



# 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:** Influenza activity continues to be sporadic across the state.
- **National Surveillance:** Influenza activity continues to be low nationwide.
- **Avian Influenza:** Indonesia confirms two human cases of H5N1 infection from November.

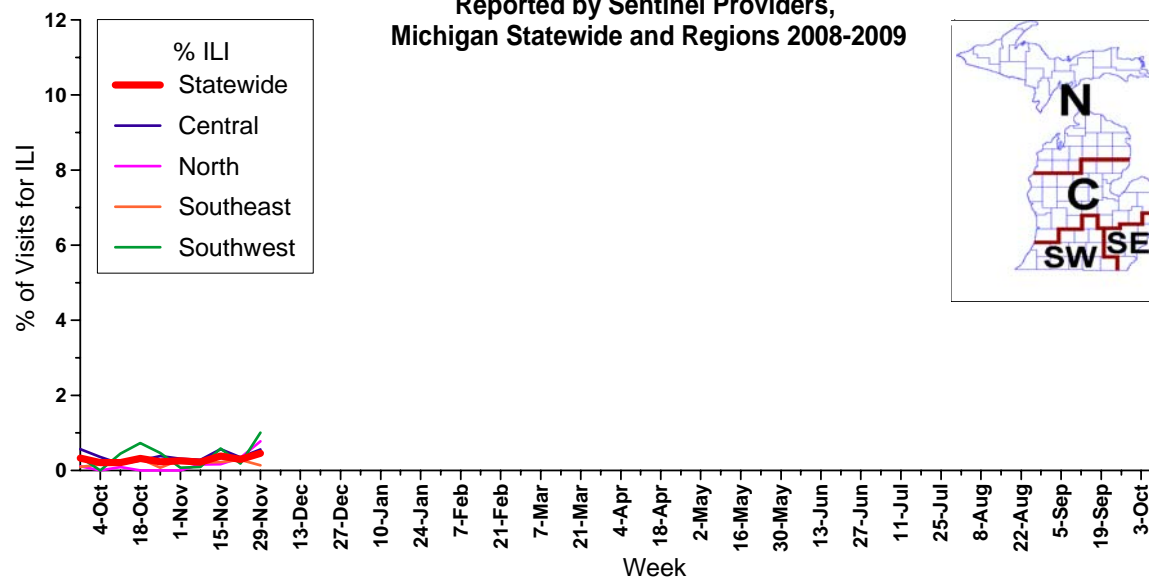
**Michigan Disease Surveillance System:** The week ending December 6 saw aggregate flu-like disease reports increase slightly, while individual influenza numbers were close to what was seen last week. Individual reports are consistent with levels seen at this time last year, while aggregate numbers are slightly lower.

**Emergency Department Surveillance:** Emergency department visits from both respiratory and constitutional complaints held steady near last week's numbers. These numbers are consistent with those seen this time last year. Six constitutional alerts in the C(2), N(2) and SW(1) Influenza Surveillance Regions as well as one statewide alert and seven respiratory alerts in the C(3), N(2), SW(2) Influenza Surveillance Regions were generated last week.

**Over-the-Counter Product Surveillance:** Overall, OTC product sales were mostly steady last week. Only children's electrolytes saw a slight increase in sales last week. The remainder of the indicators held near last week's numbers. Indicator levels are comparable to those seen at this time last year.

**Sentinel Provider Surveillance (as of December 11):** During the week ending December 6, 2008, the proportion of visits due to influenza-like illness (ILI) remained unchanged at 0.5% overall; 39 patient visits due to ILI were reported out of 7,708 office visits. This level of ILI activity is consistent with that reported at this time during prior years' surveillance. Activity remains low in three of the four surveillance regions: North (0.7%), Central (0.4%), and Southeast (0.1%). Activity increased in the Southwest (1.5%); however half of the cases were reported by a new sentinel site that has not reported previously this season. Twenty-nine sentinels provided data for this report. 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 2008-2009



As part of pandemic influenza preparedness, CDC and MDCH highly encourage 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](mailto:potterr1@michigan.gov) for more information.

**Laboratory Surveillance (as of December 11):** One new influenza A isolate was identified at the MDCH Bureau of Laboratories (BOL) during the past week. For the 2008-2009 influenza season, MDCH BOL has identified three influenza isolates:

- 1 A/H1N1
- 1 A, subtype pending
- 1 B/Florida/4/2006-like. B/Florida/4/2006-like matches the influenza B component of this season's Northern Hemisphere influenza vaccine.

Sporadic levels of influenza A and B were reported by sentinel laboratories in the SE Influenza Surveillance Region; sporadic influenza B positives were reported from the Northern Region as well. Sporadic parainfluenza (SE,C) and RSV (SE,SW,C,N) tests are also being reported.

