



MI FluFocus

Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology
Bureau of Laboratories

Michigan Department
of Community Health



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New updates in this issue:

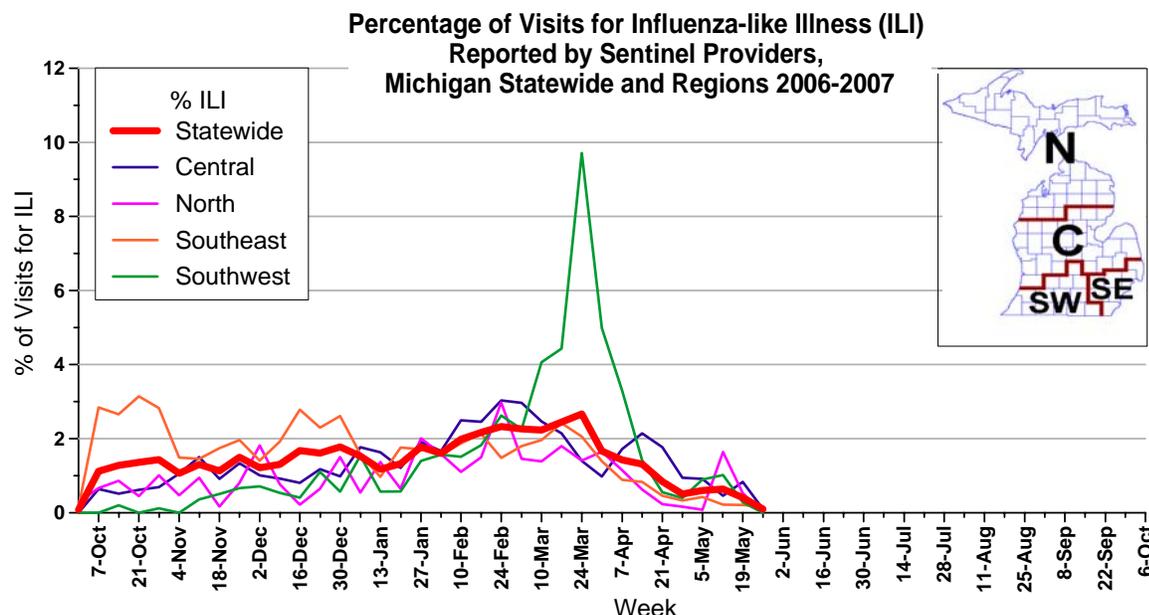
- **Michigan Surveillance:** Michigan flu indicators are at baseline levels
- **National Surveillance:** Final reports to CDC for the 2006-2007 season are all sporadic or no activity
- **Avian Influenza:** Human H5N1 in Indonesia and China; H7N2 in humans and poultry in UK

Michigan Disease Surveillance System: The last week saw both individual influenza and aggregate flu-like illness reports holding steady near the previous week's levels. These indicators are expected to continue to fluctuate at baseline levels until next fall.

Emergency Department Surveillance: Emergency department visits due to constitutional complaints saw a slight increase last week where respiratory complaints decreased very slightly. Reported levels are consistent with levels from this time last year. Eight constitutional alerts in Regions 2N(2), 2S(2), 3(2), 5(1) and 7(1) and no respiratory alerts were generated last week.

Over-the-Counter Product Surveillance: OTC product sales activity remained steady overall last week. Some products (adult cold relief liquid, children's electrolytes, and thermometers) saw very slight decreases, where internal nasal products saw a slight increase. However, none of these were to an extent that would be considered outside of normal weekly fluctuations. 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 May 31): During the week ending May 26, 2007, the proportion of visits due to influenza-like illness (ILI) in Michigan decreased to 0.1% of all visits. This represents 4 cases of ILI out of 3985 total patient visits; sixteen sentinels provided data for this report. The proportion of visits due to ILI remained at a low level in the Central (0.1%), North (0.0%), Southeast (0.2%), and Southwest (0.0%) regions. 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 the sentinel surveillance program today! Contact Rachel Potter at 517-335-9710 or potterr1@michigan.gov for more information.

