



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories



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Updates of Interest

- **International:** China reports a new human case of avian influenza H5N1

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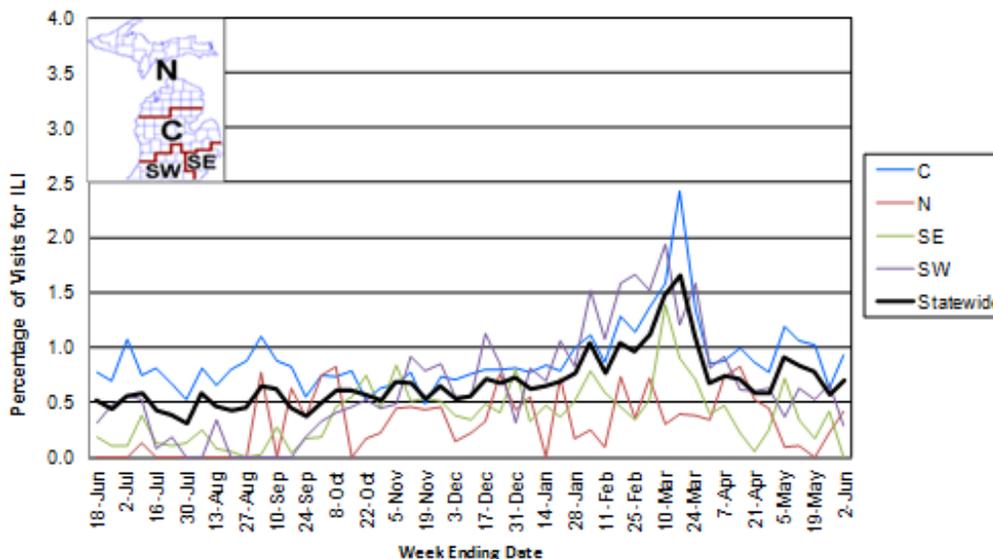
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of June 7): MDSS data for the week ending June 2nd indicated that compared to levels from the previous week, individual reports slightly decreased, while aggregate reports remained steady. Individual reports are slightly higher, while aggregate reports are similar, than levels seen during the same time last year.

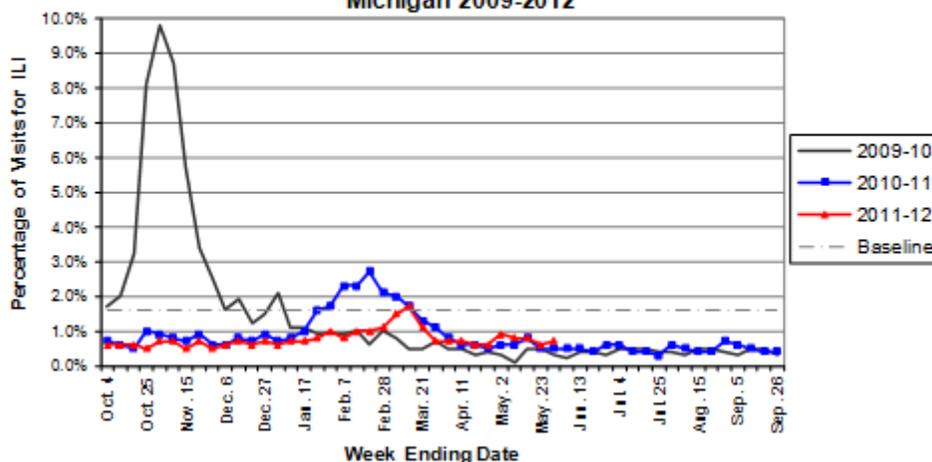
Emergency Department Surveillance (as of June 7): Compared to levels from the week prior, emergency department visits from constitutional complaints remained steady, while respiratory complaints slightly decreased. Both constitutional and respiratory complaints have returned to levels seen at the beginning of last fall. 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 C(2) and N(3) Influenza Surveillance Regions and 3 respiratory alerts in the SW(1) and C(2) Regions.

Sentinel Provider Surveillance (as of June 7): During the week ending June 2, 2012, the proportion of visits due to influenza-like illness (ILI) slightly increased to 0.7% overall; this is below the regional baseline of (1.6%). A total of 41 patient visits due to ILI were reported out of 5,800 office visits. Twenty-five sentinel sites provided data for this report. ILI activity increased in two surveillance regions: Central (0.9%) and North (0.4%); and decreased in two surveillance regions Southeast (0.0%) and Southwest (0.3%). 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
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



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 June 2): The Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness in Clinton, Eaton and Ingham counties. For the 2011-12 season, 27 influenza hospitalizations (9 adult, 18 pediatric) have been 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 June 2, 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 June 2): During May 27-June 2, 6 influenza A/H3 (5SW, 1C), 1 2009 A/H1N1pdm (SE) and 3 influenza B (2SE, 1C) results were reported by MDCH BOL. For the 2011-12 season (starting October 2, 2011), MDCH has identified 1157 influenza results:

- Influenza A(H3): 1049 (605SE, 95SW, 302C, 47N)
- Influenza A(H1N1)pdm09: 32 (22SE, 3SW, 5C, 2N)
- Influenza B: 75 (30SE, 28SW, 12C, 5N)
- Influenza A(H3) and B co-infection: 1 (SE)
- Parainfluenza: 2 (1SE, 1C)
- Adenovirus: 3 (3SE)
- RSV: 4 (1SW, 1C, 2N)

7 sentinel labs (SW, C, N) reported for the week ending June 2, 2012. 1 lab (SW) reported sporadic influenza A activity. 3 labs (SW, C) had sporadic influenza B positives. 1 lab (C) reported sporadic RSV activity. 3 labs (SW, C) had sporadic parainfluenza activity. Testing volumes are at low levels.

