



# MI FluFocus

## Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology  
Bureau of Laboratories



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### New updates in this issue:

- **Michigan Surveillance:** Influenza surveillance indicators are indicating sporadic influenza activity.
- **National Surveillance:** Influenza activity continues at low levels; 21 states report sporadic activity.

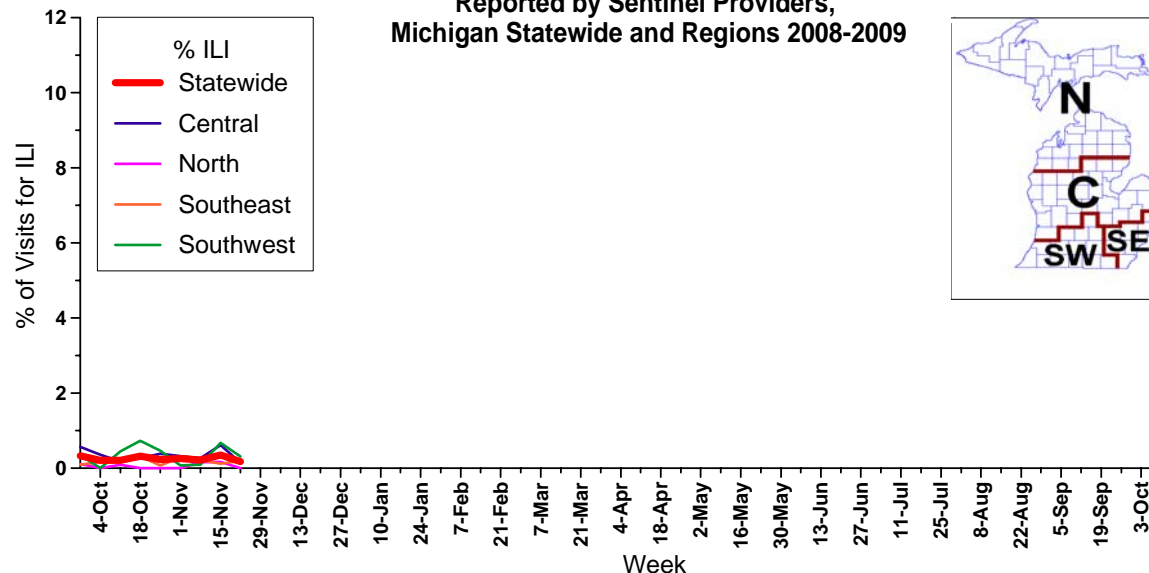
**Michigan Disease Surveillance System:** The week ending November 22 saw a very slight decrease in aggregate flu-like disease reports last week, while individual influenza numbers held close to what was seen last week. Individual reports are consistent with levels seen at this time last year, while aggregate numbers are slightly lower.

**Emergency Department Surveillance:** Emergency department visits from respiratory complaints remained steady near last week's levels, while constitutional complaints decreased slightly. Complaints from both categories are slightly lower than what was seen this time last year. Eight constitutional alerts in the C(4), N(1), SE(1) and SW(2) Influenza Surveillance Regions and three respiratory alerts in the C(3) Influenza Surveillance Region were generated last week.

**Over-the-Counter Product Surveillance:** Overall, OTC product sales were mixed last week. Thermometers and cough and cold medication remained near last week's numbers. The remainder of the indicators increased slightly in sales over the week. All indicators, except cough and cold, seem to be showing a slight trend upward over the last few weeks. Indicator levels are comparable to those seen at this time last year.

**Sentinel Provider Surveillance (as of November 26):** During the week ending November 22, 2008, the proportion of visits due to influenza-like illness (ILI) remained at a low level, 0.2% overall; 16 patient visits due to ILI were reported out of 9,064 office visits. This level of ILI activity is consistent with that reported in late fall during prior years' surveillance. 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 November 26):** No new isolates were identified at the MDCH Bureau of Laboratories (BOL) during the past week. For the 2008-2009 influenza season, MDCH BOL has identified two influenza isolates:

- 1 A/H1N1
- 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 positive influenza A tests are being reported by sentinel laboratories from the Southeast Influenza Surveillance region, and sporadic influenza B positives were reported from lab in the Southeast and North regions. Low levels of RSV are being seen in the Southeast, Southwest and Central regions and sporadic parainfluenza positives were noted in the Southeast and Central regions.

\*\*\*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.