Laboratory Surveillance (as of May 31): For the 2006-2007 influenza season, there have been 157 culture-confirmed cases from the MDCH Lab:

- 69 A:H1N1 (Southeast (22), Southwest (21), Central (16), North (10))
- 34 A:H3N2 (North (12), Southeast (12), Central (7), Southwest (3))
- 54 B (Central (17), Southeast (18), Southwest (12), North (7))

All influenza B cultures have been B/Malaysia, except for five B/Shanghai results and one B that is untyped.

***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 May 31): For the 2006-2007 season, there are no confirmed reports of influenza-related pediatric mortality in Michigan. MDCH and CDC continue to investigate one possible influenza-associated pediatric death in the Southeast region from March.

***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 May 31): There has been one report of an influenza A outbreak from a Central region extended care facility for the 2006-2007 influenza season. Investigations for two possible facility outbreaks, one each from the Southwest and Central regions, were unable to confirm influenza as the cause of these outbreaks.

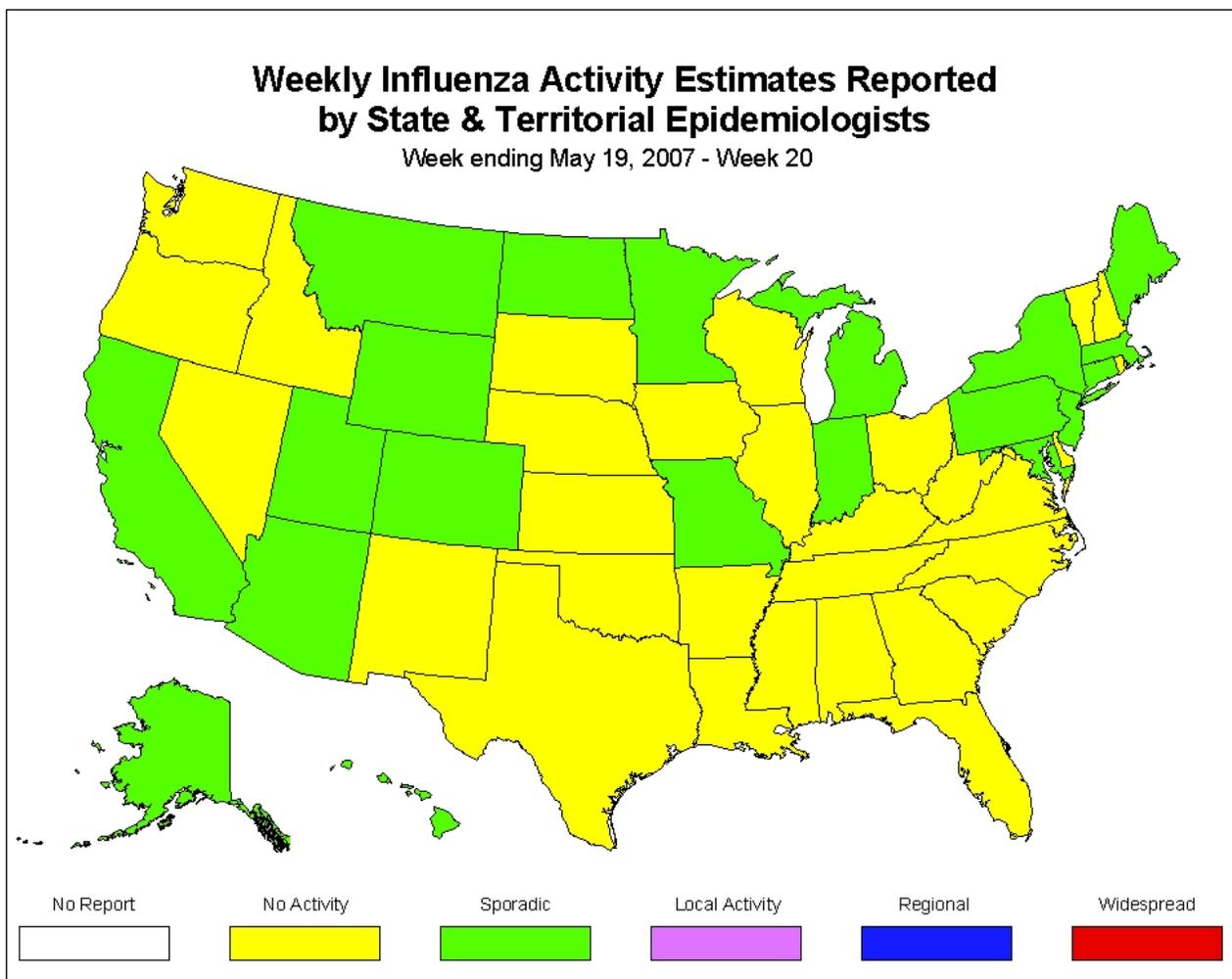
National (CDC, May 24): This is the final report of the 2006-07 season.

