



# MI Flu Focus

Influenza Surveillance Updates  
Bureaus of Epidemiology and Laboratories

Michigan Department  
of Community Health



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## Current Influenza Activity Levels:

- **Michigan:** Regional activity
- **National:** During week 49 (December 2-8), influenza activity increased in the U.S.

## Updates of Interest

- **Michigan:** 2 pediatric influenza-associated deaths were reported this week
- **International:** WHO announces two new human cases of avian influenza H5N1

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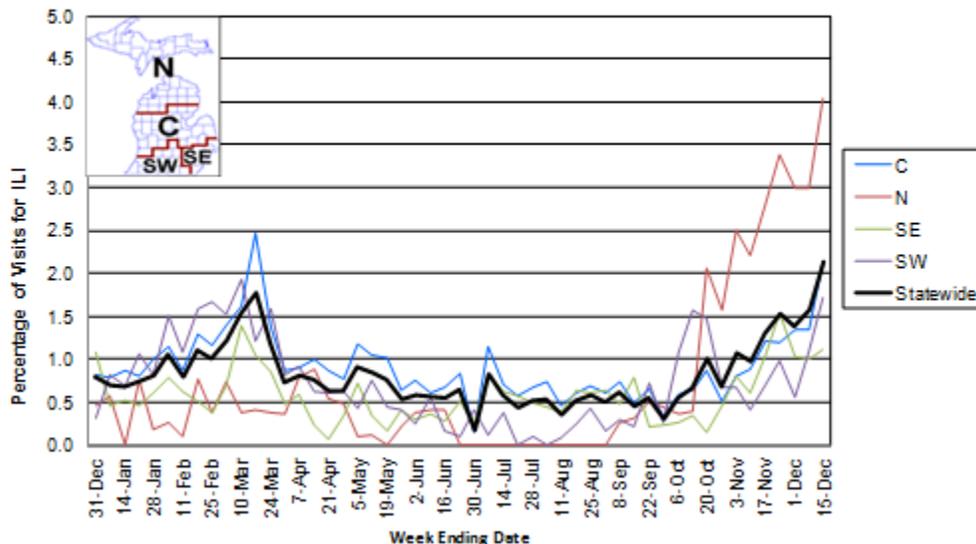
## Influenza Surveillance Reports

**Michigan Disease Surveillance System (as of December 20):** MDSS data for the week ending December 15<sup>th</sup> indicated that compared to levels from the previous week, both aggregate and individual reports increased. Aggregate reports are slightly increased compared to levels seen during the same time period last year, while individual reports are noticeably increased.

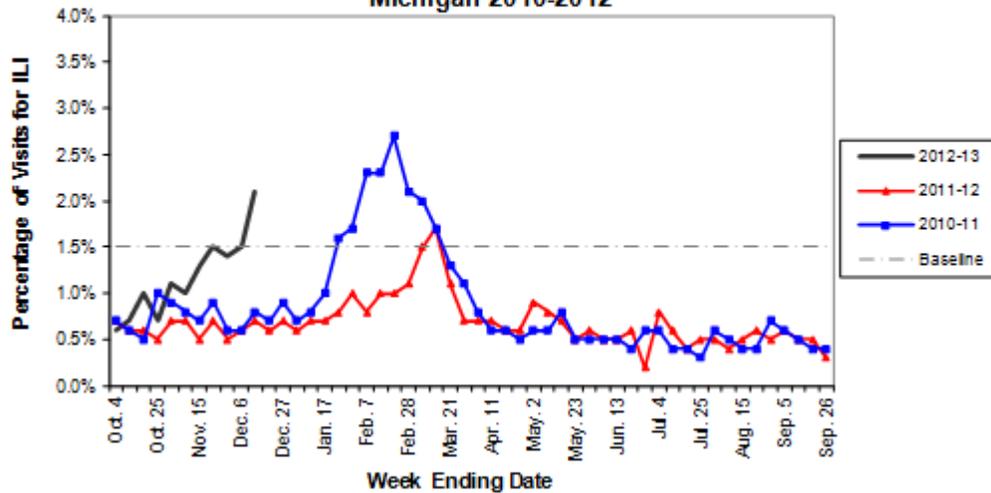
**Emergency Department Surveillance (as of December 20):** Compared to levels from the week prior, emergency department visits from constitutional complaints increased, while respiratory complaints remained steady. Constitutional complaints are slightly higher than levels reported during the same time period last year, while respiratory complaints are similar. In the past week, there were 12 constitutional alerts in the SW(5), C(5) and N(2) Influenza Surveillance Regions and eight respiratory alerts in the SW(2) and C(6) Regions.

