

ACTION PLAN

Issue Group: Information Technology

Specific Activity Area being Addressed by this Action Plan: Develop interfaces with other databases and systems. Data compatibility and sharing of data in diagnostic, biologic, surveillance and emergency response systems must be the norm not the exception in VS data systems. Connectivity of all Federal, State, University, and Private Veterinary Laboratories concerning the transfer of pertinent and relevant data affecting domestic animal health is a necessity in order to safeguard animal health in the United States.

Safeguarding Review Recommendations Covered:

VS does not need to develop processes for capturing all data necessary to assure safeguarding of animal health, if that data can reliably and routinely be obtained through other agencies. The safeguarding review team emphasized this by noting the benefits of interaction with the Customs and PPQ import related databases and appropriate analysis of the resulting information. In addition, the need to assure the necessary electronic interfaces with our state and industry collaborators was recognized as critical. A specific example is the need to interface these diagnostic laboratories with the National Animal Health Laboratory Network initiative that is being developed as a result of the emphasis on homeland security. Also of importance is the role that information technology has in the overall enhancement of animal disease surveillance during routine and emergency situations. VS needs to ensure electronic interfaces, based on accepted standards, are incorporated into their existing legacy systems all new information system development.

Specific Recommendations:

- #12 Ensure the design and implementation of the NSS includes state governments, universities, and commercial diagnostic laboratories. Explore implementation of a national laboratory system utilizing a regional laboratory network similar to the Centers for Disease Control and Prevention model. Create opportunities for innovative approaches for surveillance with surveillance partners and allied industries.
- #13 Seek opportunities to utilize resources of other federal agencies to enhance the NSS.
- #16 Provide a framework for the NSS including standardization, identification, information management (data capture, description and analysis, interpretation, and dissemination and feedback), and technical resources.
- #80 Encourage APHIS to continue to pursue integration of its port information systems with Customs Service systems, thus eliminating the need to re-enter data from one system to the other.
- #82 Make software compatibility with state and industry stakeholder systems required criteria for acquisition of software or application development.
- #93 Direct APHIS-VS to enlist support for information gathering from the Department of Defense, National Security Agency, US Customs, and US Fish and Wildlife Service, private industry, the veterinary community, international trading partners, and other USDA agencies.

- #102 Replace manual reviews of manifests with the automated cargo targeting system being developed by APHIS and immediately implement software screening of complex customs entry data to assign scrutiny of highest risk entries.
- #103 Move to collect all international information in a consolidated system with appropriate analysis of risk.
- #130 Incorporate the analysis of epidemiologic information and resource management. Make appropriate training available to state and federal animal health officials for the purpose of animal health emergency response. Ensure that software and hardware resources meet program needs, and are compatible with those used by the states. Maintain confidentiality of sensitive information.

Issue Group Findings: Currently the National Veterinary Services Laboratories diagnose foreign animal diseases in the U.S. The interface of its results database with the Generic Disease Database and the Emergency Response database is the subject of ongoing projects. In times of emergency disease response, state laboratories have been employed (recent examples include Virginia for the Low Path AI outbreak, and California for the Exotic Newcastle Disease outbreak). The inability of state laboratory and VS databases to interact in these cases resulted in wasted time and increased the risk of data loss (which in turn may misdirect response resources). The National Animal Health Laboratory Network (NAHLN) is intended to link many state laboratories for response and surveillance. Surveillance on medium-risk samples would require real-time data transfer to allow the appropriate response. Other laboratory networks and authorities (public health, food safety) may also need access to the data. At the national level, the creation of a National Animal Health Laboratory Network in support of a new National Biosurveillance Integration and Analysis Group (NBSIAG) coordinated by the Department of Homeland Security has been proposed. The need to integrate with external systems not only complicates and expands the development of technology, but also adds impetus/justification and possibly resources to the project. Eventual expansion of the laboratory network may include endemic disease surveillance and inclusion of data from approved laboratories. Lack of resources, differences in business practices by participating laboratories, and confidentiality of data continue to be roadblocks.