Influenza activity in the United States peaked in mid-February and continued to decrease during week 20 (May 13 – 19, 2007)*. Data from the U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories indicated a decrease in the number of specimens testing positive for influenza. The percentage of visits for ILI to sentinel providers decreased during week 20 and was below the national baseline for the ninth consecutive week. New York City and 20 states reported sporadic activity; and the District of Columbia and 30 states reported no influenza activity. The percent of deaths due to pneumonia and influenza has remained below baseline levels for the entire influenza season to date.

During week 20, WHO and NREVSS laboratories reported 1,063 specimens tested for influenza viruses, 30 (2.8%) of which were positive: 19 influenza A viruses that were not subtyped and 11 influenza B viruses.

Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 172,735 specimens for influenza viruses and 23,181 (13.4%) were positive. Among the 23,181 influenza viruses, 18,392 (79.3%) were influenza A viruses and 4,789 (20.7%) were influenza B viruses. Six thousand one hundred and two (33.2%) of the 18,392 influenza A viruses have been subtyped: 3,872 (63.5%) were influenza A (H1) viruses and 2,230 (36.5%) were influenza A (H3) viruses. While influenza A (H1) viruses were predominant this season overall, influenza A (H3) viruses have been reported more frequently than influenza A (H1) viruses since early March. Among specimens tested for influenza during the most recent three weeks (April 29 – May 19, 2007), on a regional basis, only the South Atlantic and Pacific regions reported >10% of specimens testing positive.

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



International (WHO, as of March 29): Overall influenza activity in the northern hemisphere remained moderate in weeks 8–11. In North America, influenza activity declined in general, while in Europe and some Asian countries and areas, widespread activity continued, with influenza A(H3N2) viruses predominating. Influenza A(H1N1) viruses circulated in the United States and in a few eastern European countries. Influenza B viruses circulated at low levels.

For influenza activity from individual countries, please visit the full WHO article “Seasonal Influenza Activity in the World, 2007” at <http://www.who.int/csr/disease/influenza/update/en/>.

Weekly influenza activity reporting to the CDC has been completed for the 2006-2007 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, Human (WHO, May 31): The Ministry of Health of Indonesia has announced a new case of human infection of H5N1 avian influenza. A 45-year-old male from Grobogan district, Central Java Province developed symptoms on 17 May, was hospitalized on 26 May and died in hospital on 28 May. Initial investigations into the source of his infection indicate exposure to dead poultry. Of the 98 cases confirmed to date in Indonesia, 78 have been fatal.

International, Human (WHO, May 30): The Ministry of Health in China has reported a new case of human infection with the H5N1 avian influenza virus. The case was confirmed by the national laboratory on 23 May. The 19-year old male soldier, serving in Fujian province, developed fever and pneumonia-like symptoms on 9 May and was hospitalized on 14 May. There is no initial indication to suggest he had contact with sick birds prior to becoming unwell. Close contacts have been placed under medical observation and all remain well. Of the 25 cases confirmed to date in China, 15 have been fatal.

International, Human H7N2 (WHO Euro Office, May 26): On 25 May 2007, the United Kingdom Health Protection Agency (HPA) announced that influenza A/H7N2 virus infection had been laboratory confirmed in four individuals exposed to infected poultry in Corwen Farm, Conwy, Wales. The poultry outbreak in Wales started on a smallholding, Corwen Farm, Conwy, on 8 May 2007, was laboratory confirmed on 24 May 2007, and notified to the World Organisation for Animal Health on 25 May 2007.

Influenza A/H7N2 virus infection was considered for five additional individuals whose laboratory results were negative. All nine individuals for whom influenza A/H7N2 virus infection was considered presented with mild symptoms including conjunctivitis and flu-like illness. Three individuals initially hospitalized have been discharged.

As a precautionary measure, the National Public Health Service for Wales and HPA North West are tracing and following up all close contacts of the individuals who have been ill.

