Avian Influenza – Emergency Management in an HPAI Outbreak Situation

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Avian Influenza Overview

- Avian influenza (AI) - identified in the early 1900s
- Highly pathogenic avian influenza (HPAI) – causes contagious illness, death in birds; low pathogenic (LPAI) causes mild to no illness
- Vast majority of AI viruses found in birds do not represent a public health concern
2006 World Organization for Animal Health (OIE) Avian Influenza Chapter

- New definition of poultry
- Notifiable AI (NAI)
  - HPAI, and all H5 and H7 regardless of pathogenicity detected in poultry
  - Non-HPAI of all other subtypes are *not* reportable
- Report all HPAI immediately
- Report H5/ H7 LPAI
  - Immediately if found in commercial operations
  - Six month report if found in LBM or other backyard environments (these are expected findings)
Background

• USDA’s HPAI prevention and response efforts are part of the National Strategy for Pandemic Influenza outlined by President Bush in November 2005

• To support these efforts, at the end of 2005 USDA received $91.4 million in supplemental funding (of which $80.2 million went to APHIS)
U.S. Positioned to Contain AI Virus

• United States is very active in international efforts to detect and control AI
• U.S. industry is likely to report suspicious birds to help protect the overall health of the poultry industry
• Compensation is an additional incentive
• USDA National HPAI Response Plan in place
• USDA has some of the world’s top AI researchers
USDA/APHIS Safeguarding Strategic Plans Have Four Parts

1. Exclusion
2. Surveillance
3. Preparedness
4. Response
Part 1: Exclusion of Potential Diseased Animals and Products

- Import regulations
- Science-based restricted trade with affected countries
- Point of entry surveillance
- Promote international capacity building
Border Protection and Trade Restrictions

• USDA maintains trade restrictions on the importation of poultry and poultry products from countries and/or regions where the HPAI H5N1 strain has been detected in commercial or traditionally raised poultry

• USDA regulations require that import permits accompany properly sanitized poultry products
USDA International Efforts

- Eliminating the virulent strain of HPAI H5N1 at its source—in poultry abroad—is an effective way to reduce the chances of a domestic outbreak
- USDA supporting the United Nation’s FAO and the OIE in their launch of a Crisis Management Center to coordinate global HPAI response and deploy rapid response teams to HPAI hotspots
Part 2: Continual Surveillance

- For rapid detection upon introduction
- To prove freedom from disease to our trading partners
Summary of National AI Surveillance

- Multiple data streams for AI surveillance
- National AI Surveillance Plan
- Capitalizing on existing surveillance systems
  - NPIP poultry breeding flocks
  - NPIP commercial poultry production flocks
  - Live Bird Marketing System
  - Waterfowl and game birds raised for release
  - Wild birds
- Diagnostic laboratories
  (passive surveillance, including FAD investigations)
Migratory Bird Flyways

Overlap of summer breeding grounds in Alaska, Northeast Canada

Migration flyways of the world. Note that Alaska is a major crossroads for several flyways.
Improved Wildlife Surveillance/Sampling

• AI surveillance in wild, migratory birds for the early detection of HPAI H5N1 virus is in place pace to detect a possible disease incursion.

• Currently, the surveillance effort is being fully supported by all 50 State Wildlife Agencies in a cooperative effort to produce robust sample sizes from across the United States.
Part 3: Response Preparedness

- Foreign Animal Disease Diagnosticians and APHIS responders
- National Veterinary Stockpile
- National Animal Health Laboratory Network
- National Animal Health Emergency Response Corps
- Authorities and Partnerships
- NIMS and ICS
National Veterinary Stockpile (NVS)

- National repository of critical veterinary supplies
  - Directed the Secretary in 2004 to establish the NVS
  - Required the NVS to
    - Augment local/state resources by deploying within 24 hours “sufficient amounts of animal vaccine, antiviral, or therapeutic products to appropriately respond to the most damaging animal diseases affecting human health and the economy”
NVS Deployment Goals

