



MI FluFocus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories



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Updates of Interest:

- **International:** Ontario reports a case of multidrug-resistant pandemic (H1N1) 2009 bearing the I223R mutation in an ambulatory child with no previous exposure to neuraminidase inhibitors

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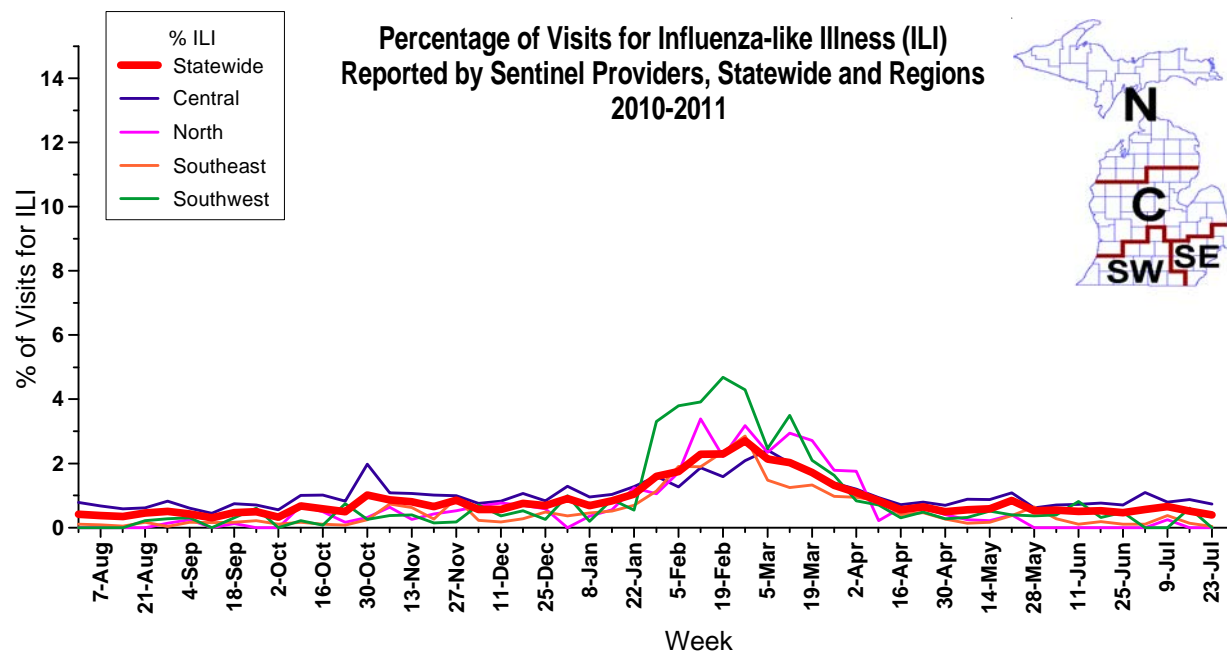
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Influenza Surveillance Reports