Investigation to trace the source of the poultry outbreak at Corwen Farm, Conwy, is ongoing and the possibility that this could be epidemiologically linked to the purchase of poultry at Chelford Market, Cheshire, is being considered. Poultry keepers who visited Chelford Market on 7 May 2007 are being asked to contact animal health officials.

Influenza A/H7N2 virus, identified by laboratory tests performed so far on human and animal samples, is a low pathogenic strain of avian influenza. It is different to the highly pathogenic influenza A/H5N1 virus strain currently circulating in south east Asia and sporadically in the European Region. Influenza A/H7N2 virus infection in humans has generally been associated with a mild disease.

Other influenza A/H7 virus strains (H7N3 in the United Kingdom in 2006 and H7N7 in the Netherlands in 2003) have caused outbreaks in poultry characterized by both low and high pathogenicity. Human infections have also been reported in individuals exposed to the outbreak foci. These were asymptomatic or associated with mild illness, including conjunctivitis with flu-like symptoms. This was observed in the influenza A/H7N3 virus outbreak in the United Kingdom in 2006, when a poultry worker presented with conjunctivitis.

However, in the outbreak of highly pathogenic influenza A/H7N7 virus that affected poultry in the Netherlands in 2003, where influenza A/H7N7 virus infection was laboratory confirmed for 86 individuals with mild illness, predominantly conjunctivitis, a veterinarian with acute respiratory distress syndrome subsequently died.

(MDCH note: a very complete and interesting summary of the actions taken by the Welsh National Public Health Service including case definitions and contact investigations can be found at <http://www.wales.nhs.uk/sites3/news.cfm?orgid=719&contentid=6818>)

International, Poultry H7N2 (Welsh Assembly Government [truncated], May 29): Test results for the H7N2 strain of avian flu from poultry on a farm on the Llyn Peninsula have proved negative. The final results received today by the Welsh Assembly Government confirm that birds on the farm are not infected with this virus.

Birds on the farm were tested because of a connection with Chelford Market on 7 May which is linked to the Corwen outbreak where H7N2 was confirmed in poultry on 24 May, 2007. All birds on this site were slaughtered by 5 pm on Friday 25 May and cleansing and disinfection of the site has now been completed.

(MDCH note: the entire article can be found at
<http://new.wales.gov.uk/news/presreleasearchive/1473127/?lang=en>)

International, Poultry, Human [not confirmed by WHO] (Promed, May 30): Fowls have died en masse in Viet Nam's central Quang Ngai province and the 2 northern provinces of Thai Nguyen and Thanh Hoa over the past few days, local media reported Wednesday [30 May 2007].

The fowls might have died [as a result of infection by] bird flu virus strain H5, said Labor newspaper. Since early May [2007], nearly 50 000 ducks, chickens, and quails have either died or been culled due to bird flu.

Bird flu, [which first struck] Viet Nam in December 2003, has hit 10 Vietnamese cities and provinces, namely Quang Ninh, Son La, Nam Dinh, Hai Phong, Bac Giang, Ninh Binh, and Bac Ninh in the northern region, Nghe An in the central region, and Can Tho and Dong Thap in the southern region, since early this month [May 2007]. [An administrative map of Viet Nam is available at <<http://www.angelfire.com/co/hongnam/vnmap.html>>. - Mod.AS]

A 30-year-old man of northern Vinh Phuc province, who exhibited bird flu symptoms on [10 May 2007,] after slaughtering chickens for a wedding party, has recently been confirmed by Viet Nam's Health Ministry as the country's 1st bird flu patient since mid-November 2005. Not needing a respirator any more, he is now recovering at the Bach Mai Hospital in Hanoi capital, said Pioneer newspaper.

To date, Viet Nam has reported a total of 94 human cases of bird flu infections. However, the World Health Organization (WHO) has yet to confirm the latest case.

Michigan Wild Bird Surveillance (USDA, May 18): The final numbers for Michigan's 2006 season were 3099 total samples, of which DNR collected 1090 and USDA-WS collected 2009. Samples consisted of live-captured birds (193), agency harvested birds (378), hunter-harvested (1191), sentinel animals (195), morbidity/mortality events (136), and environmental samples (1006, USDA-WS). 90 Michigan samples have been taken so far for the 2007 testing season (82 from USDA-WS and 8 from DNR).

