

Avian Influenza Surveillance

Clinician Outreach and Communication
Activity (COCA)

June 22, 2006

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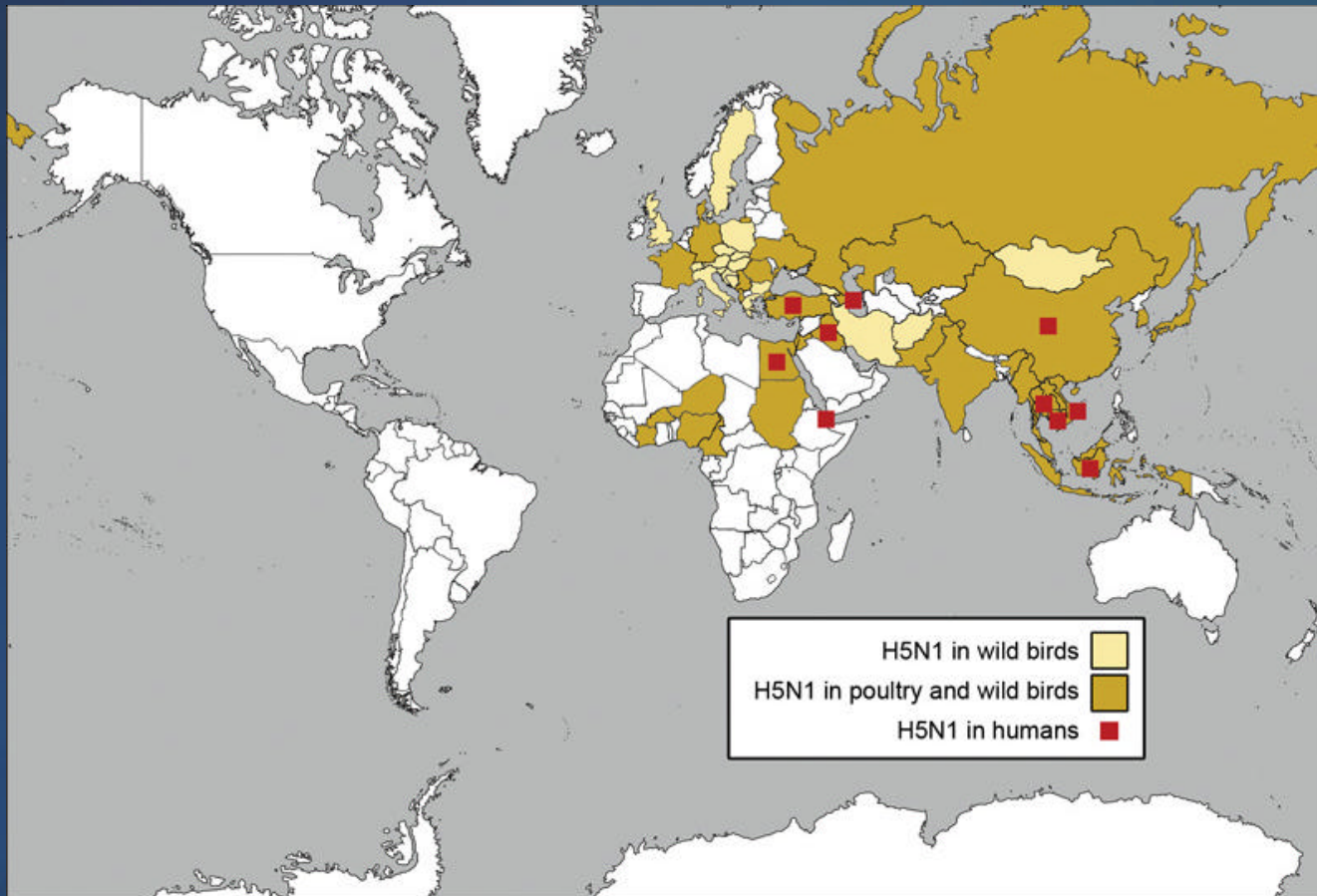
Veterinary Epidemiologist



HPAI H5N1 Asian Strain

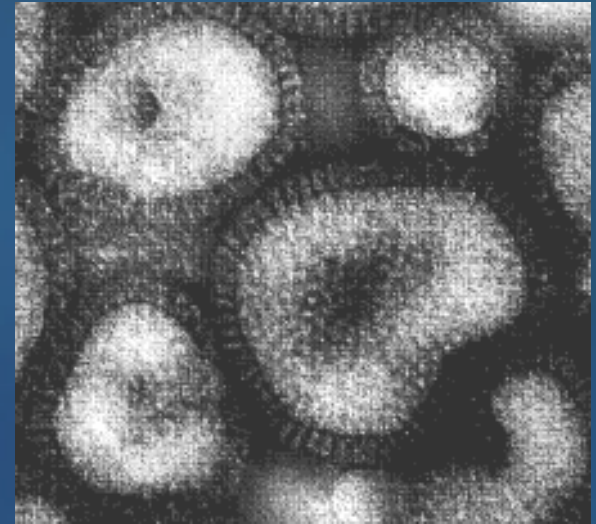
<http://www.pandemicflu.gov/>

As of May 19, 2006



Background (1)

