



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories



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Current Influenza Activity Levels:

- **Michigan:** Sporadic activity
- **National:** CDC will begin reporting for the 2012-2013 influenza season on October 12

Updates of Interest

- **Research:** Acute respiratory infections, especially influenza, can act as a trigger for acute myocardial infarction

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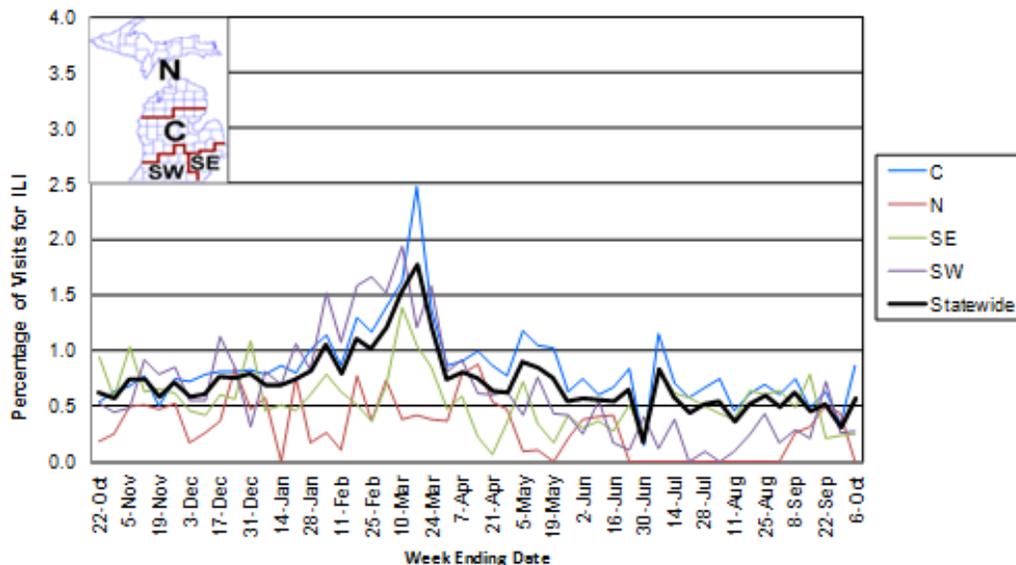
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of October 11): MDSS data for the week ending October 6th indicated that compared to levels from the previous week, aggregate reports remained steady, while individual reports minimally increased but were still at sporadic levels. Individual and aggregate reports are similar to levels seen during the same time period last year.

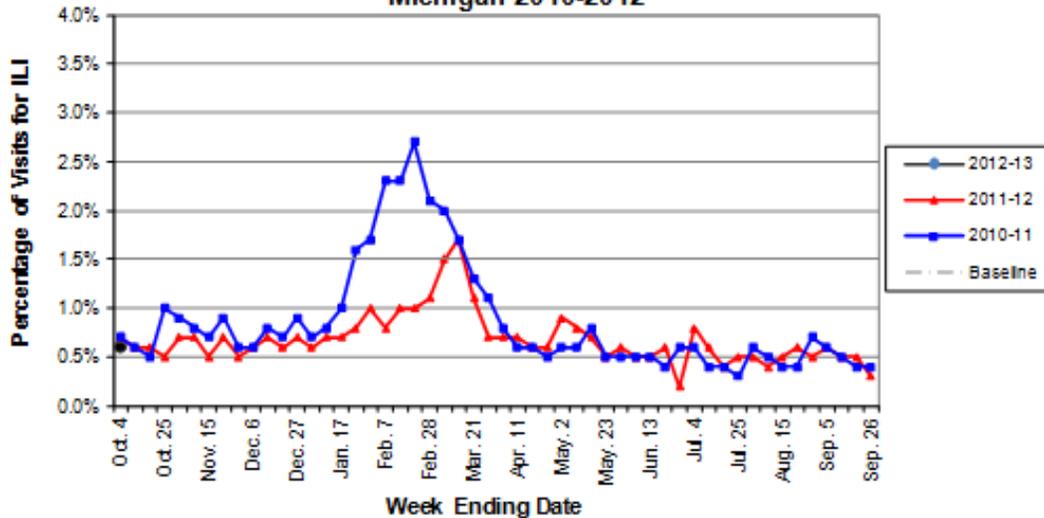
Emergency Department Surveillance (as of October 11): Compared to levels from the week prior, emergency department visits from constitutional complaints slightly increased, while respiratory complaints slightly decreased. Both constitutional and respiratory complaints are slightly lower than levels reported during the same time period last year. In the past week, there were seven constitutional alerts in the SE(1), SW(1), C(2) and N(3) Influenza Surveillance Regions and eight respiratory alerts in the SW(2), C(4) and N(2) Regions.

Sentinel Provider Surveillance (as of October 11): During the week ending October 6, 2012, the proportion of visits due to influenza-like illness (ILI) slightly increased to 0.6% overall; this is below the regional baseline of (1.5%). A total of 54 patient visits due to ILI were reported out of 9,570 office visits. Data were provided by thirty-four sentinel sites from the following regions: C (16), N (5), SE (10) and SW (3). ILI activity increased in one surveillance region: Central (0.9%); remained the same in two regions: Southeast (0.2%) and Southwest (0.3%); and decreased in the remaining region North (0.0%). 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 October 6): The 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. As of October 6th there have been no lab-confirmed influenza hospitalizations within the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. 3 hospitals (SE, SW) reported for the week ending October 6, 2012. Results are listed in the table below.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2012-13 Season
0-4 years	0	0
5-17 years	0	0
18-49 years	0	0
50-64 years	0	0
≥65 years	0	0
Total	0	0

