



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories



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Current Influenza Activity Levels:

- **Michigan:** Local activity
- **National:** During April 1-7, U.S. influenza activity was elevated in some areas, but declined nationally and in most regions

Updates of Interest

- **International:** Egypt confirms a new human case of avian influenza H5N1

Table of Contents

Influenza Surveillance Reports	
Michigan.....	1-3
National.....	3-4
International.....	4
Novel Influenza and Other News	
WHO Pandemic Phase.....	5
Avian Influenza Surveillance.....	5
Avian Influenza H5N1 in Humans.....	5-6

****Update: Novel A (H3N2) Guidance****

In December 2011, CDC asked all states to conduct surveillance for suspect human cases of a novel influenza A (H3N2) virus by increasing influenza testing. Subsequently, MDCH issued an interim guidance requesting all healthcare providers to forward all positive influenza specimens to MDCH for further testing. MDCH would like to thank the healthcare providers who contributed to this effort. Since no cases of novel influenza A (H3N2) have been identified in Michigan, MDCH is revising this guidance. For surveillance purposes, healthcare providers may now submit up to 5 representative specimens per week to MDCH Bureau of Laboratories, with priority on pediatric or severe cases. Please call the MDCH Division of Communicable Disease at 517-335-8165 with any questions.

Influenza Surveillance Reports

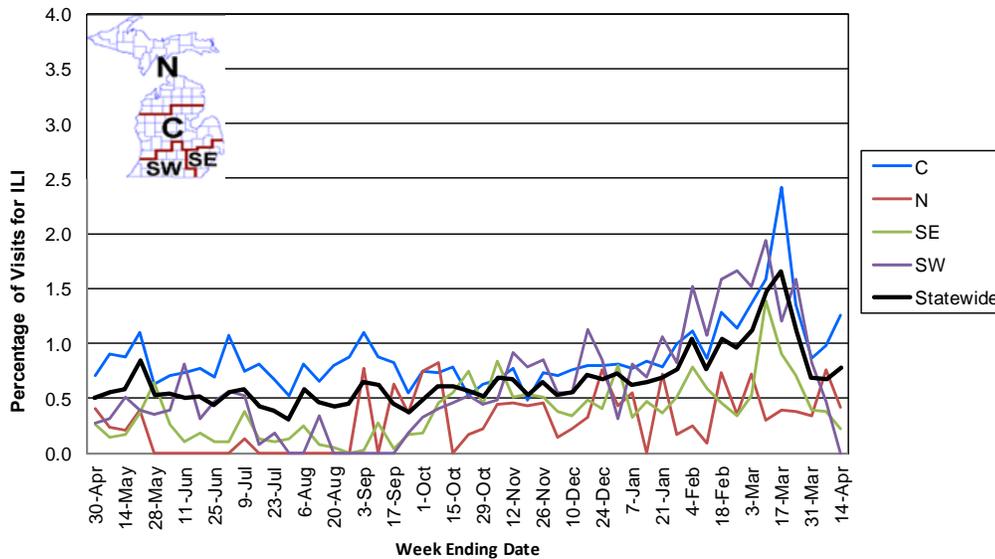
Michigan Disease Surveillance System: MDSS data for the week ending April 14th indicated that compared to levels from the previous week, individual reports decreased. Aggregate reports increased compared to the previous week but are below baseline levels. Recent school breaks or a decrease in influenza activity may have contributed to the lower level of aggregate reports. Both individual and aggregate reports are similar to levels seen during the same time last year.

Emergency Department Surveillance: Compared to levels from the week prior, emergency department visits from constitutional complaints slightly decreased, while respiratory complaints increased slightly. Both constitutional and respiratory complaints are slightly lower than levels reported during the same time period last year. In the past week, there were three constitutional alerts in the C Influenza Surveillance Region and four respiratory alerts in the SW(1) and C(3) Regions.