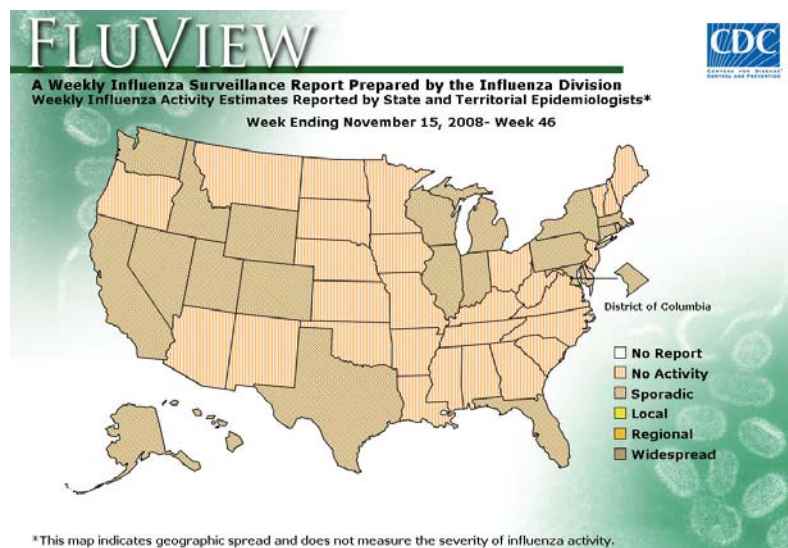
**Influenza-Associated Pediatric Mortality (as of November 26):** No influenza-associated pediatric mortalities have been reported to MDCH for the 2008-2009 influenza season.

\*\*\*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 November 26):** No congregated setting outbreaks due to influenza have been reported to MDCH for the 2008-2009 influenza season.

**National (CDC [edited], November 21):** During week 46 (November 9-15, 2008), a low level of influenza activity was reported in the United States. Sixteen (0.9%) 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. Twenty-one states, the District of Columbia, and Puerto Rico reported sporadic influenza activity and 29 states reported no influenza activity. One human infection with a novel influenza A virus was reported.

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 Nov. 22, 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.

**National, Human (CIDRAP, November 24):** The Centers for Disease Control and Prevention (CDC), in its latest update on the nation's seasonal influenza activity, reported on a person who was infected with a swine influenza virus following several exposures to pigs, including a sick one. The CDC said the patient was infected with a swine influenza A/H1N1 virus. Although human infections with swine flu viruses are uncommon, many years bring reports of isolated cases, the report said.

The Texas Department of State Health Services, in a flu surveillance activity report for the week ending 15 Nov 2008, said the patient got sick in mid-October. The patient's specimen was collected and the virus identified during routine influenza surveillance. Texas officials, who gave no details about [the patient's] illness, said their investigation found no illnesses in [the patient's] household or close contacts.

According to the CDC's background information on swine flu, the agency receives about one human influenza isolate each year that tests positive for a swine influenza virus. H1N1 and H3N2 swine flu viruses are endemic in US pig populations. In September 2008, researchers from the CDC and public health officials from Wisconsin published a case report in *Emerging Infectious Diseases* on a healthy 17-year-old boy who had mild respiratory symptoms in December 2005, 3 days after helping his brother-in-law butcher pigs. At an outpatient clinic a few days later, health care workers collected nasal wash specimens, which tested positive for influenza A and were forwarded to the Wisconsin State Laboratory of Hygiene. Though further testing isolated influenza A, the virus didn't match human H3 or H1 subtypes or the H5 avian subtype. CDC investigators sequenced the virus, identifying it as a swine influenza A (H1N1) triple reassortant virus, A/Wisconsin/87/2005 H1N1.

The report said that triple reassortant H1N1 subtypes are the predominant genotype in North American pigs and that human swine flu illnesses often mimic seasonal flu infections. The authors recommended that clinicians ask patients with unexplained influenza-like illnesses about exposure to animals, including pigs, and visits to petting zoos and county fairs.

Human infections with novel influenza A subtypes now are nationally notifiable diseases in the United States, the group reported. Though human-to-human swine flu transmission is rare, the CDC said human infections with swine H1N1 viruses should be investigated to ensure that they are not spreading among humans -- as spread could represent a pandemic threat -- and to monitor changes in circulating viruses.

In 1988, an H1N1 swine flu virus was found in a previously healthy 32-year-old pregnant woman who died 8 days after she was hospitalized for pneumonia, according to the CDC. 4 days before she got sick she had visited a swine exhibit at a county fair where a flu-like illness was widespread among the pigs. Follow-up studies showed that 76 percent of swine exhibitors had antibodies to the swine flu virus, though no illnesses were reported. However, researchers found that one to 3 health care workers who had contact with the woman experienced mild flu symptoms with antibody evidence of swine flu exposure.

In December 2007, researchers reported that a new swine flu subtype found recently in Missouri pigs [H2N3] combined genes from avian and swine flu viruses, could cause experimentally induced infections in mice, and was transmissible in pigs and ferrets. The findings, which appeared in Proceedings of the National Academy of Sciences (PNAS), bolstered the theory that pigs can serve as a mixing vessel for flu viruses and a possible source for a human pandemic strain.

