



MI Flu Focus

Influenza Surveillance Updates

Bureaus of Epidemiology and Laboratories



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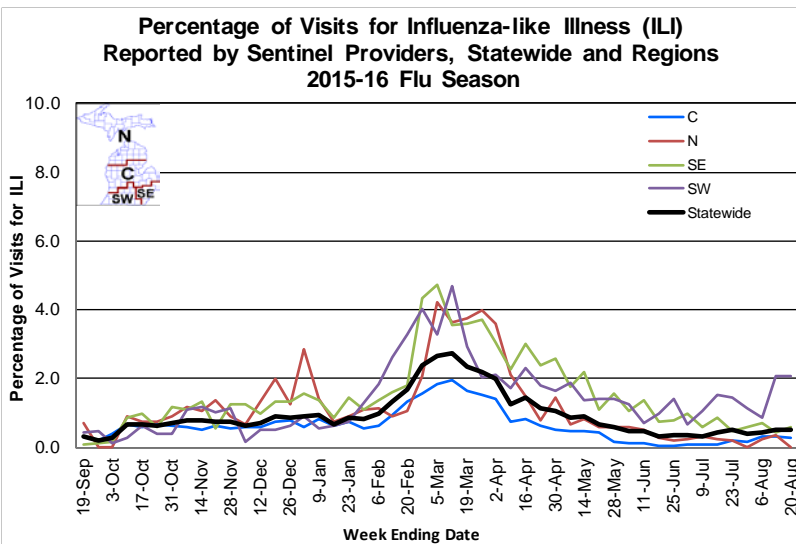
Influenza Surveillance Report for the Week Ending August 20, 2016

Human Infections with Influenza A (H3N2) Variant (H3N2v) Virus

As of August 19, 2016, the Michigan Department of Health and Human Services has identified twelve human cases of variant influenza A/H3N2 (H3N2v). All of these cases have had documented exposure to swine at either the Muskegon, Ingham or Cass county fairs where pigs also tested positive for H3N2 swine influenza. Michigan healthcare providers should be vigilant for additional suspect human cases of variant influenza that may occur throughout the rest of the fair season. Many fairs are still to be held in all areas of Michigan through the end of September.

Clinical characteristics of an H3N2v infection are similar to symptoms of uncomplicated seasonal influenza, including fever, cough, pharyngitis, rhinorrhea, myalgia, and headache. Vomiting, diarrhea and conjunctivitis have also been reported in some pediatric cases. Milder illness is possible, including lack of fever. Duration of illness in most cases is approximately 5 days, but may be a week or more. As with seasonal flu, those at higher risk for flu-related complications may develop more serious illness. Oseltamivir (Tamiflu) may be effective in treating variant influenza infections, especially if given early.

To promptly report suspect cases and arrange testing, contact your local health department immediately (or contact MDHHS at 517-335-8165 or after hours at 517-335-9030).

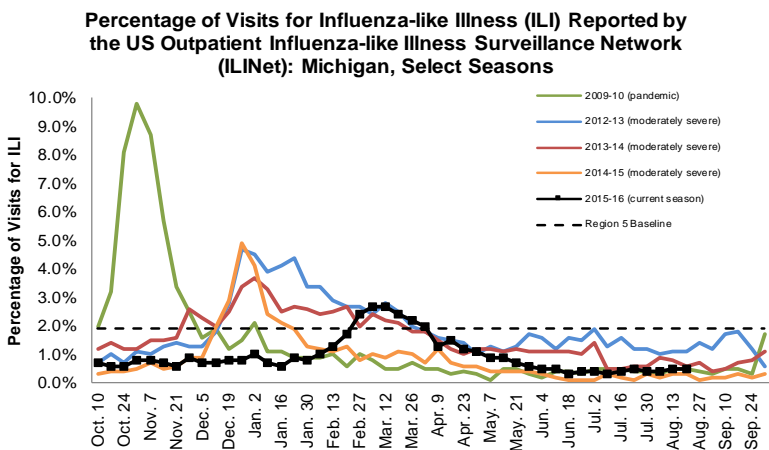


Sentinel Provider Surveillance

The proportion of visits due to influenza-like illness (ILI) remained at 0.5% overall, which is below the regional baseline of 1.9%. A total of 44 patient visits due to ILI were reported out of 8,589 office visits. Please note: These rates may change as additional reports are received.

