



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories

Michigan Department
of Community Health



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Current Influenza Activity Levels:

- **Michigan:** Sporadic influenza activity
- **National:** During October 13-19, influenza activity remained low in the United States

Updates of Interest:

- **International:** China reports a new human case of avian influenza H7N9
- **International:** Qatar reports a new MERS-CoV case

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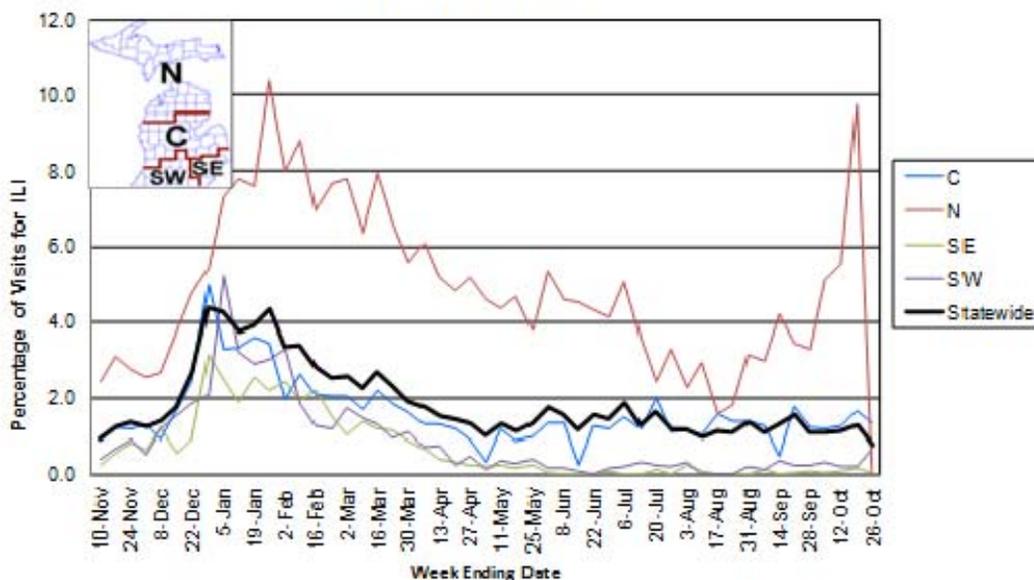
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of October 31): MDSS influenza data for the week ending October 26, 2013 indicated that compared to levels from the previous week, individual reports remained steady at low levels, while aggregate reports slightly increased. Individual reports are similar to levels seen during the same time period last year, while aggregate reports are slightly lower.

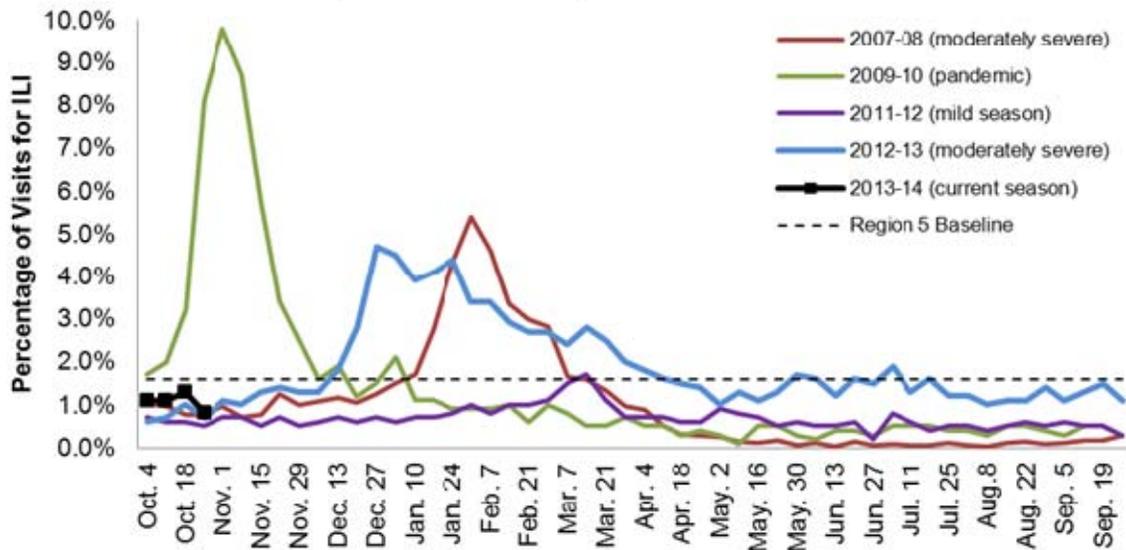
Emergency Department Surveillance (as of October 31): Emergency department visits due to both constitutional and respiratory complaints increased slightly from levels seen during the previous week. Emergency department visits from constitutional complaints were similar to levels during the same time period last year, while respiratory complaints were lower. In the past week, there were 10 constitutional alerts in the SW(3), C(4) and N(3) Influenza Surveillance Regions and 5 respiratory alerts in the C(4) and N(1) Regions.

