



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories

Michigan Department
of Community Health



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Updates of Interest

- **National:** CDC confirms 2 human cases of influenza A/H1N1v in Arkansas after contact with swine
- **International:** WHO is reporting 18 new laboratory-confirmed cases of MERS-CoV, including three deaths, in Saudi Arabia

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****H3N2v Influenza Update****

A total of 2 cases of influenza A H3N2 variant (H3N2v) infection have been identified in Michigan this year; this is in addition to the 16 human cases of H3N2v that have been reported in association with swine exposure in Indiana, Ohio, and Illinois. The Michigan Department of Community Health issued updated guidance for healthcare providers, laboratories and local health departments on June 27, 2013 on the MDCH Influenza Website: www.michigan.gov/flu. Current information on this situation and updated case counts can be found on the CDC H3N2v website at www.cdc.gov/flu/swineflu/h3n2v-cases.htm. Please call the MDCH Division of Communicable Disease at (517) 335-8165 with any questions.

Influenza Surveillance Reports

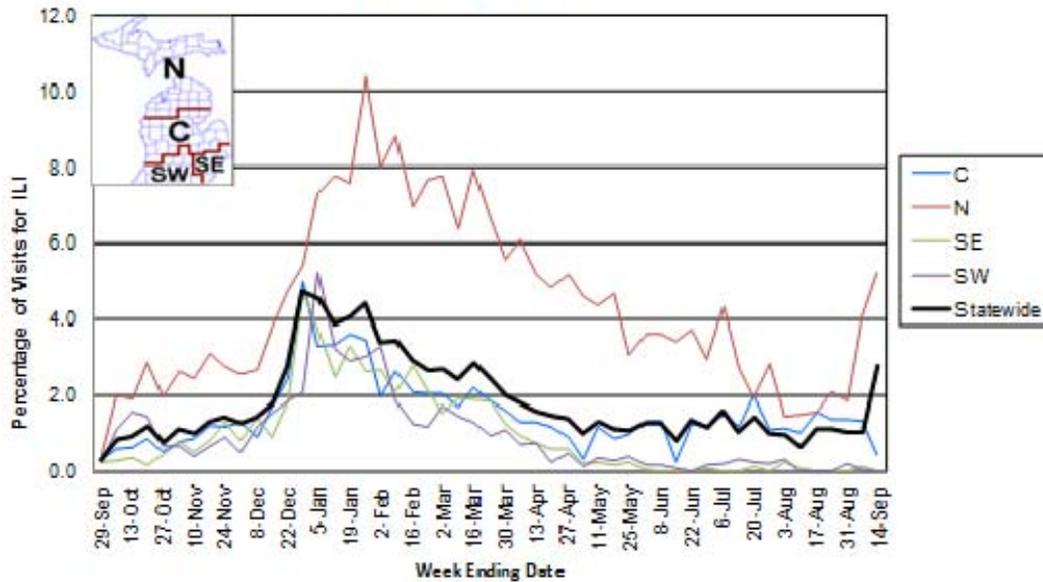
Michigan Disease Surveillance System (as of September 19): MDSS influenza data for the week ending September 7, 2013 indicated that compared to levels from the previous week, both aggregate and individual reports slightly increased but are still at very low levels. The slight increase in aggregate reports is most likely due to resumption of school reporting. Aggregate reports are slightly lower than levels seen during the same time period last year, while individual reports are slightly higher.

Emergency Department Surveillance (as of September 19): Emergency department visits due to constitutional complaints were similar to levels from the previous week, while respiratory complaints increased. Emergency department visits from both constitutional and respiratory complaints are similar to levels during the same time period last year. In the past week, there were 2 constitutional alerts in the SE(1) and C(1) Influenza Surveillance Regions and 13 respiratory alerts in the SE(4), SW(3), C(4) and N(2) Regions and 1 statewide alert.

