



MI FluFocus

Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology
Bureau of Laboratories

Michigan Department
of Community Health



Jennifer M. Granholm, Governor
Janet Olszewski, Director

Editor: Susan Vagasky, DVM
VagaskyS@Michigan.gov

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New updates in this issue:

- **Michigan Surveillance:** Syndromic indicators and positive laboratory cultures increased slightly.
- **National Surveillance:** Low levels of influenza activity are being seen.

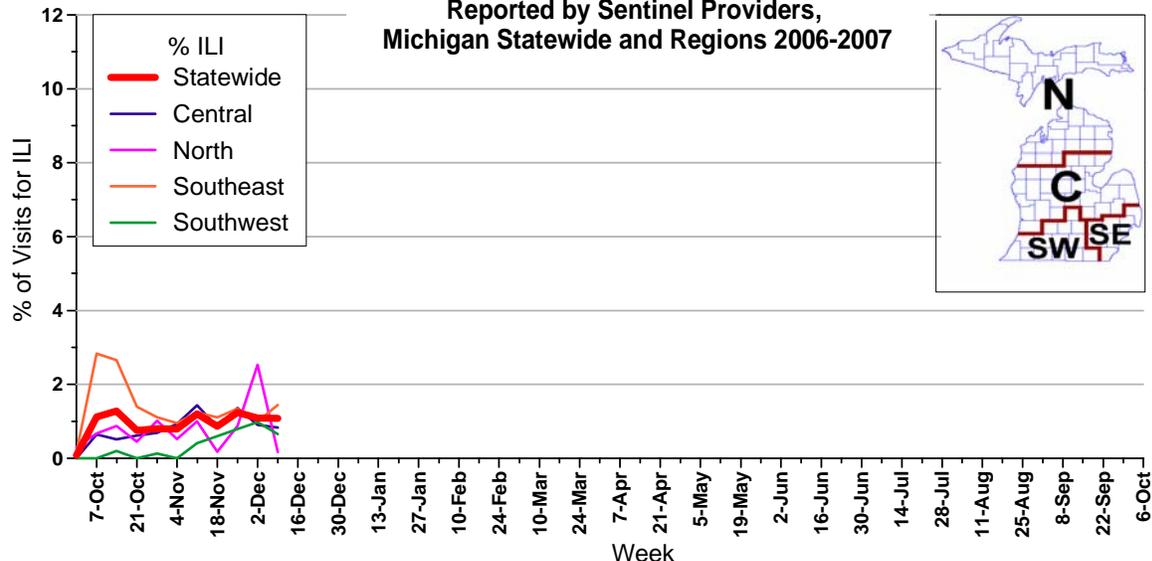
Michigan Disease Surveillance System: The last week has seen an increase in flu-like illness reports; however, it is fairly consistent with the trend seen over the past few weeks and should be considered steady. These minor weekly changes can be explained by variations in reporting. The current flu-like illness reported levels are comparable to that seen at this time last year.

Emergency Department Surveillance: Emergency department visits due to constitutional complaints have seen an increase, while respiratory complaints have seen a decrease in the last week. These levels are slightly higher but still consistent with levels seen at this time last year. Eight constitutional alerts in Regions 1(1), 2N(1), 2S(2), 3(1), 5(1), 7(1) and Statewide(1) and two respiratory alerts in Regions 2S(1) and 5(1) were generated in the past week.

Over-the-Counter Product Surveillance: OTC product sales seem to reflect the slight increase in activity over the past week. Most sales remained relatively steady or had only a slight increase in sales, with the exception of nasal products, which saw a very slight decrease and children's electrolytes, which saw a more defined increase. 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 their percentage of total sales for this time last year.

Sentinel Surveillance (as of December 14, 2006): During the week ending December 9, 2006, the proportion of visits due to influenza-like illness (ILI) remained relatively unchanged from last week at 1.1 % of all visits, representing 77 cases of ILI out of 7188 total patient visits; twenty-nine sentinels provided data for this report. The percentage of visits due to ILI in each of the four surveillance regions was 0.9%, Central; 0.1% North; 1.4%, Southeast; 0.7%, Southwest. Note that these rates may change as additional reports are received.

