Creating a Common Vision for a National Animal Health Surveillance System:

Results of an internal survey to assess Veterinary Services staff perceptions regarding the development of an integrated and coordinated national animal health surveillance system

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Report by National Surveillance Unit staff

Introduction

The purpose of this survey was to gather input from a broad range of VS staff regarding the development of a national animal health surveillance system. As articulated by the Safeguarding Surveillance Issue Group, this collective message will be tested and modified repeatedly as the system evolves; however, the intent of this survey was to ensure that many voices within Veterinary Services were included in the initial stage of crafting a common vision of surveillance. The survey focused on these fundamental questions:

- What is a National Surveillance System?
- What should it look like?
- What should it do?
- How do we get there?

The questions in this survey were designed to capture more detailed information about how professionals within VS perceive the purpose, function and goals of a national animal health surveillance system.

Methods

The survey instrument was developed and administered by the National Surveillance Unit staff. A total of 20 units within VS were selected to participate. Invitations to participate were sent via e-mail on July 6, 2004, which also included instructions and a live link to the Web-based survey. Participants were asked to complete the survey no later than July 30, although the deadline was extended until August 6, 2004. Of the 20 units who were asked to respond to the survey, eight completed the survey. This survey was not designed to provide results for statistical analysis.

Summary

The purpose of this survey was to stimulate discussion among VS units on surveillance and the requirements for building a national system for animal health surveillance, and subsequently capture the ideas generated into a common vision for animal health surveillance within Veterinary Services. Response frequencies for questions and individual unit comments are provided in Appendix A. Several comments from respondents illustrated the difficulties they experienced in interpreting the questions and as a result, providing answers.

Common themes were evident in the comments from responding units. For example, when the question “What interpretation of ‘comprehensive’ should be included in terms of a comprehensive surveillance system?” was asked, multiple comments reflected the need for inclusion of wildlife populations. Other commonalities included the necessity for prioritization of efforts, the acquisition of the most current data and the incorporation of cost/benefit analyses in the process.

In response to the question “What interpretation of ‘integrated’ should be included in terms of an integrated surveillance system?” many respondents emphasized the need to include State partners in these efforts. A ‘user friendly’ database for VS and State use for the collection of surveillance data was suggested by more than one respondent.

The comments from the question “What interpretation of ‘flexible and efficient’ should be included in terms of a flexible and efficient surveillance system?” frequently requested the development of well-defined standards for the collection, storage and analysis of surveillance data. Data validation and restriction of database flexibility were also important issues with the respondents.

An additional concern for multiple respondents is the possibility that CEAH will take over surveillance efforts and work in isolation. Another unit suggested that unreasonable goals and lack of prioritization would hamper the effort to create a national animal health surveillance system and, therefore, result in a lack of early successes, which would be required to sustain the effort.

Conclusion

One important recommendation of the Animal Health Safeguarding Review was to develop a unified vision based on a collective approach. Our efforts to create a comprehensive, coordinated, and integrated national animal health surveillance system by incorporating the voices and opinions of VS employees reflect this request.

Appendix A. Summary of responses to the National Animal Health Surveillance System Internal Survey that was administered in July 2004. The questions and associated text are shown as they appeared in the actual questionnaire. Comments are exactly as received.

What is a National Animal Health Surveillance System?

At this early stage, it is important that a common perspective regarding the shape and function of the National Animal Health Surveillance System is shared by all professionals who will be working with the system, either directly or indirectly.

The National Surveillance System Issue Group created a working definition of such a system:

> "The National Animal Health Surveillance System is a comprehensive, integrated, coordinated system detecting animal health related events and trends for use by all stakeholders involved in public, animal, and environmental health. The system provides a dynamic knowledge base for actions designed to reduce morbidity, mortality, and economic losses while improving animal health, productivity, marketability, and product safety."

The following questions are intended to capture more detailed information about how these key characteristics are interpreted by professionals within Veterinary Services.

What is a <u>comprehensive</u> National Animal Health Surveillance System?

1. The following statements may be used to describe '*<u>comprehensive</u>*' and may help stimulate discussion of what this term means to you. How well do these describe your unit's perceptions of 'a *<u>comprehensive</u>* National Animal Health Surveillance System'? *

		1 = a poor description, 5 = a good description, and ? = unclear					
		1	2	3	4	5	?
a.	Includes collecting animal health information as well as rapid detection, control, and eradication of disease	13%	13%	13%	13%	38%	13%
b.	Covers collection of surveillance data in all livestock and poultry	0%	0%	0%	50%	38%	13%
c.	Includes all diseases and addresses multiple components of the disease process	0%	0%	38%	38%	13%	13%
d.	Has value for non-disease animal health issues (e.g. toxins, management)	0%	13%	63%	25%	0%	0%
e.	Measures various outcomes including disease, exposure, hazards	0%	0%	38%	63%	0%	0%

(continued)

		1 indicates a poor description, 5 is a good description, and ? is unclear					
		1	2	3	4	5	?
f.	Includes surveillance of animal health and food safety	0%	13%	50%	13%	13%	0%
g.	Addresses all high priority needs related to animal health issues	0%	0%	25%	50%	25%	0%
h.	Covers many different objectives and applications related to animal health issues	0%	0%	50%	25%	25%	0%
i.	Uses a broad array of existing systems to collect data on multiple health events/diseases and continually seeks new data sources	0%	0%	0%	25%	75%	0%
j.	Uses many approaches	0%	0%	0%	50%	50%	0%
k.	Makes use of various surveillance collection points throughout the production chain	0%	0%	0%	50%	50%	0%
l.	Minimizes information gaps	0%	0%	13%	75%	13%	0%
m.	Overarching: includes national and international dimensions of animal health issues	0%	0%	38%	38%	25%	0%

*n=8 survey responses, total of percentages may not equal 100 due to rounding

2. What other interpretations of *'comprehensive'* should be included in terms of a 'comprehensive National Animal Health Surveillance System'?

