



MI FluFocus

Influenza Surveillance and Avian Influenza Update

Michigan Department of Community Health
Bureau of Epidemiology
Bureau of Laboratories

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New updates in this issue:

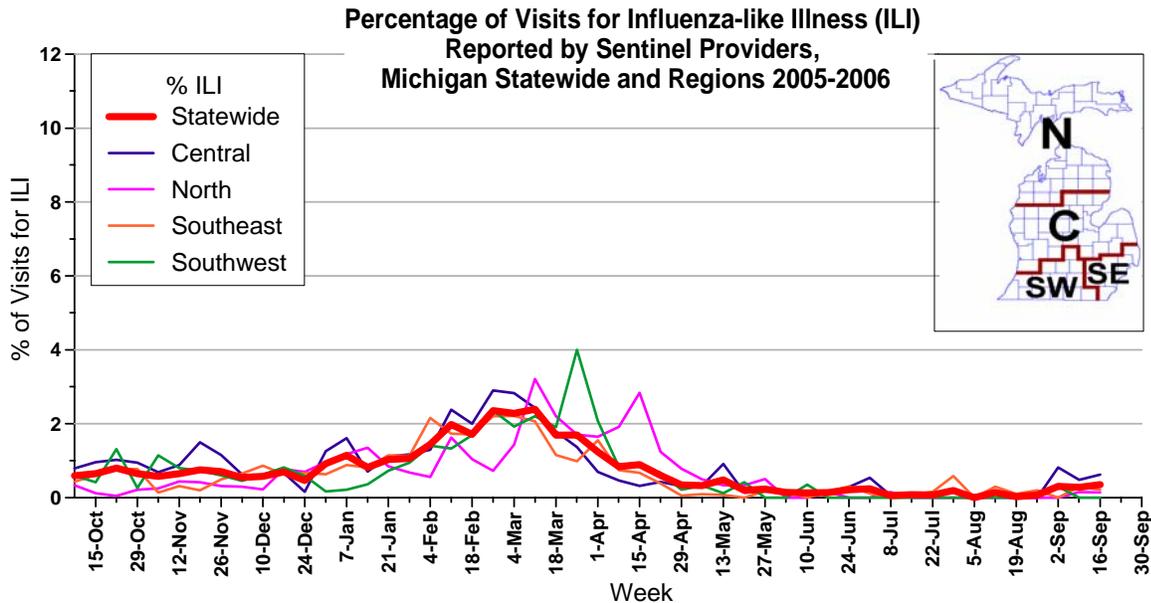
- **Syndromic Surveillance:** Increased respiratory ED visits and OTC product sales continue.
 - **Sentinel Surveillance:** Updated ILI data for the week ending September 16.
 - **Avian Influenza:** Iraq adds one new case retrospectively.
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Michigan Disease Surveillance System: No recent aberrations have been detected in flu-like illness activity. Activity continues to remain negligible and is comparable to last year at this time. However, with the recent beginning of the academic year, flu-like illness activity reported in MDSS – the vast majority of which is from school-based reporting – is expected to start rising in the coming weeks.

Emergency Department Surveillance: The level of emergency department visits due to constitutional syndrome complaints is currently low, relatively stable, and comparable to that seen last year at this time. Conversely, the dramatic increase in emergency department visits due to respiratory syndrome seen previously has continued over the past week. A more thorough investigation of this data seems to indicate an increased number of complaints due to asthma, combined with an earlier start of non-influenza respiratory illness activity. The level of respiratory syndromic visits is now similar to pre-peak activity seen in mid- to late January and post-peak activity seen in April. Although stable statewide, five regional constitutional alerts were generated in the past seven days (one each in Regions 1, 2S, 5, 7, and 8). Eleven alerts for respiratory syndromic visits were generated in the past seven days, including statewide (1), Region 1 (2), 2N (1), 5 (4), and 7 (3). While respiratory illness activity has been increasing, a lack of increase in constitutional complaints is consistent with a lack of increase in influenza activity.

Over-the-Counter Product Surveillance: Over-the-counter influenza indicators support the conclusions drawn above. Sales of respiratory medications/products, such as chest rubs, cough/cold products, and nasal products have all continued the increasing trends reported last week, including dramatic increases in the first two indicators. Adult cold relief product sales substantiated the increasing trend first hinted at last week. However, consistent with an increase in non-influenza respiratory activity, antifever medication, pediatric cold relief, electrolyte, and thermometer sales have all been either stable or decreasing.

Sentinel Surveillance (as of September 21, 2006): During the week ending September 16, 2006, the proportion of visits due to influenza-like illness (ILI) increased slightly from last week to 0.4% of all visits, representing 8 cases of ILI out of 2,284 total patient visits. Fourteen sentinels provided data for this report. Low levels of ILI activity were reported in all regions; the percentage of visits due to ILI increased slightly to 0.6% in the Central region and decreased in the remaining regions; 0.1%, North; 0.2%, Southeast; and 0.0%, Southwest.