Number of Reports by Region (29 total):

- C (8)
- N (3)
- SE (14)
- SW (4)



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 Jalyne Ingalls (IngallsJ@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 from Oct. 1, 2015 until Apr. 30, 2016, for Clinton, Eaton, Genesee, and Ingham counties. During the surveillance period, there were 75 pediatric (39.3 per 100,000 population) and 217 adult (31.6 per 100,000 population) hospitalizations reported within the catchment area. Note: The catchment period for the IHSP has ended for the 2015-2016 influenza season.

The MDHHS Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. During the summer months, hospitalizations are reported on a case-by-case basis. 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.

Age Group	New Flu Hospitalizations Reported	Total 2015-16 Flu Hospitalizations Reported to Date
0-4 years	0	40 (22N, 1C, 8SW, 9SE)
5-17 years	0	28 (13N, 1C, 4SW, 10SE)
18-49 years	0	166 (30N, 3C, 34SW, 99SE)
50-64 years	0	225 (30N, 9C, 40SW, 146SE)
65 years & older	0	262 (30N, 9C, 43SW, 180SE)
Total	0	721 (125N, 23C, 129SW, 444SE)

Laboratory Surveillance

MDHHS Bureau of Laboratories reported seven new positive influenza results, three seasonal A/H3 and four A/H3N2v. A total of 397 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	62	23	72	113	270	23* (21 A/California/07/2009-like (H1N1)pdm09**)	2 / 96
Influenza A/H3	17	7	15	28	67	8* (6 A/Switzerland/9715293/2013-like [†]) 12 A/H3N2-variant	0 / 20
Influenza B	8	6	17	24	55	43 (18 B/Yamagata lineage [5 B/Phuket/3073/2013-like ^{††}], 21 B/Victoria lineage [3 B/Brisbane/60/2008-like])	
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; [†]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, 10 sentinel clinical labs (3SE, 2SW, 5C) reported influenza results. One lab (C) reported sporadic influenza A activity. No labs reported influenza B activity. Three labs (SE, SW, C) reported ongoing low Parainfluenza activity. No labs reported RSV activity. Two labs (SE, SW) reported sporadic Adenovirus activity. One lab (SW) reported sporadic hMPV activity. Testing volumes overall remain low or very low.

Influenza Congregate Settings Outbreaks

There were no new respiratory facility outbreaks reported. There have been a total of 34 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		4	7
Long-term Care / Assisted Living Facility	8	2	5	8	23
Healthcare Facility		2	1		3
Daycare				1	1
Correctional Facility		1			1
Total	9	7	6	13	34

Michigan Disease Surveillance System

MDSS influenza data indicated that compared to levels from the previous week, aggregate and individual reports had both decreased. Aggregate and individual reports had both decreased when compared to levels seen during the same time period last year.

Emergency Department Surveillance

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

- 5 constitutional alerts (1N, 2C, 1SW, 1SE)
- 2 respiratory alerts (2C)

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.

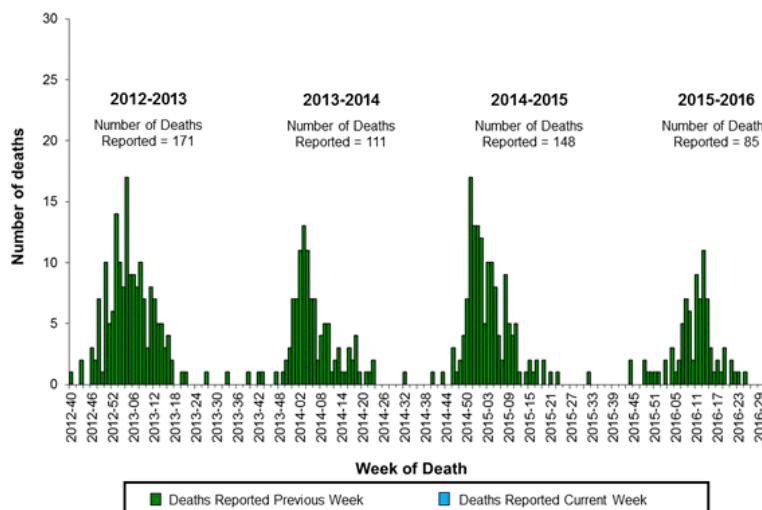
National: In the United States, 0.6% of outpatient visits were due to influenza-like illness, which is below the national baseline of 2.1%. No new influenza-associated pediatric deaths were reported, for a total of 85 pediatric deaths for the 2015-16 flu season. Additional information is in the weekly FluView reports available at: www.cdc.gov/flu/weekly/.

