



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:** Local activity
- **National:** During week 47 (November 18-24, 2012), influenza activity increased in the U.S.

Updates of Interest

- **National:** According to CDC, significant increases in flu activity in the United States have occurred in the last two weeks

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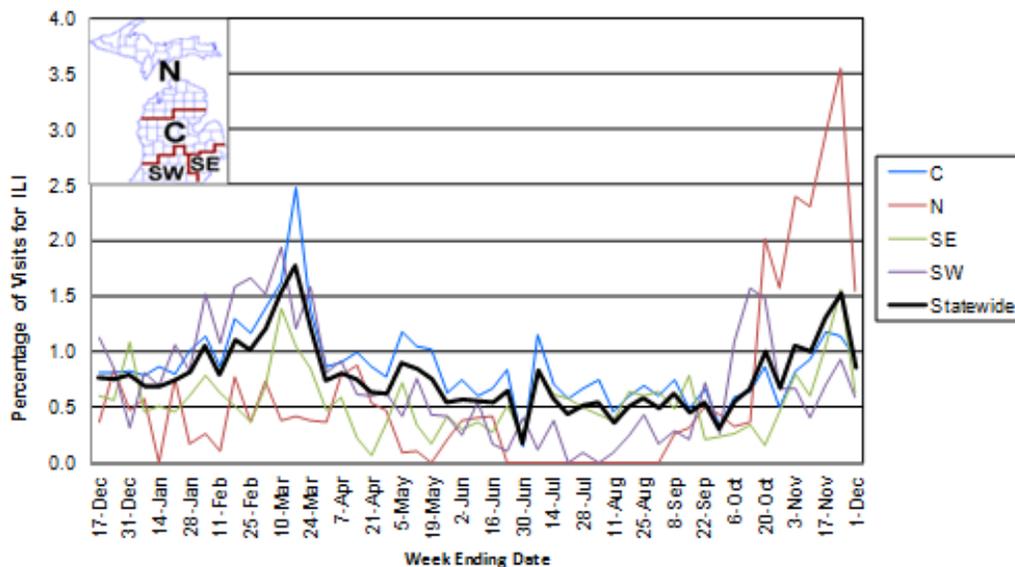
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of December 6): MDSS data for the week ending December 1st indicated that compared to levels from the previous week, both aggregate and individual reports increased. Aggregate reports are similar to levels seen during the same time period last year, while individual reports are increased.

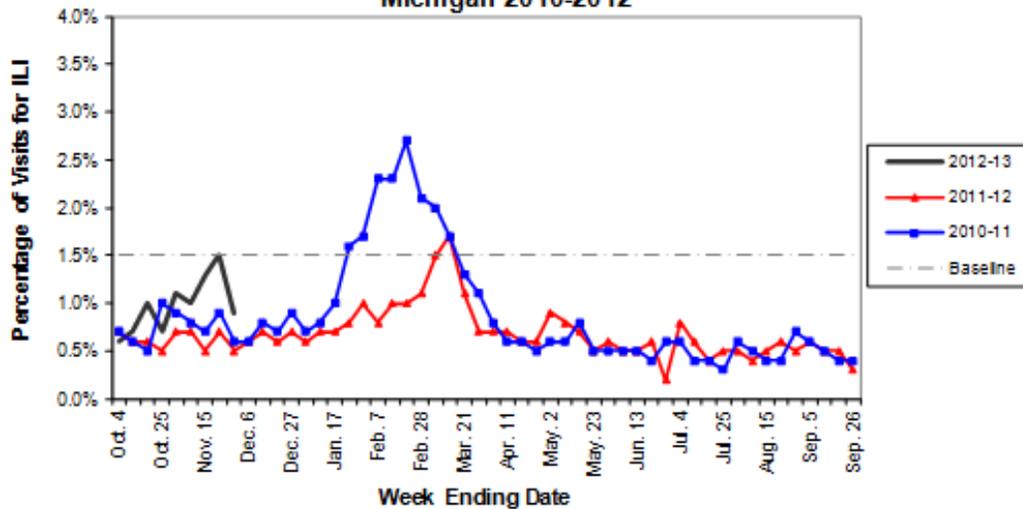
Emergency Department Surveillance (as of December 6): Compared to levels from the week prior, emergency department visits from both constitutional and respiratory complaints increased slightly. Constitutional complaints are similar to levels reported during the same time period last year, while respiratory complaints are slightly lower. In the past week, there were seven constitutional alerts in the SE(1), SW(3), C(1) and N(2) Influenza Surveillance Regions and three respiratory alerts in the C(1) and N(2) Regions.

