostic Laboratory Networks – The Principles of Laboratory Network Development and Function" was developed and held in conjunction with the World Association of Veterinary Laboratory Diagnosticians (WAVLD) annual meeting. A NAHLN Symposium titled "One Medicine" was developed in collaboration with other VS units and held in conjunction with the American Veterinary Medical Association's (AVMA) annual convention.
- **Additional IT Guidance Developed**: HL7® implementation and messaging guidance was simplified. A series of instruction manuals were provided to assist NAHLN laboratories with developing messaging capabilities.

2010

- **NAHLN Participated in an Agricultural Screening Tools (AST) Workshop**: The National Center for Foreign Animal and Zoonotic Disease Defense (FAZD), through DHS, funded the first workshop on agricultural screening tools. The goals of the meeting were to define agricultural screening tools, evaluate their current status, identify and discuss the gaps and needs defined by the agricultural community, and obtain stakeholder input on requirements.
- **NAHLN Portal**: Initial planning and development of a secure Web site within the CoreShield framework began. This framework was developed by multiple Federal partners with the purpose of supporting Federal, State, and local governmental regulatory agencies and laboratories in defending the food supply through Web-based tools. These tools focus on enhancing threat prevention and response, risk management, communication and asset coordination, and public education. The NAHLN Portal has been developed within that framework to securely share information with laboratories, such as SOPs, proficiency testing status, financial agreements, and assay performance monitoring data. This approach promotes leveraging resources to generate products for multiple groups and networks.
- **PRV Surveillance Expanded**: The pseudorabies virus (PRV) surveillance program expanded in 2010. As an extension of established slaughter surveillance efforts, VS implemented PRV surveillance testing in 12 NAHLN laboratories to increase rapid detection of PRV in commercial swine. This surveillance activity is now occurring in 16 NAHLN laboratories and supports the USDA's PRV surveillance goals, including demonstration of freedom from the disease and monitoring domestic sources for PRV.
- **NAHLN Laboratory Review Process Established**: NAHLN Program Staff collaborated with AAVLD to establish a review process for NAHLN laboratories, ensuring the development and implementation of a QMS consistent with AAVLD, OIE, and ISO standards. Standardized reports detailing non-conformances and requirements to maintain NAHLN status are provided to each audited laboratory.

- **MTWG Methods Comparison Process Developed**: The Methods Technical Working Group developed and implemented a methods comparison process to efficiently compare the performance of assays when changes such as sample type or platform were needed for an existing assay.
- **NAHLN Coordinating Council Formed**: The inaugural meeting of the NAHLN Coordinating Council was held in Ames, IA, and included strategic planning sessions focusing on high-consequence and emerging diseases and laboratory network structure. The Coordinating Council was formed to provide input on the following: the strategic plan, goals, and operational objectives of NAHLN; specific criteria that define a NAHLN laboratory; policies that relate to the NAHLN; and new efforts for NAHLN.
- **QMS Training Program Developed and Delivered**: The NAHLN program office collaborated with members of the AAVLD Accreditation Committee and NVSL personnel to develop and deliver a Quality Management System (QMS) Training Program. The training program provided an interactive class environment that included training on quality system requirements, document control, internal auditing, and root cause analysis. In addition, a wet laboratory provided opportunity for participants to conduct an audit, recognize non-conformances, analyze root cause, and write corrective actions. In August 2010, the first QMS training was held in Ames, IA, with a total of 87 participants representing 40 NAHLN laboratories, 8 prospective laboratories, 4 Federal laboratories, and 1 laboratory in Canada.
- **Negative Cohort Studies for African Swine Fever (ASF), FMD, and Rinderpest (RP) Conducted**: Negative Cohort Studies for ASF, FMD, and RP were initiated in 2010 and carried out in cooperation with the NAHLN laboratories and NVSL's Foreign Animal Disease Diagnostic Laboratory. The primary objective of the studies was to further validate the rRT-PCRs for FMD, ASF, and RP through a better understanding of the performance characteristics of the assays. Additionally, the laboratories were provided an opportunity to assess and improve laboratory procedures and processes for sample selection, testing, and result communication.
- **FMD Tabletop Exercise Series**: NAHLN evaluated improvement in laboratory preparedness through 16 FMD tabletop exercises. The series involved personnel from 34 States and the province of British Columbia. The series was kicked off with a policy workshop to identify existing FMD-related policies and gaps.

