



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories

Michigan Department
of Community Health



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Updates of Interest

- **International:** WHO reports 6 new laboratory-confirmed MERS-CoV cases, bringing the case total to 114 including 54 deaths

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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.

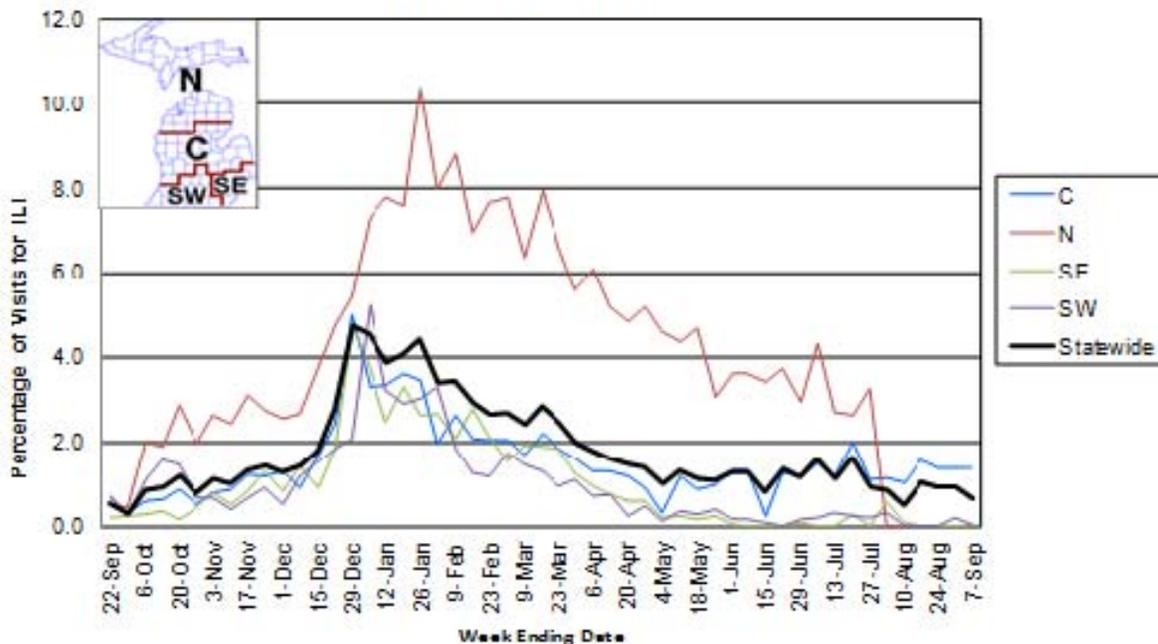
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of September 12): 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 similar to levels seen during the same time period last year, while individual reports are slightly higher.

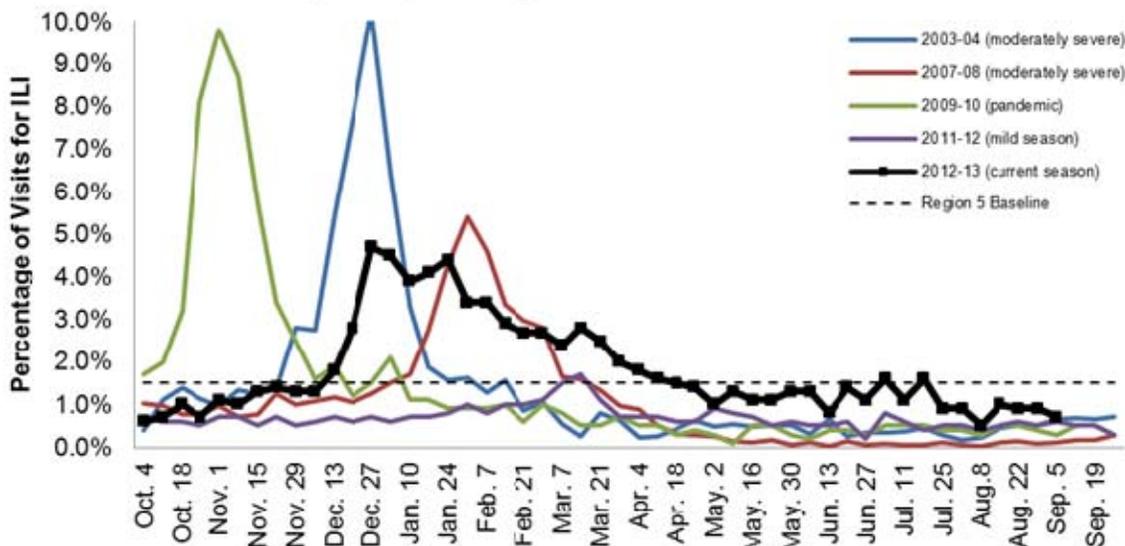
Emergency Department Surveillance (as of September 12): Emergency department visits due to constitutional and respiratory complaints were similar to levels from the previous week. Emergency department visits from respiratory complaints are marginally lower that during the same time period last year, while constitutional complaints were similar. In the past week, there was 1 constitutional alert in the C(1) Influenza Surveillance Region and 10 respiratory alerts in the SW(6), C(3) and N(1) Regions.