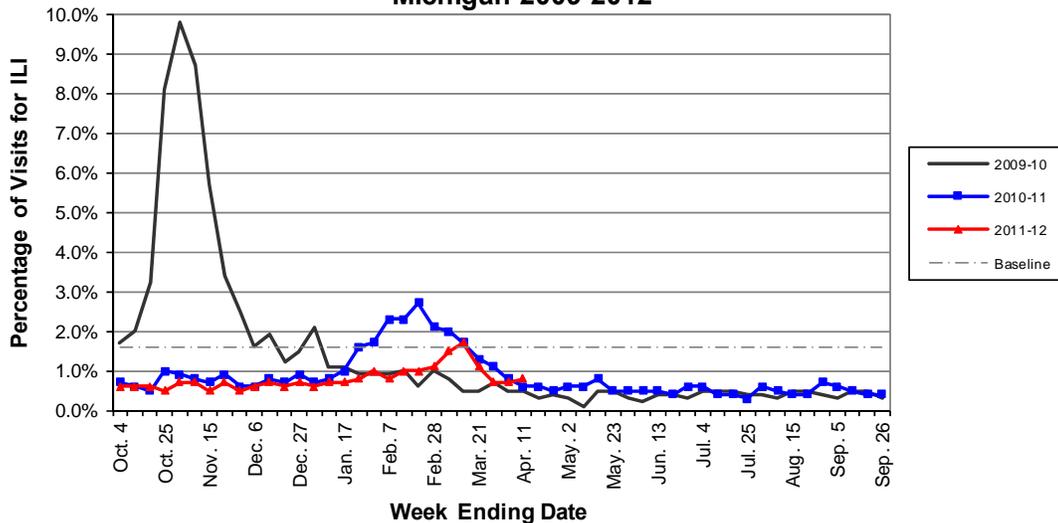
Sentinel Provider Surveillance (as of April 19): During the week ending April 14, 2012, the proportion of visits due to influenza-like illness (ILI) slightly increased to 0.8% overall; this is below the regional baseline of (1.6%). A total of 75 patient visits due to ILI were reported out of 9,690 office visits. Thirty sentinel sites provided data for this report. ILI activity increased in one surveillance region: Central (1.3%); and decreased in the remaining three surveillance regions: North (0.4%), Southwest (0.0%) and Southeast (0.2%). Please note these rates may change as additional reports are received.

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 Cristi Carlton at 517-335-9104 or CarltonC2@michigan.gov for more information.

**Percentage of Visits for Influenza-like Illness (ILI)
Reported by Sentinel Providers, Statewide and Regions
2010-2011 and 2011-12 Flu Seasons**



**Percentage of Visits for Influenza-like Illness (ILI) Reported by the
US Outpatient Influenza-like Illness Surveillance Network (ILINet):
Michigan 2009-2012**



Hospital Surveillance (as of April 14): The Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness in Clinton, Eaton and Ingham counties. 2 lab-confirmed influenza hospitalizations were reported during the week ending April 14, 2012. For the 2011-12 season, 26 influenza hospitalizations (9 adult, 17 pediatric) have been reported in the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. 7 hospitals (SE, SW, C, N) reported for the week ending April 14, 2012. Results are listed in the table below. Total hospitalizations were adjusted to reflect amended reports from past weeks.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2011-12 Season
0-4 years	0	19
5-17 years	2	18
18-49 years	0	25
50-64 years	0	24
≥65 years	3	33
Total	5	119

Laboratory Surveillance (as of April 14): During April 8-14, 24 influenza A/H3 (18SE, 1SW, 5C) and 8 influenza B (4SE, 4SW) results were reported by MDCH BOL. For the 2011-12 season (starting October 2, 2011), MDCH has identified 1034 influenza results:

- Influenza A(H3): 970 (560SE, 77SW, 288C, 45N)
- Influenza A(H1N1)pdm09: 25 (16SE, 2SW, 5C, 2N)
- Influenza B: 39 (19SE, 13SW, 5C, 2N)
- Parainfluenza: 2 (1SE, 1C)
- Adenovirus: 3 (3SE)
- RSV: 4 (1SW, 1C, 2N)

11 sentinel labs (SE, SW, C, N) reported for the week ending April 14, 2012. 7 labs (SE, SW, C, N) reported low or decreasing influenza A activity. 3 labs (SE, SW) had low influenza B positives. 8 labs (SE, SW, C, N) reported RSV activity, most of which decreased. 1 lab (SE) saw low hMPV activity. Most testing volumes are decreasing or steady.