Sentinel Provider Surveillance (as of October 31): During the week ending October 26, 2013, the proportion of visits due to influenza-like illness (ILI) decreased to 0.8% overall; this is below the regional baseline (1.6%). A total of 61 patient visits due to ILI were reported out of 8,069 office visits. Data were provided by 22 sentinel sites from the following regions: Central (9), North, (2), Southeast (8), and Southwest (3). ILI activity decreased in three regions: C (1.3%), N (0.0%), and SE (0.1%) and increased in one region: SW (0.7%). Please note: These rates may change as additional reports are received.

Percentage of Visits for Influenza-like Illness (ILI)
Reported by Sentinel Providers, Statewide and Regions
2013-14 Flu Season



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



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 517-335-3385 or DeVitaS1@michigan.gov for more information.

Hospital Surveillance (as of October 26): The CDC Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness through active surveillance and chart review of lab-confirmed cases, starting on October 1, 2013, for Clinton, Eaton, Genesee, and Ingham counties. One pediatric case was identified during the past week. As of October 26th, there have been 2 influenza hospitalizations (2 pediatric) within the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. Six hospitals (SE,SW,C) reported for the week ending October 26, 2013. Results are listed in the table below.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2013-14 Season
0-4 years	1 (1C)	1 (1C)
5-17 years	0	1 (1C)
18-49 years	0	0
50-64 years	0	0
≥65 years	0	0
Total	1 (1C)	2 (2C)

Laboratory Surveillance (as of October 26): During October 25-26, 1 positive influenza 2009 A/H1N1pdm result was reported by MDCH Bureau of Laboratories. For the 2013-14 season (starting Sept. 29, 2013), MDCH has identified 5 positive influenza results:

- Influenza 2009 A/H1N1pdm: 4 (4SE)
- Influenza A/H3: 1 (1SE)

13 sentinel labs (SE,SW,C,N) reported for the week ending October 26, 2013. 3 labs (SE,C) reported sporadic influenza A activity. No labs reported influenza B or hMPV activity. 3 labs (SE,SW,C) had sporadic parainfluenza activity. 4 labs (SE,C,N) had sporadic RSV activity. 2 labs (SE,SW) had sporadic adenovirus activity. Most sites are at low testing volumes, with several sites (SE,SW) at higher levels.

Michigan Influenza Antigenic Characterization (as of October 31): For the 2013-14 season, no influenza specimens have been characterized at MDCH BOL.

Michigan Influenza Antiviral Resistance Data (as of October 31): For the 2013-14 season, no influenza specimens have been tested at the MDCH BOL for antiviral resistance.

CDC has made recommendations regarding the use of antivirals for treatment and prophylaxis of influenza, which are available at <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.

Influenza-associated Pediatric Mortality (as of October 31): No pediatric influenza-associated influenza mortalities have been reported to MDCH for the 2013-14 season.

