



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:**
Regional

Updates of Interest:

[Arkansas](#) and [Kansas](#) have recently identified avian influenza H5N2 viruses in poultry.

Influenza Surveillance Report for the Week Ending March 7, 2015

Michigan Disease Surveillance System

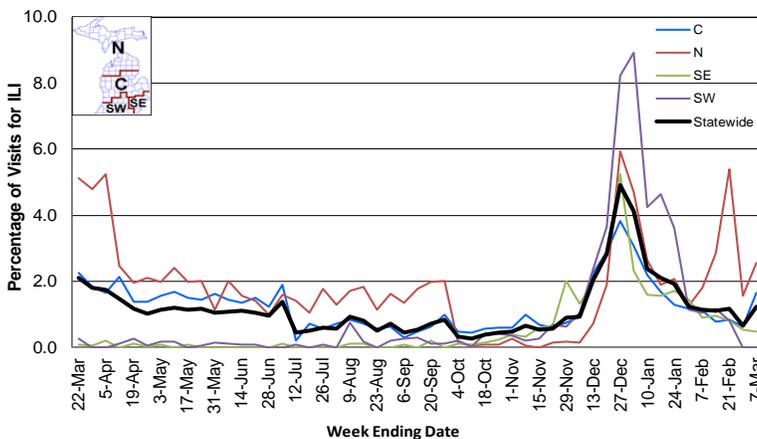
MDSS influenza data indicated that compared to levels from the previous week, individual reports increased while aggregate reports decreased. Individual reports are higher than levels seen during the same time period last year while aggregate reports are lower compared to the same time period last year.

Emergency Department Surveillance

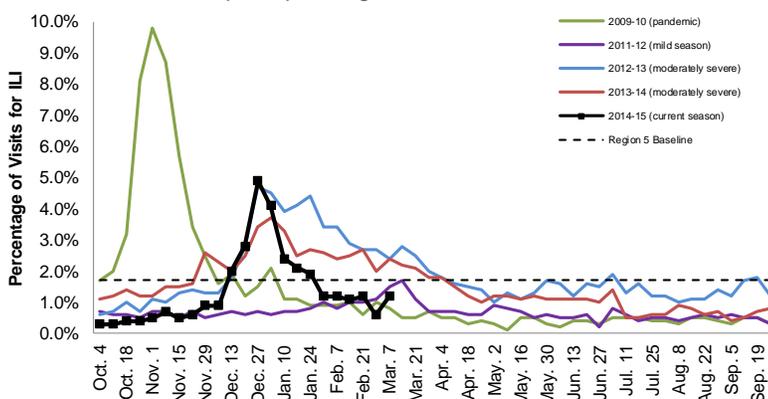
Compared to levels from the week prior, emergency department visits from constitutional complaints increased while respiratory complaints decreased. Levels of constitutional complaints were higher than levels compared to the same time period last year while respiratory complaints were slightly lower than levels at this time last year.

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

**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) increased to 1.2% overall; this is below the regional baseline (1.7%). A total of 90 patient visits due to ILI were reported out of 7,279 office visits. Please note: These rates may change as additional reports are received.

Number of Reports by Region (24 total):

- C (6)
- 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.

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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, starting on October 1, 2014, for Clinton, Eaton, Genesee, and Ingham counties. There were 11 influenza-related hospitalizations reported (accumulated total since Oct. 1: 75 children, 306 adults).

Based on these counts, there have been 38.9 pediatric influenza hospitalizations per 100,000 population and 44.7 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, and 12 hospitals (N,C,SE,SW) 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 | 0 | 29 (21C, 4SE, 4SW) |
| 5-17 years | 0 | 25 (24C, 1SE) |
| 18-49 years | 0 | 56 (1N, 10C, 43SE, 2SW) |
| 50-64 years | 2 (1SE, 1SW) | 94 (10C, 73SE, 11SW) |
| 65 years & older | 13 (3N, 10SE) | 450 (10N, 17C, 377SE, 46SW) |
| Total | 15 (3N, 11SE, 1SW) | 654 (11N, 82C, 498SE, 63SW) |

Laboratory Surveillance

MDCH Bureau of Laboratories reported 6 new positive influenza results: 6 A/H3. A total of 500 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 | 112 | 33 | 96 | 226 | 467 | 15* (3 A/Texas/50/2012-like**, 12 A/Switzerland/9715293/2013-like) | 0 / 104 |
| Influenza B | 4 | 6 | 16 | 4 | 30 | 29 (28 B/Yamagata lineage [3* B/Massachusetts/02/2012-like [†]], 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; [†]B/Massachusetts/02/2012 virus is the B/Yamagata component of the 2014-15 Northern Hemisphere trivalent and quadrivalent flu vaccines.

