Secretary's Advisory Committee on Animal Health
Report with Recommendations

Foot and Mouth Disease Preparedness

Recommendation #1: The Committee supports the procurement of a fully functional FMD antigen vaccine bank but does not support the use of private or matching funds for procuring the FMD vaccine bank. While an uncontrolled FMD outbreak would be devastating to producers, the impacts would be felt across the entire U.S. economy. The vaccine bank is a public good and it should be paid for by public funds.

Background

Drs. John Zack and Jim Roth reported to the Committee that:

- 1,000,000 swine are in transit daily in the United States with 400,000 to 500,000 destined for slaughter.
- An additional 400,000 cattle are also in transit per day, with an unknown number of susceptible livestock (sheep, goats, and others) being exhibited or sold at markets or fairs.
- U.S. beef, dairy, and pork exports have grown dramatically in the past decade with beef valued at $6.2 billion, dairy at $6.7 billion, and pork at $6 billion.
- An outbreak of FMD in the U.S. would undoubtedly put an immediate halt to most interstate livestock movement and export markets would immediately react in an unfavorable manner. A study published by Oladosu, Rose, and Lee in 2013 estimated the economic impact of an FMD outbreak linked to an act of bioterrorism to be $37- 228 billion.

Drs. Zack and Roth further related that, in all likelihood, a widespread or catastrophic FMD outbreak would necessitate the use of FMD vaccination, either through a stamping-out strategy (modified with emergency vaccination) or a vaccinate-to-live strategy without stamping out. Our current vaccine antigen capability is 25 million doses for 10 strains (2.5 million doses per strain). In order for the U.S. to be able to respond quickly and effectively to an FMD incursion and to protect the $100 billion a year animal industry, Dr. Roth recommends the procurement of 31 million doses of each of the 17 FMD strains deemed to be highest risk to the U.S. (or approximately 530 million doses).

To provide the Committee a concrete scenario, Dr. Zack used the swine and cattle populations of Iowa and Texas as examples. Iowa's swine population is around 19 million animals. The current capacity of the North American Foot and Mouth Disease Vaccine Bank (NAFMDVB) would only enable us to vaccinate 2.5 million (13%) of those animals. With a Texas cattle population of 10.9 million, current NAFMDVB capacity would allow the immediate vaccination of only 22% of those animals.

Dr. Roth estimates that expanding the country's FMD vaccine capability to full capacity would cost approximately $150 million per year for five years and $70 million per year to maintain.

The Committee discussed the pros and cons of voluntary and non-voluntary check-offs as well as the possibility of user fees to partially fund the project. The Committee opposed all of these approaches and favors Congressional and/or Department action to fund this project.

Recommendation #2: The Department asked the Committee to consider whether or not the USDA should contract for the procurement of a fully functional FMD vaccine bank. The Committee favors this approach. The additional flexibility of a contract vaccine bank would allow it to be more functional and lower cost than owned and managed by USDA.
Recommendation #3: Committee members reiterated their support for all of the recommendations previously submitted to the Secretary in its March 2015 report.

Swine Enteric Corona Disease (SECD)

Background

The USDA issued a Federal order in April of 2014 that required reporting of all cases, while providing funding for diagnostics and biosecurity. The committee was given a summary of the program—including an overview of cases identified to date—and introduced to the reports issued by USDA on a weekly basis. USDA asked for input from the committee in three areas, and discussion points are summarized under each topic below:

1. Provide feedback on the value of the federal mandatory reporting requirements and the information that is shared with the stakeholders from the data collected.
    a. The State Animal Health Official is an important stakeholder and decision maker, and it is important that information flows back to the SAHO in real

time without having to have the labs and/or veterinarians report to both the state and federal authorities.

b. The goal of collecting and reporting this data should be to conduct epidemiological studies to assess spread of the virus and identify risk factors. It is uncertain if the information collected is being utilized for epidemiological purposes, and if not, why not.
c. Value of the data to help make pig movement decisions is minimal. While there is value in maintaining producer confidentiality, statewide reporting does not provide enough information.
d. The Herd Management plan, and the Disease Reporting Officer follow up, seem to be providing very little useful information while using resources.
e. Questions were raised on the value of collecting premises identification numbers if there was no traceback or monitoring of animal movements.