Group A: (no response)

Group B: (1a) We had much discussion about whether control and eradication is a part of the surveillance system. The consensus was that there needs to be a firm commitment from management that surveillance information will be utilized for taking action. That action, however, is not the responsibility of the surveillance system.

(1b, 1c) We would rate both (1b) and (1c) as 5s if "all" was changed in each phrase to "any." We found some of the remaining questions (1g and 1h) to be very vague and hard to rate. Additional interpretation of comprehensive: "covers wildlife"; "Covers environmental/ecology and its relation to the disease cycle"; "Meets accepted criteria for surveillance systems: simplicity, flexibility, data quality, acceptability, sensitivity, positive predictive value, representativeness, timeliness, stability."

Group C: Objective. Multiple data sources. Systematic collection, interpretation, and reporting of data and action plans. Prioritized. Covers all animals and groups.

Group D.: Ensure the procurement of the most current data. Provide a list of diseases it will cover. Integrate (somehow) with human surveillance data to assess for emerging diseases. Should include small animal, zoo and wildlife disease data. Define how the data will be analyzed and reported to fulfill the above statements.

Group E: Power to detect low-level prevalence disease of concern.

Group F: Description covers comprehensive fairly well.

Group G: (1a) Issues with the control and eradication parts of this one. Whole sentence is poorly constructed, so hard to figure out what they mean—does "rapid detection" refer to bioterrorism or early warning?

(1b) Issues with "all" but also ranked as one of the best descriptors. What about wildlife, pocket pets, etc., that are important for animal health?

(1c) Also ranked as a best descriptor though considered very difficult to do. Must be flexible self-warning system with potential to expand. "All diseases" is great but not realistic. Should convey some prioritization process

(1d) We think the problem may be that they are mixing bioterrorism into this so it ends up confusing and not well thought out. Toxicity IS a disease condition just like metabolic diseases

(1e) The Epis could not resist commenting that "exposure" and "hazard" are not outcomes. "Exposure hazards," why not just say "risk factors and causes?" And keep the risk assessment terminology out but replace with standard epi terminology.

(1f) If purpose is for VS, then focus should be on VS-related diseases *(does this include minimal protection for food safety? It should, but doesn't*) Regardless, system should be set up to integrate with food safety, public health, etc. (*What about public health?*).

(1g) ALL HIGH PRIORITY NEEDS, but WHO determines this? Which group of stakeholders/agencies?

(1h) What does this mean? How is this different from a, b, c, d, e, f, g, and m???

(1i) But architecture must be developed in a place to capture data from existing systems/data warehousing notion

(1j) Again, what do they mean by this? The only unanimous one in this set, though certainly difficult to accomplish, also considered the best descriptor.

(1k) Production chain—again doesn't fit wildlife, etc.

(1l) Info gaps? What do they mean? I think what the working group is after is the notion of a global surveillance system which covers ALL species that VS works with (not necessarily regulates, e.g., wildlife) and contains info about diseases, risk factors, causes, production, reproduction, management to the extent possible/feasible, that has the capability to integrate with—but not necessarily duplicate—data/surveillance systems of other agencies (like FSIS, FDA, Public Health agencies), but focuses on VS program disease plus others as determined by VS. Bioterrorism as component can/should be considered but must be done separately, determine objectives, etc., first, and then think how to integrate into NAHSS.

(1m) This ranked high for half the group, but also resulted in "?" in half the group. Perhaps not a good indicator word for "comprehensive" but certainly required for "integrated." Don't use to duplicate or replace other agencies' efforts, but use to be aware of what is in existence. Prevention of introduction of FAD surveillance is the key word; we aren't treating disease, we are only identifying occurrence of disease. Cost-benefit analysis of various surveillance methods for intended purpose: control, eradication, interdiction, assurance of "0" prevalence.

The problem in ranking these statements is that 1) the statements were not clearly/well-written, so 2) we had to guess at what the working group meant, and 3) ranking was based on the quality of the written statement rather than on a concept of what surveillance should be. The section on "comprehensive" was the worst. What is comprehensive NAHSS? Most (all?) of these statements should be rewritten. They are clear only to the working group, not to others; confusing; use standard epi terminology, separate out bioterrorism from animal health, don't mix together but have separate objectives for them since system will vary based on differing needs for surveillance.

Group H: Address gaps of current voluntary systems – VS program diseases in U.S. – Captures info on animal health of as many of U.S. population as possible including production livestock, zoological, and exhibition animals and wildlife – Using a diverse set of tools to detect health conditions of interest in all livestock species.