Michigan Influenza Antigenic Characterization (as of June 2): For the 2011-12 season, 45 Michigan influenza B viruses have been characterized at MDCH. 8 viruses are B/Brisbane/60/2008-like (included in the 2011-12 influenza vaccine). 37 are B/Wisconsin/01/2010-like (not included in the 2011-12 vaccine).

Michigan Influenza Antiviral Resistance Data (as of June 2): For the 2011-12 season, 23 Michigan influenza A(H1N1)pdm09 specimens and 92 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 June 2): 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 June 2): One previously reported outbreak from a SW long-term care facility was confirmed to be due to influenza A/H3. 29 respiratory outbreaks (6SE, 3SW, 19C, 1N) 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: 11 (1SE, 1SW, 8C, 1N)

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], May 25): The 2011-2012 influenza season is coming to an end in most northern temperate regions of the world. Countries in the southern hemisphere temperate zone are still at low or inter-seasonal levels, though some very small increases in detections have been reported in Chile. Some activity persists in sub-Saharan Africa.

Throughout the 2011-12 influenza season, different viruses have predominated in different parts of the world in the northern hemisphere. In North America, Canada had a slight predominance nationally of influenza B over A(H3N2) (67% vs. 33% respectively) particularly later in the season but the distribution was not uniform across the country. In the United States of America (USA), the proportions were reversed, and A(H3N2) was more common. The season in Mexico was dominated by A(H1N1)pdm09. In Europe, the large majority of influenza viruses have been influenza A(H3N2) with only very small numbers of A(H1N1)pdm09 and B. In Asia, northern China and Mongolia reported mostly influenza B early in the season with A(H3N2) appearing later, and this sequence was reversed in the Republic of Korea and Japan where, A(H3N2) was predominant in the beginning and type B appeared later.

Early in the season, most viruses tested were antigenically related to those found in the current trivalent seasonal vaccine. However, by mid-season, divergence was noted in both the USA and Europe in the A(H3N2) viruses tested. Significant numbers of A(H3N2) viruses tested in recent months have shown reduced cross reactivity with the 2011-12 vaccine virus. Influenza B virus detections have been both from the Victoria and Yamagata lineages with the former slightly more common in China and parts of Europe.

Resistance to neuraminidase inhibitors has been low or undetectable throughout the season; however, a slight increase in levels of resistance to oseltamivir has been reported in influenza A(H1N1)pdm09 isolates in the USA. Most (11/16) of these oseltamivir resistant cases have been from the state of Texas, where influenza A(H1N1)pdm09 has been the most common virus circulating.

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.

International, Human (WHO, June 5): The Centre for Health Protection of the Department of Health, Hong Kong, China, has reported a human case of avian influenza A(H5N1) virus infection. The case is a 2 year-old male from Guangzhou City, Guangdong province. He developed symptoms on 23 May 2012 in Guangdong province and went to a private clinic in Hong Kong, China, on 26 May 2012. He developed

febrile convulsion and was transferred to a hospital on 28 May 2012 and was laboratory confirmed as A(H5N1) on 2 June 2012. His condition remains serious and he remains hospitalized. The mother brought the case to visit a wet market with live poultry in Guangzhou in mid-May 2012 and a live duck was bought and slaughtered in the market. Close contacts of the case have tested negative for the virus. Evidence so far indicates that this is a sporadic case of human infection with A(H5N1) virus, with no secondary spread or clustering.

So far, a total of 22 human cases of influenza A(H5N1) infection were reported in Hong Kong, China, including 18 cases in 1997, two cases in 2003, one case in 2010, and the current case in 2012.

International, Poultry (OIE [edited], June 1): Highly pathogenic avian influenza H5N1; Cambodia Outbreak 1 (577/12NaVRI): Pring, Tuol Sala, Basedth, KG. SPEU

Date of start of the outbreak: 27/05/2012; Outbreak status: Continuing; Epidemiological unit: Village
Species: Birds; Susceptible: 1304; Cases: 564; Deaths: 564; Destroyed: 740

Epidemiological comments: On 26 May 2012, after receiving information from Ministry of Health on a girl aged 13 living in Pring village who was reported dead and confirmed infected with H5N1, an investigation team from the National Veterinary Research Institute of the Department of Animal Health and Production went to the village to investigate and take some samples from local chicken and ducks.

International, Poultry (OIE [edited], June 6): Highly pathogenic avian influenza H5N1; China

Outbreak: Dongguan village, Jingtai, Baiyn, GANSU

Date of start of the outbreak: 01/06/2012; Outbreak status: Continuing; Epidemiological unit: Farm
Species: Birds; Susceptible: 18460; Cases: 6200; Deaths: 260; Destroyed: 18200

Michigan Wild Bird Surveillance (USDA, as of June 7): For the 2012 season (April 1, 2012-March 31, 2013), no samples have been tested for highly pathogenic avian influenza H5N1. 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 June 5, 2012. http://www.who.int/influenza/human_animal_interface/EN_GIP_20120605_CumulativeNumberH5N1cases.pdf. Downloaded 6/5/2012. Cumulative lab-confirmed cases reported to WHO. Total cases includes 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	9	5	167	60
Indonesia	20	13	55	45	42	37	24	20	21	19	9	7	12	10	6	6	189	157
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	27	17	605	357