



MI FluFocus

Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology
Bureau of Laboratories



Editor: Susan Vagasky, DVM
VagaskyS@Michigan.gov

January 11, 2007
Vol. 4; No. 2

New updates in this issue:

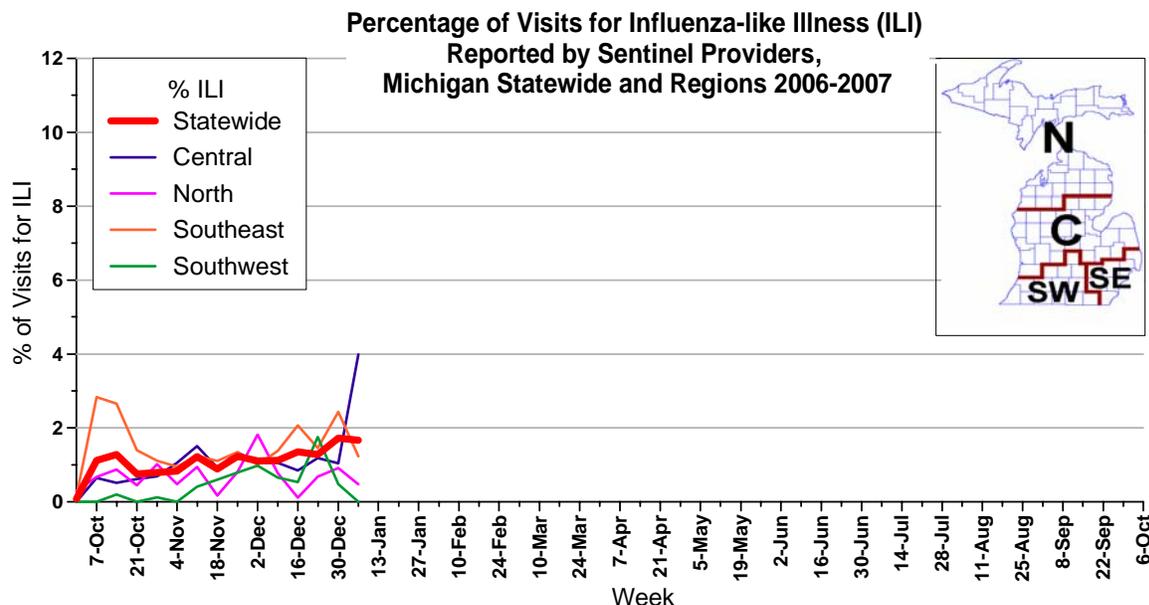
- **Michigan Surveillance:** Most indicators, except individual reports, suggest slightly decreased activity.
- **National Surveillance:** Influenza activity is increasing; majority of isolated viruses are A(H1N1).
- **Avian Influenza:** New H5N1 human cases in Indonesia and China.

Michigan Disease Surveillance System: The last week has seen aggregate flu-like illness reports remain steady at a lower level, which was expected to due holiday school closings. However, there was an increase in individual influenza reports to the local health departments. The current flu-like illness reported levels, however, are comparable to that seen at this time last year.

Emergency Department Surveillance: Emergency department visits due to both respiratory and constitutional complaints have slightly decreased in the last week. These levels are higher than this time last year, but consistent with levels seen near the peak of the flu season last year. Two constitutional alerts in Regions 3(1) and 5(1) and three respiratory alerts in Regions 2N(1), 3(1) and 7(1) were generated last week.

Over-the-Counter Product Surveillance: OTC product sales seem to reflect the lull in activity seen in the past week. Sales have remained relatively steady (chest rubs, nasal products) or slightly decreased. However, the indicators levels are comparable to those seen at this time last year, except for the adult and pediatric cold relief liquid, which seem to be holding about 1-2% below its percentage of total sales for this time last year.