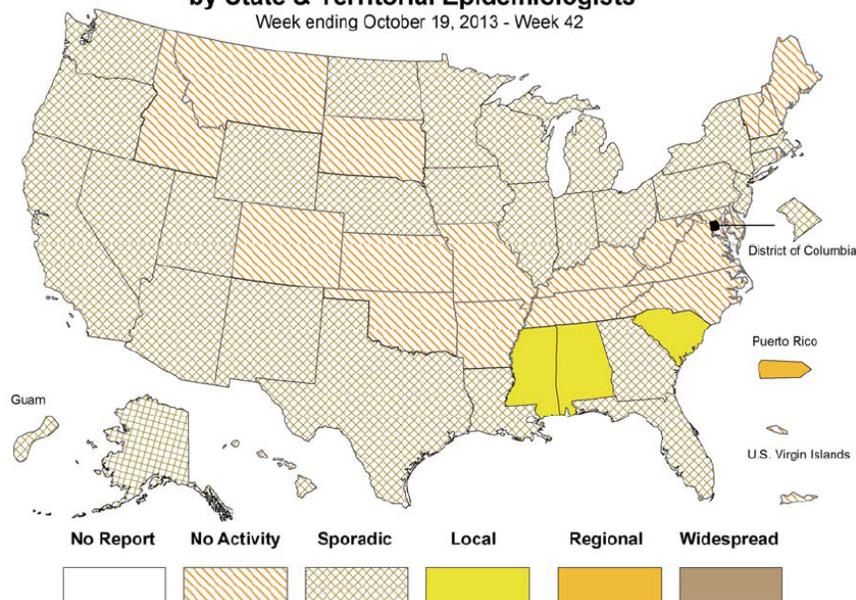
CDC requires reporting of flu-associated pediatric deaths (<18 yrs), including pediatric deaths due to an influenza-like illness with lab confirmation of influenza or any unexplained pediatric death with evidence of an infectious process. Contact MDCH immediately for proper specimen collection. The MDCH protocol is at www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf.

Influenza Congregate Settings Outbreaks (as of October 31): No respiratory outbreaks have been reported to MDCH during the 2013-14 season.

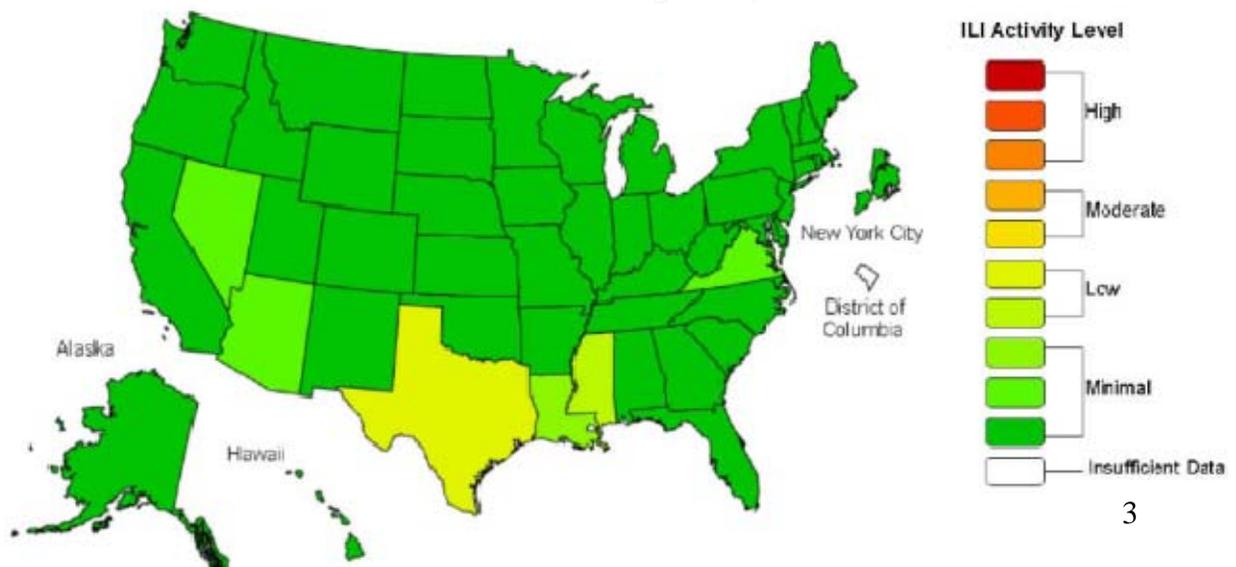
National (CDC [edited], October 25): During week 42 (October 13-19, 2013), influenza activity remained low in the U.S. Of 3,513 specimens tested and reported by U.S. WHO and NREVSS collaborating laboratories during week 42, 135 (3.8%) were positive for influenza. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. 2 influenza-associated pediatric deaths that occurred during the 2012-13 season were reported. The proportion of outpatient visits for influenza-like illness (ILI) was 1.2%, below the national baseline of 2.0%. All 10 regions reported ILI below region-specific baseline levels. Two states experienced low ILI activity, 48 states and New York City experienced minimal ILI activity and the District of Columbia had insufficient data. The geographic spread of influenza in Puerto Rico was reported as regional; 3 states reported local activity; Guam, the District of Columbia, and 28 states reported sporadic activity, and the U.S. Virgin Islands and 19 states reported no activity.

Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists*

Week ending October 19, 2013 - Week 42



Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2013-14 Influenza Season Week 42 ending Oct 19, 2013



This map uses the proportion of outpatient visits to healthcare providers for influenza-like illness to measure the ILI activity level within a state. Therefore, outbreaks occurring in a single city could cause the state to display high activity levels. Data collected in ILINet may disproportionately represent certain populations within a state, and therefore, may not accurately depict the full picture of influenza activity for the whole state. Data displayed on this map are based on data collected in ILINet, whereas the State and Territorial flu activity map are based on reports from state and territorial epidemiologists.

Complete weekly FluView reports are available online at: <http://www.cdc.gov/flu/weekly/>.

International (WHO [edited], October 24): Although in many European countries influenza-like illness activity started to increase, influenza detections in the northern hemisphere temperate zones remained low. In the regions of tropical Asia influenza activity was variable from country to country. In Hong Kong Special Administrative Region, China, influenza detections decreased, while in the south of China an increase in detections was seen. In South East Asia, detections decreased in Thailand, but increased in Viet Nam. In this area, co-circulation of influenza A(H3N2) and B virus was reported. In the Caribbean region of Central America and tropical South America countries, reported cases of influenza A infection remained at low levels among most Caribbean islands and Central American countries. Respiratory syncytial virus (RSV) continued to predominate, but the RSV activity largely remained within expected seasonal levels. Influenza activity peaked in the temperate countries of South America and in South Africa in late June. Temperate South American countries reported co-circulation of B and A (H3N2) in most countries, and while RSV activity continued to predominate, it showed an overall decreasing trend. In Australia and New Zealand, numbers of influenza viruses detected and rates of influenza-like illness decreased. Co-circulation of A(H1N1)pdm09, A(H3N2) and B viruses was reported in both countries.

The entire WHO report is available online at www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html.

MDCH reported SPORADIC INFLUENZA ACTIVITY to CDC for the week ending October 26, 2013.

For additional flu vaccination and education information, the MDCH *FluBytes* newsletter is available at http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html.

Novel Influenza Activity and Other News

WHO Pandemic Phase: Post-pandemic – Influenza disease activity has returned to levels normally seen for seasonal influenza.

National, Human (Pediatrics abstract, October 28): Influenza-Associated Pediatric Deaths in the United States, 2004–2012. K. Wong, et al. *Pediatrics* 2013;132:796–804; ahead of print Oct 28, 2013.

BACKGROUND: Influenza-associated deaths in children occur annually. We describe the epidemiology of influenza-associated pediatric deaths from the 2004–2005 through the 2011–2012 influenza seasons.

METHODS: Deaths in children <18 years of age with laboratory-confirmed influenza virus infection were reported to the Centers for Disease Control and Prevention by using a standard case report form to collect data on demographic characteristics, medical conditions, clinical course, and laboratory results. Characteristics of children with no high-risk medical conditions were compared with those of children with high-risk medical conditions.

RESULTS: From October 2004 through September 2012, 830 pediatric influenza-associated deaths were reported. The median age was 7 years (interquartile range: 1–12 years). Thirty-five percent of children died before hospital admission. Of 794 children with a known medical history, 43% had no high-risk medical conditions, 33% had neurologic disorders, and 12% had genetic or chromosomal disorders. Children without high-risk medical conditions were more likely to die before hospital admission (relative risk: 1.9; 95% confidence interval: 1.6–2.4) and within 3 days of symptom onset (relative risk: 1.6; 95% confidence interval: 1.3–2.0) than those with high-risk medical conditions.