2. Provide feedback on the value of the USDA support of diagnostic testing for SECD.

    a. Requiring the premises identification number on diagnostic submission forms has the potential to provide real value if epidemiology studies are to be conducted.
    b. Concerns were raised that early in the outbreak NAHLN laboratories were running a variety of diagnostic tests providing inconsistent results from lab to lab. Examples of samples being split and sent to multiple labs, and receiving different results, were given.
    c. Funding for diagnostic testing was well received, allowed for more testing than would have been done otherwise. With the increased testing, it became easier to evaluate various strategies for attempting to clear a premises.
    d. Because there was such a large amount of testing, it encouraged the laboratories and APHIS to move to electronic messaging. Only a handful of laboratories are able to send messages electronically, and it has taken many months for them to be able to do so. However, it appears that getting messaging for SECD functioning may have made HPAI messaging easier to implement

3. Provide guidance on the future of the SECD control and the role of USDA in these efforts.

    a. The value of such a program should be in epidemiology, tracing disease, understanding risk, and determining if elimination is feasible. These goals

should be considered prior to the development of any mandatory reporting program to maximize the value.

b. The Rapid Response Teams should serve as a model for future emerging diseases. A standardized format should be developed for their investigations that allows evaluation of risks, traceback, situation analysis, and provides a basis for decision making. This would allow the potential for more real time traceback and epidemiology, rather than looking back retrospectively as is the case for SECD.
c. The concerns with EMRS were expressed, it is a one way flow of data into USDA and no routine data is provided back to states or other stakeholders. It is uncertain if/how EMRS would be utilized if an eradication program were developed.
d. Concerns were expressed over the ability of APHIS to deal with more than one disease at a time as demonstrated by HPAD and SECD. Additional concerns were raised that in an FAD situation that resources required for response (e.g., depopulation) may prevent adequate epidemiology to be done in the beginning of an outbreak.

The Committee recommends the following:

Recommendation 1: Improve the reporting mechanisms so that duplicate reporting to APHIS and SAHO are not required, streamline the disease reporting officer process, and clarify Federal reporting requirements for emerging diseases, such as SECD.

Recommendation 2: Encourage continued adoption of processes for electronic messaging between laboratories, including PIN and premises type, on laboratory submission reports.

Recommendation 3: NAHLN laboratories should deploy standard tests that perform consistently between laboratories. Testing protocols should be communicated across laboratories, and with stakeholders, so that results generated by any of the NAHLN laboratories can be considered equivalent to results from the other NAHLN laboratories.

Recommendation 4: Support the Federal-State-Industry PED Strategic Task-force. The committee supports the continuation of the task-force and supports the recommendations determined by these subject-matter experts. The task-force should determine the timeline for, and industry interests in, future plans for addressing SECD (control vs. eradication).

Recommendation 5: Support for APHIS to continue funding for SECD testing until the task-force determines goals (control vs. eradication). Encourage additional

epidemiological analysis of the information collected to date, and the ability to use that data in the case of potential control programs.

Recommendation 6: Consider if feral swine are potential reservoirs for SECD and determine what risk that may have for the domestic herd.

National List of Reportable Diseases

SACAH responds to the following requests from the Agency on the NLRD:

1. Provide feedback on the strengths, weaknesses, value, and feasibility:

Creation of a NLRAD could serve as a template to promote standardization between the states that often now each have a list unique to each state. The differences in each state's lists currently pose a problem for veterinarians, veterinary diagnostic laboratories, and others that serve livestock in multiple state jurisdictions and often results in non-compliance with existing requirements. The list would likely help address this issue even if the reporting is not made mandatory at the federal level. Making reporting mandatory federally does allow for analysis of trends that may reveal a foreign or emerging disease that might not be apparent when only viewed state by state. Recent events have added creditability to that potential benefit. Unless the system provides for active two-way communication between the states where the events are located and USDA allows for a single report to either the state or federal regulatory officials to meet both requirements, a second layer or reporting requirements will only make the current reporting maze worse.

2. Provide feedback on key issues such as diseases to include in the NLRAD (see list in concept paper), who should be required to report and to whom, what should be reported, timelines for reporting, triggers for reporting emerging diseases, and the process to determine the appropriate response to an emerging disease:

No specific feedback other than that already included elsewhere in this report in response to these questions after hearing the presentation and reviewing the concept paper.