Percentage of Visits for Influenza-like Illness (ILI)
Reported by Sentinel Providers,
Michigan Statewide and Regions 2006-2007



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 December 14): For the 2006-2007 influenza season, there have been 11 culture-confirmed cases from the MDCH Lab; nine influenza A (Regions 1(1), 2N(5), 2S(3), 3(1), 6(1)) and two influenza B (Regions 2N(1) and 6(1)). All influenza A cultures have been H1N1 or H1-like. Six sentinel laboratories (southeast and southwest Michigan) are reporting low numbers of positive influenza 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 December 14): 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 December 14): No reports were received during the past reporting week. There have been no reports of congregated influenza outbreaks to MDCH for the 2006-2007 influenza season.

National (CDC, December 8): During week 48 (November 26 – December 2, 2006), a low level of influenza activity was reported in the United States. The proportion of patient visits to sentinel providers for influenza-like illness (ILI) and the proportion of deaths attributed to pneumonia and influenza were below baseline levels. Laboratory-confirmed influenza-associated pediatric hospitalizations are monitored in two population-based surveillance networks; no influenza-associated pediatric hospitalizations have been reported from either network this season. Four states reported regional influenza activity; four states reported local influenza activity; 27 states, the District of Columbia, and New York City reported sporadic influenza activity; and 15 states reported no influenza activity.

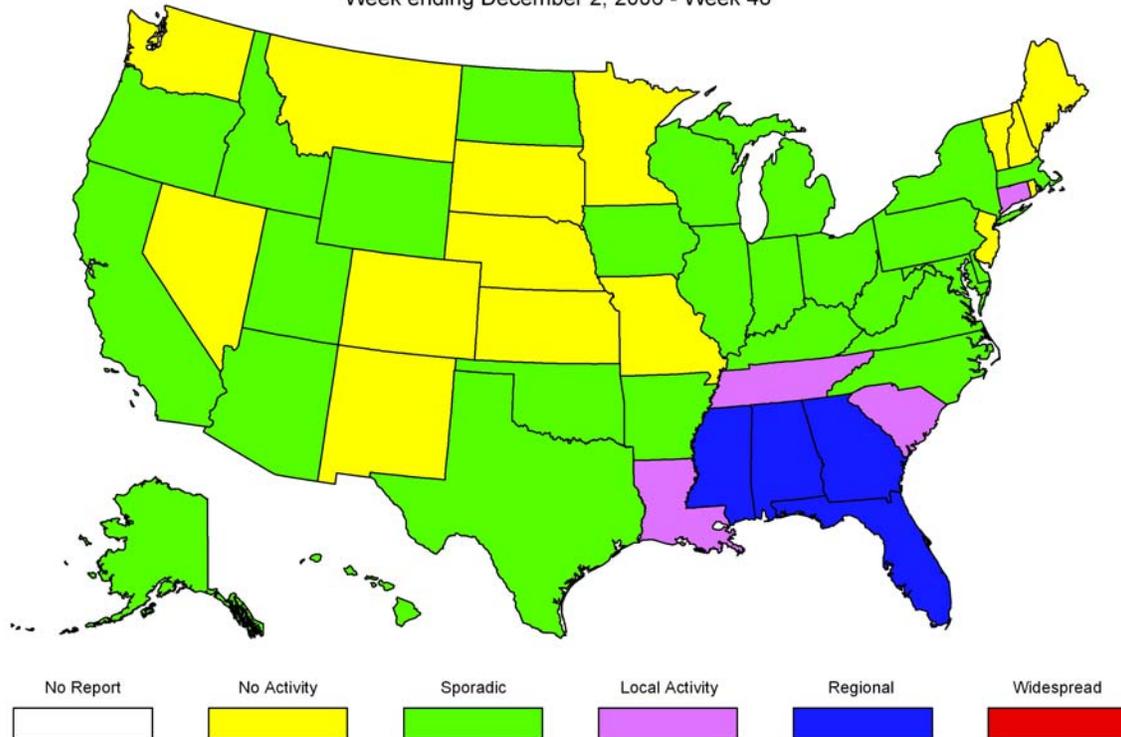
During week 48, WHO and NREVSS laboratories reported 2,441 specimens tested for influenza viruses, 106 (4.3%) of which were positive: fifteen influenza A (H1) viruses, one influenza A (H3), 61 influenza A viruses that were not subtyped, and 29 influenza B viruses.

Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 22,677 specimens for influenza; 724 (3.2%) were positive. 568 (78.5%) were influenza A viruses and 156 (21.5%) were influenza B viruses. One hundred forty-four (25.4%) of the 568 influenza A viruses have been subtyped: 135 (93.8%) were H1 viruses and 9 (6.2%) were H3 viruses. 36 states have reported positive laboratory influenza tests, but of the 724 influenza positive tests reported this season, 398 (55.0%) have been reported from Florida. CDC has antigenically characterized 27 influenza viruses (10 A (H1) and 17 B viruses) since October 1. Eight of the 10 viruses were characterized as A/New Caledonia/20/99-like, which is the influenza A (H1) component of the 2006-07 vaccine. Two of the 10 viruses showed somewhat reduced titers with antisera produced against A/New Caledonia/20/99. Six (35.3%) of the 17 B viruses characterized belong to the B/Victoria lineage of viruses. Three of these 6 viruses were similar to B/Ohio/01/2005, the B component of the 2006-07 influenza vaccine. Three of these 6 viruses showed somewhat reduced titers with antisera produced against B/Ohio/01/2005. Eleven (64.7%) of the 17 B viruses characterized belong to the B/Yamagata lineage of viruses.

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

Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists

Week ending December 2, 2006 - Week 48



International (WHO, as of December 1): During weeks 45–46, overall influenza activity worldwide remained low. During this period, low influenza activity was reported in Argentina (A and B), Belarus (A), Bulgaria (H1 and H3), Canada (A and B), Hong Kong, Special Administrative Region of China (H1, H3 and B), Iran (H3 and B), Japan (H1), Madagascar (H1, H3 and B), Mexico (A and B), Mongolia (H3), the Russian Federation (H1, H3 and B), Sweden (A), the United Kingdom (H3) and the United States (H1, H3 and B). Denmark, France, Germany, Greece, Latvia, Norway, Poland, Portugal, Romania, Senegal, Slovenia, Spain and Ukraine reported no influenza activity.

MDCH reported **SPORADIC** to the CDC for this past week ending December 9, 2006.

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 (Reuters Alertnet, December 11): South Korea's agriculture ministry said on December 11 it had found a 3rd case of highly pathogenic bird flu in North Cholla province south of Seoul. Last month, South Korea confirmed its 1st 2 outbreaks of the H5N1 strain in about 3 years, saying the virus had been found at 2 poultry farms close to each other in North Cholla province. The 3rd case was discovered at a quail farm in the same province about 170 km (100 miles) south from Seoul, some 18 km from the original outbreak, according to the ministry. "The case has been confirmed as the H5N1 strain of avian influenza," the ministry said in a statement, adding thousands of birds at the farm had died over the past 4 days. The fresh case emerged after South Korea had completed culling all 760,000 poultry near the 2 farms already discovered to have been infected with H5N1.

Michigan Pandemic Planning (MDCH, December 14): The Michigan Department of Community Health has released its second Pandemic Planning Update, which details avian and pandemic influenza activity

through October 31, 2006. Topics covered include global, national and state monitoring and surveillance, as well as MDCH pandemic planning activities. The report is available online at http://www.michigan.gov/documents/mdch/PandemicPlanningUpdate11b_180837_7.pdf.

National Wild Bird Surveillance (USDA, December 8): A Northern Shoveler from Stoddard Co., MO has been confirmed as having the H1N1 subtype of avian influenza by viral culture testing. This bird initially tested positive on 11/4/06 for the low pathogenic "North American" strain of H5N1 avian influenza.

Because these LPAI H5N1 detections are common and pose no threat to human health, USDA and DOI will post all future suspected LPAI H5N1 detections on the Internet. DOI will maintain a list of all such routine detections as part of the National Highly Pathogenic Avian Influenza Early Detection Data System (HEDDS). The low path H5N1 detection list can be accessed at <http://wildlifedisease.nhii.gov/ai/LPAITable.pdf>. A link also will be available on USDA's avian influenza Web page at <http://www.usda.gov/birdflu>. In the event of a presumptive H5N1 test result involving a large number of sick or dead birds, or other circumstances that suggest the possibility of a highly pathogenic virus, USDA and DOI will issue a news release or conduct a technical briefing to notify the media and the public.