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 September 21): No reports were received for the past week. The MDCH laboratory has confirmed 138 influenza cases in Michigan over the 2005-2006 season, of which 132 were influenza A (H3N2) and 6 were influenza B.

***As a reminder, the positive predictive value of influenza rapid tests decreases during times of low influenza prevalence, such as the summer months. 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 September 21): There were no new reports this week. For the 2005-2006 influenza season, Michigan had one confirmed influenza-associated pediatric death from region 2S. During October 2, 2005 – May 20, 2006, CDC received reports of 35 influenza-associated pediatric deaths, 33 of which occurred during the current influenza season.

***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 September 21): No reports were received during the past reporting week. A total of two congregate setting outbreaks have been reported to MDCH this past season; one in Southwest Michigan in late February and one in Southeast Michigan in late March. Both outbreaks were MDCH laboratory confirmed as due to influenza A (H3N2).

National (CDC, September 21): A September 22nd MMWR report titled "Update: Influenza Activity --- United States and Worldwide, May 21--September 9, 2006" is now available on the CDC's website at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5537a4.htm?s_cid=mm5537a4_e. During May 21--Sept. 9, WHO and NREVSS collaborating laboratories in the U.S. tested 14,751 respiratory specimens; 318 (2%) were positive for influenza. Of the positive results, 65% were influenza B viruses, 18% were influenza A (H1) viruses, 2% were influenza A (H3) viruses, and 15% were influenza A viruses that were not subtyped. The majority (92%) of these isolates were tested from mid-May through late June, when 3.6% of specimens tested were positive for influenza. Since July 1, of specimens tested, 0.6% were positive. During this time,

the weekly percentage of patient visits to sentinel providers for influenza-like illness (ILI) remained below the national baseline of 2.5% and ranged from 0.6% to 0.9%. The percentage of deaths attributable to pneumonia and influenza as reported by the 122 Cities Mortality Reporting System remained below the epidemic threshold. One influenza-related pediatric death was reported to CDC during this period.

International (WHO, as of August 30): During weeks 31- 33, with the exception of New Zealand, where regional influenza A(H3N2) activity continued, overall influenza activity in both northern and southern hemispheres was low. In Australia, localized influenza activity continued to be reported during weeks 31–33. Influenza A and B viruses co-circulated. During weeks 31-33, influenza A activity in New Zealand remained similar to previous weeks and was reported as regional. Low influenza activity was reported in Argentina (H1, A and B), Hong Kong, Special Administrative Region of China (H1, H3 and B), Japan (H1), Madagascar, South Africa (H3 and B), and Uruguay (H1, A and B). Sweden reported an A(H3N2) case imported from China during week 33. Mexico, Portugal and Slovenia reported no influenza activity.

Weekly influenza activity reporting to the CDC is finished for the 2005-2006 influenza season.

End of Seasonal Report

Avian Influenza Activity

WHO Pandemic Phase: Phase 3 - Human infection(s) with a new subtype, but no human-to-human spread or rare instances of spread to a close contact.

International Update (WHO, September 19): The Ministry of Health in Iraq has retrospectively confirmed the country's third case of human infection with the H5N1 avian influenza virus. The case, a 3-year-old boy, was hospitalized in Baghdad on March 15, 2006. His illness was mild and he fully recovered. During its outbreak, which is now considered over, Iraq faced problems in the shipment of specimens for external verification of diagnostic tests. For the retrospectively confirmed case, initial test results were inconclusive, possibly as a result of sample deterioration during shipment. Repeated testing, using different methods, was needed for diagnostic confirmation. The two cases previously confirmed in Iraq occurred in January 2006. Both cases were fatal.

Reuters, September 11: The H5N1 virus replicates far more aggressively in people than common human flu viruses, a study of patients in Viet Nam has found, offering further insight as to why the virus is so deadly. The study, in the latest issue of Nature Medicine, also found that the virus had gotten into the blood stream of many of the human victims it killed, which means the virus could have spread to other parts of the body. The unusually high viral loads triggered intense "cytokine" responses, an immune system overreaction that can be fatal. The study involved 18 people infected with H5N1 and 8 with human flu in 2004 and 2005 in Viet Nam. Scientists found far higher viral loads in the nose and throats of those infected with bird flu than human flu. 13 of those infected with H5N1 died, and the virus was found in the blood of at least 9 of them, implying it could have been transported out of the respiratory tract. The virus was also found in the rectums of most of those with H5N1, suggesting it could have spread through the blood stream into the gastrointestinal tract. A connection was made between those who were most ill and their level of cytokines. The entire article is available at <http://www.alertnet.org/thenews/newsdesk/SP54405.htm>.

Michigan Wild Bird Surveillance: According to the National HPAI Early Detection Data System website, which is run by the US Geological Survey and available at <http://wildlifedisease.nbio.gov/ai/>, Michigan has results for a total of 216 wild birds submitted for testing as of September 15. 104 of these birds were live-captured and tested, 97 were hunter-killed, 11 were sentinel animals, and 4 were dead birds that were submitted for testing. HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date.