Current Activities in support of the above mentioned needs:

- (1) The NAHLN IT Committee is engaged in activities which support the NAHLN IT system development. This system will initially be adopted for use by the NAHLN, which currently consists of 12 State Veterinary Diagnostic Laboratories and the NVSL. A Pilot NAHLN IT system was released as NAHLN v1.0 on March 5, 2004.
- (2) VS and AAVLD representatives are currently engaged in a variety of efforts to integrate national reporting systems for food safety (the FERN eLEXNET with FSIS and FDA) and human public health (the LRN with CDC). The National Veterinary Service Laboratory (NVSL) has also begun development of a Laboratory Information Management System (LIMS) Modernization Project that will not only be a comprehensive laboratory data processing system for NVSL but will also share data with the NAHLN system. Work is being done collaboratively with other state and federal labs concerning naming nomenclature, transfer of data via HL7 standards, use of SNOMED, LOINC, and other data standards for ease in sharing data throughout the many data systems in use within VS and other state, federal, and civilian labs.

Current constraints to sharing data:

VS not only collects information about its activities, but is also dependent on other government agencies' databases to accomplish its mission. Prior to 2002, APHIS PPQ, had developed relationships with Customs, Immigration and others. PPQ was able to utilize these data connections to obtain information. However, the Homeland Security Act of 2002 created the Department of Homeland Security, and the transitioned many of PPQ's AQI functions into DHS's Custom and Border Protection division. This transition has substantially reduced the ability of Veterinary Services to obtain information electronically from these other government agencies.

Besides information obtained through PPQ, VS has need for data from other federal and state agencies. Many times information that is needed by VS is either held as confidential by the other agency, is in a format that VS is not able to utilize, or is not received in the time frame necessary. The confidentiality issue has been heightened since implementation of the Homeland Security Act of 2002. Much of the needed information has been deemed critical information and is exempt from exchanging due to increased individual security clearances required by the Department of Homeland Security. The Memorandum of Understanding between USDA and DHS indicated that activities previously performed by PPQ for VS would be continued by the newly established DHS. However, this MOU with DHS did not address issues of information exchange.

Proposed Actions: A number of related activities currently under development or still in the planning stages would provide support for the integration of animal health related information systems. The related tasks identified in this Implementation Plan are listed after each activity:

- (1) Continue support for development of the NAHLN IT system. This is a long term project that will result in a reporting system for test results from a national laboratory network, initially for FADs and emerging diseases, but with the potential to be used for endemic animal diseases as well. (Task 1)
- (2) Support integration of the NAHLN reporting system with other existing information systems within APHIS, including the NVSL LIMS Modernization Project, the GDB (for surveillance activities), the EMRS (for emergency response activities), VSPS (for Animal Movement), and Animal ID. (Tasks 1 & 3).
- (3) Continue to initiate, cooperate and communicate with other agencies and groups that are interested in integrating various reporting and information systems, including the food safety and public health networks, the DHS, and wildlife and arbovirus networks. (Tasks 1 & 2)
- (4) Support the efforts by the NAHLN IT committee and others to establish and adopt standards for messaging (HL7), vocabulary (SNOMED) and test reporting (LOINC). These standards are intended to facilitate the integration of different information systems and to aid in ensuring data integrity. (Tasks 1, 2, 3, & 5)

Implementation Plan:

Tasks

1. VS needs to continue to encourage and support the development of the NAHLN and ensure that its IT infrastructure can support the standards and goals established for the NAHLN. This should include integrating other VS enterprise data systems with the NAHLN as well as with other agencies such as FSIS, FDA, and CDC.

Accountable Individual/Group NAHLN coordinator, NAHLN IT committee.

Other Key Players IT leaders for each of VS major applications, Representatives from FSIS, FDA, and CDC.

Resources Needed \$10 Million for NAHLN development and support for 3 years (maybe also included in the Lab systems issue group NAHLN action plan) and partially within the \$4.5M for the NVSL LIMS Mod Plan.

Statutory/Regulatory Impacts USDA may require that a Department approach be undertaken for laboratory information systems which might interfere with the VS' timeline toward completion of this task.

Political Sensitivities Agencies and state laboratories entering the NAHLN may have loyalty to their own systems and be unwilling to modify their system to adapt to NAHLN standards. MOUs may need to be in place to make data exchange possible with other agencies.

Sequencing None noted.

Timeline 2 to 3 years.

2. Develop VS capacity to be able to integrate with the National Bio-surveillance Integration System (NBIS).

Accountable Individual/Group Director of National Surveillance Unit

Other Key Players NAHLN coordinator, CEI, VS CIO, VS IT application programmers

Resources Needed \$500K.