\*\*\*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 11):** No influenza-associated pediatric mortalities have been reported to MDCH for the 2008-2009 influenza season.

\*\*\*The CDC has asked all states to collect information on any pediatric death associated with influenza infection. This includes not only any death in a child (<18 years) resulting from a compatible illness confirmed to be influenza by an appropriate diagnostic test, but also any unexplained death with evidence of an infectious process in a child. Please immediately call MDCH to ensure that proper clinical specimens are obtained. View the complete MDCH protocol online at [http://www.michigan.gov/documents/mdch/ME\\_pediatric\\_influenza\\_guidance\\_v2\\_214270\\_7.pdf](http://www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf).

**Congregate Settings Outbreaks (as of December 11):** During the past week, one nursing home outbreak in the Central Surveillance Region due to influenza A was reported to MDCH. Attempts are underway to confirm and subtype this outbreak. One congregated setting outbreak due to influenza has been reported to MDCH for the 2008-2009 influenza season.

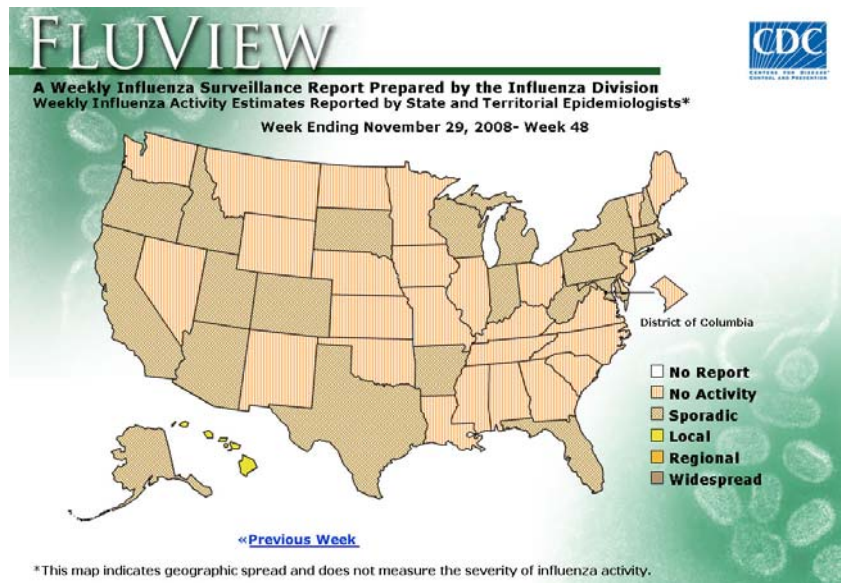
**National (CDC [edited], December 5):** During week 48 (November 23-29, 2008), a low level of influenza activity was reported in the United States. Forty-three (2.0%) specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories, and reported to CDC/Influenza Division, were positive for influenza. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold. The proportion of outpatient visits for influenza-like illness (ILI) was below national and region-specific baseline levels. One state reported local influenza activity; Puerto Rico and 22 states reported sporadic influenza activity; and the District of Columbia and 27 states reported no influenza activity.

CDC has antigenically characterized 30 influenza viruses [20 influenza A (H1), three influenza A (H3) and seven influenza B viruses] collected by U.S. laboratories since October 1, 2008. All influenza A (H1) viruses were characterized as A/Brisbane/59/2007-like and all influenza A (H3) viruses were characterized as A/Brisbane/10/2007-like, the influenza A (H1N1) and influenza A (H3N2) components included in the 2008-09 influenza vaccine. Influenza B viruses currently circulating can be divided into two antigenically distinct lineages represented by the B/Yamagata/16/88 and B/Victoria/02/87 viruses. Four influenza B viruses were characterized as B/Florida/04/2006-like, belonging to the B/Yamagata lineage, the influenza B component of the 2008-09 influenza vaccine, while the remaining three viruses belong to the B/Victoria lineage.

Data on antigenic characterization should be interpreted with caution given that:

1. Few U.S. isolates are available for testing because of limited flu activity thus far.
2. The majority of viruses antigenically characterized to date come from only two states and may not be nationally representative.
3. Antigenic characterization data is based on hemagglutination inhibition (HI) testing using a panel of reference ferret antisera and results may not correlate with clinical protection against circulating viruses provided by influenza vaccination.

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



**International (WHO, November 20):** During the weeks 45-46, the level of overall influenza activity in the world remained low with sporadic activity observed in some countries.

Between weeks 45-46 sporadic influenza activity was detected in Argentina (A), Belarus (A), Brazil (A), Cameroon (H1, B), Canada (A,B), Chile (A, B), China (H1, B), China, Hong Kong Special Administrative Region (H1,H3,B), Denmark (H3), Egypt (H3), France (H3), the Islamic Republic of Iran (H1, H3), Italy (H3), Japan (B), Kenya (A), Norway (H3,B), Portugal (H3), Romania (H3), Russian Federation (H3,B), Switzerland (A), Tunisia (H1), the United Kingdom of Great Britain and Northern Ireland (H3, H1) and the United States of America (H1, H3, B).