**Sentinel Provider Surveillance (as of December 20):** During the week ending December 15, 2012, the proportion of visits due to influenza-like illness (ILI) increased to 2.1% overall; this is above the regional baseline (1.5%). A total of 200 patient visits due to ILI were reported out of 9,368 office visits. Data were provided by thirty-two sentinel sites from the following regions: C (9), N (10), SE (11) and SW (2). ILI activity increased in all four surveillance regions: Central (2.1%), North (4.0%), Southeast (1.1%) and Southwest (1.7%). Please Note: these rates may change as additional reports are received.

Percentage of Visits for Influenza-like Illness (ILI)  
Reported by Sentinel Providers, Statewide and Regions  
2011-2012 and 2012-13 Flu Seasons



**Percentage of Visits for Influenza-like Illness (ILI) Reported by the  
US Outpatient Influenza-like Illness Surveillance Network (ILINet):  
Michigan 2010-2012**



As part of pandemic influenza surveillance, CDC and MDCH highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Cristi Carlton at 517-335-9104 or CarltonC2@michigan.gov for more information.

**Hospital Surveillance (as of December 15):** The CDC Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness through active surveillance and chart review of lab-confirmed cases, starting on October 1, 2012, in the Clinton, Eaton, Genesee, and Ingham counties. One adult and two pediatric cases were identified during the past week. As of December 15<sup>th</sup>, there have been 9 influenza hospitalizations (3 adult, 6 pediatric) within the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. 10 hospitals (SE, SW, C, N) reported for the week ending December 15, 2012. Results are listed in the table below.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2012-13 Season
0-4 years	0	2 (1SE, 1C)
5-17 years	1 (1C)	4 (2SE, 1C, 1N)
18-49 years	1 (1N)	3 (2SE, 1N)
50-64 years	0	2 (1SE, 1N)
≥65 years	1 (1SW)	4 (1SE, 1SW, 2N)
<b>Total</b>	3 (1SW, 1C, 1N)	15 (7SE, 1SW, 2C, 5N)

**Laboratory Surveillance (as of December 15):** During December 9-15, 76 positive influenza A/H3 results (18SE, 38SW, 14C, 6N), 2 2009 A/H1N1pdm (2SE) and 8 influenza B (1SE, 3SW, 2C, 2N) results were reported by MDCH BOL. For the 2012-13 season (starting Sept. 30, 2012), MDCH has identified 149 influenza results:

- Influenza A(H3): 124 (36SE, 51SW, 22C, 11N)
- Influenza A(H1N1)pdm09: 4 (3SE, 1N)
- Influenza B: 25 (7SE, 8SW, 8C, 2N)
- Parainfluenza: 6 (2SW, 4N)
- RSV: 1 (1N)

14 sentinel labs (SE, SW, C, N) reported for the week ending December 15, 2012. 11 labs (SE, SW, C, N) reported flu A activity; activity at most was low but increasing but 3 were at moderate levels. 6 labs (SE, C, N) had low flu B activity. 3 labs (SE, SW) had low parainfluenza activity. 8 labs (SE, SW, C, N) had RSV activity; 1 was at high activity. Testing volumes are increasing, with a few sites at high levels.

**Michigan Influenza Antigenic Characterization (as of December 20):** For the 2012-13 season, 8 Michigan influenza B specimens have been characterized at MDCH BOL. 7 specimens are B/Wisconsin/01/2010-like, matching the B component of the 2012-13 influenza vaccine. 1 influenza B specimen was characterized as B/Brisbane/60/2008-like, which is not included in the 2012-13 vaccine.

**Michigan Influenza Antiviral Resistance Data (as of December 20):** For the 2012-13 season, no influenza isolates have been tested for antiviral resistance.

CDC has made recommendations regarding the use of antivirals for treatment and prophylaxis of influenza, which are available at <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.