Sentinel Provider Surveillance (as of September 12): During the week ending September 7, 2013, the proportion of visits due to influenza-like illness (ILI) decreased to 0.7% overall; this is below the regional baseline (1.5%). A total of 44 patient visits due to ILI were reported out of 6,744 office visits. Data were provided by 22 sentinel sites from the following regions: Central (9), North (1), Southeast (10), and Southwest (2). ILI activity decreased in one region: SW (0.1%), remained the same in two regions: C (1.4%), and N (0.0%), and increased in one region: SE (0.1%). 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
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**



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 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 7): During September 1-7, 1 positive influenza A(H3N2)v (1SW) and 1 A(H1N1)pdm09 (1C) results were reported by MDCH. For the 2012-13 season (starting Sept. 30, 2012), MDCH has identified 687 influenza results:

- Influenza A(H3): 500 (124SE, 169SW, 169C, 38N)
- Influenza A(H3N2)v: 2 (2SW)
- Influenza A(H1N1)pdm09: 40 (22SE, 4SW, 11C, 3N)
- Influenza B: 153 (30SE, 31SW, 74C, 18N)
- Parainfluenza: 8 (3SW, 1C, 4N)
- RSV: 1 (1N)
- Adenovirus: 1 (1SW)
- hMPV: 3 (3SW)

7 sentinel labs (SE(2), SW(2), C(3)) reported for the week ending September 7, 2013. No labs reported influenza A or B, parainfluenza, RSV, adenovirus or hMPV activity. Sites are at very low testing volumes.

Michigan Influenza Antigenic Characterization (as of September 12): 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 12): 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 12): 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 12): 112 respiratory outbreaks (22SE, 30SW, 41C, 19N) 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)
- Negative/no testing: 23 (8SE, 4SW, 6C, 5N)

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], August 30): Influenza activity in the northern hemisphere temperate zones remained at inter-seasonal levels. In most parts of tropical Asia influenza activity decreased. In Central America and the Caribbean, influenza and Respiratory Syncytial Virus (RSV) transmission declined. RSV, influenza A(H1N1)pdm09 and influenza A(H3N2) were the main respiratory viruses reported. In tropical South America, influenza A(H1N1)pdm09 virus predominated. A significant increase in influenza A(H1N1)pdm09 activity was observed in Peru in the middle of July, while influenza activity in general decreased in Venezuela, Ecuador and Brazil. Influenza activity peaked in the temperate areas of South America and in South Africa in late June. Influenza activity in these areas was primarily associated with influenza A(H1N1)pdm09 virus throughout the season, with increasing influenza A(H3N2) virus detections observed towards the end. In Australia and New Zealand, numbers of influenza viruses detected and rates of influenza-like illness were lower than in previous years, but showed an increasing trend. Influenza A(H3N2) and type B were much more commonly detected than A(H1N1)pdm09 in both countries. As of 11 August, 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.

International, MERS-CoV (WHO [edited], September 6): WHO has been informed of an additional two laboratory-confirmed cases of infection with Middle East respiratory syndrome coronavirus (MERS-CoV).

The first case was notified by the Ministry of Health in Tunisia. The patient was a 66-year-old man who became ill on 1 May 2013 and died on 10 May 2013. The patient was earlier announced as a probable case while his daughter and son were laboratory-confirmed with MERS-CoV (DON published on 22 May 2013). Laboratory-confirmation on the case was recently conducted by the US Centers for Disease Control and Prevention.

The second case was notified by the Ministry of Health in Qatar. The patient was a 56-year-old woman with underlying medical conditions who became ill on 18 August 2013 and died on 31 August 2013. Laboratory-confirmation was recently conducted by Public Health England, UK.

Globally, from September 2012 to date, WHO has been informed of a total of 110 laboratory-confirmed cases of infection with MERS-CoV, including 52 deaths.

The full article is available online at http://www.who.int/csr/don/2013_09_06/en/index.html.

International, MERS-CoV (WHO [edited], September 7): WHO has been informed of four (4) additional laboratory-confirmed cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection in Saudi Arabia.

The first case is a 41 year-old female healthcare worker from Riyadh with no known underlying medical conditions and who became ill on 15 August, 2013. Her condition deteriorated and she passed away at the end of August. No known exposure to animals, or to a confirmed MERS-CoV case, has been identified and investigations into the source of infection are on-going.

The second case is a 30 year-old Saudi male healthcare worker from Riyadh, working in the same hospital as the above confirmed case. He developed severe pneumonia on 1 September, 2013, and is currently in critical condition.

The third case is a 79 year-old woman from Hafar al-Batin province who developed a respiratory illness on 21 August, 2013. She is a contact of a confirmed MERS-CoV case in a family cluster. Her condition deteriorated and she passed away on 2 September, 2013.

The fourth case is a 47 year-old Saudi man from Hafar al-Batin province with a chronic heart condition and who became ill on 23 August, 2013. He is a contact of a confirmed MERS-CoV case in a family cluster. He is currently in critical condition.

Globally, from September 2012 to date, WHO has been informed of a total of 114 laboratory-confirmed cases of infection with MERS-CoV, including 54 deaths.

The full article is available online at http://www.who.int/csr/don/2013_09_07/en/index.html.

International, Poultry (OIE [edited], September 5): Highly pathogenic avian influenza H7N7; Italy
Total outbreaks: 2

Total animals affected: Susceptible: 98203; Cases: 12; Deaths: 12; Destroyed: 2

The complete report is available online at www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI.

International, Poultry and Wild Birds (OIE [edited], September 9): Highly pathogenic avian influenza H5N1; Nepal; Total outbreaks: 9

Species: Birds; Susceptible: 28545; Cases: 4495; Deaths: 4495; Destroyed: 24050

Species: House Crow (*Corvus splendens*); Cases: 1; Deaths: 1

The complete report is available online at www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI.

International, Poultry (OIE [edited], September 11): Highly pathogenic avian influenza H5N1; Nepal
Total outbreaks: 12

Total animals affected: Susceptible: 111764; Cases: 19385; Deaths: 19385; Destroyed: 92379

The complete report is available online at www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI.

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Table. H5N1 Influenza in Humans – As of August 29, 2013. http://www.who.int/influenza/human_animal_interface/EN_GIP_20130829CumulativeNumberH5N1cases.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