2011

- **NVSL Tabletop Exercise and Follow-up VS Policy Workshop Held**: As a continuation of the FMD tabletop exercise series, additional tabletop exercises were held at NVSL for AI and FMD, addressing roles and responsibilities, SOPs, and communication during outbreak scenarios affecting both Ames and Plum Island campuses. A follow-up policy workshop was conducted with VS personnel to address policy gaps identified throughout the FMD exercise series.

- **QMS Training Program Expands Beyond NAHLN Labs**: While the original QMS course was developed to assist the NAHLN laboratories in implementing and continually improving quality management systems, it has expanded to assist other laboratory networks. In May 2011, a training program was delivered to the National Plant Diagnostic Network. An additional training program was conducted in Tanzania in July 2011 for international participants with representatives from Burundi, Djibouti, Eritrea, Ethiopia, Kenya, North Sudan, Rwanda, Somalia, South Sudan, Tanzania, and Uganda. In August 2011, QMS training was offered at the National Centers for Animal Health in Ames, IA, and included individuals from 10 NAHLN laboratories as well as participants from Iraq, Kazakhstan, Kenya, Russia, Tanzania, and Ukraine.
- **Laboratory Capacity Estimation Model (LCEM) Developed**: The development and initial deployment of the LCEM occurred in 2011. The National Center for Foreign Animal and Zoonotic Disease Defense (FAZD) at Texas A&M University collaborated with NAHLN program staff and NAHLN laboratories to develop a diagnostic testing capacity estimation program. The software enhances NAHLN preparedness by allowing laboratories to define their specific processes, apply them to testing scenarios, and generate an estimate of individual laboratory and overall network capacity prior to and during an animal disease outbreak.
- **NAHLN Participated in AST II and III**: FAZD, with DHS funds, facilitated a second meeting on agricultural screening tools. During this meeting, industry perspectives on diagnostic testing were discussed and input was obtained on diagnostic screening tools for transboundary, emerging, and zoonotic diseases. Policy gaps were discussed and input was obtained on priorities for diagnostic method development. AST III involved many NAHLN stakeholders that provided input on lab-related concept of operations—specifically use of diagnostic assays during an outbreak, laboratory operations, and prioritization of samples and reagents.
- **IT HL7® Messaging Training**: August 2011, NAHLN program staff hosted an IT messaging training course delivered to 10 NAHLN laboratories. IT subject matter experts provided an overview of NAHLN and IT message standards, HL7® content mapping, terminology mapping, message construction options, message transport and security, and message creation.
- **NAHLN Symposium**: A NAHLN/AAVLD Quality Symposium was developed in collaboration with AAVLD and held in conjunction with the USAHA/AAVLD annual meetings. Topics included mock audit work stations as well as corrective action and root cause analysis workshops.
- **Development of the NAHLN Concept Paper**: The structure of the network was reviewed by the NAHLN Coordinating Council in 2011 to ensure that the NAHLN meets the missions of early detection, rapid response, and appropriate recovery from adverse animal health events. The concept paper was originally drafted by the NAHLN

Coordinating Council and provided to stakeholders for comment at the 2011 AAVLD/USAHA annual meeting.

