



MI FluFocus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories



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Current Influenza Activity Levels:

- **Michigan:** No activity
- **United States:** Reporting has concluded for the 2009-2010 influenza season

Updates of Interest:

- **International:** Egypt reports a new human case of avian influenza A (H5N1).

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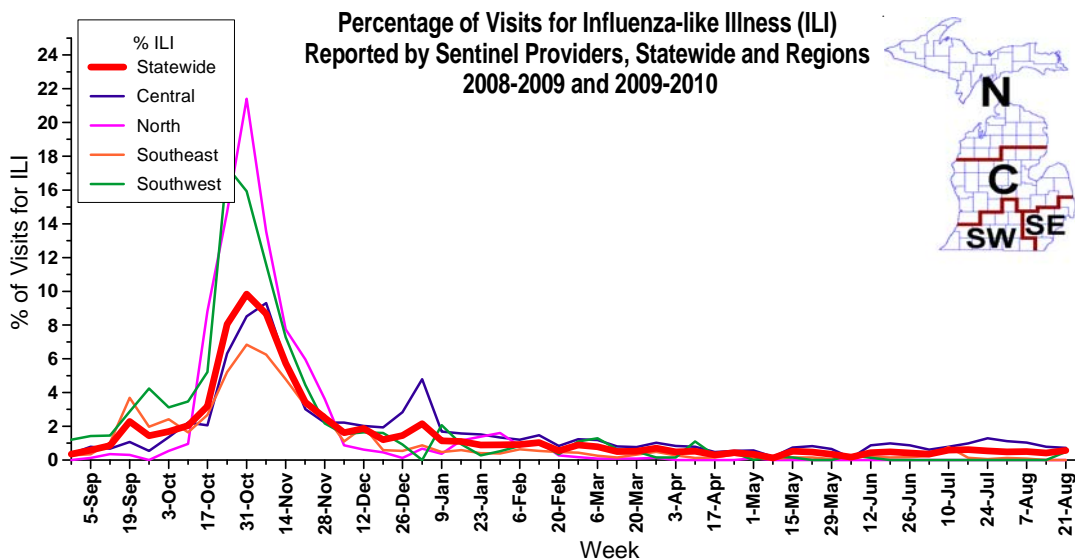
Influenza Surveillance Reports

Michigan Disease Surveillance System: MDSS data for the week ending August 28st indicated that aggregate influenza case reports remained at baseline summer levels. Individual reports, including influenza and 2009 novel influenza cases, remained near the previous week's reported levels of little to no activity. Aggregate influenza cases and individual influenza cases are similar to levels seen during the same reporting period in 2009.

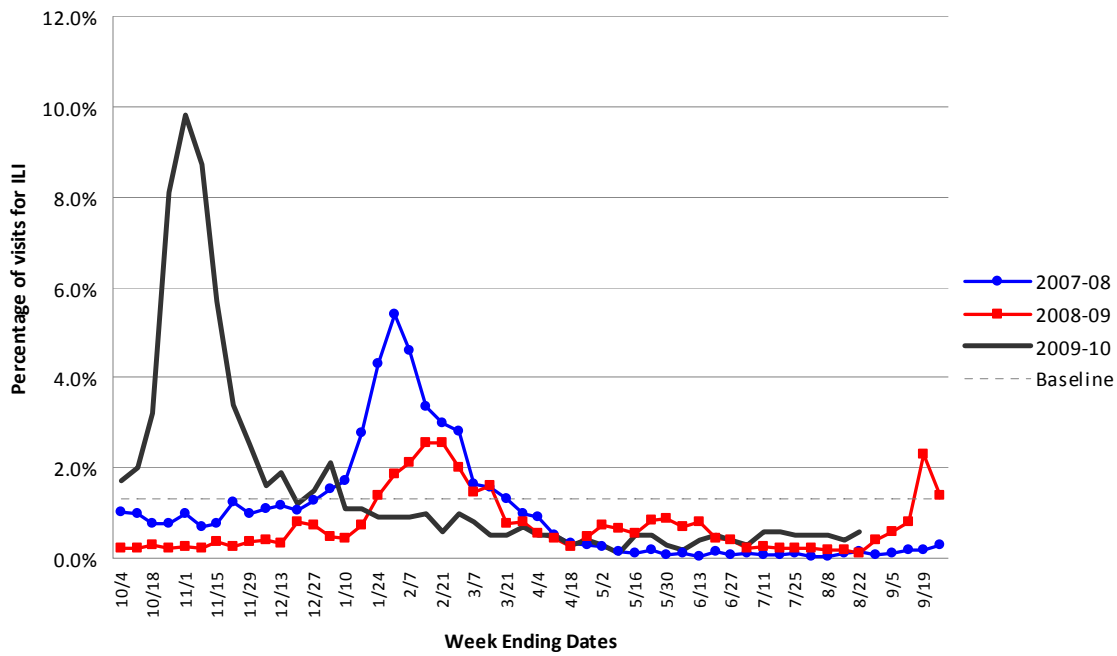
Emergency Department Surveillance: Emergency department visits from both constitutional and respiratory complaints were comparable to the previous week's levels. Both constitutional and respiratory complaints are at similar levels compared to the same reporting period last year. In the past week, there were two constitutional alerts in the C(1) and N(1) Influenza Surveillance Regions and two respiratory alerts in the SW(1) and N(1) Influenza Surveillance Regions.