Belgium, Bulgaria, Finland, Greece, Latvia, Oman, Poland, Senegal, and Slovenia reported no influenza activity.

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MDCH reported **SPORADIC INFLUENZA ACTIVITY** to the CDC for the week ending December 6, 2008.

For stakeholders interested in additional information regarding influenza vaccination and education, the MDCH publication *Michigan FluBytes* is available online at [http://www.michigan.gov/mdch/0,1607,7-132-2940\\_2955\\_22779\\_40563-125027--,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html). *FluBytes* is published weekly during the influenza season.

## End of Seasonal Report

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### 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, December 9):** The Ministry of Health of Indonesia has announced two new confirmed cases of human infection with the H5N1 avian influenza virus. A 9-year-old female from Riau Province developed symptoms on 7 November and was hospitalized on 12 November. She recovered and was discharged from hospital on 27 November. Laboratory tests confirmed the presence of the H5N1 avian influenza virus. Investigations into the source of her infection indicate poultry deaths at her home on 2 November.

The second case, a 2-year-old female from East Jakarta, developed symptoms on 18 November, was hospitalized on 26 November and died on 29 November. Laboratory tests have confirmed infection with the H5N1 avian influenza virus. Initial investigations into the source of her infection suggest exposure at a live bird market.

Of the 139 cases confirmed to date in Indonesia, 113 have been fatal.

**International, Poultry (Reuters UK, December 9):** Hong Kong health authorities raised the city's bird flu alert level to "serious" Tuesday after the H5 virus killed dozens of chickens at a farm, prompting the cull of 80,000 birds.

Laboratories in the city were now trying to determine the precise identity of the virus. A leading expert said it was likely to turn out to be the highly pathogenic H5N1 strain, which turns up regularly in flocks in Asia, parts of Europe and Africa.

"It's highly likely it's the highly-pathogenic H5N1 strain because others (other H5 strains) don't kill chickens like this. But this has to be confirmed," virologist Malik Peiris at the University of Hong Kong said.

Although H5N1 is mainly a disease among birds, it may mutate into a form that spreads easily among people. If that happens, it could trigger a pandemic and kill millions. Even in its current hard-to-catch form, H5N1 has infected 387 people since 2003, killing 245 of them.

The city's Health Secretary York Chow said the affected farm was in Hong Kong's northern Yuen Long district near the border with China, which reported the unusual deaths of 60 chickens Monday.

"After a series of tests, we have confirmed this morning that the chickens died from the H5 virus," Chow told reporters, adding three dead chickens were tested and 20 faeces samples were taken.

Workers clad in masks, white medical suits and black rubber gloves began the mass cull of some 80,000 birds at the farm on Tuesday afternoon, and were shown stuffing piles of chicken carcasses into black bin bags. All chickens within a 3 km radius of the farm will be destroyed, along with birds at a wholesale market, Chow said.

Chicken farms in Hong Kong observe strict biosecurity measures to prevent disease and cross-infection between species, and chickens are vaccinated against the H5N1.

It was not immediately known how the chickens became infected. "It could be injection (of the virus) from wild birds. These (incidences) increase in winter. But it is not the only possibility," Peiris said.

The scenes were reminiscent of previous culls in 1997 and 2001, when the H5N1 virus prompted the slaughter of more than one million birds each time. In the 1997 outbreak, six people died.

Chow also ordered a precautionary three-week ban on poultry imports to contain any potential spread of the virus. "We will ban all the outlets of all chickens from our farms for 21 days and also suspend all the imports of chicken and poultry including birds for the next 21 days," Chow added.

The last bird flu outbreak at a Hong Kong farm occurred in early 2003.

**Michigan Wild Bird Surveillance (USDA, as of December 4):** For the 2008 testing season, 1985 Michigan samples have been taken so far, comprised of 327 live birds, 1176 hunter-killed birds, 32 morbidity or mortality samples and 450 environmental samples.

H5N1 subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 64,182 birds or environmental samples tested nationwide for the 2008 testing season, which will run from April 1, 2008 - March 31, 2009. 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>.