3. Recommend actions USDA could take to promote acceptance and support among State and industry stakeholders:

The Committee recommends the following steps to be taken prior to rulemaking for NLRAD:

- **Recommendation 1:** The Committee recommends USDA establish a process, possibly forming a taskforce, to develop guidelines and/or criteria for maintaining confidentiality of producer-specific information, analyze in depth potential trade and other impacts from release of reported information, and specify more clearly persons within federal and state regulatory agencies that will be authorized to receive the reports from all sources.
- **Recommendation 2:** The Committee recommends USDA specify the process through which diseases and/or conditions are to be added to the list and also through which they can be removed from the list. USDA should also specify the response strategy for each disease listed including if they are actionable and what those actions may be.
- **Recommendation 3:** The Committee encourages USDA include provisions that allow accredited veterinarians, producers, veterinary diagnostic laboratories, and others to meet their obligations under the NLRAD through a single complete report to either state or federal animal health officials. USDA should commit to immediate completed reporting to the state animal health officials in the state the premises is located.

Notifiable Avian Influenza

VS did not pose any specific questions to SACAH on AI. The Committee, however, chose to offer the following recommendations outlined below.

- **Recommendation 1:** Provide veterinary and operational support using APHIS and NAHERC personnel to fully address all needs during the current and future NAI outbreaks.
- **Recommendation 2:** Provide adequate financial support for all NAI outbreaks.
- **Recommendation 3:** Provide financial and personnel support and work cooperatively with state and federal wildlife management agencies for expanded NAI surveillance of wild birds.
- **Recommendation 4:** Provide financial and personnel support for research in NAI epidemiology, biosecurity interventions and effective vaccination strategies to mitigate disease introduction and spread.

Bovine Tuberculosis

Mexico and Molecular Epidemiology

General Discussion of Committee

In general, there is support for continued advancement of projects and technologies that help illuminate introduction pathways so that actions can be taken to better mitigate the impacts of bovine tuberculosis. There was support for continued advancement and funding for whole genome sequencing and analysis. There was support to continue to develop a genome database that includes isolates from the U.S. and epidemiologically linked countries like Mexico. These isolates should include human cases as well as bovine cases and should be sequenced or otherwise characterized using one method in order to enhance analysis. NVSL was supported as the best entity to be vested with this responsibility. The committee recognized that many suspected human cases do not get adequately cultured and that those that are, go to CDC. However, the State Departments of Public Health may control whether the isolate may be shared outside of CDC. There was general consensus that efforts to work directly with State and Federal human health agencies to stimulate collaboration should be elevated. It was suggested that offering value added information back to public health officials may stimulate continuing cooperation.

The Committee recommends the following:

- **Recommendation 1:** Explore enhance utilization of the Mexico-United States Binational Committee to support tuberculosis eradication efforts.
- **Recommendation 2:** Continue supporting the collection of animal isolates to improve and expand the USDA whole genome M. bovis sequencing database.
- **Recommendation 3:** Work collaboratively with Mexico to encourage additional collection and sharing of isolates, particularly dairy bovine and human cases.
- **Recommendation 4:** Continue the monitoring of TB strains from humans- shared agriculture and public health impacts.
- **Recommendation 5:** USDA should work with the National Assembly of Animal Health Officials to better engage State Public Health Officials, and should work collaboratively with the Association of State and Territorial Health Officials and Public Health Officials, and potentially with The National Association of County and City Health Officers to enhance understanding and support for collaborative surveillance.

Antimicrobial Resistance Subcommittee

Question #1: Feedback on USDA's activities that address Antimicrobial Resistance (AMR) and on areas of Departmental investment in infrastructure.

a. The committee supports the FY 2016 budget request of $57 million.
b. An AMR Stakeholder Advisory Group needs to be formed. This will allow vital input and industry involvement in decisions, programs and implementation of ideas.

Questions #2 and #3: Identify how USDA could best collaborate with industry and other private sector interest to supplement and sustain these activities, and actions USDA could take to promote acceptance.

a. Hold public meetings with producers during initial program implementation in order to gain producer buy-in to the voluntary program, making sure these meetings are in locations where maximum producer turnout is possible. Stakeholder engagement can be further enhanced by utilizing commodity groups to help educate producers on the options. Consider the use of demonstration farms that will describe how the data is collected and most importantly, how the data is analyzed.
b. At this point, there does not appear to be any clear definition of endpoints and the Department should clarify these by collaboration with producers in their development.
c. Consider the health status and welfare implications to livestock and poultry as the era of reduced antibiotic use is phased in. Producer outreach and education will be needed.
d. The Department will need to be actively involved in providing possible funding and soliciting proposals for research on the implications of reduced antibiotic use.
e. Protection of personal information of producers will be the key to cooperation and attainment of results.