What is an integrated National Animal Health Surveillance System?

3. The following statements may be used to describe '*integrated*' and may help stimulate discussion of what this term means to you. How well do these describe your unit's perceptions of 'an *integrated* National Animal Health Surveillance System'?

		1 indicates a poor description, 5 is a good description, and ? is unclear					
		1	2	3	4	5	?
a.	Includes all individuals and agencies involved in food safety and animal health	0%	0%	50%	13%	38%	0%
b.	System processes and information are available to all who contribute data	0%	0%	13%	50%	25%	0%
c.	A central unit assembles and distributes animal health information to diverse and disseminated components for analysis	0%	13%	25%	13%	38%	0%
d.	Consolidates all groups into an efficient and coordinated team and systematizes methods	**these data not captured due to a form error*					
e.	Uses existing and new systems to collect data on multiple animal health events	0%	0%	0%	63%	38%	0%
f.	Combines data from multiple sources (existing, new, short and long term) that can be combined and analyzed together	0%	0%	0%	63%	38%	0%

(continued)

		1 indicates a poor description, 5 is a good description, and ? is unclear					
		1	2	3	4	5	?
g.	Considers context in which info / data gathered	0%	0%	13%	75%	13%	0%
h.	Includes databases that communicate with each other and allow for data flow	0%	0%	0%	50%	50%	0%
i.	Provides information that is useful to multiple customers	0%	0%	13%	25%	63%	0%

*n=8 survey responses, total of percentages may not equal 100 due to rounding

4. What other interpretations of 'integrated' should be included in terms of an 'integrated National Animal Health Surveillance System'?

Group A: (no response)

Group B: Had comments on specific questions:

(3a) Did not like the use of the word "all." Rating of 3 focuses on the food safety part of the phrase. Hard to answer this question since it was asking about two potentially mutually exclusive things.

(3b) Need to know what type of information is available to all—is it just summary data, raw data, etc.?

(3c) We felt that having a central unit was a 5 but again, the way the statement is phrased, it includes too many activities.

(3d) The scale is missing.

(3f) Poorly phrased statement "combines" data that can be "combined." Other interpretation of integrated: includes qualitative data; addresses validation, assessment of data quality; includes standardization.

Group C: Include public health. People recognize their contributions to "whole" are important. Useful information flow among all involved groups. Elimination of barriers/turf. Flexibility of the parts required in order to integrate.

Group D: Integration must be across agency, Federal and State lines.

Group E: (no response)

Group F: (no response)

Group G: See comments under comprehensive f above.

(3b) But design needs to be made regarding what form? Raw data? Summary reports? Issue is use vs. users. The two don't always match in objectives, needs, capabilities, etc.

(3c) Components? Poor choice of words. Also, if CEAH, this could be a problem.

(3f) Lousy wording, good concept again, architecture should be in place to do this, especially for key databases (how combining?).

(3g) Important for any surveillance clearinghouse data warehouse system.

(3h) Same comments as f architecture needs to be developed; in addition, any NEW databases should be developed so that they are compatible with SS statement as written is too limiting. Need to start with a multi-agency commitment to share data? This includes VS sharing our data with other agencies too. Need a "user friendly" database that USDA and State agencies can use to have "integrated" surveillance. Surveillance in multiple areas tunneling info to one collection point. Strive for efficient, coordinated, and with systemized methods (SOPs), but not consolidated. Outreach should share and back methodologies so projects span industry and government and academic. Regarding the issue of "extent" of AHSS: need to determine whether focus is on AH or beyond. If beyond AH, public health should be stopping point, not food safety which is only one small aspect. If only food safety, then need to specify Animal Production food safety and limit it this way.

Group H: Collects and compiles local information for areas and national-level use and provides information back to local users. Must have usable databases for user-friendly reports and analysis. Tie in with NAHLN and National ID. Optimizing the diverse set of tools to minimize duplication and consolidating results.

What is a <u>flexible and efficient</u> National Animal Health Surveillance System?

5. The following statements may be used to describe '*<u>flexible and efficient</u>*' and may help stimulate discussion of what this term means to you. How well do these describe your unit's perceptions of 'a *<u>flexible and efficient</u>* National Animal Health Surveillance System'?

		1 indicates a poor description, 5 is a good description, and ? is unclear					
		1	2	3	4	5	?
a.	Ability to anticipate needs and adapt to changing conditions and priorities	0%	0%	0%	13%	88%	0%
b.	Ability to respond quickly to needs (timely)	0%	0%	0%	0%	100%	0%
c.	Responsive to stakeholders (timely)	0%	0%	13%	13%	75%	0%
d.	Can efficiently accommodate emerging diseases and issues	0%	0%	13%	25%	63%	0%
e.	Considers economics and is cost effective	0%	0%	25%	50%	13%	13%

(continued)

		1 indicates a poor description, 5 is a good description, and ? is unclear					
		1	2	3	4	5	?
f.	Includes regular self-assessment	0%	0%	0%	50%	50%	0%
g.	Provides for efficient transfer of information and integration of data sources	0%	0%	0%	38%	63%	0%
h.	Incorporates new diagnostic technologies	0%	0%	0%	50%	50%	0%
i.	Limited overlap among components; eliminates redundant data collection	0%	13%	38%	25%	25%	0%
j.	Maximizes information collected	0%	13%	13%	25%	25%	25%
k.	Not restricted to one method or team	0%	13%	0%	25%	63%	0%
l.	System should be the simplest one that achieves the desired outcome	0%	0%	0%	50%	50%	0%

*n=8 survey responses, total of percentages may not equal 100 due to rounding

6. What other interpretations of *'flexible and efficient'* should be included in terms of a '*flexible and efficient* National Animal Health Surveillance System'?

