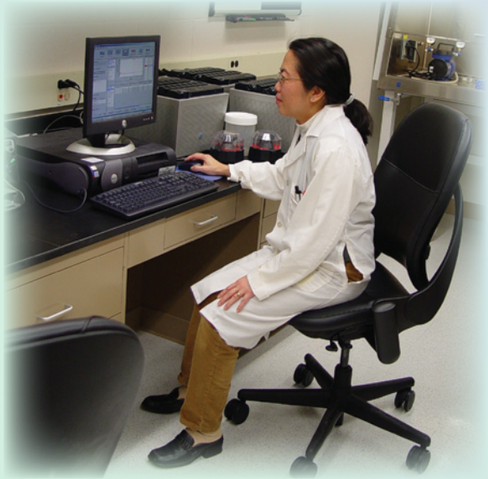

Diagnostic Center of Population and Animal Health, Lansing, MI

diagnosis and official responses to bioterrorism events; standardized, rapid diagnostic techniques used at the State, regional, and national levels; secure systems for communication, issuance of alerts, and reporting; and modern equipment and experienced personnel.

Additional key elements include national training, proficiency testing, and quality assurance; upgraded facilities that meet biocontainment and physical security requirements; and regional and national animal-health emergency-training exercises to test and evaluate the communication and reporting protocols of the network.

Vision Statement

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

Information Technology Plays Its Part

Information technology systems support the NAHLN vision by providing electronic interconnectivity between diagnostic-sample collectors, NAHLN laboratories, and national databases. By utilizing data and messaging standards established by veterinary medical and public-health agencies, accurate and consistent diagnostic information is quickly and securely transmitted, aggregated, and available for decisionmakers and analysts.

Train the Trainer

A "train the trainer" program has been developed by NVSL and implemented to increase the number of laboratories with personnel trained to conduct the assays for diagnosing CSF and FMD. This program not only has increased the number of laboratory personnel prepared to respond to a national animal-health emergency but has also provided the United States with a cadre of trainers available to teach others when needed. The successful implementation of this program is a significant step for the NAHLN in achieving its goals of sufficient diagnostic capability and capacity to address an animal-health emergency.

Purdue University Animal Disease Diagnostic Laboratory, West Lafayette, IN

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NVSL–Foreign Animal Disease Diagnostic Laboratory
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Animal and Plant Health Inspection Service

Program Aid No. 1878

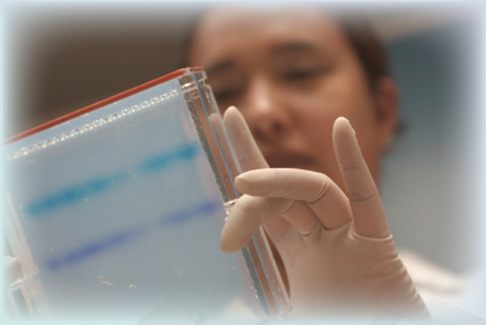
National Animal Health Laboratory Network:

Enhancing Early Detection

Introduction

When a large-scale animal-disease outbreak occurs, tracking its progress and performing diagnostic tests on thousands of diagnostic samples is a big challenge. To get the job done, it is very important that all the parties involved—Federal agencies and laboratories managed by State governments and universities—communicate and collaborate effectively. The National Animal Health Laboratory Network (NAHLN) now forms part of a nationwide strategy to coordinate the work of all organizations providing surveillance and testing services.

Washington Animal Disease Diagnostic Laboratory, Pullman, WA



Ohio Department of Agriculture, Reynoldsburg, OH

The Roles of NAHLN Cooperators

At the Federal level, the U.S. Department of Agriculture's (USDA) National Veterinary Services Laboratories (NVSL) serves as the national veterinary diagnostic reference and confirmatory laboratory. NVSL coordinates activities, participates in methods validation, and provides training, proficiency testing, assistance, materials, and prototypes for diagnostic tests.

The State/university laboratories in the NAHLN perform routine diagnostic tests for endemic animal diseases as well as targeted surveillance and response testing for foreign animal diseases. State/university laboratories also participate in the development of new assay methodologies.

Minnesota Veterinary Diagnostic Laboratory, St. Paul, MN

Networking these resources provides an extensive infrastructure of facilities, equipment, and personnel that are geographically accessible no matter where disease strikes. The laboratories have the capability and capacity to conduct nationwide surveillance testing for the early detection of an animal disease outbreak. They are able to test large numbers of samples rapidly during an outbreak and to demonstrate freedom from disease after eradication.

Animal Disease Research and Diagnostic Laboratory, Brookings, SD

The NAHLN is a cooperative effort between two USDA agencies—the Cooperative State Research, Education, and Extension Service and the Animal and Plant Health Inspection Service (APHIS)—and the American Association of Veterinary Laboratory Diagnosticians. It is a multifaceted network comprised of sets of laboratories that focus on different diseases using common testing methods and software platforms to process diagnostic requests and share information.

Laboratories in the NAHLN conduct screening tests to detect various animal diseases, including avian influenza, exotic Newcastle disease, bovine spongiform encephalopathy, chronic wasting disease, scrapie, classical swine fever (CSF), and foot-and-mouth disease (FMD).

The Bigger Picture

The NAHLN also contributes to wider societal goals, such as:

- Protecting human health by decreasing the risk of zoonotic diseases (those that can affect animals and humans),
- Protecting animal health to decrease environmental risk and negative economic impact to producers,
- Protecting the health of domestic and wild animals by lessening the risk of disease transmission between wildlife and livestock,
- Increasing consumer confidence in the Nation's food supply, and
- Maintaining confidence and positive relationships among global trading partners.

Key elements of the NAHLN system include increased and more flexible capacity for laboratory support of routine and emergency animal-disease

Kissimmee Diagnostic Laboratory, Kissimmee, FL

Mission Statement

The NAHLN will:

- Provide accessible, timely, accurate, and consistent animal-disease laboratory services nationwide;
- Provide laboratory data to meet epidemiologic 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 nonlivestock species.