This bulletin reviews the current status of Avian Influenza and summarizes current guidelines for control. This situation is expected to change rapidly. Please make certain you have the most current guidelines.

**Situation Update (July, 2006)**

**Occurrence:** As of July 4, 2006 229 human cases of Al have been reported to the World Health Organization (WHO), with 131 deaths. Human cases originated from 10 countries in Eastern Europe, Asia, Africa and the Middle East. Cases in birds and poultry have been reported in numerous countries in Europe, Asia, Africa and the Middle East. No human or avian cases of Al have occurred in North America. Human infection with Al is an *uncommon cause* of influenza-like illness worldwide.

**Transmission:** droplets and fomites. Some experts believe that explosive outbreaks of seasonal (human) influenza occur through airborne transmission. However; human-to-human transmission of avian influenza has been very inefficient to date. Most persons infected with H5N1 have documented close contact with sick or dying poultry.

**Clinical presentation:** Case patients initially report fever and lower respiratory tract symptoms. Diarrhea and vomiting, pleuritic chest pain, abdominal pain, or bleeding from the nose and gums may occur in the initial phase. Dyspnea may occur around day 5, accompanied by respiratory distress, tachypnea and inspiratory crackles. CXR may show diffuse or patchy infiltrates, interstitial changes or consolidation; progressing to ARDS at about day 6. Complications include multiorgan failure, bacterial pneumonia, pulmonary hemorrhage, and pneumothorax. Laboratory findings include leukopenia, especially lymphopenia; thrombocytopenia; mild to moderate elevation of transaminases; and elevated creatinine.

**Infectious period:** from one day prior to onset of symptoms until 7 days after resolution of fever, or up to 21 days.

**Incubation period:** 1-4 days for seasonal influenza; perhaps up to 10 days for avian influenza.

**Treatment:** Avian influenza (H5N1) has been treated successfully with oseltamivir (Tamiflu) in animal models of infection. There is limited data on treatment of human infection. The H5N1 virus is resistant to amantadine (Symmetrel) and rimantadine (Flumadine). Resistance to oseltamivir developing on therapy has recently been reported in two patients from Vietnam.
Recommendations:

Patient Education
- Do not prescribe antiviral or antibiotic medication for personal stockpiles

Clinical Screening for Avian Influenza

Testing for avian influenza A (H5N1) virus is recommended for a patient who:
- Has an illness that requires hospitalization or is fatal; AND
- Has or had a documented temperature of ≥ 38 °C (≥ 100.4 °F); AND
- Has radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established; AND
- Has at least one of the following potential exposures within 10 days of symptom onset:
  - History of travel to a country with influenza H5N1 documented in poultry, wild birds and/or humans AND had at least one of the following potential exposures during travel:
    - Direct contact with (e.g., touching) sick or dead domestic poultry;
    - Direct contact with surfaces contaminated with poultry feces;
    - Consumption of raw or incompletely cooked poultry or poultry products;
    - Direct contact with sick or dead wild birds suspected or confirmed to have influenza H5N1;
    - Close contact (approach within 1 meter [approx 3 feet]) of a person who was hospitalized or died due to a severe unexplained respiratory illness;
  - Close contact (approach within 1 meter [approx 3 feet]) of an ill patient who was confirmed or suspected to have H5N1;
  - Worked with live influenza H5N1 virus in a laboratory.

Persons with mild or atypical disease or persons with unknown or uncertain epidemiological information may be considered for testing on a case-by-case basis. Consult the Infectious Disease Epidemiology Program at 304-558-5358 or 800-423-1271 (24/7/365).

Initial Management of patients who meet the clinical and epidemiologic criteria for AI
- Implement airborne and contact isolation (N-95 mask, gown, negative-pressure room, and goggles for health care workers coming within 3 feet of the patient)
- Notify infection control immediately, certainly before admission or transfer of the patient.
- Notify the local health department immediately
Diagnostic testing is available by contacting the Infectious Disease Epidemiology Program at 304-558-5358 or 800-423-1271 24/7/365.

- Evaluate alternative diagnoses
  - Obtain viral cultures (e.g., human influenza A and B, respiratory syncitial virus, adenovirus, parainfluenza virus, human metapneumovirus)
  - Testing for avian influenza is available through the Office of Laboratory Services (304-558-3530). Detailed collection instructions are found at: http://www.wvdhhr.org/labservices/labs/virology/influenza.cfm. Appropriate specimens for testing for influenza include:
    - Bronchoalveolar lavage specimens
    - Tracheal aspirates
    - Throat Swab
    - Sputum
    - Nasopharyngeal or oropharyngeal aspirates, washes, or swabs
    - Viral Culture
  - Consider blood, sputum and/or pleural fluid cultures, if clinically indicated
  - Consider legionella cultures, legionella urinary antigen, if clinically indicated

- If clinically indicated, begin Oseltamivir as soon as possible, but within 48 hours of symptom onset:

| Currently Approved Regimens of Oseltamivir for Treatment of Influenza |
|--------------------------------|-----------------|-----------------|
| Adults                        |                 |                 |
| 75 mg po BID                  | 5 days          |
| Children, > 1 year of age     |                 |                 |
| Weight                        | Dose            | Duration        |
| <=15 kg                       | 30 mg po BID    | 5 days          |
| >15 to 23 Kg                  | 45 mg po BID    |                 |
| >23 to 40 Kg                  | 60 mg po BID    |                 |
| >40 Kg                        | 75 mg po BID    |                 |

Studies are needed to determine the optimal dose and duration of oseltamivir for severe influenza. Higher doses (150 mg BID in adults) and treatment for 7 to 10 days are considerations in treating severe infections.

- Assist public health officials with identification of potentially exposed contacts
  - Close contacts include individuals in the case household, workplace, school or social circle beginning one day before the onset of symptoms. Health care workers with unprotected face-to-face exposure may also be close contacts.
  - If suspicion of AI infection is high, close contacts will be asked to self-quarantine until diagnosis of AI is excluded or until 7 days have passed.

- If AI infection is confirmed:
  - Continue isolation and antiviral treatment
  - Isolate avian influenza patients from those with seasonal influenza.
Quarantine of close contacts will continue until 7 days have passed from last exposure to the patient. Coordinate with the local health department.

Close contacts should receive oseltamivir, 75 mg po QD for 7-10 days.

Drafted with the assistance of the Infectious Disease Physician Advisory Group:

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References:

Website:

Official US government website
http://www.pandemicflu.gov/

US Health and Human Resources Pandemic Plan
http://www.hhs.gov/pandemicflu/plan/

Centers for Disease Control and Prevention Pandemic flu website
http://www.cdc.gov/flu/pandemic/

World Health Organization Pandemic Influenza website

WVDHHR
Http://www.wvflu.org