

Avian Influenza Scenario

Curtis Snook, MD

Medical Officer


National Decontamination Team

Virginia Poultry Growers Cooperative (VPGC)





March 29th, 2007

- Routine pre-slaughter swabs and serial samples were taken at a farm
 - The farm is located on a state road running north/south with two small turkey broiler houses on the west side of the road and two large turkey broiler houses on the east side of the road
 - There is no controlled access point to the farm
- 



Lab Analysis

- Samples run at Virginia Dept. of Agriculture Lab in Harrisonburg, VA.
- 1/8 samples positive for Low Path H5N2 avian influenza



West Virginia Dept. of Agriculture (WVDA) Response

- ICS activated at WVDA Moorefield Lab facility
- West Virginia Avian Influenza Prevention and Response Protocol implemented
- Quarantines and enhanced surveillance initiated
- Index farm flock destroyed April 1-3 and the birds were composted on the premises



OH/WV Dept of Ag. AI Investigation

- Conducted off-site using a questionnaire
- Only illness history in these turkeys was coughing and “snicking” in January of '07. E. coli found on necropsy. Turkeys put on oxytetracycline for six days. Illness resolved.
- Mortality logs didn't show an increased death rate for these turkeys
- No history of owner, caretaker, or family members having any contact with other farms or birds



Farm Visitor Log

- Included date, time, name, previous farms visited, and purpose of visit
- VPGC representative provided additional information including farms visited after the index farm on any given day
 - For feed deliveries, there were only 3 days when a feed hauler went on other farms in WV on the same day as the index farm—these farms were tested as part of the enhanced WV AI surveillance program and all tests were negative.

Other Information

- Review of the farm and VPGC logs revealed no other visitors (gas deliveries, VPGC representatives, others) having contact with other farms that had not already been tested
- 13 WV commercial poultry farms within the six-mile radius of the index farm
 - Only 10 had birds during the investigation
 - All 10 farms were sampled using the enhanced WV AI surveillance plan – all tests were negative



Enhanced WV AI Surveillance

- All commercial poultry farms in the five-county area of WV (Grant, Hampshire, Hardy, Mineral, and Pendleton Counties) were included
 - 12/355 farms had no birds during the program which ended 4/27/07
 - The remaining 343 farms were sampled and all tested negative
 - The 6 other poultry companies with farms in this 5-county area were questioned about travel of their personnel and vehicles on the state road going by the index farm; only one company used the highway and destination farms for these personnel/vehicles were tested and were negative
 - Surveillance of the backyard birds within the 6-mile radius of the index farm was completed 4/7/07. 16 premises with birds were found. Samples could be obtained from 14 of them and all were neg.

Why In-House Composting?



- Eliminates air and water quality issues.
- Practical & cost effective
- Biosecure, inactivates pathogens in litter and carcasses (AI <1 hr @ 56 C) before removal from houses.
- More difficult to implement in pole-type houses.

Avian Influenza Response



AP Photo/Anatolia/Emre Umurbilir, 6/21/06



AP/Matthias Rietschel 2/9/07

Medical Interventions: Seasonal Flu Shot



Best way to protect against the flu is yearly vaccination

- "Flu shot"
- Nasal-spray flu vaccine

Recommended by CDC for workers involved in outbreak disease control and eradication

- Prevention of dual infection
- May provide some benefit against H5N1
- Not considered protective against H5N1

Medical Interventions: Pandemic Flu Vaccine

- Pre-pandemic flu vaccine
 - Inactivated, non-virulent stocks to H5N1 developed
- Pandemic flu vaccine
 - Antigenic drift – changing strains
 - Several months to develop and become available
- Increasing capacity
 - Egg-based vaccines
 - Cell-based vaccines
 - Adjuvants



Medial Interventions: Anti-viral medications

■ Prophylaxis

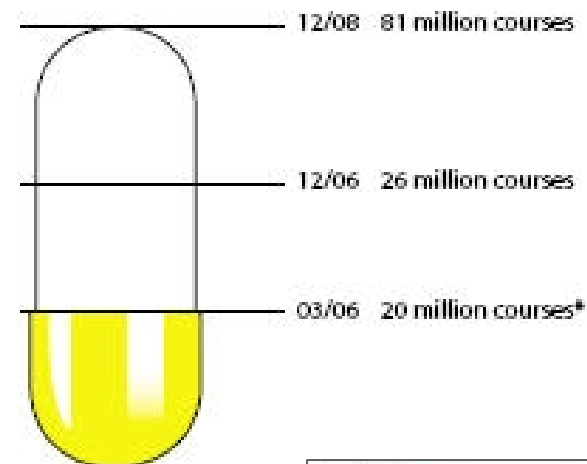
Workers with direct contact with infected fowl or their feces or secretions

■ Duration of exposure

■ Neuraminidase inhibitors

- Oseltamivir (Tamiflu)
- Zanamivir (Relenza)

Antiviral Purchases



*a course is the number of doses



Basic Infection Control

- Risk communication, education
- Hand Hygiene
- Respiratory etiquette
- No food, drink or smoking
- Appropriate PPE
- Disinfection



Personal Protective Equipment

- Protective clothing:
 - Disposable or capable of being disinfected
 - Coveralls or surgical gowns with long cuffed sleeves
 - Worn with an impermeable apron
- Gloves: disposable lightweight vinyl or nitrile or heavy duty rubber work gloves
- Boots/shoes: disposable shoe covers or rubber or polyurethane boots
- Safety goggles

Source: <http://www.cdc.gov/flu/avian/professional/protect-guid.htm>

Personal Protective Equipment

■ Respirators

- Minimum level: disposable particulate respirators (N-95, N-99, or N-100)
- PAPR with HEPA filters alternative for extended exposure
- Fit testing – Respiratory Protection Program

■ PPE use

- Proper disinfection, disposal
- Hand hygiene after removal
- Monitor for heat stress

Source: <http://www.cdc.gov/flu/avian/professional/protect-guid.htm>



Surveillance and Monitoring

- Monitor for one week post exposure

- Influenza symptoms:

 - Rapid onset of:

 - Fever
 - Chills
 - Body aches
 - Sore throat
 - Non-productive cough
 - Runny nose
 - Headache

- Seek medical care—notify HCP of exposure

- Remain at home until 24 hours after resolution of fever



Stranded Waste

- For bioagent events, as the anthrax responses have shown, the hardest part may not be the cleanup itself, but rather getting rid of the waste that is generated.



DOT Requirements

- How do they apply here?



■ QUESTIONS?