



MI Flu Focus

Influenza Surveillance Updates Bureaus of Epidemiology and Laboratories

Michigan Department
of Community Health



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MI's Current Influenza

Activity Level:

Widespread

Updates of Interest:

- MDCH sent a Health Alert on surveillance of parotitis & influenza, see below
- The first pediatric influenza-associated death in MI for 2014-15 was reported

Influenza Surveillance Report for the Week Ending January 10, 2015

MI Health Alert (1/16/2015): Surveillance for Parotitis during the 2014-15 Influenza Season

MDCH sent out a Health Alert on January 16, 2015 regarding surveillance of parotitis cases with lab-confirmed influenza. See below for an excerpt from the HAN. Please share with healthcare providers that they are to notify their local health department of **any** case of parotitis (even when mumps is suspected) so appropriate specimen collection for mumps and influenza can be ensured. Local health departments should report cases to the MDCH Communicable Disease Division to arrange for lab testing at MDCH Bureau of Laboratories.

Since December 2014, the Centers for Disease Control and Prevention (CDC) has been notified of diagnosed parotitis in persons with lab-confirmed influenza in multiple states, including Michigan with two cases. Parotitis, inflammation of the parotid salivary gland, is an uncommon complication of influenza. The Michigan Department of Community Health (MDCH), in collaboration with the CDC, is conducting surveillance for current and retrospective parotitis cases (from October 1, 2014) that meet the CDC case definition.

To assist CDC with incident case finding, MDCH is asking providers to report to their local health department any cases that meet this case definition. When local health departments are notified about parotitis or suspect mumps cases, please contact the MDCH Communicable Disease Division (517-335-8165) to report and to arrange for specimen collection.

Specimens requested for testing at the MDCH Bureau of Laboratories (BOL)

Healthcare providers are asked to collect a buccal swab (for mumps testing) and a nasopharyngeal swab, and oropharyngeal swab if possible (for respiratory virus testing) on patients presenting with parotitis:

- 1) Nasopharyngeal/oropharyngeal swab - in tube of viral transport medium (VTM)
- 2) Buccal mucosa swab on the side of the affected parotid gland - ship in an individual tube of VTM separate from the NP specimen

Michigan Disease Surveillance System

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

Emergency Department Surveillance

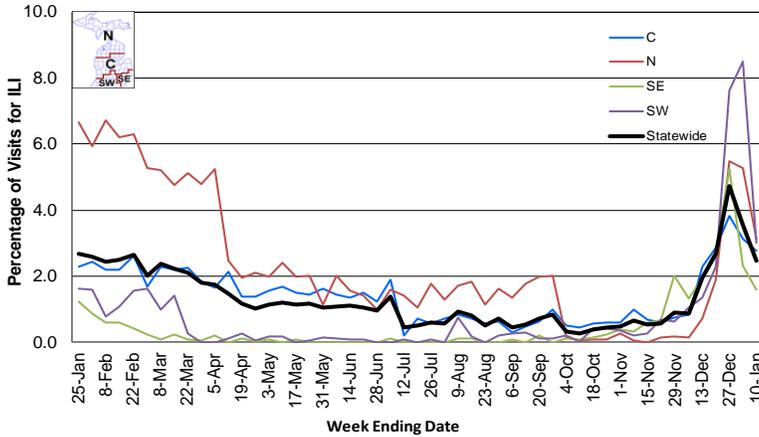
Compared to levels from the week prior, emergency department visits from constitutional and respiratory complaints decreased. Levels of constitutional and respiratory complaints were similar to levels compared to the same time period last year.