According to the USDA Wildlife Services weekly Avian Influenza Surveillance report, HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 633 birds or environmental samples tested nationwide. The 2007 testing season will run from April 1, 2007-March 31, 2008. For more information, visit the National HPAI Early Detection Data System website at <http://wildlifedisease.nbio.gov/ai/>.

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.

Contributors

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Table 1. H5N1 Influenza in Poultry (Outbreaks up to May 29, 2007)

(Source: http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 5/30/2007)

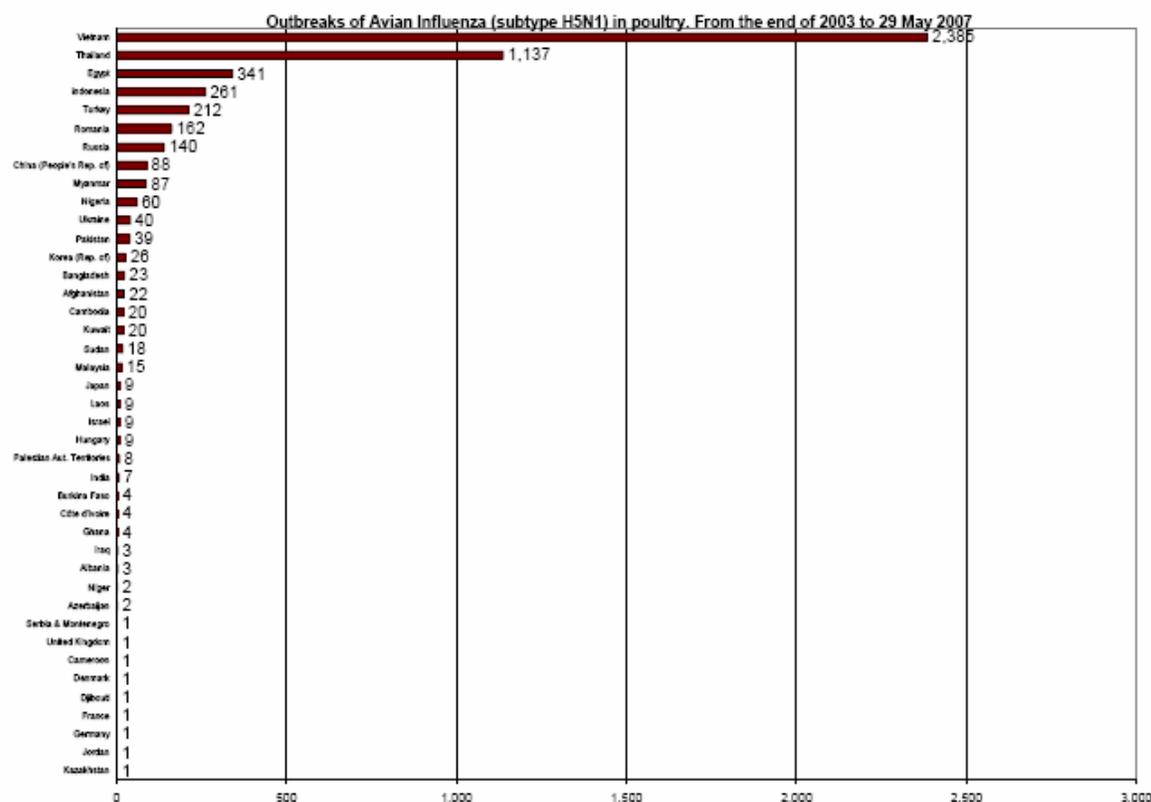


Table 2. H5N1 Influenza in Humans (Cases up to May 31, 2007)

(http://www.who.int/csr/disease/avian_influenza/country/cases_table_2007_05_31/en/index.html Downloaded 5/31/2007)

Cumulative number of lab-confirmed human cases reported to WHO. Total number of cases includes deaths.

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	1	1	7	7
China	1	1	0	0	8	5	13	8	3	1	25	15
Djibouti	0	0	0	0	0	0	1	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	16	4	34	14
Indonesia	0	0	0	0	20	13	55	45	23	20	98	78
Iraq	0	0	0	0	0	0	3	2	0	0	3	2
Lao People's Democratic Republic	0	0	0	0	0	0	0	0	2	2	2	2
Nigeria	0	0	0	0	0	0	0	0	1	1	1	1
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	98	43	115	79	46	29	309	187