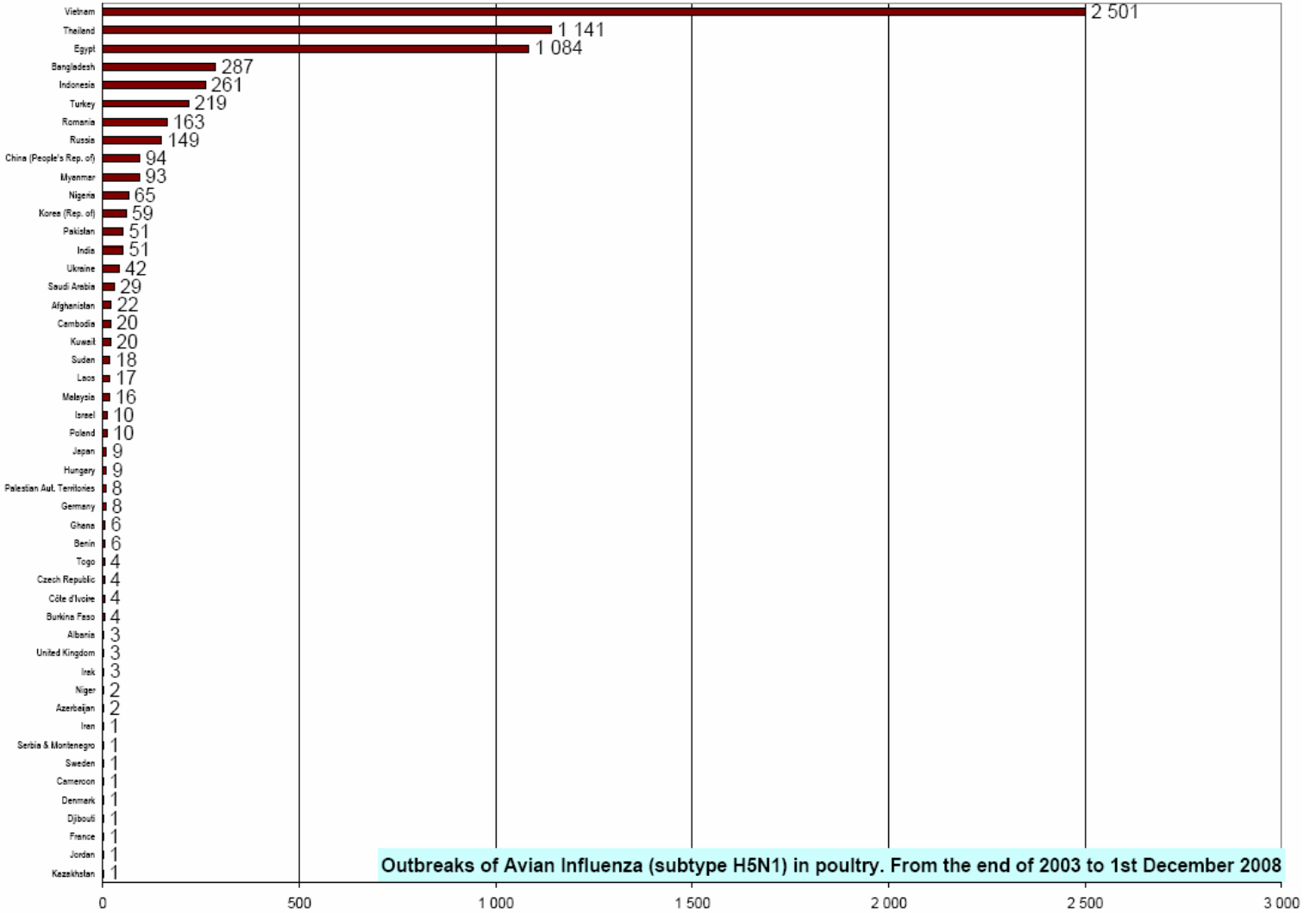
**Please contact Susan Vagasky at [VagaskyS@Michigan.gov](mailto:VagaskyS@Michigan.gov) with any questions regarding this newsletter or to be added to the weekly electronic mailing list.**

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**Table 1. H5N1 Influenza in Poultry (Outbreaks up to December 1, 2008)**

(Source: [http://www.oie.int/downld/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm) Downloaded 12/5/08)



**Outbreaks of Avian Influenza (subtype H5N1) in poultry. From the end of 2003 to 1st December 2008**

**Table 2. H5N1 Influenza in Humans (Cases up to December 9, 2008)**

([http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2008\\_12\\_09/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2008_12_09/en/index.html) Downloaded 12/9/2008)

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

Country	2003		2004		2005		2006		2007		2008		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	1	0
Cambodia	0	0	0	0	4	4	2	2	1	1	0	0	7	7
China	1	1	0	0	8	5	13	8	5	3	3	3	30	20
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	7	3	50	22
Indonesia	0	0	0	0	20	13	55	45	42	37	22	18	139	113
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	3	2
Lao PDR	0	0	0	0	0	0	0	0	2	2	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	5	5	106	52
<b>Total</b>	<b>4</b>	<b>4</b>	<b>46</b>	<b>32</b>	<b>98</b>	<b>43</b>	<b>115</b>	<b>79</b>	<b>88</b>	<b>59</b>	<b>38</b>	<b>29</b>	<b>389</b>	<b>246</b>