Group A: (no response)

Group B: General comment: Flexible and efficient can be conflicting goals.

(5e) Would rate this statement a 5 if changed to be "Considers economics and cost effectiveness.

(5j) Would rate this statement a 5 if it was changed to read "maximizes the use of information collected." As currently phrased it could be interpreted to mean maximizing the volume of information collected. Other interpretations of flexible and efficient: should include external assessment not just self-assessment; should incorporate many different new technologies (handhelds, etc.) not just new diagnostic technologies. Care should be taken to that flexibility does not go too far. Structure is needed for databases to maintain standards; allowing too much flexibility in databases can be detrimental to the system as a whole. Be careful that (5b) responding quickly to needs doesn't mean that the system becomes purely reactive. Time needs to be allotted to longer term needs.

Group C: Allows for program evaluation.

Group D: Should meet the needs to the various stakeholders. Information can be gleaned/obtained in many variations and cross section.

Group E: Overall, being effective is far more important than being efficient.

Group F: (no response)

Group G: ECONOMICS? Wrong use of the word. Do they mean that supply, demand, profit, revenue, and cost needs to be in AHSS?

(5d) There is a higher price for this.

(5f) Should include strategic planning as well.

(5h) Important to have overlap in time period when new diagnostic technology is adapted to old and new technologies effect on surveillance can be evaluated.

(5i) Needs defined standards (from top) and integration from the ground up.

(5j) Poor wording: do they mean can accommodate new sources? Or make most of info/data collected (i.e., methods)? Or collect the most amount of data?

(5k) But if CEAH, then not likely to happen. a, b, d, h considered best.

(5l) lots of question marks on this one.

Flexibility: Involve stakeholders throughout process. Efficiency: Once a decision is reached be able to defend it to all stakeholders. Self-learning system with potential to expand and add new sources for data. Has an architecture that allows for pulling in data from various sources in various formats into one system. Needs to be user-friendly, accessible to many individuals, not just programmers/developers.

Group H: Ability to adapt for the various facilities and industries will help with acceptance (i.e., serology in one plant, tissue in another).

What does a National Animal Health Surveillance System DO?

7. How well do the following statements describe your unit's perceptions of what a National Animal Health Surveillance System should *do*??

		1 indicates a poor description, 5 is a good description, and ? is unclear					
		1	2	3	4	5	?
a.	Detects, describes, monitors trends, and forecasts	0%	0%	0%	25%	75%	0%
b.	Acts as an early warning system	0%	0%	13%	25%	63%	0%
c.	Provides a systematic means of observing animal populations throughout the US	0%	0%	13%	25%	63%	0%
d.	Provides clear understanding of animal disease status	0%	0%	25%	13%	63%	0%
e.	Rapid detection mechanism for animal disease agents and emerging issues	0%	0%	13%	13%	75%	0%

(continued)

		1 indicates a poor description, 5 is a good description, and ? is unclear					
		1	2	3	4	5	?
f.	Monitors and provides actionable information for endemic diseases	0%	0%	13%	63%	25%	0%
g.	Measures regional prevalence of trade-specific diseases	0%	0%	0%	75%	25%	0%
h.	Works with international counterparts to monitor and assess global animal health	0%	0%	38%	50%	13%	0%

*n=8 survey responses, total of percentages may not equal 100 due to rounding

8. From this unit's perspective, what should a National Animal Health Surveillance System *do*?

Group A: Establish points to collect meaningful data regarding animal health and food safety and intentional introduction of terror threats. Periodically review, summarize, and analyze these data. Report findings to stakeholders. Forecast warnings and trends based on the analysis.

Group B: Produces actionable information for all diseases covered not just endemic diseases. Integrates with operations (actions are taken as a result of the surveillance information). Defines purpose and objectives, establishes case definitions, establishes legal authorities, describes each component (what is the population under surveillance), establishes confidentiality, determines resources needed, determines training needed

Group C: Rationalize existing surveillance systems. Not confined to endemic diseases. One-stop for animal health surveillance information.

Group D: Provide up-to-date disease information on diseases of concern, coupled with information to put surveillance data in context. Incorporate data collected on animal health for both domestic and exotic disease concerns and makes them available for analysis. Provide current prevalence of agents of concern in a given population of animal. Provide for trends analysis for issues of concern. Provide for rapid detection of agents not found in the U.S. Provide accurate and timely disease information regarding the health status of the nation's livestock.

Group E: Detect disease with sufficient power to meet agency goals and objectives. Keep it simple.