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 September 4, 2006)

(Source: http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 9/7/2006)

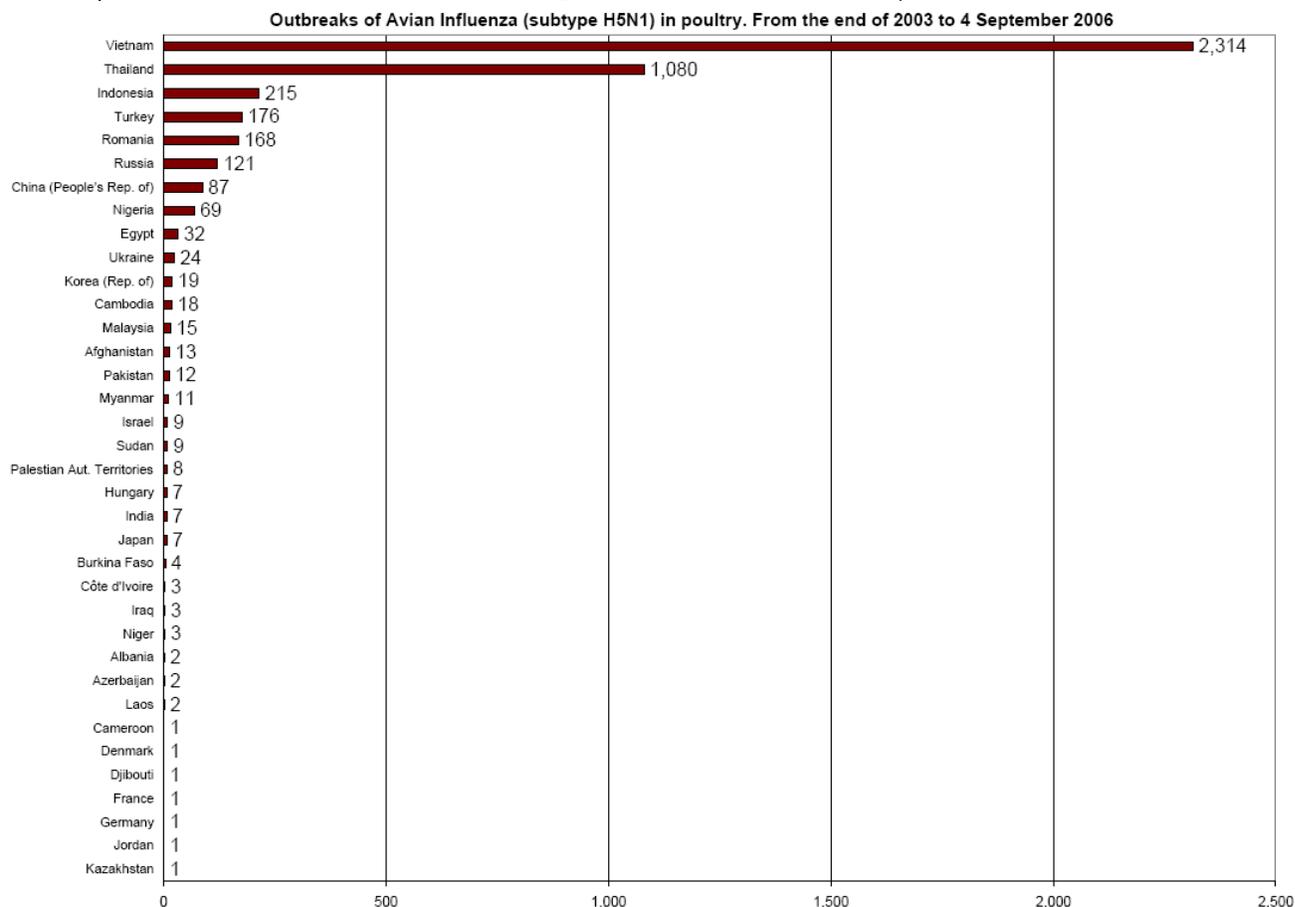


Table 2. H5N1 Influenza in Humans (Cases up to September 19, 2006)

(http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2006_06_06/en/index.html Downloaded 9/19/2006)

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		Total	
	cases	deaths								
Azerbaijan	0	0	0	0	0	0	8	5	8	5
Cambodia	0	0	0	0	4	4	2	2	6	6
China	1	1	0	0	8	5	12	8	21	14
Djibouti	0	0	0	0	0	0	1	0	1	0
Egypt	0	0	0	0	0	0	14	6	14	6
Indonesia	0	0	0	0	19	12	46	37	65	49
Iraq	0	0	0	0	0	0	3	2	3	2
Thailand	0	0	17	12	5	2	2	2	24	16
Turkey	0	0	0	0	0	0	12	4	12	4
Viet Nam	3	3	29	20	61	19	0	0	93	42
Total	4	4	46	32	97	42	100	66	247	144