Sentinel Provider Surveillance (as of December 6): During the week ending December 1, 2012, the proportion of visits due to influenza-like illness (ILI) slightly decreased to 0.9% overall; this is below the regional baseline of (1.5%). A total of 94 patient visits due to ILI were reported out of 10,907 office visits. Data were provided by thirty-seven sentinel sites from the following regions: C (15), N (6), SE (10) and SW (6). ILI activity decreased in all four surveillance regions: Central (0.9%), North (1.5%), Southeast (0.6%) and Southwest (0.6%). 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
2011-2012 and 2012-13 Flu Seasons



**Percentage of Visits for Influenza-like Illness (ILI) Reported by the
US Outpatient Influenza-like Illness Surveillance Network (ILINet):
Michigan 2010-2012**



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.

Hospital Surveillance (as of December 1): 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, 2012, in the Clinton, Eaton, Genesee, and Ingham counties. No new cases were identified during the past week. As of December 1st, there have been 5 influenza hospitalizations (2 adult and 3 pediatric cases) within the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. 9 hospitals (SE, SW, C, N) reported for the week ending December 1, 2012. Results are listed in the table below.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2012-13 Season
0-4 years	0	2 (1SE, 1C)
5-17 years	1 (1SE)	2 (1SE, 1N)
18-49 years	0	0
50-64 years	2 (1SE, 1N)	2 (1SE, 1N)
≥65 years	2 (1SE, 1N)	2 (1SE, 1N)
Total	5	8

Laboratory Surveillance (as of November 24): During November 25-December 1, 5 positive influenza A/H3 results (3SW, 2C) and 3 influenza B (2SE, 1C) results were reported by MDCH BOL. For the 2012-13 season (starting September 30, 2012), MDCH has identified 34 influenza results:

- Influenza A(H3): 20 (6SE, 8SW, 4C, 2N)
- Influenza B: 13 (5SE, 2SW, 6C)
- Influenza A(H1N1)pdm09: 1 (1SE)
- Parainfluenza: 6 (2SW, 4N)

15 sentinel labs (SE, SW, C, N) reported for the week ending December 1, 2012. 13 labs (SE, SW, C, N) reported influenza A activity, most of which were at low activity or slowly increasing. 7 labs (SE, C, N) reported sporadic influenza B positives. 3 labs (SE, C) reported low or increasing parainfluenza activity. 8 labs (SE, C) reported RSV activity, one of which was moderate. One lab (SW) reported sporadic HMPV activity. Most testing volumes are at low or moderate levels, with a few sites reaching high levels.

Michigan Influenza Antigenic Characterization (as of December 6): For the 2012-13 season, 8 Michigan influenza B specimens have been characterized at MDCH BOL. 7 specimens are B/Wisconsin/01/2010-like, matching the B component of the 2012-13 influenza vaccine. 1 influenza B specimen was characterized as B/Brisbane/60/2008-like, which is not included in the 2012-13 vaccine.

Michigan Influenza Antiviral Resistance Data (as of December 6): For the 2012-13 season, no influenza isolates have been tested 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 December 6): No pediatric influenza-associated influenza mortalities have been reported to MDCH for the 2012-13 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 December 6): One new respiratory outbreak due to influenza B in a SW Region school was reported to MDCH during the past week. 2 respiratory outbreaks (1SW, 1C) have been reported to MDCH during the 2012-13 season; testing results are listed below.

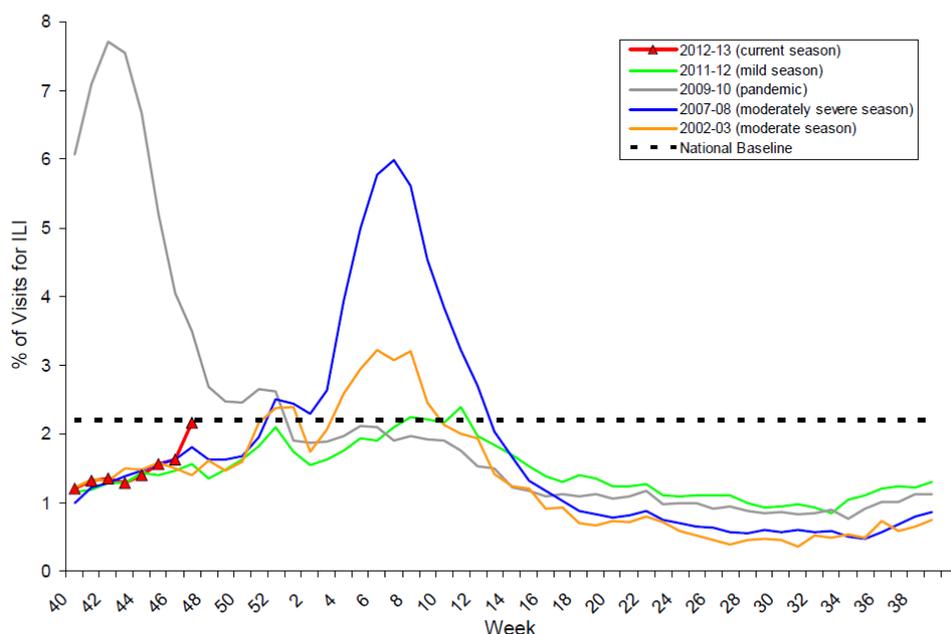
- Influenza B: 2 (1SW, 1C)