Group F: Basically, cover all animals and provide overall appraisals of animal health at any given time. Be responsive and easy to use.

Group G: First identify all existing sources of arrival (source human); health data; which are available, format; accessibility, attributes of each system to meet our needs; ID what is missing. Incorporate data and information from states and other federal agencies to monitor animal health. First priority: Answer the question: where is disease occurring? Second: How does incidence relate to exposure factors? Explore new methods, create opportunities to integrate by being inclusive, help with GDB integration issues. Purpose, focus, help with NVSL/NAHLN integration issues and data collection from that system. Serves as a clearinghouse of data related to animal health, includes active surveillance programs, monitoring (passive), surveillance programs, etc.

Provides data to allow evaluation of disease programs. Serves as 'early warning'/detection systems.

(8d) Animal disease status-free vs. not free, known vs. unknown? Important so this should be classified. This is actually a benefit of a NAHSS (trade related).

(8e) Rapid detection? What does this mean? Bioterrorism? Use as sampling frame for rapid disease (or change production/reproduction).

Group H: Integrate surveillance which supports disease control and eradication programs with surveillance to detect introduced, foreign, or emerging diseases. Identify surveillance/knowledge gaps and work with partners to fill. Partner with those outside of APHIS to share data (value all partners: credit, acknowledgement, sensitivity to concerns and two-way flow of info. Provide ongoing monitoring and ensure rapid detection of emerging foreign diseases; easily adapt to program diseases. Minimize impact on current resources. Monitor national herd for program diseases and FAD. Identify source of animal disease data inside and outside APHIS.

Who collects, manages, analyzes, and distributes national animal health surveillance information?

It is important to collect a variety of opinions about the roles undertaken by different professionals in collecting, managing, analyzing, and distributing animal health information. From the perspective of your unit, which are the key positions involved in these processes? Please use position titles (e.g., veterinarians, VMO's, livestock inspectors) or facilities (e.g., labs, NVSL) rather than individual names.

9. Who collects animal health information? (in order of relevance to this unit)

Group A: surveillance programs – diagnostic labs – veterinarians – livestock producers – managers of livestock concentration points and markets.

Group B: We were very unsure what was meant by this question and how we were supposed to answer it.

Group C: Group brainstormed "who" and did not tackle order or discuss specifics of what each does. Field VMO, State Veterinarian, AVIC, AHT. Lab personnel. Private practitioners. Producers. Researchers (university). Slaughter plant workers. Livestock markets. NASS enumerators Industry groups. Pharmaceutical companies. Professional organizations. Other government agencies. Renderers. Foreign government agencies. International organizations. VS program staff.

Group D: FADD, EMRS, NVSL, FADDL, AVIC VMO CEAH, all VS employees could be involved in collecting. VMO, biologists, AHT, program specialists, students, labs, VMO (Federal, State, private), public health exotic vets.

Group E: Livestock inspectors, VMO's, AHT's, veterinarians, labs.

Group F: Local, State, Federal authorities. The state has many stakeholders involved with most major species.

Group G: This whole section is hared to answer because it asks 'Who does'. What is really important is 'who should', because we don't' think the 'who does' is always appropriate. (this comment was made by almost everyone) The order and type of person changed depending on the Epi's program area, so we have included them all. 1) VMO's; AHT's during program visits (additional collection?), slaughter plant employees, weight station; inspection?, veterinarians? 2) Companies, quarterly reports to Regional Office from cooperative agreements, monthly reports to NSVL (poultry Epi) 3) Veterinarians AHT's, VMO's 4) People in field examining animals (AHT, VMO). People on line in slaughter house (FSIS inspectors). Private practitioners. 5) NVSL, labs, private vets, FADDS, VMO's, FSIS inspectors, markets producers. 6) VMO's, State agencies? e.g., AH, Wildlife, PH, Labs.

Group H: NVSL and contract/approved labs, diagnostic labs, Regional Epis/managers, AVIC's, State labs, public health labs, wildlife disease organizations, wildlife vets/biologists, private practitioners and universities.

10. Who manages animal health information? (in order of relevance to this unit)

Group A: CEAH, AVIC, State Veterinarian, Area Epidemiology Officer, Director, Diagnostic Lab. Section VMO's, practicing vets, diagnosticians, private lab directors, producers.

Group B: We were very unclear what was meant by this question and how we were supposed to answer it. If you were wanting to know who manages information that we uses: CEI, CADIA, CNAHS.

Group C: (no response)

Group D: Lab systems, federal government, Sr. Staff vets, CEAH, EP and staff VMO, program specialists.

Group E: Area epidemiologists, Regional Epidemiologists, CEAH, NVSL, labs, program records units.

Group F: State Agriculture Department & the State Animal Health Committees.

Group G: Again, each Epi's response is included here: Often depends on the program and how it was established (industry, State or Federal initiative). 1) Depends on database and function. CEAH for overarching issues, Region for disease management. 2) National Agricultural Statistics Service (poultry) 3) Epi's and VMO's 4) Does-- CEAH, AREAS, State Should-- depends on State in collaboration with Areas/Region for some animal health info in collaboration with region/areas, CEAH 5) AVIC, AEO, REO, RD 6. Labs, NVSL, Area Offices, state office, CEAH, universities.