Michigan Influenza Antigenic Characterization (as of April 19): For the 2011-12 season, 32 Michigan influenza B viruses have been characterized at MDCH. 6 viruses are B/Brisbane/60/2008-like (included in the 2011-12 influenza vaccine). 26 are B/Wisconsin/01/2010-like (not included in the 2011-12 vaccine).

Michigan Influenza Antiviral Resistance Data (as of April 19): For the 2011-12 season, 19 Michigan influenza A(H1N1)pdm09 specimens and 83 influenza A(H3) specimens have been tested for antiviral resistance at MDCH Bureau of Laboratories; all have tested negative for oseltamivir resistance. 11 Michigan influenza A(H3N2), 2 influenza A(H1N1)pdm09, and 4 influenza B specimens have been tested for antiviral resistance at the CDC; all have tested negative for oseltamivir and zanamivir 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 April 19): No pediatric influenza-associated influenza mortalities have been reported to MDCH for the 2011-12 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.

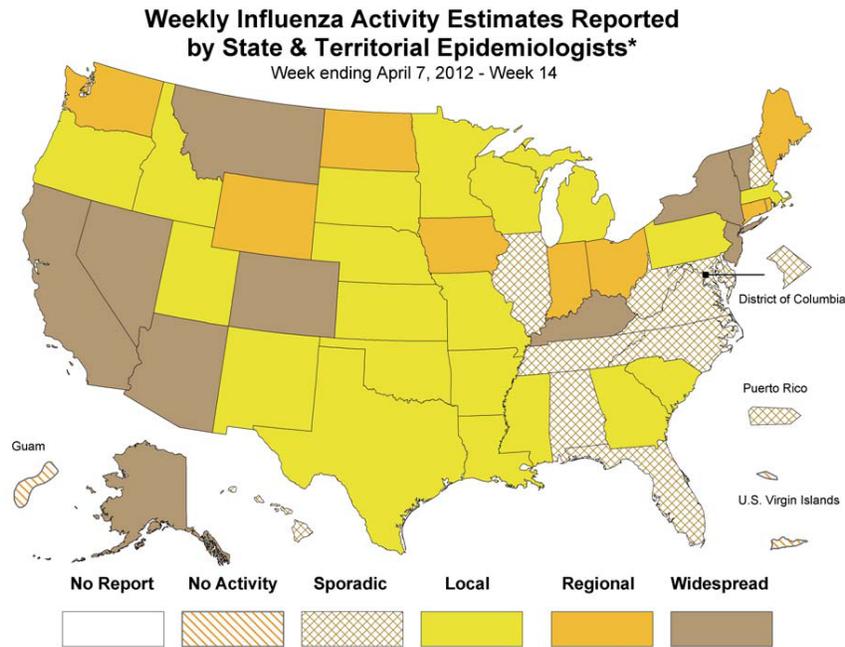
Influenza Congregate Settings Outbreaks (as of April 19): 6 new respiratory outbreaks were reported to MDCH during the past week: 2 influenza A/H3 outbreaks in SE and C Region long-term care facilities, 1 influenza A outbreak in a C Region long-term care facility, 2 respiratory outbreaks in C Region long-term care facilities, and 1 respiratory outbreak in a N Region school. 26 respiratory outbreaks (6SE, 2SW, 17C, 1N) have been reported to MDCH during the 2011-12 season; testing results are listed below.