**Influenza-associated Pediatric Mortality (as of December 20):** During the past week, a death in an infant from the SW Region associated with influenza A/H3 and a death in an adolescent from the C Region associated with influenza B were reported. Two pediatric influenza-associated influenza mortalities (1 A/H3, 1B) have been reported to MDCH for the 2012-13 season.

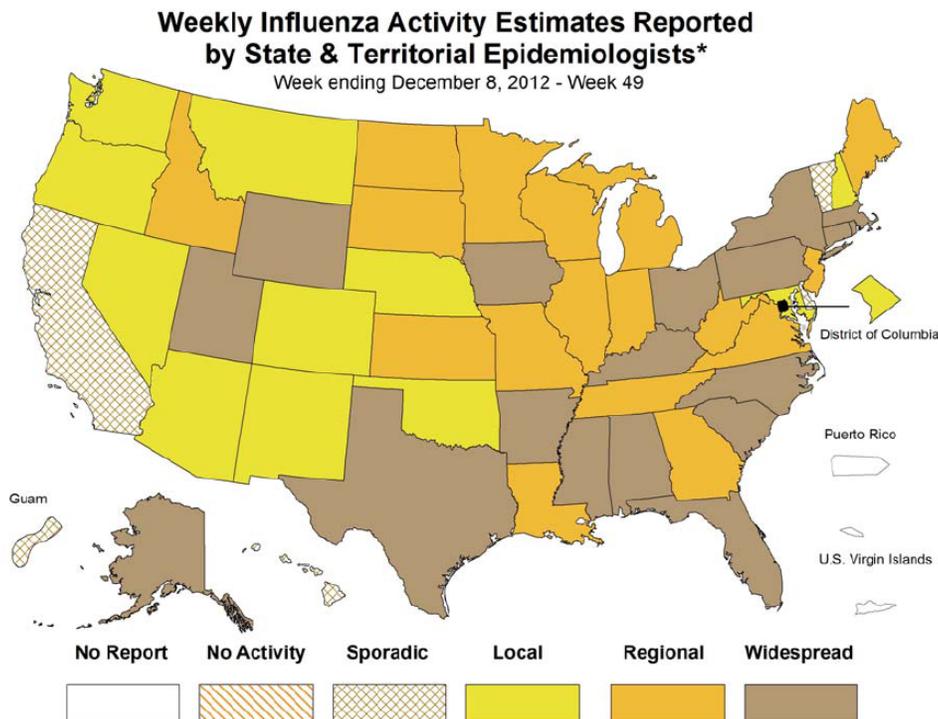
CDC requires reporting of flu-associated pediatric deaths (<18 yrs), including pediatric deaths due to an influenza-like illness with lab confirmation of influenza or any unexplained pediatric death with evidence of an infectious process. Contact MDCH immediately for proper specimen collection. The MDCH protocol is at [www.michigan.gov/documents/mdch/ME\\_pediatic\\_influenza\\_guidance\\_v2\\_214270\\_7.pdf](http://www.michigan.gov/documents/mdch/ME_pediatic_influenza_guidance_v2_214270_7.pdf).

**Influenza Congregate Settings Outbreaks (as of December 20):** 7 new respiratory outbreaks were reported to MDCH during the past week. These included 3 long-term care facilities (3C; 1 positive for A/H3, 1 positive for flu A, 1 flu positive) and 4 schools (2SW, 2N; 1 positive for flu B). 15 respiratory outbreaks (6SW, 5C, 4N) have been reported to MDCH during the 2012-13 season; testing results are listed below.

