



# MI Flu Focus

## Influenza Surveillance Updates

### Bureaus of Epidemiology and Laboratories



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### Influenza Surveillance Report for the Week Ending April 9, 2016

**MI's Influenza**  
**Activity Level:**  
Regional

**Updates of Interest:**

Flu activity continues to decrease in the United States, but remains slightly elevated according to the [most recent FluView report](#).

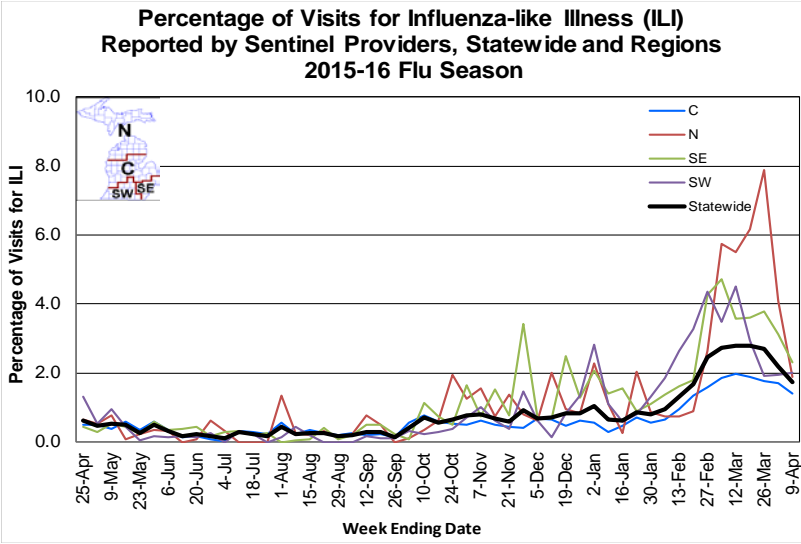
**Michigan Disease Surveillance System**

MDSS influenza data indicated that compared to levels from the previous week, aggregate reports had decreased, while individual reports had increased. Aggregate reports were lower than levels seen during the same time period last year, while individual reports were higher.

**Emergency Department Surveillance**

Compared to levels from the week prior, emergency department visits from constitutional and respiratory complaints were lower. Levels of constitutional and respiratory complaints were both lower than those recorded during the same time period last year.

- 4 constitutional alerts (C)
- 6 respiratory alerts (5C, 1SW)
- Last MIFF report: 6 constitutional alerts (4C, 1SW, 1SE), 5 respiratory alerts (1N, 2C, 1SW, 1SE)

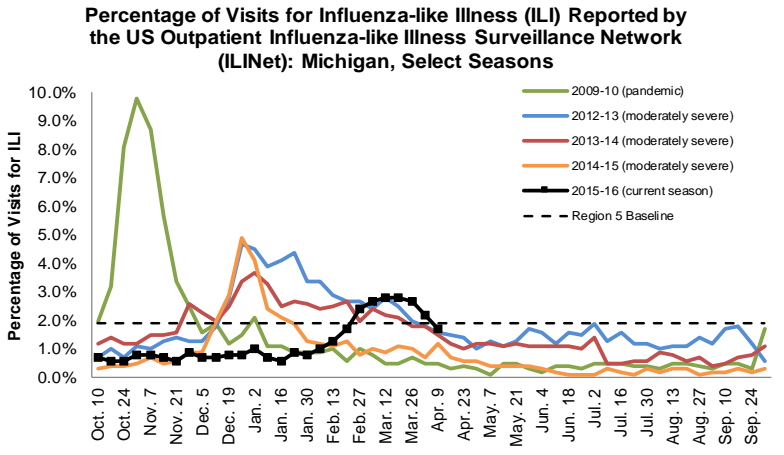


**Sentinel Provider Surveillance**

The proportion of visits due to influenza-like illness (ILI) decreased to 1.7% overall; this is below the regional baseline (1.9%). A total of 210 patient visits due to ILI were reported out of 12,145 office visits. Please note: These rates may change as additional reports are received.

Number of Reports by Region (36 total):

- C (15)
- N (4)
- SE (11)
- SW (6)



**Become a Sentinel Provider!**

As part of pandemic influenza surveillance, CDC and MDHHS highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Stefanie Cole ([ColeS4@michigan.gov](mailto:ColeS4@michigan.gov)) for more information.