2012

- **Training for Foreign Animal Disease Investigations Developed and Delivered**: In May 2012, the NAHLN program office developed and delivered training to NAHLN laboratory representatives that described the investigation and communication that should occur during a potential FAD investigation or emerging disease incident. Following a thorough review of the information in VS Memo 580.4, State and Federal representatives from all groups involved in the process of investigating and communicating an adverse animal health event took part in scenarios and responded as they would in their positions during an actual investigation.
- **NAHLN Participated in AST IV**: AST IV was held with NAHLN Coordinating Council members and several other stakeholders to review and provide input on laboratory-related policies and procedures discussed in AST III.
- **International QMS Training Program Continues**: NAHLN delivered the QMS Training Program to an Iraqi exchange scholar in June 2012 and to representatives from 12 NAHLN laboratories and individuals from India, Iraq, Kazakhstan, Kenya, Pakistan, Russia, Tajikistan, Tanzania, Uganda, and Ukraine in August 2012.
- **FMD-Negative Cohort Studies**: Assay development and validation projects were conducted to address gaps identified by stakeholders in the course of the NAHLN FMD tabletop exercise series and the FAZD AST workshops. Projects completed in 2012 include a FMD pen-side negative cohort study in two NAHLN laboratories and an FMD milk PCR inter-laboratory comparison among five NAHLN laboratories, FADDL, and the Pirbright Institute for Animal Health in the United Kingdom. Additional planning of collaborative projects includes negative cohorts for the FMD milk PCR, FMD serology, and a larger FMD pen-side study for late fall 2012 implementation.
- **NAHLN Symposium**: A NAHLN/AAVLD Joint Symposium was developed in collaboration with the AAVLD Accreditation Committee and held in conjunction with the USAHA/AAVLD annual meetings. Topics covered included responding to a site visit report and internal auditing.
- **User Acceptance Testing and Further Enhancements to the NAHLN Portal**: The NAHLN program office and NAHLN laboratories are involved in ongoing user acceptance testing of the current functionalities of the NAHLN Portal. Additional enhancements of the NAHLN Portal will be completed in 2013.
- **Further Development of the NAHLN Concept Paper**: The structure of the network was reviewed in 2012 by the NAHLN Coordinating Council to ensure that the NAHLN meets the missions of early detection, rapid response, and appropriate recovery from adverse animal health events.

Testimonials

”As a State Veterinarian, NAHLN activities and test exercises have encouraged seamless communication and interaction with our lab counterparts, and gives me a tool to have data available quickly to use in the decision making process during disease investigations. Our industries are greatly appreciative of these enhanced local capabilities, and I am convinced that testing results provided by NAHLN capabilities have saved our industry millions of dollars by averting misguided or overly aggressive regulatory action to the detriment of commerce.”

Dave Marshall
State Veterinarian and President, USAHA
North Carolina Department of Agriculture and Consumer Services, Veterinary Division
Raleigh, NC

“NAHLN staff has been very encouraging, supportive and mentoring of all our efforts, and that has contributed towards our success.”

Virginia Pierce
NAHLN Laboratory Director
Frederick Animal Health Laboratory
Frederick, MD

“The existing NAHLN surveillance network gives us a chance to participate on a regional and national level with animal and public health issues….participation in NAHLN has also given us a new visibility within the university system and state agriculture agencies.”

Neil Dyer
NAHLN Laboratory Director
Veterinary Diagnostic Laboratory
North Dakota State University
Fargo, ND

“Working with NAHLN increased the molecular detection capability of our laboratory in terms of state of the art equipment, proficiency trained personnel, and standardization of assays… Our two significant accomplishments are the identification of our weakness/strengths and laboratory capacity and expansion of our ability to detect agents of foreign animal disease and high consequence pathogens. …NAHLN is one of the best uses of our tax dollars. It has provided a critical role in our state’s ability to rapidly detect and respond to animal disease outbreaks.”

Karen Post
NAHLN Laboratory Director
Rollins Diagnostic Laboratory
North Carolina Department of Agriculture
Raleigh, NC

"NAHLN is a critical program that ties the different states' diagnostic entities together for a cohesive preventative force against foreign and domestic diseases. Your program serves to unite us under a consistent set of diagnostic procedures to ensure that the results we provide our clients are accurate and uniform. ..NAHLN has done a lot in conjunction with the AAVLD to improve the quality of livestock diagnostics all across the nation."

Bill J. Johnson
NAHLN Laboratory Director
Oklahoma Animal Disease Diagnostic Laboratory
Oklahoma State University
Stillwater, OK

"This experience of testing for FADs at the NAHLN labs further allows for a cadre of labs ready and able to assist in the event of a large scale FAD outbreak. …The NAHLN is a very effective 'lighthouse' and 'first responder' for animal agriculture."