National (CDC [edited], November 30): During week 47 (November 18-24, 2012), influenza activity increased in the U.S. Of 5,342 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 47, 812 (15.2%) were positive for influenza. One human infection with a novel influenza A virus was reported. The proportion of deaths attributed to pneumonia and influenza (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 2.2%, which is at the national baseline of 2.2%. Five regions reported ILI above region-specific baseline levels. Five states experienced high ILI activity, two states experienced moderate ILI activity; 4 states experienced low ILI activity; New York City and 39 states experienced minimal ILI activity, and the District of Columbia had insufficient data. The geographic spread of influenza in 4 states was reported as widespread; 7 states reported regional activity; 19 states reported local activity; the District of Columbia and 18 states reported sporadic activity; Guam and 1 state reported no influenza activity, and Puerto Rico, the U.S. Virgin Islands and 1 state did not report.

One infection with an influenza A (H3N2) variant virus (H3N2v) was reported to CDC during week 47 from Iowa. While no contact with swine or other livestock in the week preceding illness was reported, investigation into potential additional sources of infection is ongoing. No further cases have been identified in contacts of the case patient. This is the first H3N2v infection reported since September 28, 2012. A total of 311 infections with variant influenza viruses (307 H3N2v viruses, 3 H1N2v viruses, and 1 H1N1v virus) have been reported from 11 states from July 2012 through November 28, 2012. More information about H3N2v infections can be found at <http://www.cdc.gov/flu/swineflu/h3n2voutbreak.htm>.

The complete FluView report is available online at <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, 2012-13 and Selected Previous Seasons



especially for children. Last season, which was mild and late, the U.S. did not reach baseline for ILI until mid-March.

The full news article is available online at <http://www.cdc.gov/flu/spotlights/early-season-nivw.htm>.

National (MMWR preview [edited], December 6): MMWR. Update: Influenza Activity — United States, September 30–November 24, 2012. Vol. 61/No. 48. December 7, 2012

CDC collects, compiles, and analyzes data on influenza activity year-round in the United States. The influenza season generally begins in the fall and continues through the winter and spring months; however, the timing and severity of circulating influenza viruses can vary by geographic location and season. Influenza viruses were detected in the United States throughout the summer months, and activity increased steadily during October and November. Most influenza viruses characterized thus far this season are well matched to the 2012–13 vaccine viruses. This report summarizes U.S. influenza activity during September 30–November 24, 2012.

The full article is at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6148a3.htm?s_cid=mm6148a3_e.

International (WHO [edited], November 23): Countries of the Northern Hemisphere temperate region report increasing influenza virus detections, however none have crossed their seasonal threshold or announced the beginning of their season. Countries in southern and southeast Asia, except Cambodia, reported decreasing influenza virus detections. Cambodia has reported increased detections of influenza A(H3N2) for at least 6 weeks. In Sub-Saharan Africa, Cameroon has continued to experience circulation of influenza A(H3N2) but appears to have peaked and the rate of detections has decreased. Ethiopia and Ghana reported increases in influenza A(H1N1)pdm09 while Madagascar, Kenya and Togo reported low circulation of mainly influenza B. Influenza activity in the temperate countries of the Southern Hemisphere is now at inter-seasonal levels.

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

MDCH reported LOCAL FLU ACTIVITY to CDC for the week ending December 1, 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 GAR, November 30): In addition to the fatal case of novel coronavirus in Saudi Arabia reported to WHO on 28 November, two fatal cases in Jordan have been reported to WHO today, bringing the total of laboratory-confirmed cases to nine.

The latest confirmed case from Saudi Arabia occurred in October 2012 and is from the family cluster of the two cases confirmed earlier.