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## Hospital Surveillance

The CDC Influenza Hospitalization Surveillance Project provides population-based rates of hospitalization due to severe influenza illness through active surveillance and chart review of lab-confirmed cases beginning on Oct. 1, 2015, for Clinton, Eaton, Genesee, and Ingham counties. Since Oct. 1, there have been 64 pediatric (33.5 per 100,000 population) and 198 adult (28.8 per 100,000 population) hospitalizations reported within the catchment area. Note: IHSP case classification is an ongoing process and the cumulative totals may change from week to week.

The MDHHS Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide, and 13 hospitals (C, N, SE, & SW) reported. Results for the 2015-16 flu season are listed in the table below. Additional hospitals are welcome to join; please contact Seth Eckel at [eckels1@michigan.gov](mailto:eckels1@michigan.gov).

Age Group	New Flu Hospitalizations Reported	Total 2015-16 Flu Hospitalizations Reported to Date
0-4 years	0	35 (18N, 8SW, 9SE)
5-17 years	1 (N)	24 (12N, 4SW, 8SE)
18-49 years	6 (3N, 1SW, 2SE)	159 (30N, 3C, 32SW, 94SE)
50-64 years	8 (1N, 2SW, 5SE)	211 (27N, 7C, 36SW, 141SE)
65 years & older	12 (1N, 2C, 1SW, 8SE)	231 (26N, 7C, 37SW, 161SE)
<b>Total</b>	<b>27 (6N, 2C, 4SW, 15SE)</b>	<b>660 (113N, 17C, 117SW, 413SE)</b>

## Laboratory Surveillance

MDHHS Bureau of Laboratories reported 10 new positive influenza results: all were 2009 A/H1N1pdm. A total of 334 positive influenza results have been reported for the 2015-16 season. Influenza results for the 2015-16 season are in the table below.

Respiratory Virus	# Positive Respiratory Virus Results by Region				Total	# Specimens Antigenically Characterized	# Tested for Antiviral Resistance
	C	N	SE	SW			# Resistant / Total # Tested
2009 A/H1N1pdm	59	19	70	105	253	18* (18 A/California/07/2009-like (H1N1)pdm09**)	2 / 96
Influenza A/H3	13	1	11	15	40	4* (4 A/Switzerland/9715293/2013-like <sup>†</sup> )	0 / 20
Influenza B	5	6	13	12	36	32 (18 B/Yamagata lineage [2 B/Phuket/3073/2013-like <sup>††</sup> ], 14 B/Victoria lineage)	
A / unsubtypeable				5	5		
LAIV recovery				1	1		
RSV			2		2		
Adenovirus	2		1		3		
Parainfluenza type 1			1		1		

\*Specimens antigenically characterized by CDC; \*\*A/California/07/2009-like (H1N1)pdm09 is the H1N1 component of the 2015-16 Northern Hemisphere flu vaccines; <sup>†</sup>A/Switzerland/9715293/2013-like (H3N2) is the H3N2 component of the 2015-16 Northern Hemisphere flu vaccines; <sup>††</sup>B/Phuket/3073/2013-like virus is the B/Yamagata component of the 2015-16 Northern Hemisphere trivalent and quadrivalent flu vaccines.

In addition, 13 sentinel clinical labs (4SE,2SW,6C,1N) reported influenza results. Twelve labs (SE,SW,C,N) reported influenza A positives ranging from low to moderate activity, but with all regions showing declining levels. Ten labs (SE,SW,C, N) reported low to moderate influenza B activity, at overall stable or declining levels. Three labs (SE,SW) reported low Parainfluenza activity. Ten labs (SE,SW,C,N) reported declining or low RSV activity. Five labs (SE,SW,C) reported Adenovirus activity at predominately low levels. Five labs (SE,SW,C) reported low to moderate hMPV activity. Most testing volumes are still elevated but continue to trend down.

### Influenza Congregate Settings Outbreaks

There was 1 new respiratory facility outbreak reported, which tested positive for Influenza A. There have been a total of 29 respiratory facility outbreaks reported to MDHHS for the 2015-16 season. Respiratory facility outbreaks are listed in the table below by facility type and surveillance region.