- 3 constitutional alerts (1SW,2C)
- 0 respiratory alerts

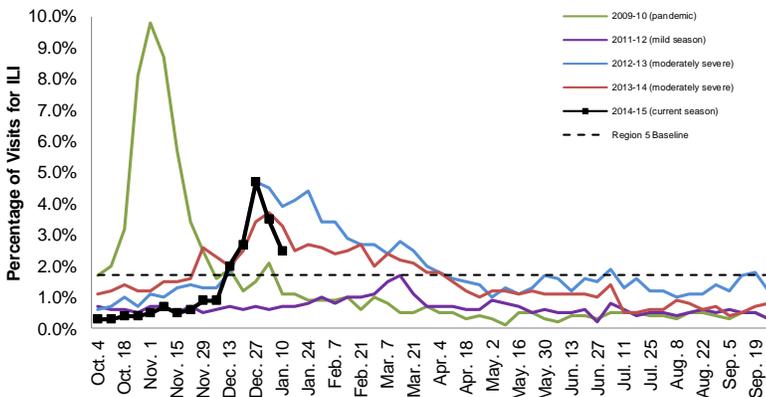
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**Percentage of Visits for Influenza-like Illness (ILI)
Reported by Sentinel Providers, Statewide and Regions
2014-15 Flu Season**



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



Sentinel Provider Surveillance

The proportion of visits due to influenza-like illness (ILI) decreased to 2.5% overall; this is above the regional baseline (1.7%). A total of 227 patient visits due to ILI were reported out of 9,247 office visits. Please note: These rates may change as additional reports are received.

Number of Reports by Region (29 total):

- C (11)
- N (5)
- SE (10)
- SW (3)

Become a Sentinel Provider!

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 Stefanie DeVita at devitas1@michigan.gov for more information.

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, starting on October 1, 2014, for Clinton, Eaton, Genesee, and Ingham counties. There were 39 influenza-related hospitalizations reported (accumulated total since Oct. 1: 53 children, 217 adults).

Based on these counts, there have been 27.5 pediatric influenza hospitalizations per 100,000 population and 31.7 adult influenza hospitalizations per 100,000 population within the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. Six hospitals (SE, SW, C) reported. Results 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 2014-15 Flu Hospitalizations to Date
0-4 years	1 (SE)	17 (14C, 3SE)
5-17 years	2 (C)	25 (24C, 1SE)
18-49 years	2 (1C, 1SW)	38 (7C, 30SE, 1SW)
50-64 years	3 (2SE, 1SW)	53 (8C, 43SE, 2SW)
65 years & older	33 (2C, 27SE, 4SW)	293 (15C, 262SE, 16SW)
Total	41 (5C, 30SE, 6SW)	426 (68C, 339SE, 19SW)

Laboratory Surveillance

MDCH Bureau of Laboratories reported 73 new positive influenza results: 72 A/H3 and 1 A unable to be subtyped. A total of 355 positive influenza results have been reported for the 2014-15 season. Influenza results for the 2014-15 season are reported 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		
Influenza A/H3	90	28	82	134	334	8* (3 A/Texas/50/2012-like**, 5 A/Switzerland/9715293/2013-like)	0 / 34
Influenza B	3		11	4	18	18 (17 B/Yamagata lineage, 1 inconclusive)	
Influenza A, unsubtypeable	1			1	2		

*Specimens antigenically characterized by CDC; **A/Texas/50/2012 (H3N2) virus is the H3N2 component of the 2014-15 Northern Hemisphere flu vaccine. A/Switzerland/9715293/2013-like is an antigenic variant of the current vaccine virus.

In addition, 13 sentinel labs (4SE,2SW,6C,1N) reported influenza results. All 13 labs (SE,SW,C,N) reported ongoing influenza A activity but with a continued downward trend and the majority of sites now at moderate levels. Six labs (SE,SW,C,N) reported sporadic or low influenza B activity. Three labs (SE,SW,C) reported low or slightly increasing Parainfluenza activity. Eight labs (SE,SW,C) reported low or moderate RSV activity, with the highest levels in the SE region. Two labs (SE,C) reported low Adenovirus activity. Three labs (SE,SW,C) reported low hMPV activity. Nearly all testing volumes continue to show further declines but with most sites remaining in the high or very high range.

Influenza-associated Pediatric Mortality

One pediatric influenza-associated death in an adolescent from the SE region associated with an influenza A virus not subtyped has been reported to MDCH. This is Michigan's first confirmed pediatric flu-associated death for the 2014-15 season.

Influenza Congregate Settings Outbreaks

There were 38 respiratory facility outbreaks (24 unknown etiology/no testing, 12 confirmed flu A, 1 confirmed flu A & B, and 1 confirmed flu) reported. There have been a total of 93 respiratory facility outbreaks reported to MDCH for the 2014-15 season. Respiratory facility outbreaks are listed in the table below by facility type and surveillance region.