In addition, 12 sentinel clinical labs (4SE,2SW,5C,1N) reported influenza results. Nine labs (SE,SW,C) reported influenza A activity with most sites continuing at steady or further declining levels. Nine labs (SE,SW,C) reported influenza B activity, with influenza B virus now predominating at multiple sites. Two sites (C,N) reported no influenza activity. Five labs (SE,SW,C) reported low Parainfluenza activity. Twelve labs (SE,SW,C,N) reported ongoing RSV activity, with most sites continuing at steady or gradually declining levels. Four labs (SE,C) reported low Adenovirus activity. Five labs (SE,SW,C) reported ongoing or slightly elevated hMPV activity. Most testing volumes continue to drop further or remain steady, but several sites remain in the high range.

Influenza Congregate Settings Outbreaks

There were 3 respiratory facility outbreaks reported (1 confirmed flu A/H3, 1 confirmed flu, and 1 unknown etiology/no testing). There have been a total of 139 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 | 26 | 11 | 31 | 33 | 101 |
| K-12 School | 1 | | 1 | | 2 |
| Daycare | | | | 1 | 1 |
| Unknown / Investigation Pending | 16 | | 4 | 9 | 29 |
| Healthcare Facility | | | | 3 | 3 |
| Total | 43 | 12 | 38 | 46 | 139 |

Influenza-associated Pediatric Mortality

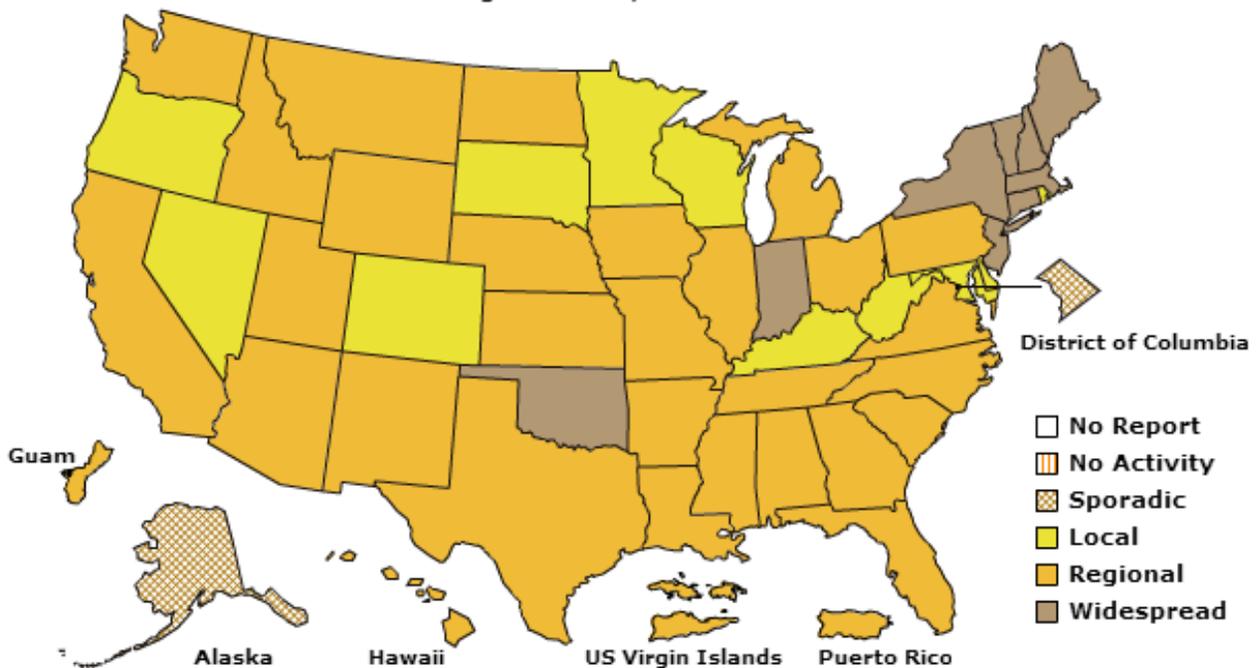
No new influenza-associated pediatric deaths were reported to MDCH. One influenza-associated pediatric death (1SE) has been reported to MDCH for the 2014-15 season.