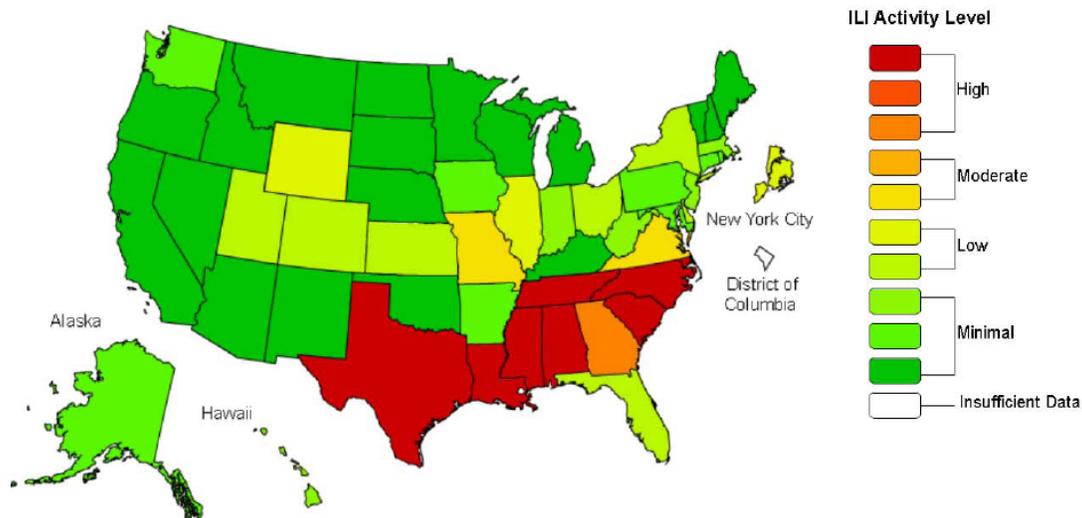
- Influenza A/H3: 1 (1C)
- Influenza A: 3 (2SW, 1C)
- Influenza B: 3 (2SW, 1C)
- Influenza positive: 1 (1C)
- Negative/testing not performed: 7 (2SW, 1C, 4N)

**National (CDC [edited], December 14):** During week 49 (December 2-8), influenza activity increased in the U.S. Of 7,663 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 49, 2,172 (28.3%) were positive for influenza. One human infection with a novel influenza A virus was reported. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold. One influenza-associated pediatric death was reported and was associated with an influenza B virus. The proportion of outpatient visits for influenza-like illness (ILI) was 2.8%, which is above the national baseline of 2.2%. Seven of ten regions reported ILI above region-specific baseline levels. Eight states experienced high ILI activity, 2 states experienced moderate ILI activity; New York City and 9 states experienced low ILI activity; 31 states experienced minimal ILI activity, and the District of Columbia had insufficient data. The geographic spread of influenza in 18 states was reported as widespread; 17 states reported regional activity; the District of Columbia and 11 states reported local activity; Guam and 4 states reported sporadic activity, and Puerto Rico and the U.S. Virgin Islands did not report.

**Novel Influenza A Virus:** One infection with an influenza A (H3N2) variant virus (H3N2v) was reported to CDC during week 49 by Minnesota. Close contact between the case patient and swine in the week preceding illness was reported. The patient has fully recovered and no further cases have been identified in contacts of the case patient. This is the second H3N2v infection reported for the 2012-13 influenza season, which began on September 30, 2012.



**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet  
2012-13 Influenza Season Week 49 ending Dec 08, 2012**



This map uses the proportion of outpatient visits to healthcare providers for influenza-like illness to measure the ILI activity level within a state. Therefore, outbreaks occurring in a single city could cause the state to display high activity levels. Data collected in ILINet may disproportionately represent certain populations within a state, and therefore, may not accurately depict the full picture of influenza activity for the whole state. Data displayed on this map are based on data collected in ILINet, whereas the State and Territorial flu activity map are based on reports from state and territorial epidemiologists.

The complete FluView report is available online at <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

**International (WHO [edited], December 7):** Many countries of the northern hemisphere temperate region, especially in North America, reported increasing influenza virus detections. Canada and the United States of America (USA) crossed their seasonal threshold but activity was highest in the southern part of the USA. Influenza activity remained low in Europe but has continued to increase slightly. Low levels of influenza activity were reported in countries in southern and southeast Asia, except Cambodia. In Sub-Saharan Africa, influenza activity remains at low levels. Influenza activity in the temperate countries of the southern hemisphere continued at inter-seasonal levels.

The entire WHO report is available online at [www.who.int/influenza/surveillance\\_monitoring/updates/latest\\_update\\_GIP\\_surveillance/en/index.html](http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html).

MDCH reported REGIONAL FLU ACTIVITY to CDC for the week ending December 15, 2012. For additional flu vaccination and education information, the MDCH *FluBytes* newsletter is available 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).

***Novel Influenza Activity and Other News***

**WHO Pandemic Phase:** Post-pandemic – Influenza disease activity has returned to levels normally seen for seasonal influenza. It is expected that the pandemic virus will behave as a seasonal influenza A virus. It is important to maintain surveillance and update pandemic preparedness/response plans accordingly.