David Pyburn
Veterinary Medical Officer
USDA, APHIS, VS

"NAHLN and swine disease surveillance have grown up together. The CSF rRT PCR was the first FAD assay validated for use in the NAHLN system back in 2004. It's not often that a group of people in regulatory medicine get a chance to build a system from scratch, but Swine Program Staff, the emerging National Surveillance Unit (NSU), and the newborn NAHLN took advantage of the opportunity.

We spent many hours meeting via conference call and in person developing protocols and procedures that have stood the test of time. It's been extremely gratifying to see NAHLN truly become a system over those 10 years. When we began SIV surveillance in the NAHLN system in 2009, many of the protocols and business processes developed for CSF were there for adaptation to SIV (and also PRV). I have no doubts that if we are faced with an FAD emergency in the future, our regulatory health system is much better prepared because of 10 years of hard work and success in developing NAHLN."

John Korslund
Staff Epidemiologist
USDA, APHIS, VS

"...the value and need for the NALHN was always crystal clear. We needed better surveillance capability for FAD's as well as for domestic disease programs, and this was best facilitated and coordinated through a network of state laboratories...just having this come to fruition while I was in leadership roles at APHIS continues to give me a strong sense of accomplishment. This is monumentally important for US animal agriculture and a model for the world. …Animal agriculture across the country is far safer and better prepared to respond to an animal health emergency. We all benefit from the NAHLN at the local, state, and national level."

Ron DeHaven
Former APHIS Administrator and Current President, AVMA

“When you see or hear ‘NAHLN’, the words – partnership, collaboration, teamwork and leveraging immediately come to mind. Together we have created a flexible, credible, national diagnostic laboratory system that positions us well to meet animal health and public health challenges of the future. Congratulations and thanks to all for their crucial contributions to the first 10 years of NAHLN.”

Beth Lautner
Director, National Veterinary Services Laboratories
USDA, APHIS, VS

Looking to the Future

"A national strategy, melding the nation's Federal, State, and local resources, would be capable of responding to any type of animal health emergency, including bioterrorist events, newly emerging diseases, and foreign animal disease agents that threaten the nation's food supply and public health.… the need to develop and maintain a state-of-the-art national animal health laboratory network (NAHLN) has never been more critical." - AAVLD/NAHLN White Paper, 2002

Our mission has not changed over the last 10 years and it's not anticipated that it will change in the next decade. The National Animal Health Laboratory Network (NAHLN) is the nationwide model for effective diagnostic networks that respond quickly and efficiently and communicate diagnostic outcomes to decisionmakers. The NAHLN provides animal health diagnostic testing to detect biological threats to the Nation's food animals, thus protecting animal heath, public health, and the Nation's food supply.

Ours is a nationally coordinated network where partnership is the key to success. By building upon the founding principles, the network's credibility has and will continue to be maintained at national and international levels. The founding principles provide a firm foundation and allow us to identify gaps and incrementally address current and future national animal health testing needs.

Together, we have strategically combined the infrastructure and expertise in the State veterinary diagnostic laboratories and the National Veterinary Services Laboratories to establish the animal health laboratory backbone of the United States' emergency response and recovery program. We have implemented national, standardized surveillance for high-priority diseases. If we intend to build on our successes, we must continue to work together to leverage our collective resources and continue to apply the founding principles by:

- Operating within a quality management system that meets AAVLD, ISO 17025, or equivalent requirements
- Establishing and maintaining competency of laboratory personnel
- Using standardized protocols, reference materials, and equipment
- Participating in communications and reporting systems established by NAHLN
- Using facilities with biosafety/biosecurity levels requisite for testing performed
- Evaluating preparedness (identifying and prioritizing gaps) through scenario testing

Our partners will continue to be critically important to our success. Together, we will improve our Nation's ability to address adverse animal health events by identifying needs, prioritizing actions, and implementing change. Thanks for your ongoing support!