Sentinel Surveillance (as of January 11, 2006): During the week ending January 6, 2006, the proportion of visits due to influenza-like illness (ILI) in the state remained relatively unchanged from last week at 1.7% of all visits, representing 83 cases of ILI out of 4776 total patient visits; twenty-three sentinels provided data for this report. On a regional level, the percentage of visits ranged from 4.0%, Central; 0.4%, North; 1.6% Southeast; and 0.0% Southwest. Note that these rates may change as additional reports are received.



As part of pandemic influenza preparedness, CDC and MDCH highly encourage and recommend year-round participation from all sentinel providers. New practices are encouraged to join influenza sentinel surveillance program today! Contact Rachel Potter at 517-335-9710 or potterr1@michigan.gov for more information.

Laboratory Surveillance (as of January 11): For the 2006-2007 influenza season, there have been 41 culture-confirmed cases from the MDCH Lab; 33 influenza A (Southeast (11), Southwest (12), Central (7), North (3)) and eight influenza B (Central (3), Southeast (2), Southwest (2), North (1)). All influenza A cultures have been H1N1 or H1-like; all influenza B cultures have been B/Malaysia. Overall submission activity is light.

Sentinel laboratories are reporting low numbers of positive influenza tests, with several Southeast laboratories and one Southwest lab reporting an increased number of positive tests. Low levels of parainfluenza, adenovirus and respiratory syncytial virus are being reported as well.

***As a reminder, the positive predictive value of influenza rapid tests decreases during times of low influenza prevalence. MDCH suggests that during periods of low influenza activity in your community, all positive rapid tests results be confirmed by sending in a specimen for viral culture; this can be arranged through your local health department.

Influenza-Associated Pediatric Mortality (as of January 11): For the 2006-2007 season, there are no confirmed reports of influenza-related pediatric mortality in Michigan.

***Reminder: The CDC has asked all states to continue to collect information on any pediatric death associated with influenza infection. This includes not only any death in a child less than 18 years of age resulting from a clinically compatible illness confirmed to be influenza by an appropriate laboratory or rapid diagnostic test, but also unexplained death with evidence of an infectious process in a child. Refer to http://www.michigan.gov/documents/fluletter_107562_7.pdf for the complete protocol. It is important to immediately call or fax information to MDCH to ensure that appropriate clinical specimens can be obtained.

Congregate Settings Outbreaks (as of January 11): No reports were received during the past reporting week. There have been no reports of congregate influenza outbreaks to MDCH for the 2006-2007 influenza season.

National (CDC, January 5): During week 52 (December 24 – December 30, 2006), influenza activity continued to increase in the United States. During week 52, WHO and NREVSS laboratories reported 1,894 specimens tested for influenza viruses, 224 (11.8%) of which were positive: 70 influenza A (H1) viruses, four influenza A (H3) viruses, 109 influenza A viruses that were not subtyped, and 41 influenza B viruses. Four states reported widespread influenza activity; 10 states reported regional influenza activity; 12 states reported local influenza activity; 20 states, the District of Columbia, and New York City reported sporadic influenza activity; one state reported no influenza activity, and three states did not report. The reporting of widespread or regional influenza activity decreased from 16 states for week 51 to 14 states for week 52. On a national level, laboratory and outpatient influenza-like illness (ILI) surveillance data indicated an increase in activity from week 48 to week 52. ILI was above baseline for the third consecutive week this season and for the second consecutive week, more than 10% of specimens tested were positive for influenza. However, the percent of deaths due to pneumonia and influenza remained below baseline level.

Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 42,328 specimens for influenza viruses and 2,022 (4.8%) were positive. Among the 2,022 influenza viruses, 1,598 (79.0%) were influenza A viruses and 424 (21.0%) were influenza B viruses. Five hundred seven (31.7%) of the 1,598 influenza A viruses have been subtyped: 485 (95.7%) were influenza A (H1) viruses and 22 (4.3%) were influenza A (H3) viruses. Among specimens tested for influenza during the most recent three weeks (December 10-30, 2006), on a regional basis, the percent of specimens testing positive for influenza exceeded 10% in the East North Central (19.9%), South Atlantic (19.9%), and East South Central (29.7%) regions. The percent of specimens tested in the most recent three weeks testing positive for influenza was below 10% in the remaining six regions and ranged from 2.0% to 9.2%.

