



MI Flu Focus

Influenza Surveillance Updates

Bureaus of Epidemiology and Laboratories



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Influenza Surveillance Report for the Week Ending February 25, 2017

MI's Influenza Activity Level:
Widespread

Updates of Interest: The World Health Organization (WHO) has announced the recommended composition of influenza virus vaccines for use in the 2017-2018 northern hemisphere influenza season. See FluBytes on page 4 for more details.

Sentinel Provider Surveillance

The proportion of visits due to influenza-like illness (ILI) decreased to 3.8% overall, which is above the regional baseline of 1.9%. A total of 435 patient visits due to ILI were reported out of 11,358 office visits. Please note: These rates may change as additional reports are received.

Number of Reports by Region

(32 total):

- C (11)
- N (2)
- SE (16)
- SW (3)

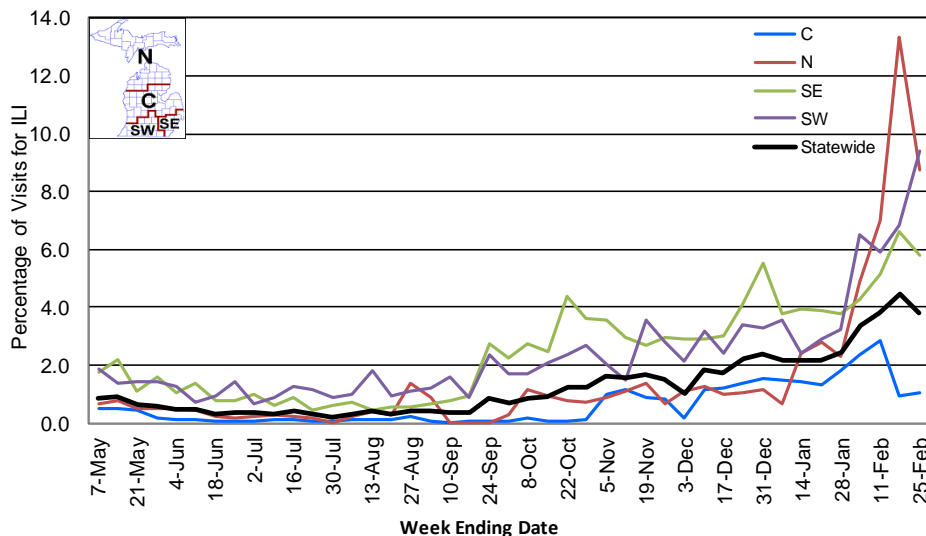
National Surveillance: In the United States, 4.8% of outpatient visits were due to influenza-like illness, which is above the national baseline of 2.2%.

Become a Sentinel Provider!

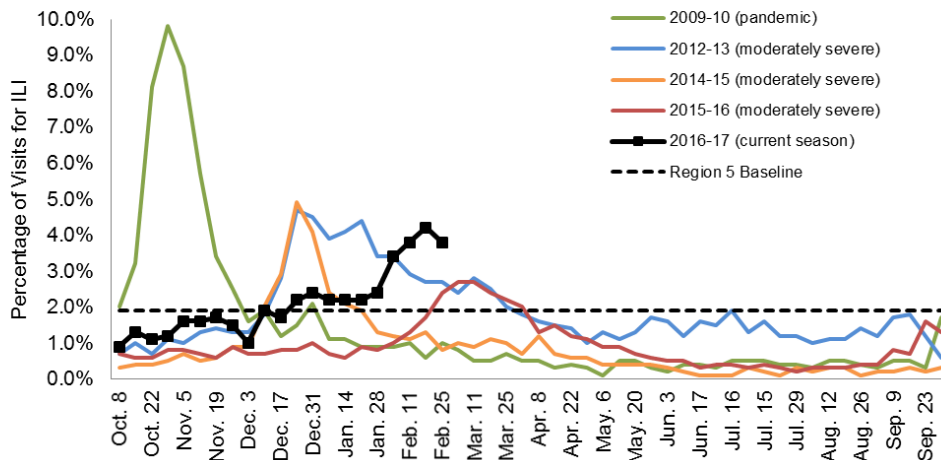
As part of pandemic influenza surveillance, CDC and MDHHS highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Jalyn Ingalls (IngallsJ@michigan.gov) for more information.