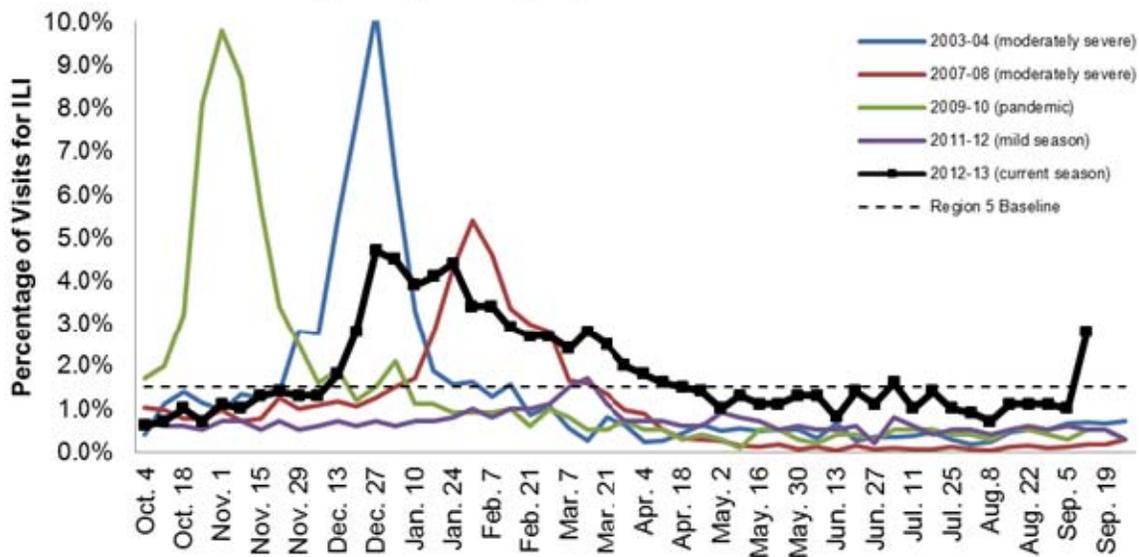
Sentinel Provider Surveillance (as of September 19): During the week ending September 14, 2013, the proportion of visits due to influenza-like illness (ILI) increased to 2.8% overall; this is above the regional baseline (1.5%). A total of 75 patient visits due to ILI were reported out of 2,705 office visits. Data were provided by 17 sentinel sites from the following regions: Central (8), North (5), and Southeast (4). There were no reports from the Southwest region. ILI activity decreased in two regions: C (0.4%) and SE (0.0%). ILI activity increased in one region: N (5.2%). 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 Stefanie DeVita at 517-335-3385 or DeVitaS1@michigan.gov for more information.

**Percentage of Visits for Influenza-like Illness (ILI)
Reported by Sentinel Providers, Statewide and Regions
2012-13 Flu Season**



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



Hospital Surveillance (as of May 18): 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. Reporting for the season has concluded. There were 258 influenza hospitalizations (168 adult, 90 pediatric) within the catchment area. The incidence rate for adults was 24.7 hospitalizations per 100,000 population and for children was 43.0 hospitalizations per 100,000.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. Reporting for the 2012-13 influenza season has concluded. 437 hospitalizations (278SE, 21SW, 64C, 74N) were reported by 12 hospitals during the 2012-13 season.

Laboratory Surveillance (as of September 14): During September 8-14, 2 A(H1N1)pdm09 (2SE) results were reported by MDCH. For the 2012-13 season (starting Sept. 30, 2012), MDCH has identified 689 influenza results:

- Influenza A(H3): 500 (124SE, 169SW, 169C, 38N)
- Influenza A(H3N2)v: 2 (2SW)
- Influenza A(H1N1)pdm09: 42 (24SE, 4SW, 11C, 3N)
- Influenza B: 153 (30SE, 31SW, 74C, 18N)

- Parainfluenza: 8 (3SW, 1C, 4N)
- RSV: 1 (1N)
- Adenovirus: 1 (1SW)
- hMPV: 3 (3SW)

6 sentinel labs (SE, SW, C) reported for the week ending September 14, 2013. No labs reported influenza A or B, parainfluenza, adenovirus or hMPV activity. One site (SE) reported sporadic RSV activity.

Michigan Influenza Antigenic Characterization (as of September 19): For the 2012-13 season, 120 Michigan influenza B specimens have been characterized at MDCH BOL. 101 specimens are B/Wisconsin/01/2010-like, matching the B component of the 2012-13 influenza vaccine. 19 influenza B specimens were characterized as B/Brisbane/60/2008-like, which is not included in the 2012-13 vaccine.

