



# MI Flu Focus

## Influenza Surveillance Updates Bureaus of Epidemiology and Laboratories



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March 2, 2016 Vol. 13; No. 7

### Influenza Surveillance Report for the Week Ending February 20, 2016

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

**Updates of Interest:**

CDC issued a [press release](#) regarding this flu season's high vaccine effectiveness (59% overall, 51% against H1N1, 76% against all B viruses, 79% against B/Yamagata).

#### Michigan Disease Surveillance System

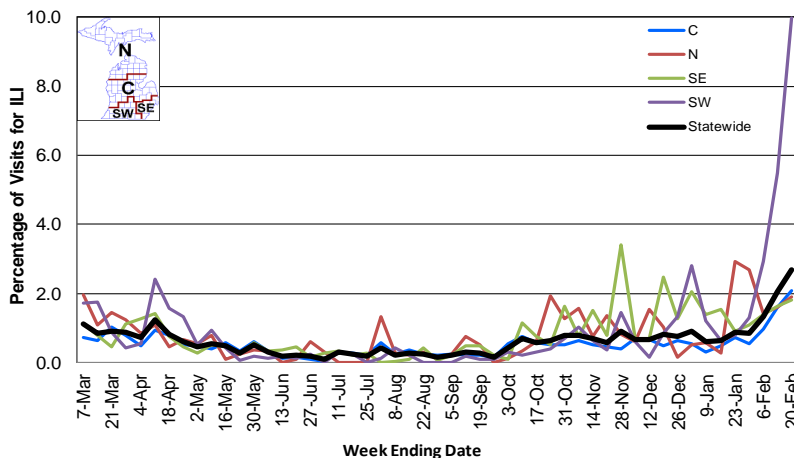
MDSS influenza data indicated that compared to levels from the previous week, aggregate reports had decreased, while individual reports had increased. Aggregate reports were lower than levels seen during the same time period last year, while individual reports were higher.

#### Emergency Department Surveillance

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

- 9 constitutional alerts (2SW, 4C, 3N)
- 1 respiratory alert (1SW)
- Last MIFF report: 7 constitutional alerts (1SW, 4C, 2N), 4 respiratory alerts (1SW, 3N)

**Percentage of Visits for Influenza-like Illness (ILI) Reported by Sentinel Providers, Statewide and Regions 2015-16 Flu Season**



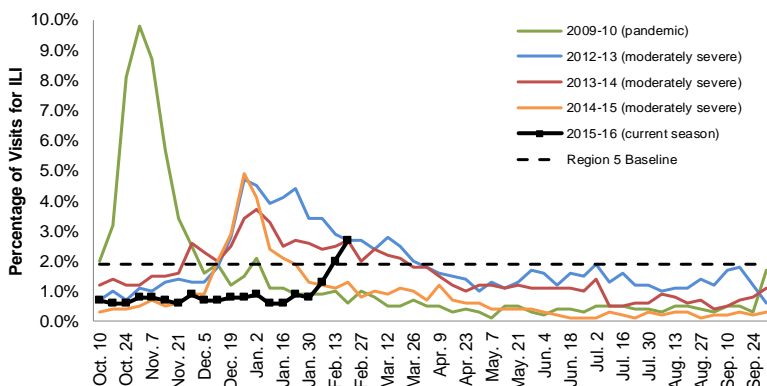
#### Sentinel Provider Surveillance

The proportion of visits due to influenza-like illness (ILI) increased to 2.7% overall; this is above the regional baseline (1.9%). A total of 298 patient visits due to ILI were reported out of 11,090 office visits. Please note: These rates may change as additional reports are received.

Number of Reports by Region (34 total):

- C (14)
- N (4)
- SE (12)
- SW (4)

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



#### 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 7 pediatric (3.7 per 100,000 population) and 17 adult (2.5 per 100,000 population) hospitalizations reported within the catchment area. Note: Some hospitalizations are ruled out after they are reported so the cumulative totals may change from week to week.

The MDHHS Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide, and 12 hospitals (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	3 (SW)	8 (4SE, 4SW)
5-17 years	2 (N)	3 (2N, 1SE)
18-49 years	14 (2N, 9SE, 3SW)	46 (3N, 1C, 37SE, 5SW)
50-64 years	11 (1N, 6SE, 4SW)	43 (3N, 30SE, 10SW)
65 years & older	16 (1N, 10SE, 5SW)	52 (1N, 39SE, 12SW)
<b>Total</b>	<b>46 (6N, 25SE, 15SW)</b>	<b>152 (9N, 1C, 111SE, 31SW)</b>

### Laboratory Surveillance

MDHHS Bureau of Laboratories reported 1 adenovirus and 21 new positive influenza results: 19 2009 A/H1N1pdm, 1 influenza B, and 1 influenza A/H3. A total of 146 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	20	10	56	27	113	11* (11 A/California/07/2009-like (H1N1)pdm09**)	1 / 43
Influenza A/H3	6		9	7	22	4* (4 A/Switzerland/9715293/2013-like†)	0 / 6
Influenza B	2	2	5		9	2 (2 B/Yamagata lineage [2 B/Phuket/3073/2013-like††])	
A / unsubtypeable				2	2		
LAIV recovery				1	1		
RSV			2		2		
Adenovirus	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; †A/Switzerland/9715293/2013-like (H3N2) is the H3N2 component of the 2015-16 Northern Hemisphere flu vaccines; ††B/Phuket/3073/2013-like virus is the B/Yamagata component of the 2015-16 Northern Hemisphere trivalent and quadrivalent flu vaccines.