Michigan Wild Bird Surveillance (USDA, December 8): According to the National HPAI Early Detection Data System website, available at <http://wildlifedisease.nhii.gov/ai/>, Michigan has results for a total of 1881 wild birds submitted for testing as of December 8. 386 of these birds were live-captured and tested, 1197 were hunter-killed, 123 were sentinel animals, and 175 were dead birds that were submitted for testing. HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 55,480 birds 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 December 7, 2006)

(Source: http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 12/8/2006)

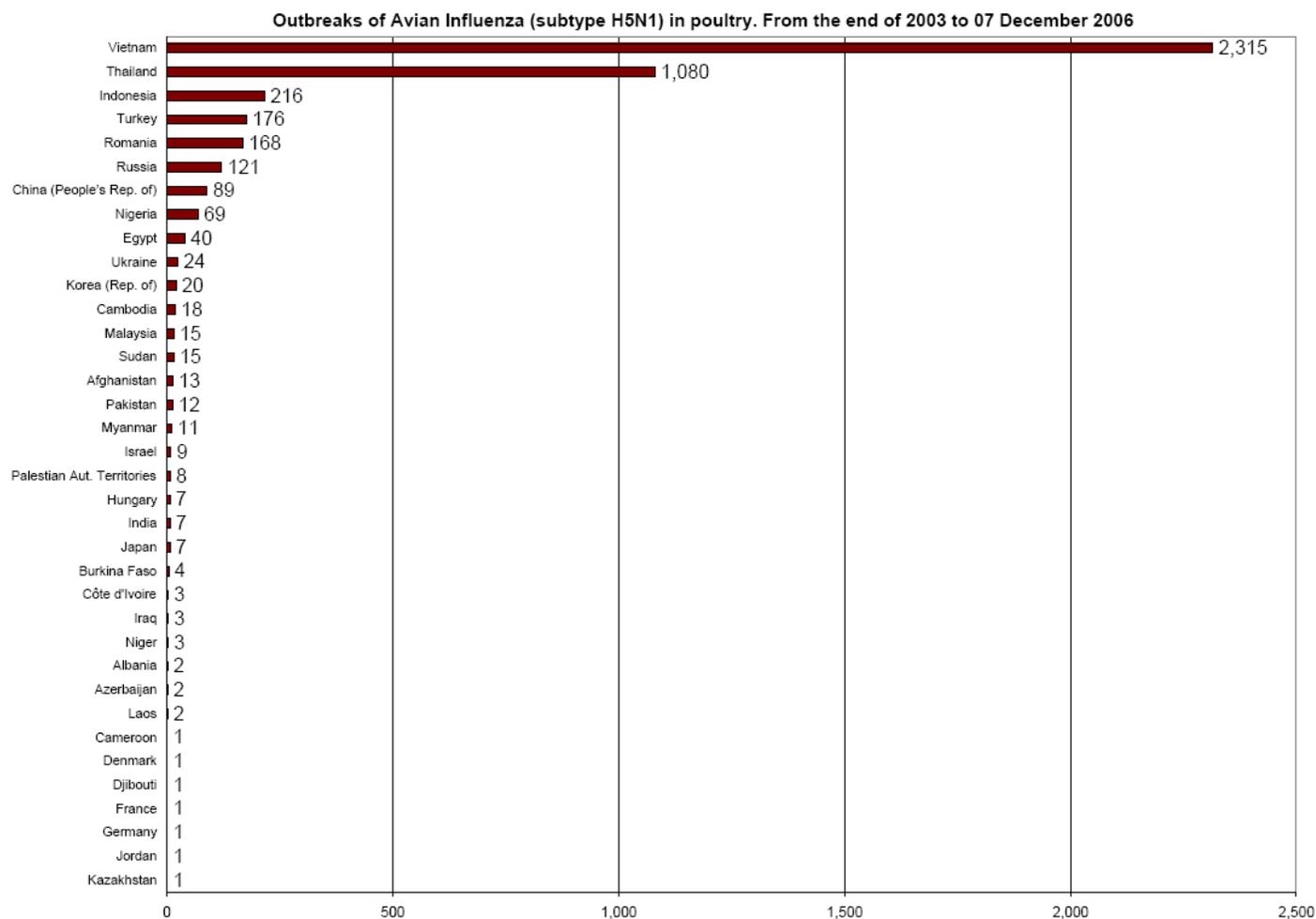


Table 2. H5N1 Influenza in Humans (Cases up to November 29, 2006)

(http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2006_06_06/en/index.html Downloaded 11/30/2006)

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	15	7	15	7
Indonesia	0	0	0	0	19	12	55	45	74	57
Iraq	0	0	0	0	0	0	3	2	3	2
Thailand	0	0	17	12	5	2	3	3	25	17
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	111	76	258	154