Group H: APHIS, State Ag Departments, diagnostic labs, veterinary schools, national/regional/state wildlife disease organizations, public health departments, universities, epidemiologists.

11. Who analyzes animal health information? (in order of relevance to this unit)

Group A: CEAH, AVIC, State Veterinarian, Area Epidemiology Officer, universities/researchers/statisticians.

Group B: We were very unsure what was meant by this question and how we were supposed to answer it. We analyze animal health information.

Group C: (no response)

Group D: VMO program specialists, students, Sr. staff vets, CEAH, EP staff, Federal HQ, CEAH, CDC.

Group E: Epidemiologists, Area, Regional, National.

Group F: The State Dept. of Ag & Committees.

Group G: Again, each Epi's response is included here: Often depends on the program and how it was established (industry, state or federal initiative. 1) Depends on database and function. CEAH Region 2) Epi's, Labs, VMO's 3) AEO, REO, CEAH 4) VMO's, state Epi's, area Epi's, Regional Epi's, CEAH 5) Does-- CEAH, Should-- Area/Regional Epi's in collaboration with CEAH 6) NASS.

Group H: -APHIS: Epi's (regional and area), staff, CEAH.

12. Who distributes animal health information? (in order of relevance to this unit)

Group A: CEAH, AVIC, State Veterinarian, Extension Veterinarians to clients.

Group B: We were very unsure what was meant by this question and how we were supposed to answer it.

Group C: (no response)

Group D: EMRS, CEAH, EP staff, VMO, program specialist, editors (all can distribute information).

Group E: Epidemiologists, VMO's, AHT's, program records units, labs.

Group F: State Dept. of Ag.

Group G: Again each Epi's response is included here. Often, depends on the program and how it was established (industry, state or federal initiative) 1) CEAH, Region 2) Epi's, VMO's 3) CEAH 4) VMO's/AHT's, Private vets, VMO's, Area Epi's, Regional Epi's, CEAH. 5) Don't know, but if this is CEAH, they are not going a good job because AH info is not getting distributed. Import worksheets (while nice review/update) are not AH info in the context of surveillance system. 6) NASS.

Group H: APHIS: National Staffs, CEAH, Regional and Area Offices; Extension Services, State Ag and wildlife departments, wildlife disease entities (National Wildlife health centers, SCWDS, etc.).

What capabilities will be needed to develop a National Animal Health Surveillance System?

13. The following statements may be used to describe the *capabilities* that may be required to establish a National Animal Health Surveillance System and may help stimulate discussion. From the perspective of this unit, how important are these *capabilities* to developing a National Animal Health Surveillance System?

		1 = not important, 5 = very important					
		1	2	3	4	5	?
a.	Common vision and shared commitment throughout Veterinary Services	0%	0%	0%	50%	50%	0%
b.	Firm top-level support	0%	0%	0%	25%	75%	0%
c.	Buy-in of partners	0%	0%	0%	38%	63%	0%
d.	Partner agreements	0%	0%	0%	63%	25%	13%
e.	Integrated internal communication	0%	0%	0%	38%	63%	0%
f.	Improved external communication	0%	0%	0%	38%	63%	0%
g.	PR and marketing plan	0%	0%	38%	50%	13%	0%
h.	Premises and animal ID systems	0%	0%	0%	13%	88%	0%
i.	Integrated databases	0%	0%	0%	13%	88%	0%
j.	Protection of private information	0%	0%	13%	63%	25%	0%
k.	Standardize methods	0%	0%	0%	25%	75%	0%
l.	Dedicated national resources	0%	0%	0%	13%	88%	0%
m.	Increased budget authority	0%	0%	0%	13%	75%	13%
n.	Legal authority to collect data and test samples	0%	0%	0%	13%	88%	0%
o.	Authority to prioritize	0%	0%	25%	38%	25%	13%
p.	Streamlined contracting authority	0%	13%	38%	38%	13%	0%
q.	Training and education	0%	0%	0%	50%	50%	0%
r.	Relevant applied research	0%	0%	13%	63%	25%	0%

*n=8 survey responses, total of percentages may not equal 100 due to rounding

14. What other *capabilities* should be considered to effectively establish a National Animal Health Surveillance System'?

Group A: (no response)

Group B: Comments on questions: (13d) Not sure what partner agreements meant. (13m) Think that increased budget is important, not sure what is meant by authority. (1o) Unclear what was being prioritized--methods, diseases. (13q) Unclear who the training and education were for. Other capabilities: Veterinary intelligence – ability to see how things are changing, develop indications/warnings. Reach out to consumers. Interdisciplinary skill set, ability to look at the bigger picture not just clinical picture (ecologists, population biologists). High-level database, data integration skills (there need to be folks steeped in the theory of database design. Trust of industry/partners. Distributed network of specialists, key players linking to the NSU (could be Area Epi's).

Group C: Standardization is a broad need; many specifics need to be included. Authority to set standards for quality of data that MUST be followed. Ability to balance State/producer privacy concerns with need for national information.

Group D: Redundancy of databases. Look at ways to perform surveillance with surrogate data that is still scientifically sound (see Mark Thurman's project with UC-Davis).

Group E: Keep it simple.