The CDC said swine flu outbreaks in pigs typically occur in late fall and winter months. The agency said seasonal influenza vaccines are likely to partially protect against swine H3N2 viruses, but not the H1N1 subtype.

**Michigan Wild Bird Surveillance (USDA, as of November 26):** For the 2008 testing season, 1977 Michigan samples have been taken so far, comprised of 327 live birds, 1168 hunter-killed birds, 32 morbidity or mortality samples and 450 environmental samples.

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.**

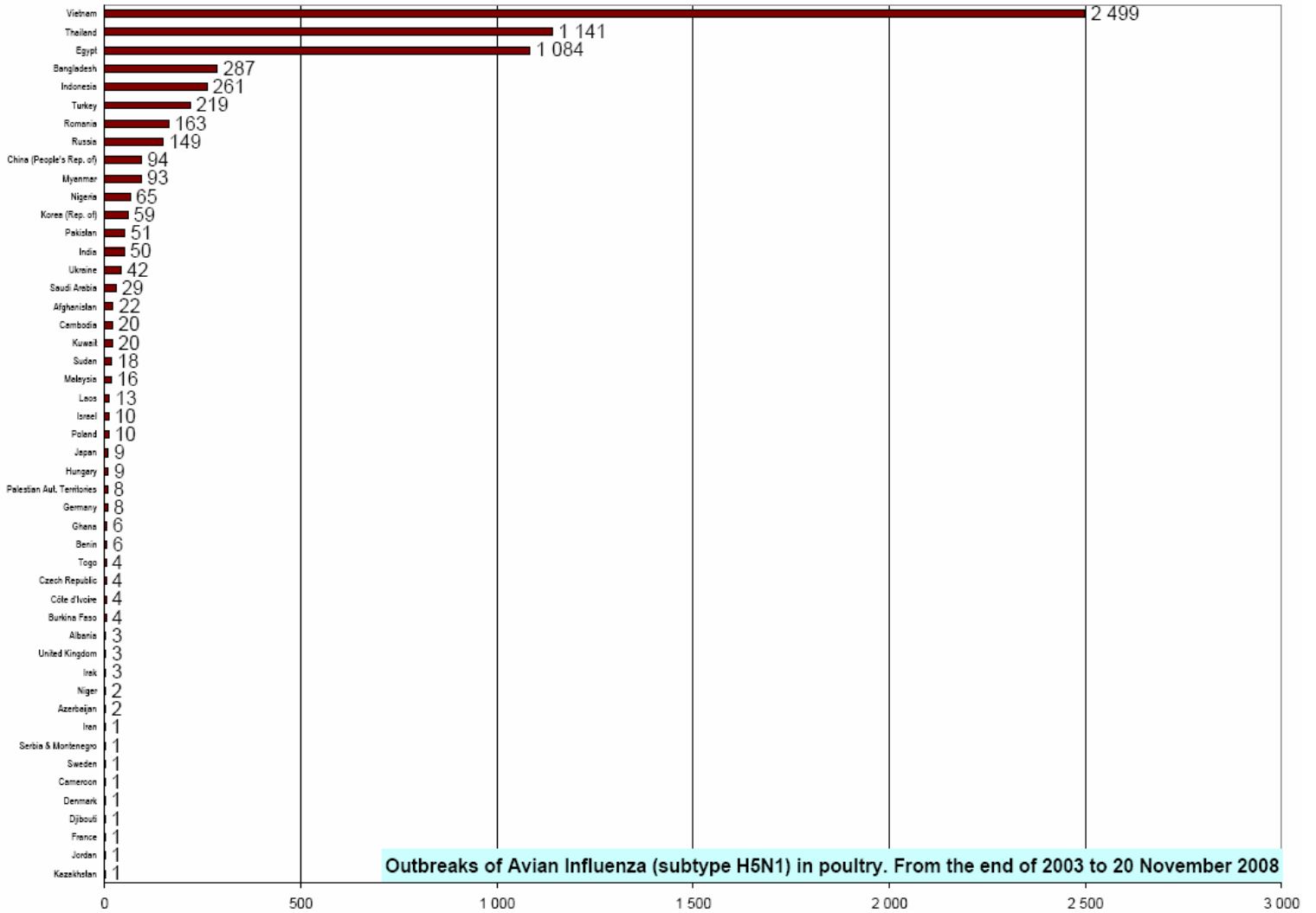
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**Table 1. H5N1 Influenza in Poultry (Outbreaks up to November 20, 2008)**

(Source: [http://www.oie.int/downld/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm) Downloaded 11/24/08)



**Table 2. H5N1 Influenza in Humans (Cases up to September 10, 2008)**

([http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2008\\_09\\_10/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2008_09_10/en/index.html) Downloaded 9/10/2008)

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	20	17	137	112
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
Total	4	4	46	32	98	43	115	79	88	59	36	28	387	245