



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories



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Updates of Interest

- **International:** A new research paper summarizes the characteristics of U.S. H1N1pdm09 deaths during the fall of 2009
- **International:** Chinese Taipei reports avian influenza H5N1 in confiscated pet birds arriving from China

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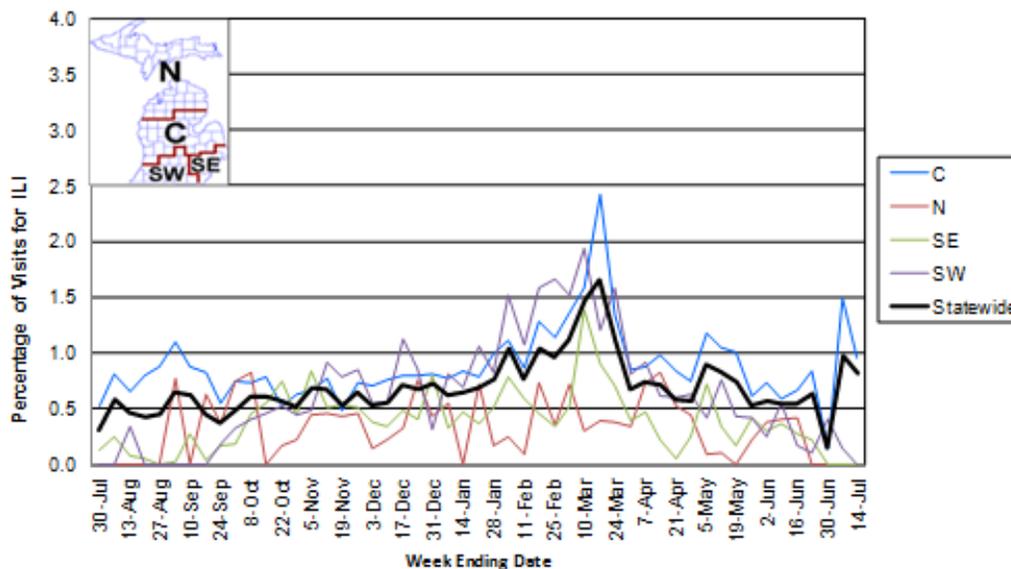
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of July 19): MDSS data for the week ending July 14th indicated that compared to levels from the previous week, aggregate and individual reports remained steady at low levels. Individual and aggregate reports are similar to levels seen during the same time period last year.

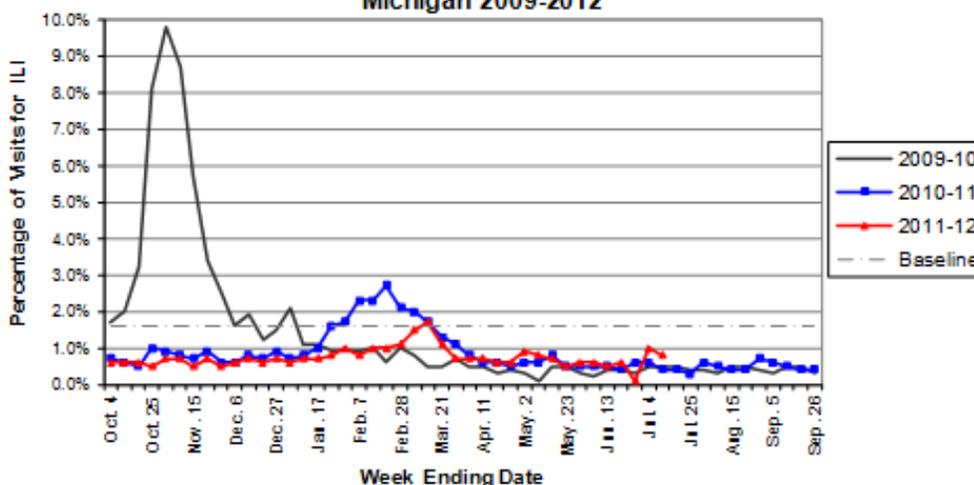
Emergency Department Surveillance (as of July 19): Compared to levels from the week prior, emergency department visits from constitutional complaints remained steady, while respiratory complaints decreased slightly. Both constitutional and respiratory complaints are similar to levels reported during the same time period last year. In the past week, there were 2 constitutional alerts in the C(2) Influenza Surveillance Region and 1 respiratory alert in the C Region.

Sentinel Provider Surveillance (as of July 19): During the week ending July 14, 2012, the proportion of visits due to influenza-like illness (ILI) slightly decreased to 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 4,749 office visits. Seventeen sentinel sites provided data for this report. ILI activity decreased in two surveillance regions: Central (1.0%) and Southwest (0.0%); the remaining two surveillance regions continued to report no ILI activity: North (0.0%) and Southeast (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
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 July 14): 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 July 14, 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 July 14): During July 8-14, 1 influenza A/H3 (SE) result was reported by MDCH BOL. For the 2011-12 season (starting Oct. 2, 2011), MDCH has identified 1166 influenza results:

- Influenza A(H3): 1054 (607SE, 97SW, 303C, 47N)
- Influenza A(H1N1)pdm09: 32 (22SE, 3SW, 5C, 2N)
- Influenza B: 79 (30SE, 32SW, 12C, 5N)
- Influenza A(H3) and B co-infection: 1 (SE)
- Parainfluenza: 2 (1SE, 1C)
- Adenovirus: 3 (3SE)
- RSV: 4 (1SW, 1C, 2N)

8 sentinel labs (SE, SW, C, N) reported for the week ending July 7, 2012. 1 lab (SW) reported sporadic parainfluenza activity. 1 lab (SW) reported sporadic adenovirus activity. No labs reported influenza A, influenza B, RSV, or HMPV activity. Testing volumes are at low levels.