To access the CDC weekly surveillance report throughout the influenza season, visit <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

January 4, 2007. He remains hospitalized. Deaths among poultry in the neighborhood have recently been reported. The source of exposure is currently under investigation.

Follow-up, WHO, January 11: The Ministry of Health in Indonesia has confirmed the country's 58th death from H5N1 avian influenza. The 14 year old boy from West Jakarta, whose infection was announced on January 9th, died on January 10th after being hospitalized. Of the 76 cases confirmed to date in Indonesia, 58 have been fatal.

The second case is a 37-year-old female from Tangerang, Banten Province. She developed symptoms on January 1, 2007 and was hospitalized on January 6th. She remains in intensive care. Initial investigations suggest sick poultry as the possible source of infection.

International (WHO, January 10): The Ministry of Health in China has confirmed a case of human infection with the H5N1 avian influenza virus. The case is a 37 year old man from Tunxi in Anhui Province. He became symptomatic on December 10, 2006 and was hospitalized on December 17, 2006. The patient was discharged on January 6th and is recovering well.

Information provided to WHO indicates that he was a farmer and may have kept a number of birds in his back yard. No information on possible exposure to diseased birds as the source of his infection is presently available, but an investigation is under way. Close contacts were placed under medical observation but are all well and were released on December 29th. Of the 22 cases confirmed to date in China, 14 have been fatal.

International (Associated Foreign Press, January 4): Early results of tests being carried out on the carcass of a wild bird found in Hong Kong indicated it was infected with H5 avian influenza. Six carcasses of a local species of wild bird called scaly-breasted munia were found in the busy shopping area of Causeway Bay on Sunday. Only one tested positive for the virus, but further tests were being conducted on all six, said Thomas Sit, assistant director of the agricultural department. Sit said winter time was the migratory bird season, posing higher risks for bird flu. "I suspect many animal health authorities around the world (believe) that migratory birds may be the first to carry the viruses," he said Thursday. While he reminded the public to observe good personal hygiene, Sit said patrols around wet markets -- where the dead infected bird was found -- would be stepped up. He urged local farmers, pet traders and owners to take necessary precautionary measures and avoid contact with wild birds. Sit said inspections would also be stepped up in villages, where poultry might be kept. A curb on so-called backyard farming was enacted last year following the discovery of eight birds and chickens that had died of the H5N1 virus. Hong Kong was the scene of the world's first reported major bird flu outbreak among humans in 1997, when six people died of the then unknown mutation of the avian flu virus. Experts fear the virus could mutate into a strain that could be transmitted easily among humans, causing a global pandemic that could kill millions of people.

Follow-up, Hong Kong Government Press Release, January 6: The Agriculture, Fisheries and Conservation Department (AFCD) said today that the scaly-breasted Munia found dead in Causeway Bay was confirmed to be H5N1-positive after a series of laboratory tests. The carcass was collected by AFCD staff in Leighton Road following a public referral on December 31, 2006.

International (Promed via VNE, January 5): Bac Lieu Province has discovered 4 new H5N1 pandemic sources in the province, and had to cull 1600 ducks yesterday. The total number of communes and wards in the province discovered as having poultry dead from diseases has reached 16. Bac Lieu has decided to cull all unvaccinated poultry under 14 days old in order to prevent the bird flu epidemic from spreading. Vinh Binh commune in Hoa Binh district has decided to cull a herd of 300 ducks. Long Thanh and Vinh Loi communes have killed 750 ducks and 2 communes in Gia Lai district have killed 450.