National: Influenza activity continued to decrease but remained elevated in the United States, with 2.4% of outpatient visits due to influenza-like illness. The proportion of influenza B viruses continued to increase. Seven influenza-associated pediatric deaths were reported, bringing the 2014-15 total to 104. Additional information is in the weekly FluView reports available online at: www.cdc.gov/flu/weekly/.

International: Influenza activity remained high in the Northern Hemisphere with influenza A(H3N2) viruses predominating. Some countries in Africa, Asia, and the southern part of Europe reported increased influenza A(H1N1)pdm09 activity. 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 March 07, 2015- Week 9





MDCH IMMUNIZATION PINK BOOK COURSE

MDCH will host the CDC Epidemiology and Prevention of Vaccine-Preventable Diseases Course (a.k.a. Pink Book Course) on June 16-17, 2015 at the Lansing Center. The course is for health care professionals who want to learn more about immunization and vaccine-preventable diseases. Online registration for this class will begin on April 6. For more info on the Pink Book Course, go to michigan.gov/immunize, click on Health Care Professionals/Providers, and it is listed under Provider Education Resources.

INFLUENZA-RELATED JOURNAL ARTICLES

- [Influenza surveillance: 2014-2015 H1N1 "swine"-derived influenza viruses from India](#)
 - The current H1N1 virus (A/India/6427/2014) has acquired amino acid mutations that distinguish it from pH1N1 (A/California/07/2009)
 - Mutations may render it more virulent and justify reevaluation of vaccine
- [Typical adult over 30 gets flu twice every 10 years: study](#)
- [Vaccines for the prevention of seasonal influenza in patients with diabetes: systematic review and meta-analysis](#)
 - Available evidence is insufficient to determine the magnitude of benefit that diabetic people derive from seasonal flu vaccination
- [Influenza virus prevalence in asymptomatic and symptomatic subjects during pandemic and postpandemic periods](#)
 - Asymptomatic household contacts of symptomatic children may play important role in community transmission
- [Comparison of traditional intranasal and aerosol inhalation inoculation of mice with influenza A viruses](#)
 - Comparable morbidity, mortality, and viral titers observed with both methods
- [Effects of oseltamivir treatment of index patients with influenza on secondary household illness in an urban setting in Bangladesh](#)
 - Oseltamivir treatment of index patients resulted in a small reduction of secondary flu in their households
- [2 new flu strains in China still difficult to infect humans: study](#)

AVIAN INFLUENZA A(H7N9)

- [WHO updates H7N9 cases as study reveals possible vector](#)
- [Emerging Infectious Diseases: Influenza A\(H7N9\) virus transmission between finches and poultry](#)
 - Transmission occurs through shared water but not through airborne route
- [Dissemination, divergence and establishment of H7N9 influenza viruses in China](#)
 - Rapid expansion of geographic distribution and genetic diversity poses direct challenge to current disease control systems
- [China closes live poultry markets amid H7N9 alert](#)

AVIAN INFLUENZA A(H5N1)

- [China reports its 2nd H5N1 case this year](#)
- [H5N1 cases pile up in Egypt](#)
- ECDC: [H5N1 cases increasing in Egypt; risk to EU unchanged](#)
- WHO: [Cumulative number of confirmed human cases of avian influenza A\(H5N1\) reported to WHO](#)

OTHER AVIAN INFLUENZA NEWS

- [H5N2 shows up on Arkansas turkey farm](#)
- [Kansas Department of Agriculture notified of confirmed positive case of avian influenza](#)
- [USDA confirms highly pathogenic H5N2 avian influenza in backyard flock in Kansas](#)
- [Avian influenza not a risk in properly cooked poultry](#)
- [Taiwan battles more H5N2, H5N8 outbreaks](#)
- [Virology: Pathogenesis of novel reassortant avian influenza virus A\(H5N8\) isolates in the ferret](#)

OTHER INFLUENZA-RELATED NEWS

- [New Jersey bill to promote flu vaccination among seniors clears Assembly](#)

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](#).

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

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