



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories



Editor: Susan Peters, DVM PetersS1@michigan.gov
Surveillance and Infectious Disease Epidemiology

September 20, 2012
Vol. 9; No. 37

Updates of Interest

- **National:** The number of H3N2v influenza cases in the United States has climbed by 9 in the past week, to 305
- **National:** Missouri reports a variant H1N1 influenza human case

Table of Contents

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

****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. The first five cases have had mild illness and have had either direct or indirect swine exposure at county fairs in Michigan; an investigation is underway regarding the sixth case. Updated Michigan case counts of confirmed H3N2v infections will be posted every Friday on the MDCH Influenza Website: www.michigan.gov/flu. In addition, 305 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.

Influenza Surveillance Reports

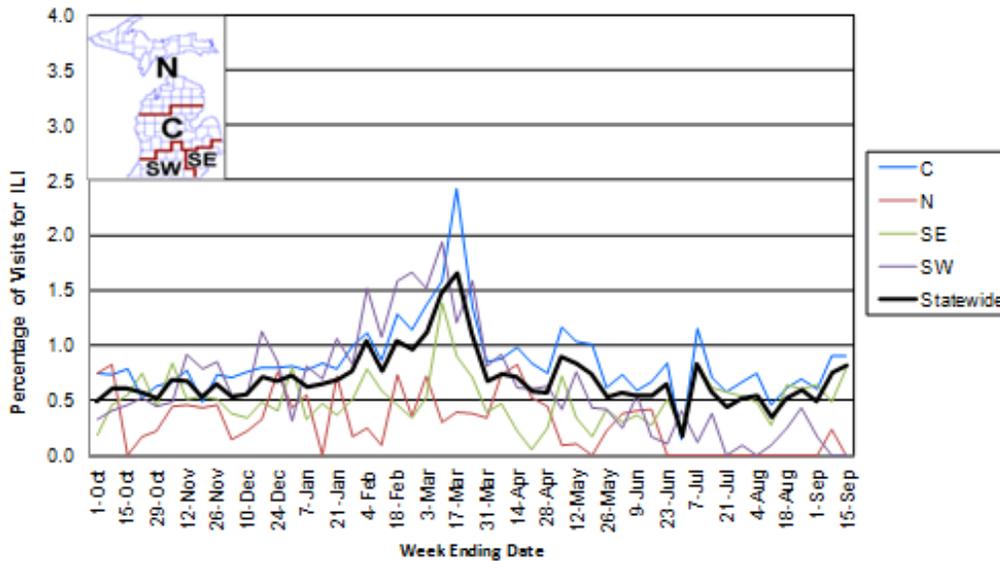
Michigan Disease Surveillance System (as of September 20): MDSS data for the week ending September 15th indicated that compared to levels from the previous week, aggregate reports increased, while individual reports remained steady at sporadic levels. The increase in aggregate reports corresponds to the start of the K-12 school year. Individual and aggregate reports are similar to levels seen during the same time period last year.

Emergency Department Surveillance (as of September 20): Compared to levels from the week prior, emergency department visits from constitutional complaints slightly decreased, while respiratory complaints slightly increased. Both constitutional and respiratory complaints are similar to levels reported during the same time period last year. In the past week, there were 5 constitutional alerts in the SW(1), C(2) and N(2) Influenza Surveillance Regions and 13 respiratory alerts in the SE(2), SW(2), C(6) and N(3) Regions and 1 statewide alert.

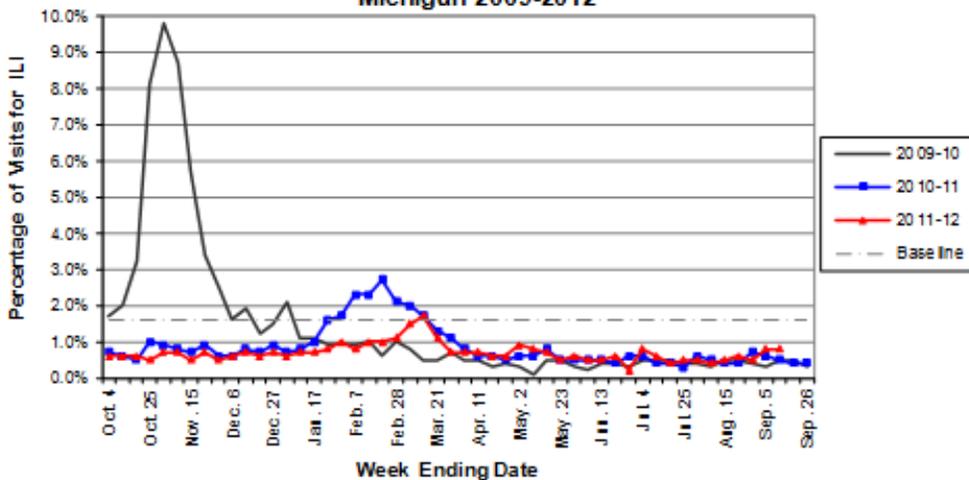
Sentinel Provider Surveillance (as of September 20): During the week ending September 15, 2012, the proportion of visits due to influenza-like illness (ILI) remained at 0.8% overall; this is below the regional baseline of (1.6%). A total of 39 patient visits due to ILI were reported out of 4,756 office visits. Data were provided by twenty-one sentinel sites from the following regions: C (12), N (3), SE (5) and SW (1). ILI activity increased in one surveillance region: Southeast (0.8%); remained the same in one region: Central (0.9%) and the remaining regions reported no ILI activity: North (0.0%) and Southwest (0.0%). 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 September 15): The Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness in Clinton, Eaton and Ingham counties. In the 2011-12 season, 27 influenza hospitalizations (9 adult, 18 pediatric) were reported in 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 September 15, 2012. Results are listed in the table below.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2011-12 Season
0-4 years	0	21
5-17 years	0	23
18-49 years	0	32
50-64 years	0	28
≥65 years	0	43
Total	0	147

