

AVIAN INFLUENZA : EPIDEMIOLOGY SURVEILLANCE AND DATA MANAGEMENT IN GREECE

Helena Maltezou, MD, PhD

**Office for Nosocomial Infections, Microbe Resistance
and Rational Use of Antibiotics**

Hellenic Center for Disease Control and Prevention (HCDCP)

14th of November, 2006

Legal Framework

- **National Pandemic Committee - intersectional composition under the Ministry of Health**
(Ministries of Agricultural Development, Interiors, Public Administration, Development)
- **National Pandemic Preparedness Plan - rev. Oct 2005, in accordance with WHO**
www.keel.org.gr

Preparedness for Avian Influenza

- **epidemiological surveillance**
- **preparedness in health-care facilities**
- **preparedness in ports of entry**
- **collaboration with the Ministry of Agricultural Development**

Epidemiological Surveillance of Avian Influenza

- **expand already existing surveillance systems for seasonal influenza**
- **surveillance systems for avian influenza human cases : already set**
- **surveillance systems for avian influenza in birds : already set**

Epidemiological Surveillance of Seasonal Influenza

- **mandatory notification system**
(laboratory confirmed cases / contact with laboratory confirmed cases)
- **morbidity sentinel system in primary health-care facilities (flu-like syndrome)**
physicians in private sector, social security insurance or health centers
- **laboratory notification system (Abs/Ags detection)**
- **laboratory surveillance / 2 Influenza Reference Centers**
(South and North Greece)
 - collection of clinical samples from primary-care facilities / hospitals
 - isolation and typing of influenza viruses (PCR, RT-PCR, culture)
 - weekly report to HCDCP, subsequently to EISS

Preparedness of Health - Care Facilities for Seasonal Influenza

- systemic information of health-care workers (HCWs) for the management of seasonal influenza cases
- low influenza vaccine coverage among HCWs
 - 2004 - 2005: < 2%
 - 2005 - 2006: 16.36% (range: 0-85%)
 - > 50% 7 hospitals only (5% of 132)

Priorities for Seasonal Influenza

Surveillance

- **expand the morbidity sentinel system to primary health-care facilities**
(x 2 physicians working in private sector or health-centers)
- **increase collection of clinical specimens**
(primary health-care facilities)
- **implementation of new surveillance systems**
 - mortality surveillance (hospitals, regional town-halls)
 - absenteeism surveillance (schools, companies)
 - expand the morbidity sentinel system to emergency rooms

Priorities for Seasonal Influenza (cont.)

Health-care facilities

- **campaign to increase HCWs influenza vaccination**
 - **informative leaflets - letters to HCWs about seasonal influenza, vaccine safety and effectiveness**
 - **posters carrying messages to increase vaccine uptake among HCWs**
 - **strategies to increase vaccine uptake among HCWs**
 - **data collection and analysis to search for risk factors for HCW low vaccine uptake**

Epidemiological Surveillance of Avian Influenza in Humans

- **definition of human case**
 - revised case definition – April 2006 (ECDC)
 - clarifications regarding contact with wild birds – June 2006
- **specific notification form for avian influenza in humans**
- **guidelines for the laboratory investigation of cases**
- **laboratory surveillance of avian influenza through Influenza Reference Centers (South and North Greece)**
 - detection of H5N1 subtype (PCR, RT-PCR)
 - culture: South Greece Influenza Reference Center (BSL3)

Preparedness of Health-Care Facilities for Avian Influenza

Office for Nosocomial Infections

- **guidelines for the prevention of transmission and management of cases**
 - health-care facilities
 - primary health-care facilities
 - National First Aid Center (transportation, ambulances)
 - private sector professionals
- **algorithms for the management of avian influenza cases**
 - within hospitals
 - within primary health-care facilities

Guidelines for Exposure to Poultry / Wild Birds

- **exposed professionals**
- **backyard poultry owners**

Guidelines for Ports of Entry and Travelers

Office For Travel Medicine

- **employees protection**
- **airports, ports, railways**
- **airways and shipping companies**
- **Greek Embassies in foreign countries**
- **general public and travelers**

Preparedness Assurance for Avian Influenza (I)

Ministry level

- **Coordination Center in the MoH and the HCDCP (24h x 7d)**
- **stockpile of antivirals**
oseltamivir: 269,000 courses available (Sep 2006), a total of 569,000 courses (5% of population of Greece) ordered and expected by March 2007

Preparedness Assurance for Avian Influenza (II)

Surveillance

- **availability of intervention teams for investigation of human and animal suspected cases**
- **prompt laboratory detection of H5N1**
 - rapid tests: PCR, RT-PCR at both human Influenza Reference Centers and the Veterinary Reference Center
 - culture: south Greece Influenza Reference Center (BSL3)

Health-care facilities

- **exercises on management of avian influenza cases already conducted in 70% of all Greek hospitals**
(June - Sep 2006, 100% up to Dec)

Preparedness Pandemic Influenza Plan: pending

In collaboration with the Ministry of Health

- **development of communication plan for the general public**
- **development and completeness of antiviral stockpile and delivery plan**
- **order of pre-pandemic (AH5N1) vaccine ?
order of pandemic influenza vaccine
development of vaccine delivery plan**

Avian Influenza in Birds in Greece (2006)

- migratory period in Greece: Oct – April
- Feb – March 2006:
33 migratory birds were identified as infected with highly pathogenic avian influenza A/H5N1 virus
- all cases in 10 prefectures, 9 (90%) in North Greece
- no case of A/H5N1 in poultry

Avian Influenza Cases in Wild Birds



Potential Human Cases of Avian Influenza in Greece (2006)

- **Feb - March 2006 (same period):**
26 potential human cases (48.7% male, median age: 30 (range: 17.5-45.8) y.o.) with respiratory symptoms + concerns of possible exposure to A/H5N1, presented to hospitals throughout Greece.
- **19 potential cases (73%) reported exposure to birds but only 10 (52%) met the epidemiological criterion of 7-day interval of exposure.**

Potential Human Cases of Avian Influenza in Greece (cont.)

- exposure of potential cases to birds:
 - 13 (50%) to wild migratory birds
 - 6 (23%) to domestic live / dead poultry
 - 7 (27%) no exposure
- only one patient was exposed to a dead swan confirmed to be A/H5N1 positive.

Potential Human Cases of Avian Influenza in Greece (cont.)

- 6 (23%) patients were hunters
- 4 (15.5%) had traveled from A/H5N1 affected areas (Turkey and Nigeria) without exposure to local fowl or wild birds
- 3 (11.5%) had been exposed to surfaces potentially contaminated with bird droppings



Potential Human Cases of Avian Influenza in Greece (cont.)

- 22 (85%) patients were admitted to isolation units in regional hospitals (median hospitalization: 2 days)
- 26 (100%) patients were tested by PCR and found negative for A/H5N1 (including 3 found positive for influenza B).
- 1 (4%) patient received oseltamivir that was discontinued after the negative results.

Potential Human Cases of Avian Influenza in Greece (cont.)

- 5 (19%) cases met clinical and epidemiological criteria and classified as possible cases, 4 (80%) of them from North Greece prefectures with confirmed cases in wild migratory birds.
- The remaining 21 (81%) cases were potential cases meeting either epidemiological or clinical criteria but not both.

Notified Potential Cases of Avian Influenza in Humans (Greece: Feb – Mar 2006)

 Suspect cases
 Possible cases