Group F: Good communication between all States and their agencies is required.

Group G: Very important. (1g) Targeted toward whom? Stakeholders? Who are the stakeholders? (1k) Depends on what working group means by 'methods' (1n) Is this VS issue or FSIS. (1o) Who does? What does this mean? What is being prioritized? Not clear. Would need a common vision and commitment from a multiagency, and not just within VS. Improving working relations with state animal health authorities. Knowledge diseases? What populations and risk factors influence surveillance. Integrated internal communication with FSIS & DHS & FDA? Two-way dataflow. Should be internally (VS) inclusive, not exclusive (e.g., CEAH) people power/human resources and disciplines from which these individuals come from. Needs to be multidiscipline, must have folks with field experience, disease expertise, livestock management, wildlife, etc.

Group H: External communication must be improved. We can't be a black hole where data come in but don't go back out. Review current systems, add new surveillance (design), National surveillance report (output). Must have useable IT interfaces. Must increase or redirect resources (requires saying 'no' to some current activities).

15. What should be the *top priorities* for establishing a National Animal Health Surveillance System?

Group A: Develop a generalized outline and seek buy-in from stakeholders. Develop each component of the outlines specifically. Test the system. Redesign. Develop methods to integrate and analyze the information and to share meaningful reports on a timely basis.

Group B: Field operations buy-in, this is needed to ensure high quality work on the part of field collectors, people need to see how their part fits into the bigger system. Achieving some early

results, feedback to stakeholders of successes. Resources. Ability to prioritize, create clear objectives.

Group C: Set prioritized goals. Specific, achievable objectives. 1) Commitment—long-term. A. from "top" down and "bottom" up. B. active promotion by leaders. 2) Money. 3) Personnel.

Group D: Focus on developing policies and techniques to survey the National herd/flock so that we could estimate the prevalence of diseases of concern with sufficient confidence so we have baseline normals and can sell our product to more U.S. trading partners. Data validation! Flexible reports, in context.

Group E: Disease control and eradication monitoring for FADs and emerging FADs and emerging diseases. Integrated data bases.

Group F: The National Data Base of premises and animal I.D. is a good place to start; education is vital.

Group G: Work with others (CDC, FSIS, OIE, States, local, military) to develop a common database (not just to technical issues, but also ideological, security/confidentiality issues will be hurdles). Animal ID program and development of a better (user-friendly) database. Animal ID, common vision, funding. Educate and commitment of VS at all levels. Educate and commitment of State government. Involve academic experts in systematizing approach to nail down consistency. Integrate with other pertinent units at CEAH and Staff. Question not clear-- Top priorities in terms of disease or in terms of capabilities? If disease-- program areas at the minimum. If capabilities-- Then line item appropriations/big bucks is top, then USDA APHIS VS communication needs to be enhanced – next priority.

Group H: Monitor existing diseases, detect new and emerging diseases, utilize existing surveillance frameworks, and build partnerships. Annual report of what was done, what next year's strategy is, and longer term. Keep scope to program diseases and FAD in U.S. Establish where it fits on the agency's priority list, and allocate resources to accomplish.

Given your unit's ideas about what a National Animal Health Surveillance System should be, how do you expect your unit to interact with the National Animal Health Surveillance System?

16. How will this unit contribute to the National Animal Health Surveillance System?

Group A: Convey information to local stakeholders. Monitor the information gathering components. Encourage information gathering components to continue to observe and to report accurate components. Disseminate the analysis and reports and to respond to alarming trends.

Group B: Provide data. Provide contacts/connections with others in a broad array of disciplines. Methods development (including spatial analysis tools). Protocol for responding to emerging issues. Standards for spatial data collection and storage. Develop sampling and surveillance methods from a spatial perspective. Assist in designing sampling strategies that avoid special biases. Spatially targeted approaches for finding rare events. Evaluation of environmental and ecological risks. Expertise in zoonotic diseases

Group C: Coordinated collection and analysis. Information distribution. Provide input on adjustments. Leadership and expertise. Contribute to planning, development, and evaluation of the surveillance programs.

Group D: We could track and validate FAD/EDI field investigations; help develop policy and advice on techniques. Provide policy for actions to take if a positive test result is identified; coordinate all responses. Provide data on FAD investigations. Provide intelligence gathering from different sources. Contribute FAD investigation summary information. Contribute to FAD investigations and liaison with IS database.

Group E: Data collection, sample collection, education of producers, stakeholders, analysis at State level. Data entry, local data analysis.

Group F: Provide information from stakeholders w/in the state as requested.

Group G: Evaluate the animal disease components from a regional and local level, including enzootic and epizootic and emerging diseases. Directing, organizing field activities, identification of resource needs, preliminary local analyses. Contingency planning for animal disease emergencies, coordinate regional assets, supply personnel to respond to emergencies. Teaching support, disease knowledge and where to conduct surveillance. Facilitate and coordinate improved data collection from field. Facilitate and coordinate improved relationships with states and industry locally. Facilitate and coordinate implementation of surveillance projects, plans. Facilitate and coordinate improved feedback from field on workability, effectiveness, flexibility, efficiency. Data collection/analysis; Data management reporting; design of surveillance system; selection of disease priorities; determination of production/risk factors (i.e. our unit should be involved in all aspects)

Group H: Continue to assist in collection of surveillance data to support APHIS programs, help identify new surveillance needs, help identify and serve as liaisons for new surveillance partners. Plan and fund sample collection, use analyzed data and reports. Manage resources, data, implementation of Western Region Area Offices; provide Regional analysis.