- Influenza A/H3: 12 (4SE, 8C)
- Influenza A: 2 (2C)
- Human metapneumovirus: 1 (SW)
- Negative or not tested: 11 (1SE, 1SW, 8C, 1N)

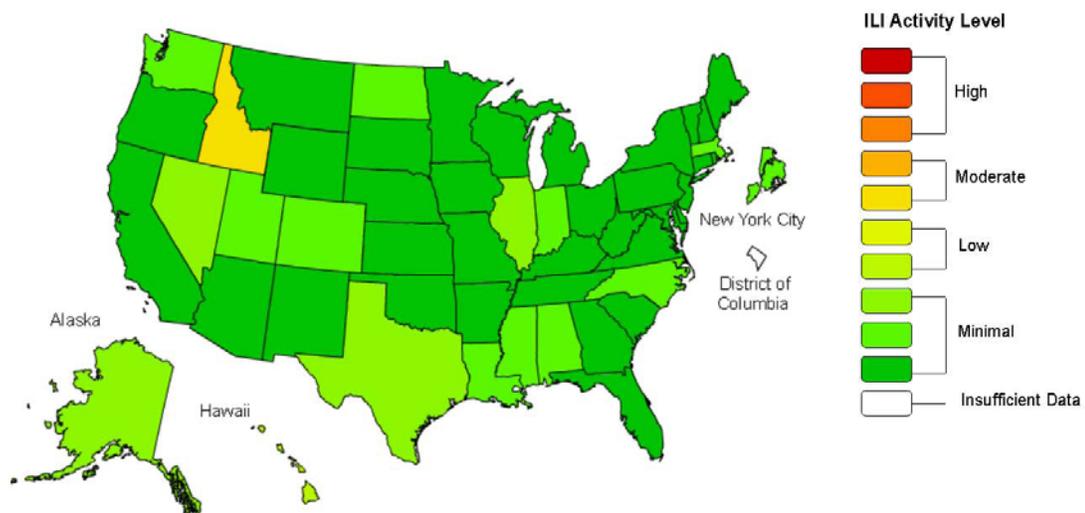
National (CDC [edited], April 13): During week 14 (April 1-7, 2012), influenza activity was elevated in some areas of the United States, but declined nationally and in most regions. Of the 3,607 specimens tested by U.S. WHO and NREVSS collaborating laboratories and reported to CDC/Influenza Division, 756 (21.0%) were positive for influenza. One human infection with a novel influenza A virus was identified. The proportion of deaths attributed to P&I was below the epidemic threshold. No influenza-associated pediatric deaths were reported. The proportion of outpatient visits for influenza-like illness (ILI) was 1.5%, which is below the national baseline of 2.4%. Region 10 reported ILI above its region-specific baseline level. One state experienced moderate ILI activity, 1 state experienced low ILI activity; New York City and 48 states experienced minimal ILI activity, and the District of Columbia had insufficient data to calculate ILI activity. Ten states reported widespread geographic activity; 9 states reported regional influenza activity; 20 states reported local activity; the District of Columbia, Puerto Rico, and 11 states reported sporadic activity, and Guam and the U.S. Virgin Islands reported no influenza activity.

Novel Influenza A Virus: One human infection with a novel influenza A virus was detected in a child in Utah. The child was infected with an influenza A (H3N2) variant virus similar to those identified in the 12 human infections that occurred between July and November 2011 in Indiana (2), Pennsylvania (3), Maine (2), Iowa (3) and West Virginia (2). The child has recovered. Contact with swine in the week preceding onset of the child's illness was reported. State public health and agriculture officials are investigating case contacts and sources of exposure; no additional confirmed cases have been detected at this time. Additional information on these cases can be found in the CDC Flu Spotlight posting.

The CDC Flu Spotlight posting is online at <http://www.cdc.gov/flu/spotlights/h3n2v-variant-utah.htm>.



**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2011-12 Influenza Season Week 14 ending Apr 07, 2012**



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.

International (WHO [edited], April 13): In most areas of the northern hemisphere temperate regions, influenza activity appears to have peaked and is declining. In North America, influenza indicators have remained elevated in some areas of the United States of America, but declined in the last couple of weeks. Although, activity remains elevated across several regions in Canada, declining trends have started to be observed. Similarly, in Europe and northern Asia, nearly every country has now passed its peak of transmission and has reported declining activity. The most commonly detected virus type or subtype throughout Europe and North America (except Mexico) has been influenza A(H3N2), although the proportion of influenza B detection has been increasing toward the end of the season in North America. In Mexico influenza A(H1N1)pdm09 has been the most common influenza virus circulating; China and the surrounding countries of northern Asia are still reporting a predominance of influenza type B virus. Increasing genetic and antigenic diversity has been noted in H3N2 viruses in the later part of the influenza season. No significant change in antiviral resistance has been reported so far this season.