Head of the Bac Lieu Veterinary Agency Lam Tri Thong said that the diseased fowls and ducks had just been inoculated, and the time from the vaccination until infection was not long enough to ensure the immunity. In order to prevent the bird flu epidemic from spreading, the provincial authority has decided to take drastic measures to control the pandemic. "All the fowls and ducks that have not been vaccinated will be culled," Mr. Thong said. Yesterday the southern province of Hau Giang discovered another pandemic hotspot area, where 22 fowls were dead. However, it is not sure if the fowls died from H5N1. Specimens of

the dead fowls have been sent for testing. There has been no new pandemic source discovered in Ca Mau province.

Meanwhile, Soc Trang province has discovered dead fowls and ducks in several districts. However, according to Nguyen Huu Minh, Deputy Head of Soc Trang Veterinary Agency, the dead poultry did not show signs of H5N1 infection. According to the Ca Mau Health Department, 5 persons in the province ate dead fowls and were hospitalized; however, not one of them was found infected with H5N1 virus.

National (Associated Press, January 6): An eastern lowan has tested positive for a swine flu, a disease which rarely jumps from pigs to humans, but state health officials said there is no cause for alarm. Dr. Patricia Quinlisk, the state's epidemiologist, said the case was detected when the patient gave a routine throat swab after coming down with flu symptoms. The sample was sent for lab tests, which confirmed the swine flu diagnosis. The U.S. Centers for Disease Control and Prevention confirmed the results of the test taken in November. Quinlisk said because of health privacy laws, she could not divulge the name, gender, age or specific location of the patient. Quinlisk said the patient was not hospitalized and has since recovered. She said there was no evidence the virus has spread person to person. It was unknown how the lowan contracted the virus. "It's hard to catch," Quinlisk said. "(Humans) are pretty resistant to it." Quinlisk said she could not recall the last time an lowan had tested positive for swine flu. She's been the state's leading communicable disease monitor for 12 years. The CDC has blood tests pending on people in contact with the lowan to determine exposure. People exposed to the virus may not develop symptoms.

As with the flu in humans, pigs with swine flu develop runny noses and fevers. Pigs can transmit viruses to their human handlers, as they did in Cedar Rapids during the 1918 Spanish flu epidemic. Historians note the 1918 Cedar Rapids Swine Show brought together sick and healthy pigs. When the show ended, newly infected pigs were returned to farms throughout the Midwest, contributing to the spread of the deadly virus.

Michigan Wild Bird Surveillance (USDA, January 5): According to the National HPAI Early Detection Data System website, available at <http://wildlifedisease.nbj.gov/ai/>, Michigan has results for a total of 2182 samples, from both wild birds and the environment, submitted for testing as of January 5th. 470 of these were live-captured birds, 1207 were hunter-killed, 123 were sentinel animals, 175 were dead birds that were submitted for testing, and 207 were environmental samples. HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 70,959 birds or environmental samples tested nationwide.

To learn about avian influenza surveillance in Michigan wild birds or to report dead waterfowl, go to Michigan's Emerging Disease website at <http://www.michigan.gov/emergingdiseases>.

Please contact Susan Vagasky at VagaskyS@Michigan.gov with any questions regarding this newsletter or to be added to the weekly electronic mailing list.

Table 1. H5N1 Influenza in Poultry (Outbreaks up to January 4, 2007)

(Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 1/8/2007)