- Orthomyxovirus
- Influenza A
- 16 HA and 9 NA subtypes
- High Pathogenicity vs. Low Pathogenicity
 - Only H5 & H7 \rightleftarrows HPAI



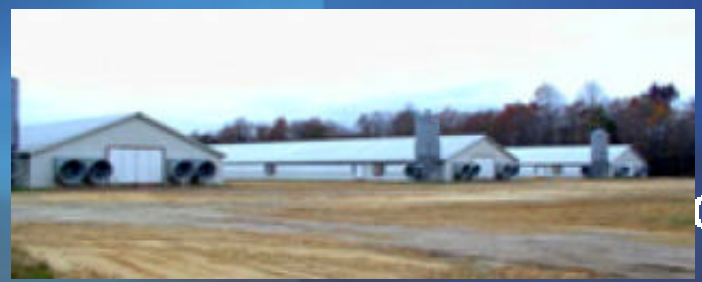
Background (2)

- Wild birds = reservoirs
- All H and N subtypes, except H13
- Transmission
- Zoonotic potential

Emergence of HPAI



Adapted from R. G. Webster



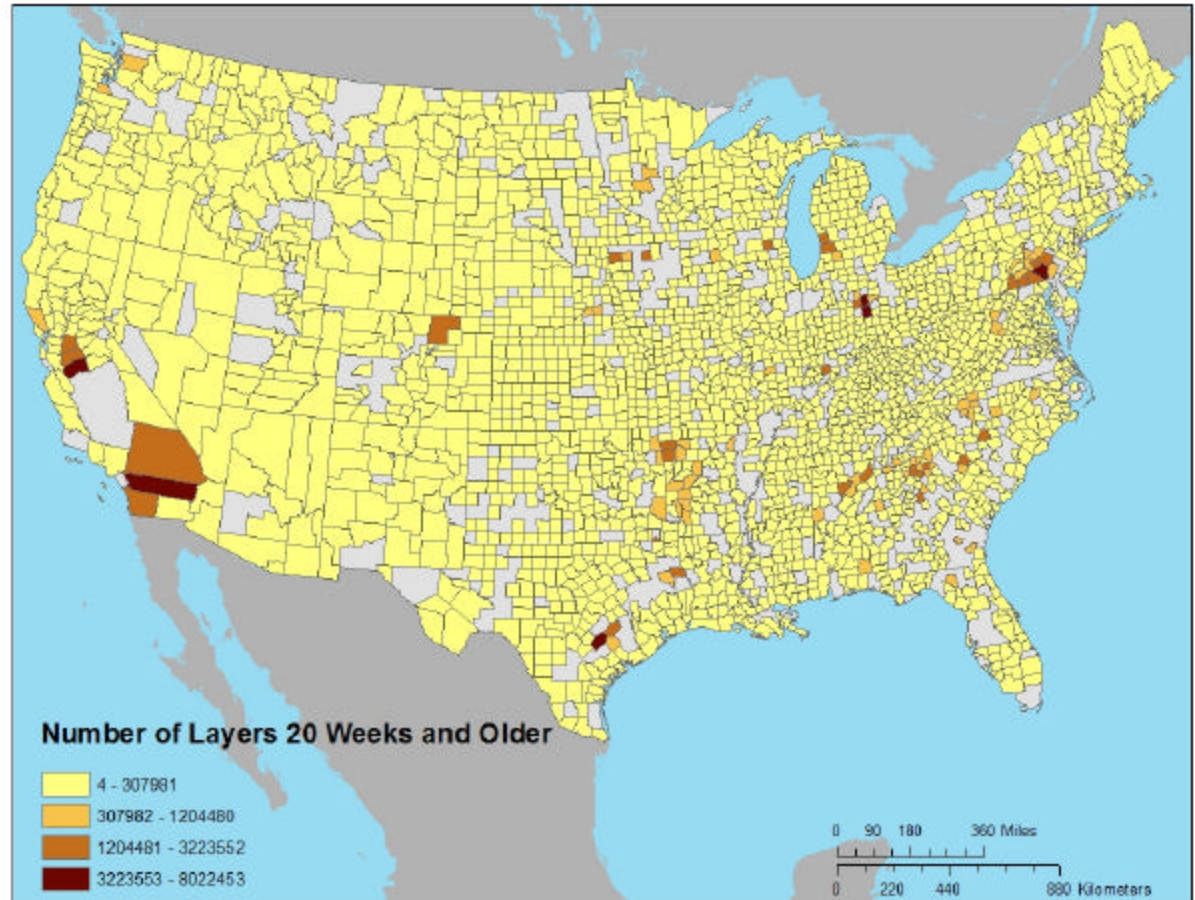
Clinical signs

- Wild birds
- Domestic poultry
 - LPAI
 - HPAI
- Non-avian species



Poultry production in the US

USDA NASS (2002)



HPAI outbreaks in the U.S.

- 1983-1984: HPAI H5N2
 - Precursor = LPAI H5N2 in circulation for 6mo
 - Adjusted for inflation: \$85M, \$490M, \$85M
- 2004: HPAI H5N2
 - Precursor = LPAI H5N3 detected in 2002
 - Molecular definition, not clinical/pathogenicity

AI Surveillance: OIE Requirements

- Notifiable AI (NAI): H5/H7 or other HPAI
- Surveillance related to trade in commercial poultry and poultry products

Avian Influenza Surveillance: APHIS (1)

- Early detection of NAI