Laboratory Surveillance (as of September 15): During September 9-15, 1 positive influenza A(H3N2)v (SW) result was reported by MDCH BOL. For the 2011-12 season (starting Oct. 2, 2011), MDCH has identified 1170 seasonal influenza results and 6 variant influenza H3N2 results:

- Influenza A(H3): 1056 (608SE, 98SW, 303C, 47N)
- Influenza A(H1N1)pdm09: 33 (23SE, 3SW, 5C, 2N)
- Influenza B: 80 (30SE, 32SW, 13C, 5N)
- Influenza A(H3) and B co-infection: 1 (SE)
- Influenza A(H3N2)variant: 6 (2SE, 2SW, 2C)
- Parainfluenza: 6 (1SE, 2SW, 2C, 1N)
- Adenovirus: 3 (3SE)
- RSV: 4 (1SW, 1C, 2N)

8 sentinel labs (SE, SW, C, N) reported for the week ending September 15, 2012. One lab (SW) reported sporadic parainfluenza activity and 1 lab (SE) reported sporadic RSV activity. No labs reported influenza A, influenza B, adenovirus or HMPV activity. Testing volumes are at low levels.

Michigan Influenza Antigenic Characterization (as of September 20): For the 2011-12 season, 70 Michigan influenza B viruses have been characterized at MDCH. 8 viruses are B/Brisbane/60/2008-like (included in the 2011-12 vaccine). 62 are B/Wisconsin/01/2010-like (not included in the 2011-12 vaccine).

Michigan Influenza Antiviral Resistance Data (as of September 20): For the 2011-12 season, 26 Michigan influenza A(H1N1)pdm09 specimens and 95 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 September 20): 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 September 20): No new respiratory outbreaks were reported to MDCH during the past week. 33 respiratory outbreaks (5SE, 4SW, 22C, 2N) have been reported to MDCH during the 2011-12 season; testing results are listed below.

- Influenza A/H3: 15 (4SE, 1SW, 10C)
- Influenza A: 2 (2C)
- Human metapneumovirus: 1 (SW)
- Negative or not tested: 15 (1SE, 2SW, 10C, 2N)

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 14): Most countries in the northern temperate zone have either shifted to out of season surveillance schedules or not yet started seasonal reporting. But from available data, seasonal influenza transmission has not been picked up yet in the northern temperate zone. The United States of America is continuing to detect cases of influenza A(H3N2)v in humans and reported three human cases of influenza A(H1N2) variant virus infection. Investigation around the cases indicates no evidence of sustained human-to-human transmission. In the tropical areas of most countries are reporting low or decreasing trends of influenza detections. The exceptions are Nicaragua in the Americas where mainly influenza B is detected and in Asia, India and Thailand are both reporting influenza A(H1N1)pdm09 and B circulation. 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. Argentina continues to report very low numbers of detections compared to previous seasons.

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 2011-2012 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 (CIDRAP, September 14): The number of swine-origin H3N2 (variant H3N2, or H3N2v) influenza cases in the United States has climbed by 9 in the past week, to 305, and another rare swine-origin variant, H1N1v, has cropped up in Missouri, the Centers for Disease Control and Prevention (CDC) reported today.

The case in Missouri involves an H1N1v virus carrying the M (matrix) gene from the pandemic 2009 H1N1 (pH1N1) virus, marking only the second finding of such an isolate, the CDC reported. The previous case was reported in Wisconsin in December 2011; 12 other H1N1v cases (without the pH1N1 M gene) have been reported since 2005, CDC reports show.