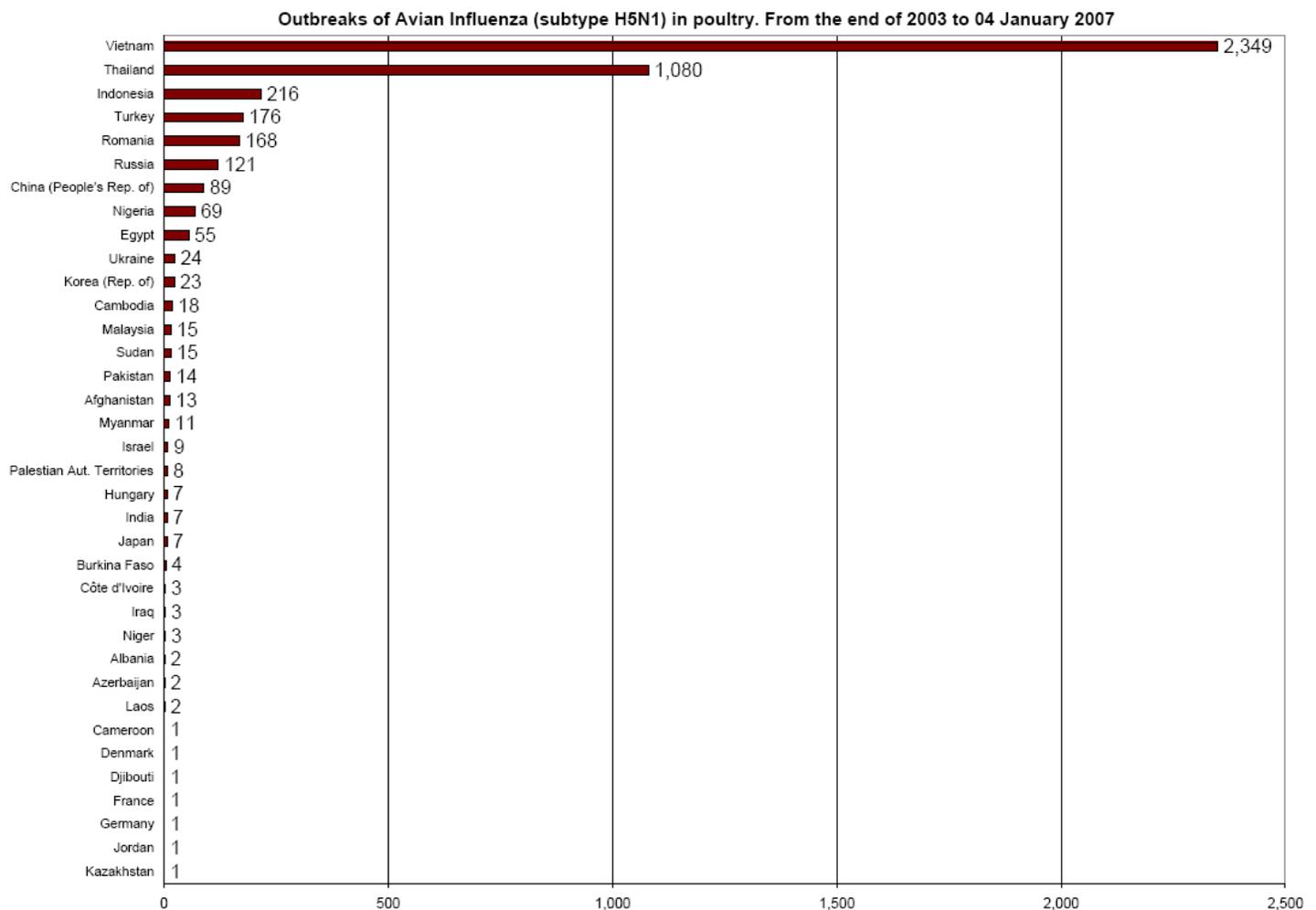


Table 2. H5N1 Influenza in Humans (Cases up to January 11, 2006)

(http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2006_06_06/en/index.html Downloaded 1/11/2007)

Cumulative number of confirmed human cases of Avian Influenza A(H5N1) reported to WHO. The total number of cases includes number of deaths. WHO only reports laboratory-confirmed cases.

Country	2003		2004		2005		2006		2007		Total	
	cases	deaths										
Azerbaijan	0	0	0	0	0	0	8	5	0	0	8	5
Cambodia	0	0	0	0	4	4	2	2	0	0	6	6
China	1	1	0	0	8	5	13	8	0	0	22	14
Djibouti	0	0	0	0	0	0	1	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	0	0	18	10
Indonesia	0	0	0	0	19	12	56	46	1	0	76	58
Iraq	0	0	0	0	0	0	3	2	0	0	3	2
Thailand	0	0	17	12	5	2	3	3	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	0	0	93	42
Total	4	4	46	32	97	42	116	80	1	0	264	158