MDCH reported **LOCAL ACTIVITY** to the CDC for the week ending April 14, 2012.

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. It is expected that the pandemic virus will behave as a seasonal influenza A virus. It is important to maintain surveillance and update pandemic preparedness/response plans accordingly.

International, Human (WHO, April 12): The Ministry of Health and Population of Egypt has notified WHO of a new case of human infection with avian influenza A (H5N1) virus.

The case is a 36 year-old female from Giza governorate. She developed symptoms on 1 April 2012 and was admitted to a hospital on 7 April 2012 and died on the same day.

The case was confirmed by the Central Public Health Laboratories; a National Influenza Center of the WHO Global Influenza Surveillance Network.

Epidemiological investigations into the source of infection indicate that the case had exposure to backyard poultry.

Of the 167 cases confirmed to date in Egypt, 60 have been fatal.

International, Poultry (OIE [edited], April 18): Highly pathogenic avian influenza H5N1; China
Outbreak: Yanglang village, Yuanzhou district, Guyuan, NINGXIA
Date of start of the outbreak: 13/04/2012; Outbreak status: Continuing; Epidemiological unit: Farm
Species: Birds; Susceptible: 95000; Cases: 23880; Deaths: 10468; Destroyed: 84532

International, Wild Birds (OIE [edited], April 13): Highly pathogenic avian influenza H5N1; Hong Kong
Outbreak: 19 Station Lane, Hung Hom, HONG KONG
Date of start of the outbreak: 04/04/2012; Outbreak status: Resolved
Species: Wild species; Cases: 1; Deaths: 1; Destroyed: 0
Affected population: An Oriental Magpie Robin (*Copsychus saularis*) was collected on 4 April 2012 at Hung Hom. The Oriental Magpie Robin is a common local resident in Hong Kong.

Michigan Wild Bird Surveillance (USDA, as of April 14): For the 2011 season (April 1, 2011-March 31, 2012), highly pathogenic avian influenza H5N1 has not been recovered from 7 Michigan samples or 408 samples tested nationwide. For more information, visit <http://www.nwhc.usgs.gov/ai/>.

To learn about avian influenza surveillance in Michigan wild birds or to report dead waterfowl, go to Michigan's Emerging Disease website at <http://www.michigan.gov/emergingdiseases>.

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

Contributors

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Table. H5N1 Influenza in Humans – As of April 12, 2012. http://www.who.int/influenza/human_animal_interface/EN_GIP_20120412CumulativeNumberH5N1cases.pdf. Downloaded 4/13/2012. Cumulative lab-confirmed cases reported to WHO. Total cases includes deaths.

Country	2003-2005		2006		2007		2008		2009		2010		2011		2012		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Azerbaijan	0	0	8	5	0	0	0	0	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	1	0	0	0	0	0	2	0	3	0	6	0
Cambodia	4	4	2	2	1	1	1	0	1	0	1	1	8	8	2	2	20	18
China	9	6	13	8	5	3	4	4	7	4	2	1	1	1	1	1	42	28
Djibouti	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Egypt	0	0	18	10	25	9	8	4	39	4	29	13	39	15	9	5	167	60
Indonesia	20	13	55	45	42	37	24	20	21	19	9	7	12	10	5	5	188	156
Iraq	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	3	2
Lao PDR	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2	2
Myanmar	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Nigeria	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
Pakistan	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	3	1
Thailand	22	14	3	3	0	0	0	0	0	0	0	0	0	0	0	0	25	17
Turkey	0	0	12	4	0	0	0	0	0	0	0	0	0	0	0	0	12	4
Vietnam	93	42	0	0	8	5	6	5	5	5	7	2	0	0	4	2	123	61
Total	148	79	115	79	88	59	44	33	73	32	48	24	62	34	24	15	602	355