- Arrive at the outbreak site within 24 hours
- Pack products for rapid pick and load
- Provide sufficient supplies to support response efforts for 10 responders changing 5 times/day for 10 days. Objective is 3,000 responders for 40 days.
- Establish contracts with commercial sources to provide reliable, ready sources of material to support the NVS and responders beyond the initial response.
National Animal Health Laboratory Network (NAHLN)

Approved Laboratories
- Newcastle Disease (ND)/Avian Influenza (AI)
- Bovine Spongiform Encephalopathy (BSE)
- Classical Swine Fever (CSF)/Foot and Mouth Disease (FMD)
- Veterinary Stomatitis (VS)
- National Veterinary Services Laboratories

For specified agents, not all laboratories are currently participating in surveillance testing.

February 1, 2008

Laboratories Approved to Conduct AI Testing

AI Approved Laboratory

NVSL Lab Site

January 4, 2008
National Animal Health Emergency Response Corps (NAHERC)

• With the cooperation and assistance of the American Veterinary Medical Association and the North American Veterinary Technician Association, VS maintains a roster of private and State animal health technicians and veterinarians for VS’ National Animal Health Emergency Response Corps.

• These technicians and veterinarians can be activated quickly to serve as temporary Federal personnel to help meet emergency staffing needs.
APHIS Role in an Animal Emergency

- Secretary of Agriculture has statutory authority and leadership role to protect American agriculture and animal health.
- Animal Health Protection Act (AHPA) (7 U.S.C. 8301 et seq.) gives the Secretary of Agriculture a broad range of authorities to use in the event of an outbreak of HPAI in the United States, as well as to prevent its introduction into the United States.
APHIS

• APHIS Mission: To protect the health and value of American agriculture and natural resources.

• In the event that a pest or disease of concern is detected, APHIS implements emergency protocols and partners with affected States to quickly manage or eradicate the outbreak. This aggressive approach has enabled APHIS to successfully prevent and respond to potential pest and disease threats to U.S. agriculture.
APHIS Has a History of Managing Animal Health Emergencies

- 1970s  Classical Swine Fever
- 1984  Highly Pathogenic Avian Influenza
- 2002  Low Pathogenic Avian Influenza
- 2002-2003  Exotic Newcastle disease
- 2004  Highly Pathogenic Avian Influenza
USDA National HPAI Response Plan

- Intended to complement State and Industry plans that are more specific to local issues and needs
- Plan is a “living document” that will continue to evolve with new or additional information and with further stakeholder and partner communication
APHIS Response Strategy

• National Animal Health Emergency Management System (NAHEMS) Guidelines
• Stamping out
• Cleaning and disinfection
• Availability of first responders
• Vaccines (to be used only upon approval by the USDA and the applicable State Veterinarian)
APHIS Role in an Animal Emergency

- APHIS also has the responsibility under the NRF in a Stafford Act Declaration to assist in any animal emergency or natural disaster through leadership of USDA for ESF 11
- APHIS works and integrates with other State - Federal - Industry partners for non FAD diseases programs and responses
- APHIS and USDA lead a science based approach for State – Federal – Industry partners in animal emergency response
National Coordination

Homeland Security Act of 2002 and HSPD-5 required a comprehensive national approach to domestic incident management through the development of the National Incident Management System (NIMS) and National Response Framework (NRF)

– NIMS: Standardizes incident management processes, protocols, and procedures for use by all responders
– NRF: Establishes . . .
  • Federal coordination structures/mechanisms
  • Direction for incorporation of existing plans
  • Consistent approach to managing incidents
The NRF applies to all Federal departments and agencies that may be requested to provide federal to federal support.