Michigan Influenza Antiviral Resistance Data (as of September 19): For the 2012-13 season, 34 influenza A/H3 specimens and 27 influenza A(H1N1)pdm09 specimens have been tested at the MDCH BOL for antiviral resistance. None of the influenza isolates tested have been resistant.

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 September 19): 7 pediatric influenza-associated influenza mortalities (3 A/H3, 4B) have been reported 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 September 19): During the past week, 1 respiratory outbreak (N Region) in a long-term care facility was reported; an investigation is ongoing. Counts now also reflect a SE Region psychiatric facility *Mycoplasma pneumoniae* outbreak from July. 114 respiratory outbreaks (23SE, 30SW, 41C, 20N) have been reported to MDCH during the 2012-13 season; testing results are listed below.

- Influenza A/H3: 16 (7SW, 9C)
- Influenza A: 55 (10SE, 13SW, 20C, 12N)
- Influenza B: 8 (1SE, 3SW, 2C, 2N)
- Influenza A and B: 2 (1SE, 1SW)
- Influenza A/H3 and B: 1 (1C)
- Influenza positive: 4 (1SE, 1SW, 2C)
- Influenza and RSV positive: 1 (1C)
- Influenza B and RSV positive: 1 (1SE)
- hMPV: 1 (1SW)
- *Mycoplasma pneumoniae*: 1 (1SE)
- Negative/no testing: 24 (8SE, 4SW, 6C, 6N)

National (CDC): Past weekly reports and updated data during the summer months are available online at: <http://www.cdc.gov/flu/weekly/>.

International (WHO [edited], September 16): Influenza activity in the northern hemisphere temperate zones remained at inter-seasonal levels. The United States of America reported 18 cases of human infection with influenza A(H3N2)v this year, with the first case reported in June. More details can be found at www.cdc.gov/flu/swineflu/h3n2v-cases.htm. In most regions of tropical Asia flu activity decreased. In the Caribbean region of Central America and tropical South America the influenza season appeared to have come to an end. Respiratory Syncytial Virus, influenza A(H1N1)pdm09 and A(H3N2) were the main respiratory viruses reported since May of this year. Influenza activity peaked in the temperate countries of South America and in South Africa in late June. Influenza activity in these areas was primarily associated with A(H1N1)pdm09 throughout the season, but since July greater numbers of A(H3N2) and influenza B were observed. In Australia and New Zealand, numbers of viruses detected and rates of influenza-like illness were lower than those at same time in previous years, but showed an increasing trend since early August. Influenza A(H3N2) and type B were much more commonly detected than A(H1N1)pdm09 in both countries. As of 16 September, a total of 135 cases of influenza A(H7N9) virus infection were reported.

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

Weekly reporting to the CDC has ended for the 2012-2013 influenza season.

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.

National, Human (Arkansas Department of Health press release [edited], September 13): Two people in Arkansas have been infected with a strain of influenza (flu) known as H1N1(v) after contact with swine (pigs). These cases have been confirmed by the Centers for Disease Control and Prevention.

“A few times a year an animal variant of the influenza virus is identified in humans” said Dr. Dirk Haselow, State Epidemiologist. “Viruses of this type typically cause only mild illness in those affected and, in contrast to seasonal flu, are not easily transmitted from person to person” added Haselow. ADH has carefully monitored the patient contacts for several days without evidence of any human to human spread. Both patients identified to date have recovered fully.

When an influenza virus that normally circulates in swine is detected in a person, it is called a variant influenza virus and is labeled with a ‘v’. Influenza viruses such as H1N1(v) and other related variants are not unusual in swine and can be directly transmitted from swine to people and from people to swine. When humans are in close proximity to live swine, such as in barns and livestock exhibits at fairs, movement of these viruses can occur back and forth between humans and animals.

“We are not currently aware of any additional human influenza cases caused by H1N1(v) and do not anticipate making any new public health recommendations regarding human exposure to swine. However, we will continue to assess the situation and conduct aggressive surveillance for additional influenza cases” Haselow emphasized.

Influenza has not been shown to be transmitted by eating properly handled and prepared pork or other products derived from pigs.