Over-the-Counter Product Surveillance: Over the past week, all OTC product sales remained similar to last week's levels, except for chest rubs, which increased slightly. When compared to this time last year, sales of chest rubs and cough/cold medications are slightly increased, while sales of children's electrolytes and thermometers are similar.

Sentinel Provider Surveillance (as of August 26): During the week ending August 21, 2010, the proportion of visits due to influenza-like illness (ILI) remained at low levels at 0.6% overall. Thirty patient visits due to ILI were reported out of 5,249 office visits. Seventeen sentinel sites provided data for this report. Activity slightly increased in one surveillance region: Southwest (0.5); decreased in one surveillance region: Central (0.7%); and no ILI activity was reported in the remaining two regions: Southeast and North. 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, 2007-2010**



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.

Laboratory Surveillance (as of August 28): During August 22-28, no influenza isolates were identified at the MDCH Bureau of Laboratories. For the 2009-2010 season (starting on October 4, 2009), MDCH BOL has identified 614 influenza isolates:

- 2009 Influenza A (H1N1): 610
- Influenza A (H3): 3
- Influenza B: 1

Seven sentinel laboratories reported for the week ending August 28, 2010. All laboratories (SE, SW, C, N) reported no influenza A or B positive test results, with very few specimens being tested. One lab from the SW Region reported one positive parainfluenza result.

Michigan Influenza Antigenic Characterization (as of September 2): One 2009 H1N1 influenza A virus from Michigan has undergone further characterization at the CDC. This virus was characterized as A/California/07/2009 (H1N1)-like, which is the recommended strain for the H1 component of the 2010-11 Northern Hemisphere vaccine.

Michigan Influenza Antiviral Resistance Data (as of September 2): MDCH has received 34 results for antiviral resistance testing for the 2009-2010 season. All of the specimens tested were pandemic 2009 influenza A (H1N1) viruses. Of these results, two viruses have shown resistance to oseltamivir. The first virus was obtained in November 2009 from a 3 year old child from the SE Region with an underlying immunosuppressive condition and had a multiple courses of oseltamivir prior to specimen collection. The second virus was obtained in December 2009 from a 52 year old from the SE Region with an underlying immunosuppressive condition and chronic pulmonary infection; laboratory testing has confirmed that this mutation occurred within the patient during his illness. The 34 specimens tested were distributed as follows: 9 Southeast, 8 Southwest, 9 Central, 2 North, 6 unknown.

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. The guidance is available at <http://www.cdc.gov/H1N1flu/recommendations.htm>.

Influenza-Associated Pediatric Mortality (as of September 2): Five 2009 H1N1 influenza-associated pediatric mortalities (SE(3), SW, N) have been reported to MDCH for the 2009-2010 influenza 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 September 2): Seven congregate setting outbreaks with confirmatory novel influenza A H1N1 testing (2SE, 3 SW, 1C, 1N), and three outbreaks associated with positive influenza A tests (2C, 1N) have been reported to MDCH for the 2009-2010 influenza season. These are 8 school facilities and 2 long term care facilities. Human metapneumovirus was confirmed in one outbreak in a long term care facility (SW) in February. Adenovirus was confirmed from one outbreak in an elementary school (SW) in May.

During fall 2009, 567 influenza-related school and/or district closures in Michigan (Public Health Preparedness Region 1 - 55, Region 2N - 4, Region 2S - 8, Region 3 - 54, Region 5 - 153, Region 6 - 100, Region 7 - 109, Region 8 - 84) were reported.

National: To access previous Center for Disease Control and Prevention weekly surveillance reports, visit <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

International (WHO Update 115 [edited], August 27): Worldwide, H1N1 2009 virus transmission remains most intense in parts of India and in parts of the temperate southern hemisphere, particularly New Zealand and more recently in Australia.

In India, the current national influenza H1N1 2009 epidemic, which first began during late May and June 2010 in the southern state of Kerala (co-incident with start of the monsoon rains), continues to remain regionally intense in several western and southern states as well as the in the capital. The western state of Maharashtra, which to date, has detected the highest numbers of cases (including fatal cases), continues to record the most intense influenza H1N1 2009 activity, however, the rate of increase in the numbers of new cases reported per week appears to have slowed during mid-August 2010, suggesting that current epidemic activity may be peaking. Increasing H1N1 2009 activity has also been reported in Delhi since early August 2010, and in the southern states of Karnataka and Andhra Pradesh since late July 2010. A number of other states, primarily in western and northern India, reported small numbers of new cases during the third week of August 2010, suggesting that low level circulation of H1N1 2009 may be more geographically extensive. Since late July 2010, the vast majority of influenza virus detections have been H1N1 2009.