Laboratory Surveillance (as of October 6): During September 30-October 6, 1 influenza A(H3) (1SE), 1 2009 A(H1N1) (1SE), 9 positive influenza B and 1 parainfluenza (N) results were reported by MDCH BOL. For the 2012-13 season (starting September 30, 2012), MDCH has identified 11 influenza results:

- Influenza A(H3): 1 (1SE)
- Influenza A(H1N1)pdm09: 1 (1SE)
- Influenza B: 9 (3SE, 1SW, 5C)
- Parainfluenza: 1 (1N)

11 sentinel labs (SE, SW, C, N) reported for the week ending October 6, 2012. One lab (SE) reported sporadic parainfluenza and RSV activity. One lab (SE) reported sporadic adenovirus activity. No labs reported influenza A, influenza B, or HMPV activity. Testing volumes remain at low levels for most sites, with a few sites showing small increases.

Michigan Influenza Antigenic Characterization (as of October 11): For the 2012-13 season, no influenza isolates have been antigenically characterized.

Michigan Influenza Antiviral Resistance Data (as of October 11): 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 October 11): 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 October 11): No new respiratory outbreaks were reported to MDCH during the past week. 1 respiratory outbreak (1C) has been reported to MDCH during the 2012-13 season; testing results are listed below.

- Influenza B: 1 (1C)

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

International (WHO [edited], September 28): Seasonal influenza transmission has not been picked up yet in the northern temperate zone. Most countries in this zone have started or are yet to begin seasonal reporting. In the tropical areas most countries are reporting low or decreasing trends of influenza detections. The exceptions are Nicaragua in the Americas and India and Thailand in Asia. Influenza activity decreased in most of the temperate countries of the southern hemisphere. Australia, Chile, New Zealand, Paraguay and South Africa continue to report declines in influenza indicators. On the other hand, Argentina has reported some late influenza activity. WHO has recommended the influenza vaccine composition for use in the 2013 southern hemisphere influenza season following technical consultations in September 2012.

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 6, 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.

H3N2v Influenza Update: Since August 15, MDCH has reported 6 confirmed human cases of variant influenza A (H3N2) (H3N2v). Michigan cases have come from Clinton(1), Ingham(1), Shiawassee(2) and Washtenaw(2) counties. Cases have had mild illness and have had either direct or indirect swine exposure at county fairs in Michigan or Ohio. Updated Michigan case counts of confirmed H3N2v infections will be posted every Friday on the MDCH Influenza Website: www.michigan.gov/flu. In addition, 306 human cases of H3N2v have been reported in association with swine exposure since July 2012 in 9 other states. The Michigan Department of Community Health issued updated guidance for healthcare providers, laboratories and local health departments on August 14 on the MDCH Influenza Website. Current information on this situation and updated case counts can be found on the CDC H3N2v website at www.cdc.gov/flu/swineflu/influenza-variant-viruses-h3n2v.htm. Please call the MDCH Division of Communicable Disease at (517) 335-8165 with any questions.

International, Research (CIDRAP, October 10): Acute respiratory infections, especially influenza, can act as a trigger for acute myocardial infarction (AMI), say the findings of a study from London published yesterday in the *Journal of Infectious Diseases*. The study group comprised 11,208 patients who experienced AMI from Jan 1, 2003, to Jul 31, 2009, and were 40 years of age or older at the age of first AMI. The authors analyzed their records to determine whether there was any association of AMI in the group with acute respiratory infection (ARI). They found that 3,927 (35.0%) of the AMI patients had been seen for ARI during the study period. These patients had 8,204 episodes of ARI (mean, 2.1 per person), their median age was 73.1 years, and 60% were male. The authors found that the risk of AMI was

substantially higher during the first 3 days after ARI (adjusted incidence ratio, 4.19 [95% confidence interval (CI), 3.18-5.53], an effect that tapered over time. The risk was highest in older patients, with an adjusted incidence ratio in patients 80 and older of 5.94 (95% CI, 3.90-9.04) for AMI in the 3 days following ARI. Patients whose respiratory infection records contained at least one indicator of influenza (eg, occurrence temporally related to peaks in flu incidence, coding for influenza-like illness) also had a significantly greater risk of AMI than those without any indicators (incidence ratio, 5.39 [95% CI, 3.89-7.45] vs 2.38 [95% CE, 1.37-4.11; $P = .012$]). The authors point out that flu vaccine uptake is often poor in high-risk groups such as those with cardiac disease and state that their study "adds to the evidence to support increased efforts to maximize uptake of influenza vaccination in these groups to protect against cardiovascular complications of influenza."

View the publication at <http://jid.oxfordjournals.org/content/early/2012/10/09/infdis.iis597.full.pdf+html>.

International, Poultry (OIE [edited], October 4): Low pathogenic avian influenza H5N2; South Africa Outbreak 1: LPAI_2012_H5N2_001, Stellenbosch, WESTERN CAPE PROVINCE

Date of start of the outbreak: 01/06/2012; Outbreak status: Continuing; Epidemiological unit: Farm
Affected population: Commercial ostriches; Susceptible: 242; Cases: 72; Deaths: 1; Destroyed: 0

Outbreak 2: LPAI_2012_H5N2_002, Hessequa, WESTERN CAPE PROVINCE

Date of start of the outbreak: 04/07/2012; Outbreak status: Continuing; Epidemiological unit: Farm
Affected population: Commercial ostriches; Susceptible: 1710; Cases: 285; Deaths: 0; Destroyed: 0

Michigan Wild Bird Surveillance (USDA, as of October 11): 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_20120810_CumulativeNumberH5N1cases.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