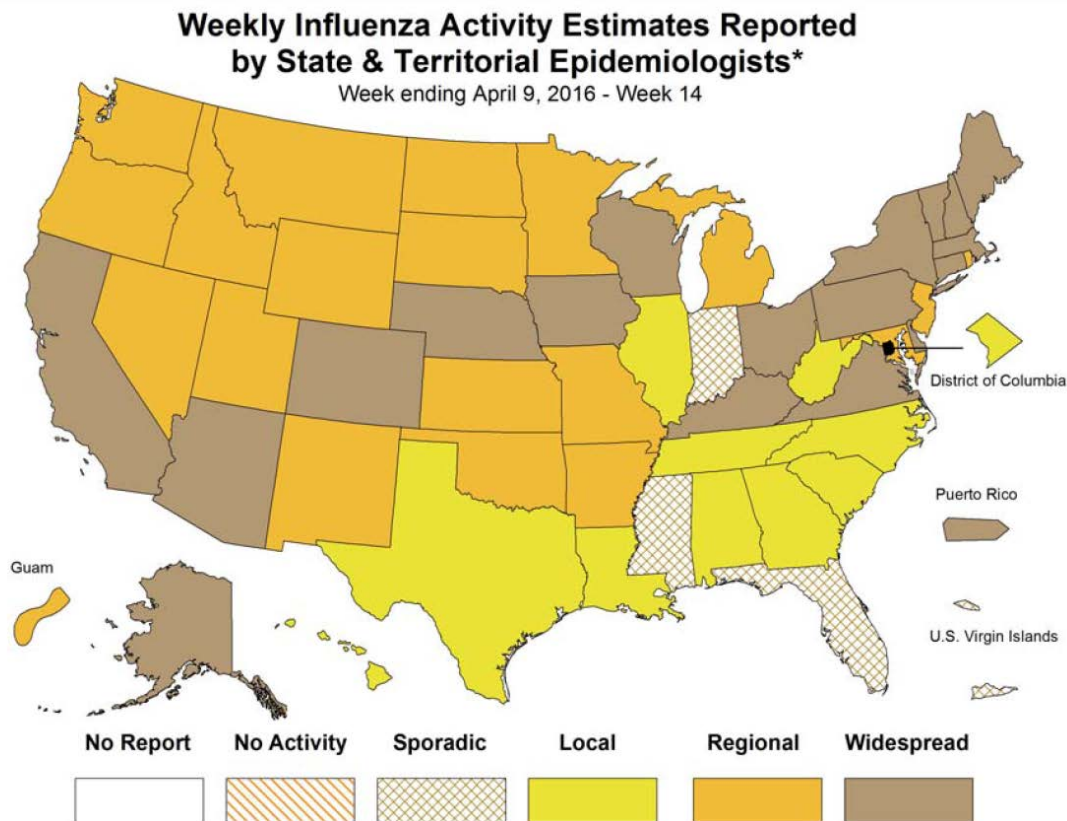
Facility Type	C	N	SE	SW	Total
K-12 School	1	2		3	6
Long-term Care / Assisted Living Facility	8	1	4	7	20
Healthcare Facility			1		1
Daycare				1	1
Correctional Facility		1			1
<b>Total</b>	<b>9</b>	<b>4</b>	<b>5</b>	<b>11</b>	<b>29</b>

### Influenza-associated Pediatric Mortality

No new influenza-associated pediatric deaths were reported to MDHHS. One influenza-associated pediatric death (SE) has been reported to MDHHS for the 2015-16 season.

**National:** In the United States, flu activity decreased to the national baseline of 2.1% of outpatient visits due to influenza-like illness. Six of 10 regions reported ILI at or above region-specific baselines. Ten new influenza-associated pediatric deaths were reported, for a total of 40 pediatric deaths for the 2015-16 flu season. Additional information is in the weekly FluView reports available at: [www.cdc.gov/flu/weekly/](http://www.cdc.gov/flu/weekly/).