Additional information is in the weekly FluView reports available at: www.cdc.gov/flu/weekly.

Percentage of Visits for Influenza-like Illness (ILI) Reported by Sentinel Providers, Statewide and Regions 2015-16 - 2016-17 Flu Seasons



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



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 from Oct. 1, 2016 until Apr. 30, 2017, for Clinton, Eaton, Genesee, and Ingham counties. Since Oct. 1, there have been **34 pediatric and 265 adult** influenza-related hospitalizations reported in the catchment area for the 2016-2017 season. Note: Cumulative totals may change from week to week as cases are reviewed to determine if they meet the case definition.

The MDHHS Influenza Sentinel Hospital Network monitors influenza-related admissions reported voluntarily by hospitals statewide, with 12 facilities (N, SE, SW) reporting during this time period. Results for the 2016-17 flu season are listed in the table below. Additional hospitals are encouraged to join; please contact Seth Eckel at eckels1@michigan.gov.

Age Group	New Flu Hospitalizations Reported	Total 2016-17 Flu Hospitalizations Reported to Date
0-4 years	6 (5N, 1SW)	19 (7N, 5SE, 7SW)
5-17 years	8 (7N, 1SW)	22 (10N, 1C, 5SE, 6SW)
18-49 years	18 (6N, 11SE, 1SW)	63 (14N, 39SE, 10SW)
50-64 years	31 (6N, 20SE, 5SW)	99 (16N, 67SE, 16SW)
65 years & older	93 (12N, 70SE, 11SW)	340 (49N, 2C, 250SE, 39SW)
Total	156 (36N, 101SE, 19SW)	543 (96N, 3C, 366SE, 78SW)

Influenza-associated Pediatric Mortality

No new influenza-associated pediatric deaths were reported to MDHHS. In Michigan, there have been no influenza-associated pediatric deaths reported for the 2016-17 season. Nationally, 40 influenza-associated pediatric deaths have been reported thus far for the 2016-17 flu season.

Laboratory Surveillance

MDHHS Bureau of Laboratories reported 56 new positive influenza results (41 A/H3 and 15 flu B) during this time period. A total of 376 positive influenza results have been reported for the 2016-17 season. Influenza results for the 2016-17 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	1		1		2	1 (A/CALIFORNIA/07/2009-LIKE (H1N1)pdm09)	
Influenza A/H3	72	18	98	106	294	5 (A/HONG KONG/4801/2014-LIKE)	0 / 56
Influenza B	21	2	34	23	80	4 (B/PHUKET/3073/2013-LIKE) 6 (B/BRISBANE/60/2008-LIKE)	
A / unsubtypeable							
LAIV recovery							

In addition, 9 sentinel clinical labs (2SE, 1SW, 6C) reported influenza testing results. All nine labs reported influenza A activity at sustained elevated levels with most showing some indications of a plateau. All nine labs reported influenza B activity with nearly all sites showing a continued upward trend and many showing further strong increases. One site (C) again showed notably predominant influenza B activity and 3 sites (SW, C) showed co-dominant influenza A and B activity. Five labs (SE, SW, C) reported low or slightly increased Parainfluenza activity. Eight labs (SE, SW, C) reported RSV activity at low to moderate levels, with most staying relatively steady. Five labs (SE, SW, C) reported low or slightly increased Adenovirus activity. Four labs (SE, SW, C) reported low or increasing hMPV activity. Testing volumes are showing further increases, with nearly all sites in the high range and several approaching the very high range.

Congregate Setting Outbreaks of Viral Respiratory Illness

There were 20 new respiratory facility outbreaks (1N, 5C, 4SE, 4SW) reported to MDHHS during this time period, five of which were confirmed influenza A. Respiratory facility outbreaks for the 2016-2017 season are listed in the table below.