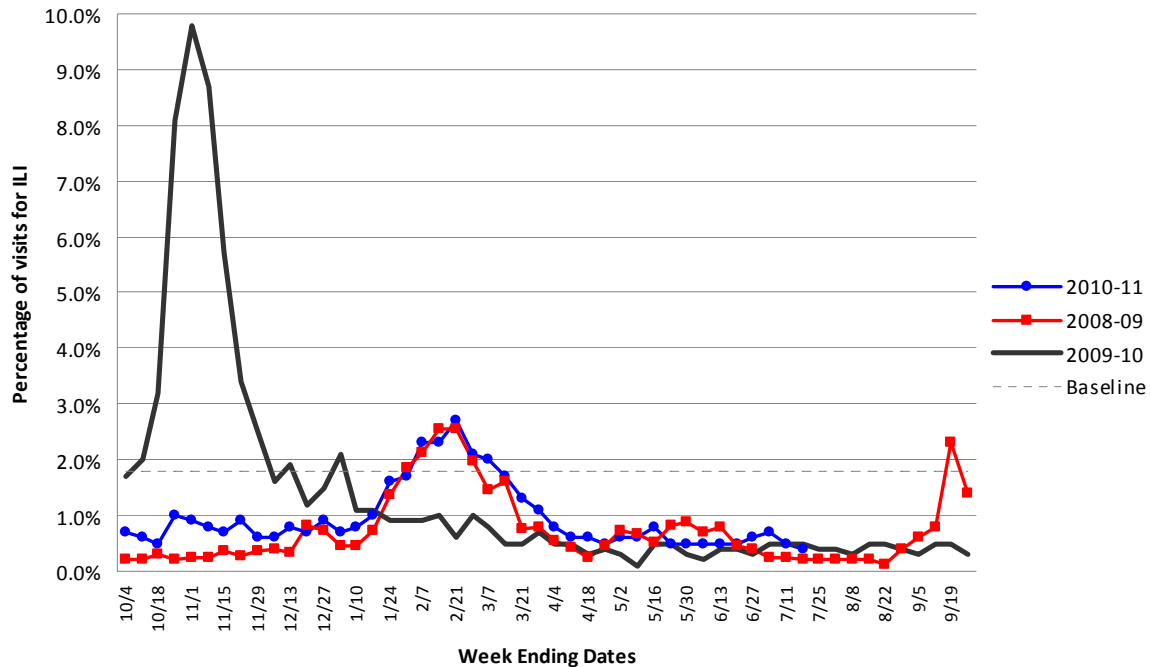
Michigan Disease Surveillance System: MDSS data for the week ending July 16th indicated that both aggregate and individual reports remained steady at very low levels. Both aggregate and individual influenza cases are similar to levels seen during the same time last year.

Emergency Department Surveillance: Compared to the previous week's levels, emergency department visits from constitutional complaints remained steady, while respiratory complaints decreased slightly. Constitutional and respiratory complaints are similar to levels reported during the same time period last year. In the past week, there were four constitutional alerts in the SE(1), SW(1) and N(2) Influenza Surveillance Regions and no respiratory alerts.

Sentinel Provider Surveillance (as of July 28): During the week ending July 23, 2011, the proportion of visits due to influenza-like illness (ILI) decreased to 0.4% overall; this is below the regional baseline of 1.8%. A total of 29 patient visits due to ILI were reported out of 7,456 office visits. Twenty-two sentinel sites provided data for this report. Activity decreased in one surveillance region: Central (0.7%); there was no activity reported in the remaining three regions: North (0.0%), Southeast (0.0%) and Southwest (0.0%). Please note these rates may change as additional reports are received.



**Percentage of Visits for Influenza Like Illness (ILI) Reported by the US Outpatient
Influenza-like Illness Surveillance Network (ILINet) - Michigan, 2008-2011**



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: The total number of cases for the 2010-11 season is 51 adult and 49 pediatric cases, and the estimated influenza hospitalization incidence rate in the catchment area (Clinton, Eaton and Ingham counties) is 49 per 100,000 for children and 14 per 100,000 for adults.

Laboratory Surveillance (as of July 23): During July 17-23, no positive specimens were reported by MDCH Bureau of Laboratories. For the 2010-11 season (starting October 3, 2010), MDCH BOL has identified 359 influenza results:

- 2009 Influenza A/H1N1: 148
- Influenza A unsubtypeable: 1
- Influenza A/H3: 157
- Influenza B: 53

7 sentinel labs (SE, SW, C, N) reported for the week ending July 23, 2011. No labs reported influenza A or influenza B positive results. Testing volumes are at very low levels.

Michigan Influenza Antigenic Characterization (as of July 28): One influenza A/H3 positive specimen, collected in January from the SE Region, was characterized at CDC as the A/H3/Perth/16/2009-like strain, which is the A/H3 component of the 2010-11 influenza vaccine. Five influenza B positive specimens, collected in March from the SE and SW Regions, were characterized at MDCH as the B/Brisbane/60/2008-like strain, which is the B component of the 2010-11 influenza vaccine.

Michigan Influenza Antiviral Resistance Data (as of July 28): One of the 24 Michigan influenza isolates tested for antiviral resistance at the CDC during the 2010-2011 season has been found to be resistant to oseltamivir (H275Y mutation present). This specimen was a 2009 influenza A/H1N1 positive specimen collected in early March; additional epidemiologic information is pending.

Antiviral resistance testing takes months to complete and cannot be used to guide individual patient treatment. However, 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 28): Six influenza-associated pediatric mortalities (2SE, 4C), one associated with flu A and five with flu B, have been reported to MDCH this season.