In New Zealand, H1N1 2009 virus transmission remains active and locally intense, particularly in areas that were less affected during last winter's first pandemic wave. As of the third week of August 2010, the overall national weekly rate of consultations for ILI continued to increase above the seasonal baseline for the fourth consecutive week, however, the rate of increase in ILI consultations appears have slowed during the most recent reporting week, suggesting that peak epidemic activity may occur in the weeks ahead. Although the overall national rates of ILI consultations has not exceeded levels seen during the 2009 winter pandemic wave, several areas of New Zealand, most notably Hawke's Bay, Hutt Valley and Lakes, are all reporting local rates of ILI consultations that match or surpass rates seen at the national level at the peak of last winter's pandemic wave. The vast majority of influenza virus detections during the current epidemic period have been H1N1 2009.

In Australia, during the first two weeks of August 2010, data from several surveillance systems indicate that influenza activity is increasing, including a one week increase in the national rate of ILI consultations, regional spread of ILI activity in three southern and eastern states, and a sharp two week rise in the proportion of sentinel respiratory samples testing positive for influenza virus (an increase from 5 to 15%). However, overall national rates of ILI consultations remain well below levels observed during the 2009 winter pandemic wave. The majority of recent influenza virus isolations have been characterized as H1N1 2009, however, seasonal H3N2 viruses have also been detected at low levels. Of note, an online influenza surveillance system that tracks the rate of ILI in the community found that recent increases in the rate of ILI have been among persons who were unvaccinated against H1N1 2009 virus. Although significantly fewer severe and total cases of H1N1 2009 virus infection have been detected this year compared to last winter, the median age of H1N1 2009 virus infected cases appears to similar although slightly older (21 vs. 26 years old).

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 of influenza activity to the CDC has concluded for the 2009-2010 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, August 31): The Ministry of Health of Egypt has announced a new human case of A(H5N1) avian influenza infection.

The case is a 33 year-old female from Qaluibia governorate. She developed symptoms on 17 August, was hospitalized on 24 August, where she received oseltamivir treatment, and died on 26 August.

Investigations into the source of infection indicated that the case had exposure to sick and dead poultry.

The case was confirmed by the Egyptian Central Public Health Laboratories, a National Influenza Center of the WHO Global Influenza Surveillance Network (GISN).

Of the 112 laboratory confirmed cases of avian influenza A(H5N1) reported in Egypt, 36 have been fatal.

International, Swine (OIE [edited], August 30): Pandemic influenza A/H1N1 (2009); Country: Finland
Date of first confirmation of the event: 30/08/2010; Date of Start of Event: 23/08/2010
Date of report: 30/08/2010; Date Submitted To OIE: 30/08/2010
Province: Länsi- ja Sisä-Suomi; District: Länsi-Suomi; Unit Type: Farm; Location: Ilmajoki
Species: Swine; Susceptible: 1500; Cases: 1500; Deaths: 0; Destroyed: 0; Slaughtered: 0
Affected Population: Fattening pigs
Epidemiological comments: Source of the outbreak(s) or origin of infection: Unknown or inconclusive
Control Measures Applied: Movement control inside the country, Screening
To be applied: No Planned Control Measures
Vaccination Prohibited: No
Animals treated: No

Michigan Wild Bird Surveillance (USDA, as of September 2): For the 2010 season (April 1, 2010-March 31, 2011), highly pathogenic avian influenza H5N1 has not been recovered from 13,779 samples tested nationwide, including 677 Michigan samples (5 live bird, 658 hunter-killed birds, 15 morbidity/mortality). 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_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 1. H5N1 Influenza in Humans - Cases up to August 31, 2010. http://www.who.int/csr/disease/avian_influenza/country/cases_table_2010_08_31/en/index.html. Downloaded 9/1/2010. Cumulative number of lab-confirmed cases reported to WHO. Total cases includes deaths.

Country	2003		2004		2005		2006		2007		2008		2009		2010		Total	
	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	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Cambodia	0	0	0	0	4	4	2	2	1	1	1	0	1	0	1	1	10	8
China	1	1	0	0	8	5	13	8	5	3	4	4	7	4	1	1	39	26
Djibouti	0	0	0	0	0	0	1	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	22	9	112	36
Indonesia	0	0	0	0	20	13	55	45	42	37	24	20	21	19	6	5	168	139
Iraq	0	0	0	0	0	0	3	2	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	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	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	3	1
Thailand	0	0	17	12	5	2	3	3	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	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	6	5	5	5	7	2	119	59
Total	4	4	46	32	98	43	115	79	88	59	44	33	73	32	37	18	505	300