The two cases from Jordan occurred in April 2012. At that time, a number of severe pneumonia cases occurred in the country and the Ministry of Health (MOH) Jordan promptly requested a WHO Collaborating Centre for Emerging and Re-emerging Infectious Diseases (NAMRU – 3) team to immediately assist in the laboratory investigation. The NAMRU-3 team went to Jordan and tested samples from this cluster of cases.

On 24 April 2012 the NAMRU-3 team informed the MOH that all samples had tested negative for known coronaviruses and other respiratory viruses. As the novel coronavirus had not yet been discovered, no specific tests for it were available.

In October 2012, after the discovery of the novel coronavirus, stored samples were sent by MOH Jordan to NAMRU-3. In November 2012 NAMRU-3 provided laboratory results that confirmed two cases of infection with the novel coronavirus.

The MOH Jordan has requested WHO assistance in investigating these infections. A mission from WHO Eastern Mediterranean Regional Office (EMRO) and headquarters arrived in Amman on 28 November 2012 to assist in further epidemiological surveillance and to strengthen the sentinel surveillance systems for severe acute respiratory infections (SARIs).

In summary, to date a total of nine laboratory-confirmed cases of infection with the novel coronavirus have been reported to WHO – five cases (including 3 deaths) from Saudi Arabia, two cases from Qatar and two cases (both fatal) from Jordan.

The article is available online at http://www.who.int/csr/don/2012_11_30/en/index.html.

National, Swine (Emerging Infectious Diseases abstract, November 30): Bowman AS, Nolting JM, Nelson SW, Slemons RD. Subclinical influenza virus A infections in pigs exhibited at agricultural fairs, Ohio, USA, 2009–2011. *Emerg Infect Dis* [Internet]. 2012 Dec.

Agricultural fairs are associated with bidirectional, interspecies transmission of influenza virus A between humans and pigs. We examined pigs exhibited at agricultural fairs in Ohio during 2009–2011 for signs of influenza-like illness and collected nasal swab specimens from a representative subset of these animals. Influenza virus A was recovered from pigs at 12/53 (22.6%) fairs during the 3-year sampling period. Pigs at 10/12 (83.3%) fairs from which influenza virus A was recovered did not show signs of influenza-like illness. Hemagglutinin, neuraminidase, and matrix gene combinations of the isolates were consistent with influenza virus A concurrently circulating among swine herds in the United States. Subclinical influenza virus A infections in pigs at agricultural fairs may pose a risk to human health and create challenges for passive surveillance programs for influenza virus A in swine herds.

The full article is available online at <http://wwwnc.cdc.gov/eid/article/18/12/pdfs/12-1116.pdf>.

International, Wild Birds (Bloomberg News, December 4): The H5N1 avian flu didn't cause deaths of wild birds in Russia's southern Krasnodar region last week, the government's food safety agency said. Lab tests proved a "low-pathogenic flu," not H5N1, killed hundreds of wild ducks in coastal lakes in the Anapa and Temryuk districts in the Krasnodar region last week, said Alexei Alekseenko, spokesman for Rosselkhoznadzor.

No poultry for human consumption was infected, Krasnodar's administration said on its website Nov. 30. Governor Alexander Tkachev ordered a quarantine of areas and banned hunting there to keep the virus from spreading, the press service said.

Most bird viruses don't infect humans, according to the World Health Organization. The disease can be spread by wild water fowl, the WHO says.

Rosselkhoznadzor will eliminate dead birds from the area and will not cull other ducks, Alekseenko said. There were about 12,000 wild ducks in the Krasnodar areas last week, according to Rosselkhoznadzor data.

The article is available online at <http://www.businessweek.com/news/2012-12-04/bird-deaths-in-russia-are-being-blamed-on-low-pathogenic-flu>.

Michigan Wild Bird Surveillance (USDA, as of December 6): For the 2012 season (April 1, 2012-March 31, 2013), highly pathogenic avian influenza H5N1 has not been recovered from the 68 samples tested nationwide. For more information, visit <http://www.nwhc.usgs.gov/ai/>. To learn about avian influenza surveillance in wild birds or to report dead waterfowl, go to the 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 August 10, 2012. http://www.who.int/influenza/human_animal_interface/EN_GIP_20120810CumulativeNumberH5N1cases.pdf. Downloaded 8/13/2012. Cumulative lab-confirmed cases reported to WHO. Total cases include 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	3	3	21	19
China	9	6	13	8	5	3	4	4	7	4	2	1	1	1	2	1	43	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	10	5	168	60
Indonesia	20	13	55	45	42	37	24	20	21	19	9	7	12	10	8	8	191	159
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	30	19	608	359