CONCLUSIONS: Influenza can be fatal in children with and without high-risk medical conditions. These findings highlight the importance of recommendations that all children should receive annual influenza vaccination to prevent influenza, and children who are hospitalized, who have severe illness, or who are at high risk of complications (age <2 years or with medical conditions) should receive antiviral treatment as early as possible.

The abstract is online at <http://pediatrics.aappublications.org/content/early/2013/10/23/peds.2013-1493>.

International, Human (WHO [edited], October 24): The National Health and Family Planning Commission, China notified WHO of a new laboratory-confirmed case of human infection with avian influenza A(H7N9) virus. The patient is a 67-year-old man from Zhejiang Province. He is a farmer, and has had contact with live poultry. He became ill on 16 October 2013, was admitted to a local township hospital on 18 October 2013, and was transferred to another hospital on 21 October 2013 as his condition deteriorated. He is currently in a critical condition.

To date, WHO has been informed of a total of 137 laboratory-confirmed human cases with avian influenza A(H7N9) virus infection including 45 deaths. Currently, four patients are hospitalized and 88 have been discharged. So far, there is no evidence of sustainable human-to-human transmission.

The full article is available online at http://www.who.int/csr/don/2013_10_24a/en/index.html.

International, MERS-CoV (WHO [edited], October 29): WHO has been informed of an additional laboratory-confirmed case of Middle East respiratory syndrome coronavirus infection in Qatar. The patient is a 23-year-old man who was identified as a close contact of a previously laboratory-confirmed case as part of the epidemiological investigation. He is a worker in the animal barn owned by the previously laboratory-confirmed case. The man developed mild symptoms of illness and is in good condition. Preliminary investigations revealed that he did not recently travel outside the country. Globally, from September 2012 to date, WHO has been informed of a total of 145 laboratory-confirmed cases of infection with MERS-CoV, including 62 deaths.

The full article is available online at http://www.who.int/csr/don/2013_10_29a/en/index.html.

International, Poultry (OIE [edited], October 25): Highly pathogenic avian influenza H7N2; Australia Outbreak: Young, NEW SOUTH WALES; Date of outbreak start: 22/10/2013; Epidemiological unit: Farm Susceptible: 55000; Cases: 620; Deaths: 620; Affected population: Cage layer hens aged 45-84 weeks

International Poultry and Wild Bird Surveillance (OIE): Reports of avian influenza activity, including summary graphs of avian influenza H5N1 outbreaks in poultry, can be found at the following website: http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm.

For questions or to be added to the distribution list, please contact Susan Peters at peterss1@michigan.gov

MDCH Contributors

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Table. H5N1 Influenza in Humans – As of October 8, 2013. http://www.who.int/influenza/human_animal_interface/EN_GIP_20131008_CumulativeNumberH5N1cases.pdf. Downloaded 08/29/2013. Cumulative lab-confirmed cases reported to WHO. Total cases include deaths.

Country	2003-2009		2010		2011		2012		2013		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Azerbaijan	8	5	0	0	0	0	0	0	0	0	8	5
Bangladesh	1	0	0	0	2	0	3	0	1	1	7	1
Cambodia	9	7	1	1	8	8	3	3	20	11	41	30
China	38	25	2	1	1	1	2	1	2	2	45	30
Djibouti	1	0	0	0	0	0	0	0	0	0	1	0
Egypt	90	27	29	13	39	15	11	5	4	3	173	63
Indonesia	162	134	9	7	12	10	9	9	2	2	194	162
Iraq	3	2	0	0	0	0	0	0	0	0	3	2
Lao PDR	2	2	0	0	0	0	0	0	0	0	2	2
Myanmar	1	0	0	0	0	0	0	0	0	0	1	0
Nigeria	1	1	0	0	0	0	0	0	0	0	1	1
Pakistan	3	1	0	0	0	0	0	0	0	0	3	1
Thailand	25	17	0	0	0	0	0	0	0	0	25	17
Turkey	12	4	0	0	0	0	0	0	0	0	12	4
Vietnam	112	57	7	2	0	0	4	2	2	1	125	62
Total	468	282	48	24	62	34	32	20	31	20	641	380