In addition, 12 sentinel clinical labs (4SE,2SW,5C,1N) reported influenza results. All 12 labs (SE,SW,C,N) reported influenza A with nearly all sites showing notable increases and especially marked increases in the SE region. Nine labs (SE,SW,C,N) reported sporadic to gradually increasing influenza B activity. Four labs (SE,SW,C) reported sporadic to low Parainfluenza activity. Ten labs (SE,SW,C,N) reported low to moderate RSV activity at steady or increasing levels. Five labs (SE,SW,C) reported low to mildly elevated Adenovirus activity. Six labs (SE,SW,C) reported hMPV activity with several sites showing moderate increases. Nearly all testing volumes showed further increases with most sites continuing in the moderate to high range.





## 2015-16 FLU VACCINE EFFECTIVENESS

The Advisory Committee on Immunization Practices (ACIP) met on Feb. 24 to discuss influenza. CDC presented interim flu vaccine effectiveness (VE) estimates for 2015-16. A summary can be found [here](#). CDC also issued a [press release](#) regarding the VE estimates.

Overall, the 2015-16 flu vaccines were found to be **59%** effective at reducing the risk of having to go to the doctor because of flu. VE against H1N1 was **51%**, VE against all flu B viruses was **76%**, and VE against B/Yamagata viruses was **79%**. Because of low numbers of flu cases through the early part of this season, there were not enough data to estimate VE by age group, by vaccine, or against H3N2 or B/Victoria viruses.

ACIP also voted to amend the flu vaccine recommendations for egg-allergic patients for 2016-2017.

## MI IMMUNIZATION TIMELY TIPS NEWSLETTER

The February issue of the Michigan Immunization Timely Tips (MITT) newsletter is now [posted online](#). This issue contains information on flu, 2016 Fall Immunization Conferences, adult vaccines, and more!

## U.S. SEASONAL INFLUENZA NEWS

- CDC: [Influenza Antiviral Quiz for Clinicians](#)
- [18 confirmed flu cases at Delaware prison](#)

## AVIAN INFLUENZA INTERNATIONAL NEWS

- [China confirms H5N6 avian flu outbreak in Guizhou province](#)
- [H5N1 kills more than 1,000 Vietnam birds](#)
- [Hong Kong reports human H7N9 avian influenza case, imported from Jiangsu](#)
- [Chronological, geographical, and seasonal trends of human cases of avian influenza A\(H5N1\) in Vietnam, 2003-2014: a spatial analysis](#)

## 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/>

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

## WHO RECOMMENDS 2016-17 FLU STRAINS

This week, the World Health Organization (WHO) met to [recommend](#) the flu virus strains to be included in the 2016-17 Northern Hemisphere flu vaccines. WHO recommended the following strains:

- A/California/7/2009 (H1N1)pdm09-like virus;
- A/Hong Kong/4801/2014 (H3N2)-like virus;
- B/Brisbane/60/2008-like virus
- B/Phuket/3073/2013-like virus [quadrivalent].

This represents a new H3N2 strain from 2015-16, and the B viruses from 2015-16 have been swapped between trivalent and quadrivalent vaccines.

## INFLUENZA-RELATED JOURNAL ARTICLES

- *Pediatrics*: [Complete influenza vaccination trends for children 6-23 months](#)
- *Pediatric Infectious Disease Journal*: [Influenza-like illness in households with children of preschool age](#)
  - ILI in households with preschool children has considerable societal impact
  - Children attending day care for >2 years acquire some protection to ILI
- *Virology*: [Genetic characterization of an adapted pandemic 2009 H1N1 influenza virus that reveals improved replication rates in human lung epithelial cells](#)
- [Comparison of age-specific hospitalization during pandemic and seasonal influenza periods from 2009 to 2012 in Taiwan: a nationwide population-based study](#)
  - In both pandemic and seasonal periods, highest hospitalization rate was observed for children <7 years
- [Influenza vaccine effectiveness by test-negative design - comparison of inpatient and outpatient settings](#)
- [Influenza B vaccine lineage selection - an optimized trivalent vaccine](#)
- [Within-host models of high and low pathogenic influenza virus infections: the role of macrophages](#)
- [Emergence of influenza A\(H1N1\)pdm09 genogroup 6B and drug resistant virus, India, January to May 2015](#)

## OTHER INFLUENZA-RELATED NEWS

- CDC: [146.4 million doses of flu vaccine distributed in U.S.](#)
- [FluSight: Seasonal Influenza Forecasting](#)

For questions or to be added to the distribution list, please contact Stefanie Cole at [ColeS4@michigan.gov](mailto:ColeS4@michigan.gov).

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