NOTE: Influenza surveillance in the U.S. will continue through the summer months with condensed reports available at www.cdc.gov/flu/weekly/; the full FluView resumes on October 16, 2015. [FluView interactive](#) will be updated over the summer months.

International: Influenza activity varied in countries of temperate South America and increased steadily in the last few weeks in South Africa, increased slowly but remained still low overall in most of Oceania. Influenza activity in the temperate zone of the northern hemisphere was at inter-seasonal levels. More information is available at:

www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/.

Number of Influenza-Associated Pediatric Deaths by Week of Death: 2012-2013 season to present





2016-17 FLU VACCINE RECOMMENDATIONS

CDC's Advisory Committee on Immunization Practices (ACIP) published the [2016-17 flu vaccine recommendations](#) in *MMWR* on August 26th. The report includes recommendations, antigenic composition of the flu vaccine for 2016-17, and available flu vaccine products.

Manufacturers project that 157-168 million doses of flu vaccine will be manufactured in the U.S. this flu season. MDHHS has updated our flu materials for the 2016-2017 season, and they are posted [here](#). These handouts can also be accessed by going to www.michigan.gov/flu, and clicking on "Current Flu Season Vaccination Materials for Health Care Professionals."

2016-17 INFLUENZA VACCINE INFORMATION STATEMENT (VIS)

The 2016-17 Influenza Vaccine Information Statement (VIS) has not changed from the 2015-2016 version. The Influenza VIS dated 8/7/15 should be used for the 2016-17 influenza season. Make sure to use the [Michigan versions](#) as they contain language on the Michigan Care Improvement Registry (MCIR). By state law in Michigan, parents must be informed about MCIR. Vaccine Information Statements that are obtained from other sources do not contain information about MCIR.

LAIV KEY POINTS POSTER FOR PATIENTS AND PROVIDERS AVAILABLE ONLINE

MDHHS has created LAIV key point's posters for providers and patients. The [provider version](#) addresses clinical updates regarding LAIV, and the [patient version](#) explains the new flu vaccine recommendation, and encourages patients to get the flu vaccine this upcoming season.

FLU WEBSITES

www.michigan.gov/flu

www.cdc.gov/flu

www.flu.gov

<http://vaccine.healthmap.org/>

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

INFLUENZA-RELATED JOURNAL ARTICLES

- [Epidemiological and virological characterization of Influenza B virus infections](#)
 - Most B Victoria virus-infected patients were people aged 0-30 years of age
 - Elderly people were more vulnerable to B/Yamagata lineage virus infections
- [Influenza-related healthcare visits, hospital admissions, and direct medical costs for all children aged 2 to 17 years in a defined Swedish region, monitored for 7 years](#)
 - 10% of total healthcare costs were attributable to seasonal ILI
- [Morning vaccination enhances antibody response over afternoon vaccination: A cluster randomized trial](#)
 - Morning vaccination resulted in a greater antibody response – A/H1N1 ($p=.03$) and B strain ($p=.01$)
- [Live Attenuated Vaccine versus Inactivated Influenza Vaccine in Hutterite children: A cluster randomized blinded trial](#)
 - Similar outcomes measured among those vaccinated with LAIV3 and IIV
 - Caveats to this article:
 - Generalizing Canada Population to U.S. Population
 - Hutterite community is a unique population that is being generalized to all populations
 - Compared LAIV3 to IIV, not LAIV4

AVIAN INFLUENZA INTERNATIONAL NEWS

- [Human Infection with Avian Influenza A\(H7N9\) Virus- China](#)
- [H5N2 Avian Influenza Confirmed in a Wild Mallard Duck in Alaska](#)

OTHER INFLUENZA-RELATED NEWS

- [Army Prepares to Administer 1.6 Million Flu Shots](#)
- [St. Jude Researchers Pinpoint Key Influenza-Fighting Immune Trigger](#)
- [New Study Explains Link Between Influenza and Deadly MRSA Infection](#)
- [Puerto Rico Reports 1st Flu Death of the Season](#)

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