Statutory/Regulatory Impacts None noted.

Political Sensitivities This initiative is part of the Homeland Security Presidential Directive...a High Priority item.

Sequencing None noted.

Timeline 6-12 months.

3. Standards need to be established for key data elements across all VS Data Systems. When appropriate these data standards need to reference nationally and/or internationally accepted data standards. VS should also establish a consistent format utilized when sharing data with other agencies and stake holders.

Accountable Individual/Group VS CEAH AIM will hire a contractor to aggregate current data definitions and formats utilized by major VS applications and recommend appropriate data standards and communication formats.

Other Key Players ITD AIM, VS CIO.

Resources Needed \$125K.

Statutory/Regulatory Impacts None noted.

Political Sensitivities USDA CIO has recommended a similar process across all USDA agencies. There is also a request from USAHA to accomplish this task during FY2005

Sequencing Related to task five in this action plan.

Timeline 6 months.

4. VS needs to engage in the USDA DHS working groups that presently are addressing access to the customs data. In order to do so, VS will need to establish the appropriate security clearances for personnel involved in that activity and establish other protocols for accessing that data (telecommunications, secure locations, etc).

Accountable Individual/Group NCIE

Other Key Players PPQ Veterinary Medical Officers, Risk Analysis staff, Regional import export coordinators.

Resources Needed Funding associated with security clearances \$90,000 (est.) for border/port VS representatives.

Statutory/Regulatory Impacts Will require at least a new MOU with DHS for critical data transfer.

Political Sensitivities DHS has sensitivity as to how and who has access to their information,

Sequencing None noted.

Timeline Start this as soon as VSMT approves the action plan.

5. Appoint an individual to identify International and National data standard setting organizations such as Federal Health Architecture, National Institute of Standards and Technology, etc. For each of those organizations identify if APHIS is participating and if so who. For those in which APHIS is not participating, make a recommendation on whether APHIS should participate.

Accountable Individual/Group VSMT Nominee

Other Key Players The NAHLN Coordinator, VS CIO, APHIS ITD AIM

Resources Needed Task one individual to do this full time for 3 months.

Statutory/Regulatory Impacts None noted.

Political Sensitivities None identified.

Sequencing Related to task three in this action plan.

Timeline 3 months after appointment of individual.

Partnering/Cooperation/Communication: Implementation of this action plan would enable all Laboratories and other VS groups to analyze data “real time” thus enabling a quick and efficient response to outbreaks, false positive occurrences, etc. This would further allow for assurances to our trading partners that an area is free of disease and therefore, safe to do business with.

Expected Outcome and Performance Indicators: Implementation of this action would bring gains in efficiency and effectiveness in the varied safeguarding operations integral to the overall mission of protecting US agriculture. Improved detection and response would be the primary indicator of success. The quick dissemination of information would also be a great advantage toward safeguarding of animal health and the recognition of the leadership role that USDA APHIS VS has for this critical infrastructure area.

Linkage to the VS Strategic Plan: The proposed actions in support of the NAHLN IT system and integration with other systems will support all of the Goals identified in the VS Strategic Plan:

1. *Goal 1: Protect the United States from the occurrence of adverse animal health events.*

Objective 1.3: Improve readiness to respond to disease incursions.

2. *Goal 2: Monitor the health and productivity of our nation's animal populations and monitor the health-related attributes of animal products and veterinary biologics.*

Objective 2.1: Rapidly detect and evaluate foreign and emerging animal diseases including those with public health/food safety implications.

3. *Goal 3: Enhance the health status of our nation's animal populations by anticipating and responding to new or emerging threats and managing, controlling, or eradicating those already identified.*

Objective 3.1: Respond effectively to adverse animal health events and continue to improve the national animal health emergency response capabilities.

Objective 3.2: Ensure nationwide availability of adequate laboratory capacity to support animal disease investigations and control and eradication programs.

4. *Goal 4: Expand the domestic and international marketability of our nation's animals, animal products, and veterinary biologics.*

Objective 4.4: Improve diagnostic testing associated with the marketing of animals and animal products.

4. *Goal 5: Create a highly effective animal health organization.*

Objective 5.3: Utilize information technology effectively.