Michigan Influenza Antigenic Characterization (as of July 19): For the 2011-12 season, 69 Michigan influenza B viruses have been characterized at MDCH. 8 viruses are B/Brisbane/60/2008-like (included in the 2011-12 influenza vaccine). 61 are B/Wisconsin/01/2010-like (not included in the 2011-12 vaccine).

Michigan Influenza Antiviral Resistance Data (as of July 19): 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 July 19): 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 July 19): No new respiratory outbreaks were reported to MDCH during the previous week. 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], July 6): The influenza season is largely finished in the temperate countries of the northern hemisphere and most countries in the northern temperate zone have now stopped weekly reporting. A detailed review of the recent season in the temperate countries of the northern hemisphere is available online [here](#). In the tropical zone, Brazil, Paraguay and Honduras have reported notable influenza activity in the Americas; Ghana in sub-Saharan Africa; and southern China, including Hong Kong Special Administrative Region, and Vietnam in Asia. The influenza season has commenced in most temperate countries of the southern hemisphere for which there is data. In Argentina, however, influenza remains nearly undetectable and although New Zealand has reported persistent increases in influenza virus detections over the last three reporting weeks, influenza-like illness (ILI) reports remained below the national baseline. Influenza A(H3N2) viruses were the most commonly reported type/sub-type in recent weeks in the Southern Hemisphere temperate region in Chile, South Africa, and Australia; however, significant numbers of influenza B were also reported in South Africa and to a lesser extent, Australia. Very few A(H1N1)pdm09 viruses have been reported in the temperate region however A(H1N1)09 is currently the most commonly detected virus in active countries of Central and tropical South America.

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, Research (Influenza and Other Respiratory Diseases abstract, July 16): Regan *et al.* (2012) Epidemiology of influenza A (H1N1)pdm09-associated deaths in the United States, September–October 2009. *Influenza and Other Respiratory Viruses* DOI: 10.1111/j.1750-2659.2012.00408.x.

Background: From April to July 2009, the United States experienced a wave of influenza A (H1N1)pdm09 virus (H1N1pdm09) infection. The majority of the deaths during that period occurred in persons <65 years of age with underlying medical conditions.

Objective: To describe the epidemiology of H1N1pdm09-associated deaths in the US during fall of 2009.

Methods: We collected demographic, medical history, and cause of death information on a nationally representative, stratified random sample of 323 H1N1pdm09-associated deaths that occurred during September 1–October 31, 2009.

Results: Data were available for 302/323 (93%) deaths. Most cases (74%) were 18–64 years of age and had ≥1 underlying medical condition (72%). Among cases aged <18 years, 16/43 (37%) had a chronic

lung disease, and 15/43 (35%) a neurological disorder; among cases aged ≥ 18 years, 94/254 (37%) had a chronic lung disease and 84/254 (33%) had a metabolic disorder. The median number of days between symptom onset and death was six among children (range, 1–48) and 12 among adults (range, 0–109). Influenza antiviral agents were prescribed for 187/268 (70%) of cases, but only 48/153 (31%) received treatment within 2 days of illness onset.

Conclusions: The characteristics of H1N1pdm09 deaths identified during the fall of 2009 were similar to those occurring April–July 2009. While most cases had conditions that were known to increase the risk for severe outcomes and were recommended to receive antiviral therapy, a minority of cases received antivirals early in the course of illness.

The abstract is available at <http://onlinelibrary.wiley.com/doi/10.1111/j.1750-2659.2012.00408.x/abstract>.

International, Pet Birds (OIE [edited], July 17): High pathogenic avian influenza H5N1; Chinese Taipei Outbreak: Luchu Township, T'AO-YUAN; Date of the outbreak: 07/07/2012; Outbreak status: Resolved Species: Birds; Susceptible 38; Cases: 37; Destroyed: 38; Population: Illegal movement of pet birds Epidemiological comments: 38 birds were intercepted at Taiwan Taoyuan International Airport on 7 July 2012. The birds were smuggled by a passenger traveling from Macao to Taiwan and euthanized immediately and sent to National Laboratory, Animal Health Research Institute, for further investigation. The cleaning and disinfection of the environmental and facilities were completed on 7 July 2012. All staff in contact with the birds have been under monitoring of Health Authority for 10 days and found healthy.

Michigan Wild Bird Surveillance (USDA, as of July 19): 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

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Table. H5N1 Influenza in Humans – As of July 6, 2012. http://www.who.int/influenza/human_animal_interface/EN_GIP_20120706_CumulativeNumberH5N1cases.pdf. Downloaded 7/9/2012. 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	7	7	190	158
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	29	18	607	358