Facility Type	C	N	SE	SW	Total
Adult Care Facility		1	2		3
Long-Term Care / Assisted Living Facility	21	5	24	26	76
K-12 School	1		1		2
Daycare				1	1
Unknown / Investigation Pending	11				11
Total	33	6	27	27	93

National: Influenza activity remained elevated in the United States, with 4.4% of outpatient visits due to influenza-like illness. Nineteen influenza-associated pediatric deaths were reported, bringing the 2014-15 total to 45. Additional information is in the weekly FluView reports available online at: www.cdc.gov/flu/weekly/.

International: Influenza activity continued to increase in the Northern Hemisphere with influenza A(H3N2) viruses predominating so far. Summary information is available online at www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/.

A Weekly Influenza Surveillance Report Prepared by the Influenza Division
Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*
Week Ending January 10, 2015- Week 1





INFLUENZA ACTIVITY THROUGHOUT THE U.S.

- [New York infant passes away from influenza A](#)
- [Number of Oklahoma influenza-related deaths jumps by 9](#)
- [Over 800 confirmed cases of flu in Kent County](#)
- [Muskegon hospital enacts visitation policy as flu season progresses; more than 600 cases reported](#)

2014-15 FLU VACCINE EFFECTIVENESS IN U.S.

Last week, CDC published the early estimates of seasonal flu vaccine effectiveness (VE) for 2014-15 in [MMWR](#). Overall, it is estimated that getting a flu vaccine this season reduced a person's risk of having to go to the doctor because of flu by 23% among people of all ages.

- [CDC Press Release](#) (January 15)
- CDC: [Seasonal Flu VE, 2005-2015](#)

INFLUENZA-RELATED JOURNAL ARTICLES

- [2012-13 Influenza vaccine effectiveness against hospitalized influenza: estimates from a European network of hospitals](#)
 - VE was highest for H3N2 (61.8%)
- [Emergence and evolution of H10 subtype influenza viruses in poultry in China](#)
 - China is a unique influenza epicenter for generating novel viruses with pandemic potential
- [The contrasting phylodynamics of human influenza B viruses](#)
- [Simulation study of the effect of influenza and influenza vaccination on risk of acquiring Guillain-Barré Syndrome](#)
 - Flu vaccination reduced GBS risk
- [Quality improvement initiative to increase influenza vaccination in pediatric cancer patients](#)
 - Study interventions increased complete flu vaccination rate from 20% to 64%

FLU WEBSITES

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

AVIAN INFLUENZA A(H5N1)

- [Tests reveal H5N1 in Israeli turkeys, four countries report other strains](#)
- [Woman, child die of bird flu in Egypt, 5 deaths so far this year](#)

AVIAN INFLUENZA A(H7N9)

- WHO: [Human infection with avian influenza A\(H7N9\) virus - China](#)
 - On January 13, WHO notified of 15 additional cases including 3 deaths
 - [Global case count](#) at 517

OTHER AVIAN INFLUENZA NEWS

- [Avian H5N2 found in wild Oregon mallard](#)
- [H5N2 infects third Washington flock](#)
- [H5N8, H5N2 strikes Idaho for first time](#)
- [H5N8 identified in Utah duck](#)
- [Wyoming public warned wild birds could carry influenza](#)
- [Avian flu, including new H5N3 strain, continues to plague Taiwan](#)
 - New strain of highly pathogenic H5N3 struck goose farms in 2 counties
 - H5 component is 99% similar to South Korean virus
 - N3 component is 98% similar to a 2011 H1N3 virus from Thailand, an H2N3 in Mongolian mallards in 2010, and an H5N3 in wild ducks in Taiwan in 2013

OTHER INFLUENZA-RELATED NEWS

- [CDC Seasonal Flu Doses Distributed](#): ~147.1 million doses in U.S. as of January 9, 2015
- [Flu News Europe, week 02/2015](#)
 - Increasing flu activity especially in west and north countries, and H3N2 predominating in most countries
- [Intranasal live attenuated influenza vaccines show advantages in swine](#)

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For questions or to be added to the distribution list, please contact Stefanie DeVita at devitas1@michigan.gov.

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