The Missouri case was found because of increased surveillance for H3N2v cases, the CDC said in its weekly flu update. The patient got sick after contact with pigs and has since recovered. The agency gave no further details about the case.

The CDC's report on the H1N1v case in Wisconsin in December 2011 said similar viruses had been found in US swine since 2010 and that the strain was susceptible to antiviral drugs.

The CDC said the total number of variant flu cases detected since July has now reached 309. That includes the 305 H3N2v cases, the Missouri H1N1v case, and three H1N2v cases that were recently reported in Minnesota. All three strains contain the pH1N1 M gene.

Meanwhile, the Minnesota Department of Health reports that the number of H1N2v cases has increased to four, as one case previously listed as probable has been confirmed. The CDC says that when state and CDC case counts disagree, the state numbers should be considered more accurate.

The 305 H3N2v cases, most of which involved people exposed to pigs at county and state fairs, were scattered across 10 states. New cases were reported this week in Michigan, 1 (6 total); Minnesota, 2 (4); Ohio, 4 (106); and Wisconsin, 2 (20). Indiana continues to lead the list with 138 cases.

The numbers of H3N2v-related hospitalizations and deaths stayed the same, at 16 and 1, respectively.

The CDC said today, as it has previously, that a few cases of likely human-to-human transmission of H3N2v have been identified, but no ongoing human transmission.

Aside from the variant cases, flu remained at seasonably low levels in the United States last week, according to the CDC. The percentage of outpatient visits for flu-like illness stayed below the national baseline, and the percentage of deaths attributed to pneumonia and flu was under the epidemic threshold. No flu-related pediatric deaths were reported.

Globally, flu activity was low or decreasing in most regions, the World Health Organization (WHO) said in its biweekly flu update, covering the last 2 weeks of August.

Most countries in northern temperate regions have not started their seasonal flu reporting, but available data indicate that seasonal flu transmission has not begun in those areas, the WHO said.

Most tropical countries reported low or decreasing flu trends. The exceptions are Nicaragua, which is finding mostly influenza B, and India and Thailand, which are both reporting pH1N1 and B, the WHO said.

Flu activity declined in most temperate countries of the Southern Hemisphere, including Australia, Chile, New Zealand, Paraguay, and South Africa, the agency said. Argentina continues to report very low numbers of cases relative to previous seasons.

View the article at <http://www.cidrap.umn.edu/cidrap/content/influenza/swineflu/news/sep1412flu.html>.

International, Poultry (OIE [edited], September 17): Highly pathogenic avian influenza H5N1; Vietnam Outbreak 1: Hop Hoa, Hop Hoa, Luong Son, Hoa Binh

Date of start of the outbreak: 03/09/2012; Outbreak status: Continuing; Epidemiological unit: Village
 Species: Birds; Susceptible: 400; Cases: 400; Deaths: 400; Destroyed: 0

International, Poultry (OIE [edited], September 17): Highly pathogenic avian influenza H7N3; Mexico
 Outbreak 1: San Ignacio Cerro Gordo, foco 42, San Ignacio Cerro Gordo, JALISCO
 Date of start of the outbreak: 13/08/2012; Outbreak status: Resolved; Epidemiological unit: Farm
 Species: Birds; Susceptible: 477930; Cases: 1; Deaths: 0; Destroyed: 477930

Outbreak 2: Tepatitlan de Morelos, foco 44, Tepatitlan de Morelos, JALISCO
 Date of start of the outbreak: 20/08/2012; Outbreak status: Continuing; Epidemiological unit: Farm
 Species: Birds; Susceptible: 134400; Cases: 86567; Deaths: 86567; Destroyed: 0

Outbreak 3: Tepatitlan de Morelos, foco 43, Tepatitlan de Morelos, JALISCO
 Date of start of the outbreak: 20/08/2012; Outbreak status: Continuing; Epidemiological unit: Farm
 Species: Birds; Susceptible: 477930; Cases: 1; Deaths: 0; Destroyed: 0

International, Poultry (OIE [edited], September 18): Highly pathogenic avian influenza H5N1; China
 Outbreak 1: Dongjian, Zhanjiang, GUANGDONG
 Date of start of the outbreak: 11/09/2012; Outbreak status: Continuing; Epidemiological unit: Farm
 Species: Birds; Susceptible: 73800; Cases: 14050; Deaths: 6300; Destroyed: 67500

Michigan Wild Bird Surveillance (USDA, as of September 20): For the 2012 season (April 1, 2012-
 March 31, 2013), highly pathogenic avian influenza H5N1 has not been recovered from the 7 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

MDCH Bureau of Epidemiology – S. Bidol, MPH; C. Carlton, MPH; R. Sharangpani, MD, MPH
 MDCH Bureau of Laboratories – A. Muyombwe, PhD; V. Vavricka, MS

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