**International:** In the Northern Hemisphere influenza activity was decreasing, while still elevated in some areas, due in part to an increase of influenza B activity. In the Southern Hemisphere influenza activity was reported to be slightly increasing. More information is available at: [www.who.int/influenza/surveillance\\_monitoring/updates/latest\\_update\\_GIP\\_surveillance/en/](http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/).





## INFLUENZA-RELATED JOURNAL ARTICLES

- *The Lancet Infectious Diseases*: [Variable influenza vaccine effectiveness by subtype: a systematic review and meta-analysis of test-negative design studies](#)
  - Flu vaccines provided substantial protection against H1N1pdm09, H1N1 (pre-2009), and influenza B, and reduced protection against H3N2
- *Eurosurveillance*: [Influenza vaccine effectiveness in adults 65 years and older, Denmark, 2015-16 – a rapid epidemiological and virological assessment](#)
  - Adjusted VE against A(H1N1)pdm09 was 35.0%, against influenza B 4.1%
  - Majority of A(H1N1)pdm09 circulating belonged to new genetic subgroup subclade 6B.1
- [Cigarette smoke and flu virus decrease effects of COPD medication, according to study](#)
- [Smoking may increase the risk of hospitalization due to influenza](#)
- [Clinical and socioeconomic impact of moderate-to-severe versus mild influenza in children](#)
- [Oseltamivir treatment for children with influenza-like illness in China: a cost-effectiveness analysis](#)
  - Modelling based simulation analysis suggests empiric treatment with oseltamivir to be cost-saving, very cost-effective strategy in managing children with ILI
- [Next generation sequencing for whole genome analysis and surveillance of influenza A viruses](#)
- *mBio*: [Evaluation of antihemagglutinin and antineuraminidase antibodies as correlates of protection in an influenza A/H1N1 virus healthy human challenge model](#)
  - Researchers demonstrated that although higher HAI titer is predictive of some protection, there was stronger evidence to suggest that NAI titer is more predictive of protection and reduced disease
- [Bioinformatics studies of influenza A hemagglutinin sequence data indicate recombination-like events leading to segment exchanges](#)

Archived editions of FluBytes are available [here](#) and MI FluFocus archives are [here](#).

## NAT'L INFANT IMMUNIZATION WEEK

It's [National Infant Immunization Week](#) (NIIW), an annual observance to highlight the importance of protecting infants from vaccine-preventable diseases. As part of NIIW, CDC has announced the recipients of the [2016 Childhood Immunization Champion Awards](#). Congratulations to Michigan's Champion, Cheryl Szof BS RPh, pharmacist at Children's Hospital of Michigan! You can read Cheryl's profile [here](#). Congratulations, Cheryl!

## AVIAN INFLUENZA INTERNATIONAL NEWS

- [France \(H5N9\), Myanmar \(H5\), and Taiwan \(H5N8, H5N2\) report avian flu outbreaks](#)
- [China and Hong Kong report pair of H7N9 cases](#)
- [China reports 2 new H7N9 cases, mother and son](#)
- [H7N3 avian flu outbreaks discovered in Mexico](#)
- [WHO flu report fills in Egyptian H5N1 case details](#)
- [Avian flu outbreaks reported in Taiwan \(H5N8, H5N2\) and Mexico \(H7N3\)](#)
- [China confirms 6 new H7N9 cases; Vietnam reports H5N1 avian flu outbreak](#)
- [More H5N1 poultry outbreaks reported in central Nigeria](#)
- *PLOS ONE*: [Pathogenicity of genetically similar, H5N1 highly pathogenic avian influenza virus strains in chicken and the differences in sensitivity among different chicken breeds](#)

## OTHER INFLUENZA-RELATED NEWS

- [Flu contributed to big increase in overall UK mortality in 2015](#)
- [Massachusetts federal court says mandatory flu vaccine for hospital worker does not violate Title VII](#)
- [USDA updates guidelines for avian flu plan](#)
- Presentation slides and the live meeting archive are now available for the [February 2016 ACIP Meeting](#)

## FLU WEBSITES

[www.michigan.gov/flu](http://www.michigan.gov/flu)  
[www.cdc.gov/flu](http://www.cdc.gov/flu)  
[www.flu.gov](http://www.flu.gov)  
<http://vaccine.healthmap.org/>

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