***CDC has asked states for information on any pediatric death associated with influenza. This includes not only any pediatric death (<18 years) resulting from a compatible illness with laboratory confirmation of

influenza, but also any unexplained pediatric death with evidence of an infectious process. Please immediately call MDCH to ensure proper specimens are obtained. View the complete MDCH protocol online at http://www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf.

Influenza Congregate Settings Outbreaks (as of July 28): 25 total outbreaks have been reported to MDCH for the 2010-2011 season:

- Influenza A/H3: 11 (4SE, 3SW, 1C, 3N)
- Influenza A/H1N1 2009: 2 (2SW)
- Influenza A/H3 and B both found: 1 (SW)
- Influenza A and B both found: 1 (C)
- Influenza B: 1 (C)
- Influenza positive, subtype unknown: 1 (SW)
- RSV and parainfluenza 3: 1 (C)
- RSV: 1 (C)
- No testing or negative: 6 (2SE, 2SW, 2N)

National (CDC, July 22): Limited national surveillance data is updated weekly during the summer months at the following website: <http://www.cdc.gov/flu/weekly/>.

International (WHO [edited], July 15): Influenza activity in the temperate regions of the northern hemisphere remains at baseline inter-seasonal levels. Countries in the tropical zone mostly report low influenza activity but with some transmission reported in countries of the Americas, western Africa, and southern Asia. The influenza season is ongoing in South Africa though it appears to have recently peaked. Some detailed preliminary information is now available for severe cases in South Africa (see below). In Australia - the season appears to have started with notable increases in influenza-like illness (ILI) consultations and confirmed cases. The most common virus detected nationally in Australia is influenza A(H1N1)2009, though this is not consistent in every state.

The entire summary is available online at http://www.who.int/csr/disease/influenza/latest_update_GIP_surveillance/en/index.html

Map of International Activity (CDC): A Map of International Co-circulation of Seasonal Influenza is available online at <http://cdc.gov/flu/international/map.htm>.

Weekly reporting to the CDC has ended for the 2010-2011 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 (Emerging Infectious Diseases abstract, July 27): Multidrug-Resistant Pandemic (H1N1) 2009 Infection in Immunocompetent Child. A Eshaghi, SN Patel, A Sarabia, RR Higgins, A Savchenko, PJ Stojios, et al.

Recent case reports describe multidrug-resistant influenza A pandemic (H1N1) 2009 virus infection in immunocompromised patients exposed to neuraminidase inhibitors because of an I223R neuraminidase mutation. We report a case of multidrug-resistant pandemic (H1N1) 2009 bearing the I223R mutation in an ambulatory child with no previous exposure to neuraminidase inhibitors.

The entire article is available at <http://www.cdc.gov/eid/content/17/8/102004.htm?source=govdelivery>.

Michigan Wild Bird Surveillance (USDA, as of July 28): For the 2011 season (April 1, 2011-March 31, 2012), highly pathogenic avian influenza H5N1 has not been recovered from 78 samples tested nationwide. For more information, visit <http://wildlifedisease.nbio.gov/ai/>.

To learn about avian influenza surveillance in Michigan wild birds or to report dead waterfowl, go to Michigan's 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_Al-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 - Cases up to June 22, 2011. http://www.who.int/csr/disease/avian_influenza/country/cases_table_2011_06_22/en/index.html. Downloaded 6/23/2011. Cumulative number of lab-confirmed cases reported to WHO. Total cases includes deaths.

Country	2003		2004		2005		2006		2007		2008		2009		2010		2011		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	3	0
Cambodia	0	0	0	0	4	4	2	2	1	1	1	0	1	0	1	1	6	6	16	14
China	1	1	0	0	8	5	13	8	5	3	4	4	7	4	2	1	0	0	40	26
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	8	4	39	4	29	13	31	12	150	52
Indonesia	0	0	0	0	20	13	55	45	42	37	24	20	21	19	9	7	7	5	178	146
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	3	2
Lao PDR	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	0	0	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	0	0	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	6	5	5	5	7	2	0	0	119	59
Total	4	4	46	32	98	43	115	79	88	59	44	33	73	32	48	24	46	23	562	329