- Assure H5/H7 LPAI outbreaks do not persist in poultry populations
- Demonstrate absence of NAI

Avian Influenza Surveillance: APHIS (2)

Potential routes of entry

- Importation
- Human
- Mechanical transmission
- Migratory bird
 - Biosecurity

Avian Influenza Surveillance: APHIS (3)

Risk factors for domestic poultry:

- Biosecurity
 - Management
 - Accessibility
 - C&D requirements of equipment and personnel
- Type of premises
- Location of premises

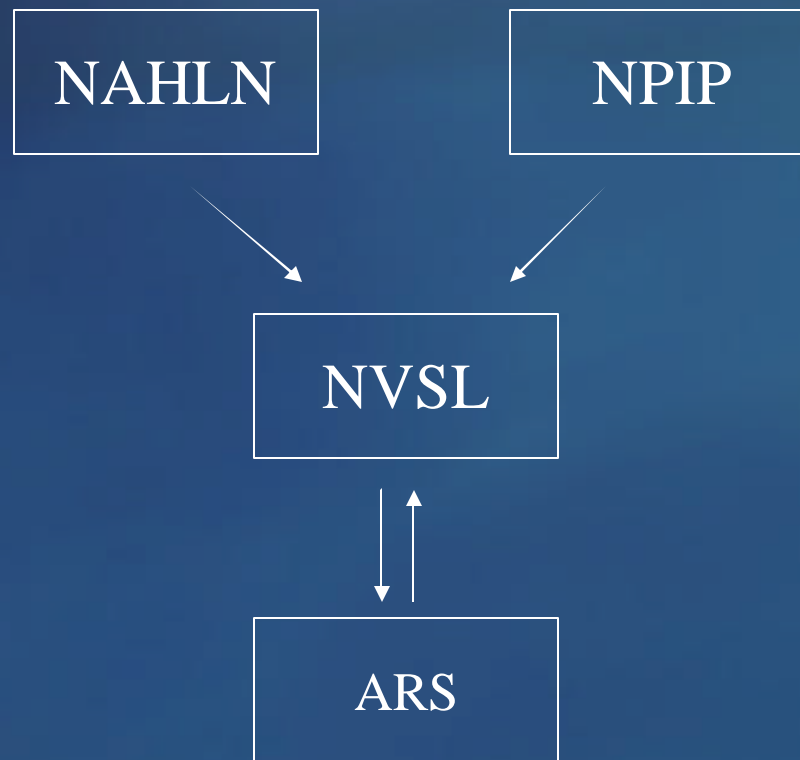
Avian Influenza Surveillance: APHIS (4)

- VS/NCAHP/ASEPS : Domestic animals
- WS : Wild birds
- AC : Zoos and exhibitors

- VS/NCIE : Imported live birds, hatching eggs
- VS/PPQ/SITC : Imported products
- VS/CEAH/CEI/TAF

- ARS/SEPRL
- ARS/CSREES

AI Veterinary Laboratories



USDA Response

- Quarantine facility/premises
- Establish zones
- Dependent on situation
 - Limited movement of poultry/products
 - Depopulation
 - C & D
 - Vaccination
- Epi Investigation
- Coordinated response and communication activities

Thank you for your attention!
Any questions?