Major disasters, emergencies, and terrorist incidents including threats

Other events requiring Department of Homeland Security (DHS) assistance

The NRF provides one way of doing business for both Stafford Act and non-Stafford Act incidents.
Figure 1. Organization of the *Framework*

- **Core Document**: Provides the foundation for the *National Response Framework*, including the doctrine to guide our national response, roles and responsibilities and national response actions.
- **Emergency Support Function Annexes**: Group capabilities and resources into functions most likely needed during an incident.
- **Support Annexes**: Describe common support processes and specific administrative requirements.
- **Incident Annexes**: Outline core procedures, roles and responsibilities for specific contingencies.
- **National Planning Scenarios**: Defined by the National Preparedness Guidelines, these high-consequence scenarios are being used to develop more granular strategic guidance and operational plans.
- **Strategic Guidance**: Defines the broad national priorities and capabilities and supports the development of specific plans.
- **Playbooks**: Provide checklists to ensure coordinated response to the 15 specific high-consequence threat scenarios.
NRF Emergency Support Functions

ESF #1: Transportation
ESF #2: Communications
ESF #3: Public Works/Engineering
ESF #4: Firefighting
ESF #5: Emergency Management
ESF #6: Mass Care/Housing/Human Services
ESF #7: Resource Support
ESF #8: Public Health/Medical Services

ESF #9: Urban Search/Rescue
ESF #10: Oil/Hazardous Materials Response
ESF #11: Agriculture/Natural Resources (USDA/DOI)
ESF #12: Energy
ESF #13: Public Safety/Security
ESF #14: Long-Term Community Recovery/Mitigation
ESF #15: External Affairs
National Response Framework
Emergency Support Function #11

1. Provision of nutrition assistance

2. Animal and plant disease and pest response

3. Assurance of the safety and security of the commercial food supply

4. Protection of natural, cultural, and historic properties
ESF #11 – Agriculture and Natural Resources

- Revamps the previous Food ESF to address agriculture and natural resources issues related to Incidents of National Significance
- Supports State, local, and Tribal authorities and other Federal agency efforts to:
  - Provide nutrition assistance
  - Control and eradicate animal and plant disease outbreaks
  - Assure food safety and food security
  - Protect natural and cultural resources and historic properties
USDA Responds to Emergencies Using Incident Command System (ICS)

- ICS a time-tested, emergency management structure.
- APHIS has used ICS since 2002.
- ICS is used to respond to:
  - A foreign animal disease
  - An emerging disease
  - A natural disaster
  - An act of bioterrorism
ICS Organizes Animal Health Emergency Responses Through 5 Key Functions

- Incident Command
  - Operations
  - Planning
  - Logistics
  - Finance/Administration
Incident Command System

- Local Emergency Operations Center (EOC)
  Coordinates information and resources to support local incident management activities

- Area Command
  Oversees the management of multiple incidents that are each being handled by an ICS organization

- Incident Command Post
  Performs primary tactical-level, on-scene incident command functions
If Multiple Infected Premises, And Wide Spread Geographically...
NIMS Framework
The structure for NRP coordination is based on the NIMS construct:
ICS/Unified Command on-scene supported by an Area Command (if needed),
multiagency coordination centers, and multiagency coordination entities.

Multiagency Coordination Entity
- Strategic coordination
- Prioritization between incidents and associated resource allocation
- Focal point for issue resolution

EOCs/Multiagency Coordination Centers
- Support and coordination
- Identifying resource shortages and issues
- Gathering and providing information
- Implementing multiagency coordination entity decisions

Command Structures

Incident Command
- Directing on-scene emergency management

Coordination Structures

Field Level  Regional Level  National Level

The role of regional coordinating structures varies depending on the situation. Many incidents may be coordinated by regional structures using regional assets. Larger, more complex incidents may require direct coordination between the JFO and national level, with regional components continuing to play a supporting role.
Joint Field Office
A temporary Federal facility established locally to provide a central point for Federal, State, local, and tribal executives with responsibility for incident oversight, direction, and/or assistance to effectively coordinate protection, prevention, preparedness, response, and recovery actions.
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Part 4: Response Guidelines

- Rapid response
- Containment
- Eradication
- Carcass disposal
- Biosecurity

Strategies outlined in the National Animal Health Emergency Management System (NAHEMS)
Questions?