Facility Type	C	N	SE	SW	Total
K-12 School		3		1	4
Long-term Care / Assisted Living Facility	16		14	20	50
Healthcare Facility			1	1	2
Daycare			1	2	3
Homeless Shelter			1		1
Total	16	3	17	24	60

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.

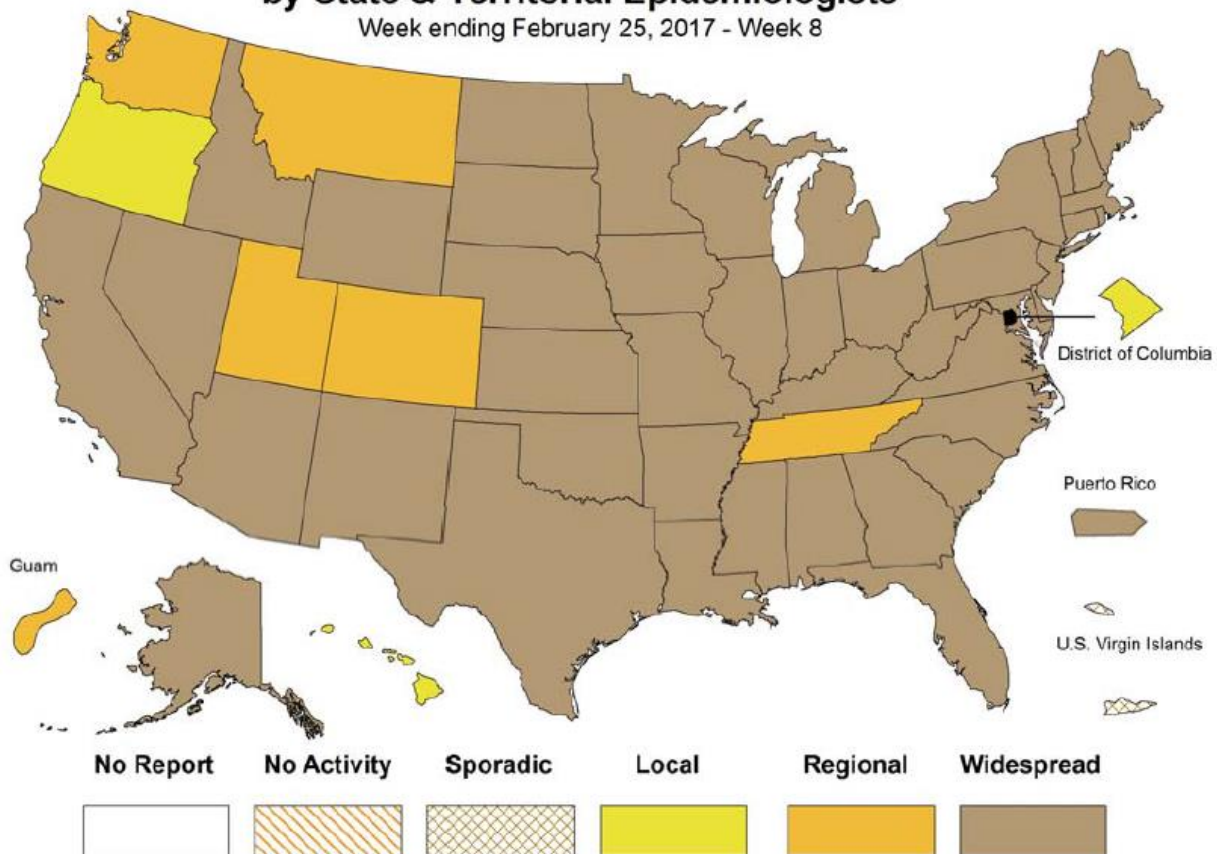
Emergency Department Surveillance

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

- 3 constitutional alerts (1N, 1C, 1SW)
- 5 respiratory alerts (3N, 4C, 1SW)
- Last MIFF report: 15 constitutional alerts (2N, 7C, 1SE, 4SW, 1 statewide), 8 respiratory alerts (3N, 4C, 1SW)

Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists*

Week ending February 25, 2017 - Week 8



FluBytes



RECOMMENDED COMPOSITION FOR THE 2017-2018 SEASONAL INFLUENZA VACCINE

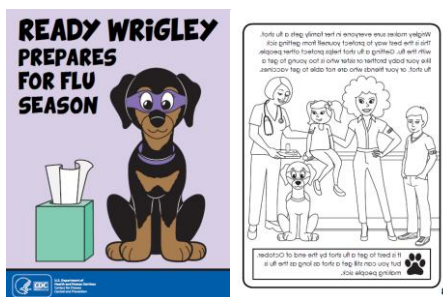
The World Health Organization (WHO) has announced the [recommended composition](#) of influenza virus vaccines for use in the 2017-2018 northern hemisphere influenza season. It is recommended that trivalent vaccines for use in the 2017-2018 northern hemisphere influenza season contain the following:

- A/Michigan/45/2015 (H1N1)pdm09-like virus
- A/Hong Kong/4801/2014 (H3N2)-like virus
- B/Brisbane/60/2008-like virus

It is recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses as well as an additional B virus: B/Phuket/3073/2013-like virus.

READY WRIGLEY CHILDRENS BOOK: READY WRIGLEY PREPARES FOR FLU SEASON

The CDC has created Ready Wrigley to provide parents, guardians, teachers, and young children with tips, activities, and a story to help prepare families for emergencies. In this [activity book](#), Wrigley helps her family stay healthy during flu season. Please print and distribute in your clinics as you see fit. This is a great resource that can be used to educate children and their parents about the flu!



OTHER INFLUENZA-RELATED NEWS

- [AAP advocacy spurs improvements to flu vaccine distribution](#)
- [Flu, another illness reach 4-year high, then drop in Muskegon County](#)

FLU WEBSITES

- www.michigan.gov/flu
- www.cdc.gov/flu
- www.flu.gov
- <http://vaccine.healthmap.org/>

INFLUENZA-RELATED JOURNAL ARTICLES

- [Socio-environmental and measurement factors drive spatial variation in influenza-like illness](#)
- [Comparative effectiveness of high-dose versus standard-dose influenza vaccines among US Medicare beneficiaries in preventing postinfluenza deaths during 2012-2013 and 2013-2014](#)
- [Effect of repeated vaccination with the same vaccine component against influenza A\(H1N1\)pdm09](#)
- [Serial vaccination and the antigenic distance hypothesis: Effects on influenza vaccine effectiveness during A\(H3N2\) epidemics in Canada, 2010-11 to 2014-15](#)
- [Influenza-associated hospitalizations for cardiovascular diseases in the tropic](#)
- [The effective rate of influenza reassortment is limited during human infection](#)
- [Safety of quadrivalent live attenuated influenza vaccine in subjects aged 2-49 years](#)
- [Immunogenicity and safety of an AS03- adjuvanted H7N1 vaccine in healthy adults: A phase I/II, observer-blind, randomized, controlled trial](#)
- [Neuraminidase inhibitors during pregnancy and risk of adverse neonatal outcomes and congenital malformations: Population based European register study](#)

AVIAN INFLUENZA INTERNATIONAL NEWS

- [Increase in human infections with avian influenza A\(H7N9\) virus during the fifth epidemic – China, October 2016- February 2017 \(MMWR\)](#)
- [WHO analysis spotlights resistance in H7N9 gene changes](#)
- [Reassortant clade 2.3.4.4 avian influenza A\(H5N6\) virus in a wild mandarin duck, South Korea, 2016](#)
- [Serological evidence for exposure to avian influenza viruses within poultry workers in southern China](#)
- [Egypt reports two H5N1 cases, one fatal](#)
- [H5N6 outbreak in Greece is first outside of Asia](#)
- [China reports 21 more H7N9 avian influenza cases, 3 deaths](#)
- [Bird flu found in Tennessee chicken flock on Tyson-contracted farm](#)

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

For questions or to be added to the distribution list, please contact Jalyn Ingalls at ingallsj@michigan.gov.

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