17. Ideally, how will the National Animal Health Surveillance System benefit this unit?

Group A: Provide timely information regarding detection of abnormal disease or food safety trends among the livestock serviced by this unit.

Group B: Use our products/outputs, help get action to occur. Feedback on our activities. Consistent, complete, validated location data. Resources – Expertise and disciplines not in our unit.

Group C: Centrally focus our work. Benefit from data quality and standards. Help in setting future priorities relative to where there are information gaps. Increase our role in protecting food supply and animal and public health. Increase extent and quality of animal health information.

Group D: Be the “eyes and ears” in the field. Enhance collaboration between all VS programs; encourage collaborative and cohesive working relationships. Better information will be provided to other federal agencies/stakeholders. Rapid detection of a FAD or emerging disease issue.

Group E: Detect diseases of concern.

Group F: Provide us with real time snapshots of animal health within our state as well as the rest of the U.S. Show and report immediately, changes in health and emerging diseases. It should be easy to use.

Group G: Provide us with information on disease factors that contribute to our disease programs. Can use these as predictors or contributing factors, also can use as additional info to provide to get producers to help us meet our programs goals; get messages and info out. More integrated and coordinated response to monitoring disease of livestock in U.S. May prevent overnight cases if we can prepare for a disease event or prevent it in the first place. Improve knowledge, interaction, and communication of field VMO's to claim ownership of data. Facilitate strategic planning and budgeting efficiencies. Help prioritize geographic foci for surveillance. Will help in disease program evaluation. Will help in selecting disease mitigation options.

Group H: Information exchange might be easier. Provide the best national disease information possible to assist in making the best possible management decisions (especially important with diseases that affect both livestock and wildlife). Better planning. Provide information for workload analysis & planning; provide early and rapid detection; provide better understanding of animal health.

18. What concerns does your unit have regarding the development of a National Animal Health Surveillance System?

Group A: Too big. Too comprehensive. Under funded. One to several important information gathering components will drop out affecting the entire system

Group B: IT and GIS should be more major components in designing system; level of IT expertise not sufficient to accomplish the task. Needs more emphasis on database design and quality assurance. Too many people with same expertise involved, lots of clinicians. Assimilation of current CEI activities. Black box. Not enough funding and resources being committed for success. Expectations by VS and others will exceed performance. Maintaining long term interest. Too few resources in field operations.

Group C: Unreasonable goals will result in lack of action. A. goals too broad (need specifics). B. too many goals. C. not a priority. Lack of early successes; mired in mediocrity. Chain of command confusion. Will States and industry REALLY support it? Where is accountability to achieving objectives? Who has authority ability to make changes?

Group D: It (the surveillance system) will try to do everything and therefore, accomplish nothing. Overseers may not 'act' on system until it is perfect (no such thing). Want to have buy-in from partners. Concerned that upper management will not sustain their commitment to the system. That CEAH will take over FAD surveillance.

Group E: Have input on development of this system. Keep it simple. Disease integration.

Group F: This is a huge undertaking which should be approached carefully one step at a time so the system is developed as a user-friendly program – not a cumbersome entity.

Group G: The needs are so great; so diverse, it so difficult to devise early warning system, that if our goals are too broad or lofty we may never accomplish anything. Need to have 'buy-in' of States so that they can supply surveillance input to the system. Communication of one message but involvement of all. Current lack of coordination between NAHPS/EP, NCIE and CEAH/NSU

and other units. Fear that CEAH will lead and work in isolation, unfamiliar with animal production system, animal management, field issues.

Group H: When will it begin/finish, and how will we know? Need to continue to realize the importance of our program surveillance – while specialized with assumptions that must be acknowledged, it is important (herd certification program surveillance has been criticized as not "true" surveillance). It will get too large and international and will not be relevant to our needs and risks. IT, resources, conflicting priorities (ability of units to drop 'turf' so system is integrated).

19. What are your unit's additional comments regarding the development of a National Animal Health Surveillance System?

Group A: Continue your efforts.

Group B: Must overcome perceptions: NSU is repackaged NAHMS – surveillance system is CEAH doing its ivory tower thing again. Willingness to work with others and not exploit the work of others. Collaborative/partnering approach is needed. NSU must provide leadership, "no weenies"

Group C: (no response)

Group D: Herculean task!! Some of the above survey questions were not clear nor understood by all responders.

Group E: (no response)

Group F: Buy-in is required by all States in order to be effective.

Group G: Think of everything we might possibly want to do in the future; then focus on what can reasonably be accomplished within 5 years. Keep long range in sight but don't spread resources too thin without developing a useable product. Sounds like good concept! If every effort is made to communicate, educate, include in discussions all stakeholders and have clear, consistent plans for implementation. Unit should have had someone involved in developing Survey; unit should have someone involved on working groups; more people wit field experience should be in working group.

Group H: Needed.