“ADH has been carefully following all suspected cases of influenza. We have also worked closely with our veterinary colleagues and the Arkansas Livestock and Poultry Commission to remain informed about potential infections in swine. It is because of this careful surveillance that these cases have come to our attention,” said Haselow.

Case investigations have indicated that the illnesses resulting from H1N1(v) infection have been similar to seasonal influenza. Symptoms include fever, muscle aches, decreased energy, coughing, runny nose, and sore throat. Contact your health care provider if you are experiencing flu-like symptoms and inform the doctor if you have had contact with swine.

The full release is at www.arkansas.gov/health/newsroom/index.php?do:newsDetail=1&news_id=948.

International, Human (CIDRAP [edited], September 13): Three poultry workers in the Italian region beset with outbreaks of highly pathogenic H7N7 avian flu in poultry have contracted H7N7 conjunctivitis, the European Centre for Disease Prevention and Control (ECDC) confirmed today. The Emilia Romagna region in northern Italy has now had six outbreaks in birds, Bloomberg News reported this week.

One of the H7N7 cases was in a 51-year-old who developed conjunctivitis in one eye on Aug 30. He had recovered by Sep 3. He was isolated at home, and four family members are under 10-day active surveillance for disease.

In addition, a 46-year-old man developed bilateral conjunctivitis and was placed in isolation to prevent disease spread. Details on the third man's case are sketchy, but he was also placed in isolation. The three men all worked on the same poultry farm.

One of these cases was reported by the media on Sep 2, but the reports did not specify his age. The ECDC said in today's report, "Active surveillance has been implemented to all workers exposed to sick animals and their close contacts. The same applies to workers involved in culling operations."

Bloomberg News reported on Sep 11 that, since Aug 28, the Emilia Romagna had seen three more H7N7 poultry outbreaks, bringing the region's outbreak total to six. One of the new outbreaks had previously been reported by the World Organization for Animal Health (OIE) on Aug 28.

Two of the new outbreaks, including the one already confirmed by the OIE, were on commercial farms owned by a poultry company affected by a previous outbreak, while the third involved a rural backyard flock, according to the report. Almost 220,000 birds were culled in the three outbreaks to prevent disease spread, Bloomberg reported. More than 730,000 were killed in the prior outbreaks, according to the story.

The article is available online at www.cidrap.umn.edu/news-perspective/2013/09/flu-scan-sep-13-2013.

International, MERS-CoV (WHO [edited], September 19): WHO has been informed of an additional 18 new laboratory-confirmed cases including three deaths with Middle East respiratory syndrome coronavirus (MERS-CoV) infection in Saudi Arabia. The patients are reported from Hafar Al-Batin, Medina and Riyadh. Their ages ranging from three to 75 years old. These cases were announced by the Ministry of Health in Saudi Arabia on 1, 5, 8, 10 and 11 September 2013.

Additionally, in Qatar, a previously laboratory-confirmed patient with MERS-CoV died on 6 Sept 2013. Globally, from September 2012 to date, WHO has been informed of a total of 132 laboratory-confirmed cases of infection with MERS-CoV, including 58 deaths.

The full report is available online at http://www.who.int/csr/don/2013_09_19/en/index.html.

International, Poultry (FAO news release [edited], September 18): Two emergency regional projects aimed at containing avian influenza were launched today by the UN Food and Agriculture Organization's (FAO) Regional Office for Asia and the Pacific at a three-day workshop. The meeting was attended by veterinary experts from countries in the sub-regions of Southeast and South Asia and from a number of international organizations and development partners.

Working in coordination with development partners such as the United States Agency for International Development (USAID), the World Organization for Animal Health (OIE) and the World Health Organisation (WHO), these FAO projects will promote coordinated sub-regional preparedness, surveillance and response to A(H7N9) in poultry and other animal populations in Asian countries at risk. The projects will assist countries in the region to better detect, control and respond to the virus.

The full release is online at www.fao.org/asiapacific/rap/home/news/detail/en/?news_uid=197054.

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 August 29, 2013. http://www.who.int/influenza/human_animal_interface/EN_GIP_20130829_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	17	10	38	29
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	1	1	193	161
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	27	18	637	378