**International, Human (WHO, December 17):** From 2003 through 17 December 2012, 610 laboratory-confirmed human cases with avian influenza A(H5N1) virus infection have been officially reported to WHO from 15 countries, of which 360 died. Since January 2012, 32 human cases of influenza A(H5N1) virus infection have been reported to WHO.

Since the last update on 5 November 2012, two new laboratory-confirmed human cases with influenza A(H5N1) virus infection were reported to WHO, one from Egypt and the other a fatal case from Indonesia.

**Table 1: laboratory-confirmed human cases with avian influenza A(H5N1) virus infection reported between 5 November and 17 December 2012**

Country	Province	Age (y)	Sex	Date of onset	Date of Hospitalisation	Date of death	Oseltamivir treatment Start date	Exposure to
Egypt	Demietta governorate	2	F	3/12/2012	1/12/2012		4/12/2012	Backyard poultry (chicken and ducks)
Indonesia	West Java	4	M	30/11/2012	5/12/2012	6/12/2012		Poultry (duck) in neighbourhood

Based on previous years' observations, an increase in reported H5N1 influenza events in poultry is expected for this time of year. Sporadic human cases reported this month in countries with known influenza A(H5N1) virus activity in poultry are within the expected range. No onward sustained human to human transmission was reported.

Public health risk assessment of avian influenza A(H5N1) viruses: The risk remains unchanged.

The update is available online at

[www.who.int/influenza/human\\_animal\\_interface/Influenza\\_Summary\\_IRA\\_HA\\_interface\\_17Dec12.pdf](http://www.who.int/influenza/human_animal_interface/Influenza_Summary_IRA_HA_interface_17Dec12.pdf).

**Michigan Wild Bird Surveillance (USDA, as of December 20):** For the 2012 season (April 1, 2012-March 31, 2013), highly pathogenic avian influenza H5N1 has not been recovered from the 68 samples tested nationwide. For more information, visit <http://www.nwhc.usgs.gov/ai/>. To learn about avian influenza surveillance in wild birds or to report dead waterfowl, go to the Emerging Disease website at <http://www.michigan.gov/emergingdiseases>.

**International Poultry and Wild Bird Surveillance (OIE):** Reports of avian influenza activity, including summary graphs of avian influenza H5N1 outbreaks in poultry, can be found at the following website: [http://www.oie.int/download/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm).

For questions or to be added to the distribution list, please contact Susan Peters at [peterss1@michigan.gov](mailto:peterss1@michigan.gov)

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**Table. H5N1 Influenza in Humans – As of December 17, 2012.** [http://www.who.int/influenza/human\\_animal\\_interface/EN\\_GIP\\_20121217\\_CumulativeNumberH5N1cases.pdf](http://www.who.int/influenza/human_animal_interface/EN_GIP_20121217_CumulativeNumberH5N1cases.pdf). Downloaded 12/17/2012. Cumulative lab-confirmed cases reported to WHO. Total cases include deaths.

Country	2003-2005		2006		2007		2008		2009		2010		2011		2012		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Azerbaijan	0	0	8	5	0	0	0	0	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	1	0	0	0	0	0	2	0	3	0	6	0
Cambodia	4	4	2	2	1	1	1	0	1	0	1	1	8	8	3	3	21	19
China	9	6	13	8	5	3	4	4	7	4	2	1	1	1	2	1	43	28
Djibouti	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Egypt	0	0	18	10	25	9	8	4	39	4	29	13	39	15	11	5	169	60
Indonesia	20	13	55	45	42	37	24	20	21	19	9	7	12	10	9	9	192	160
Iraq	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	3	2
Lao PDR	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2	2
Myanmar	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Nigeria	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
Pakistan	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	3	1
Thailand	22	14	3	3	0	0	0	0	0	0	0	0	0	0	0	0	25	17
Turkey	0	0	12	4	0	0	0	0	0	0	0	0	0	0	0	0	12	4
Vietnam	93	42	0	0	8	5	6	5	5	5	7	2	0	0	4	2	123	61
Total	148	79	115	79	88	59	44	33	73	32	48	24	62	34	32	20	610	360