



MI FluFocus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories



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Current Influenza Activity Levels:

- **Michigan:** Sporadic activity
- **United States:** During week 50 (December 12-18, 2010), influenza activity in the United States increased.

Updates of Interest:

- **International:** Egypt confirms two new human cases of H5N1 avian influenza.

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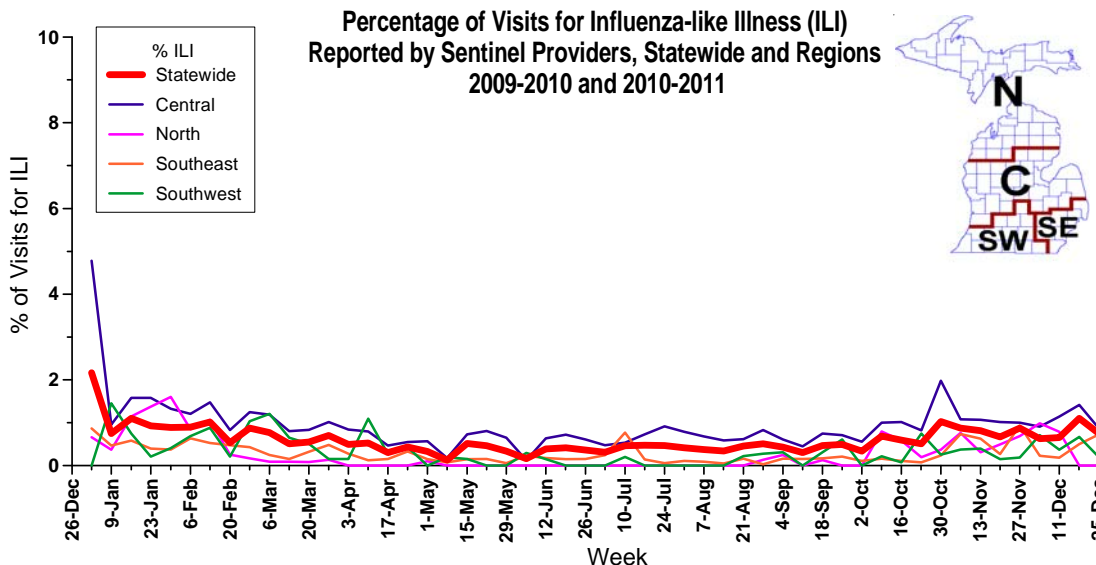
Influenza Surveillance Reports

Michigan Disease Surveillance System: MDSS data for the week ending December 25th indicated that individual reports increased slightly and aggregate influenza reports decreased when compared to the previous week's levels. The decrease in aggregate reports is most likely due to school closures for the holidays. Aggregate influenza cases are slightly lower, and individual influenza cases are moderately lower, than levels seen during the same time last year.

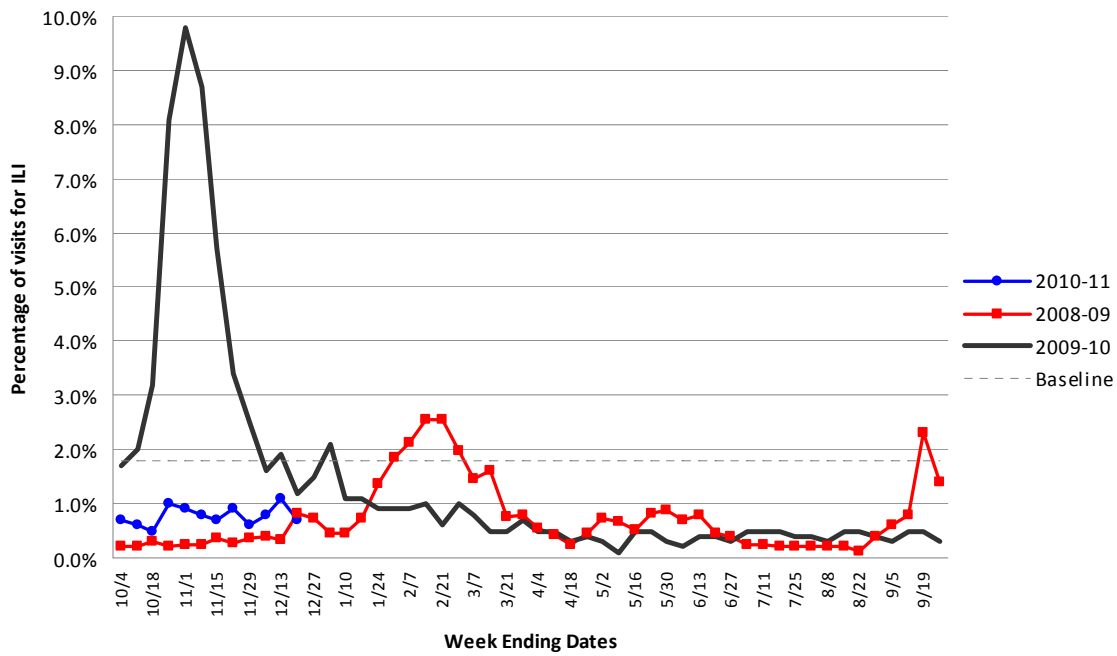
Emergency Department Surveillance: Compared to the previous week, emergency department visits from constitutional complaints increased, while respiratory complaints increased slightly. Constitutional and respiratory complaints are slightly lower than levels during this time last year. In the past week, there were 11 constitutional alerts in the SE(3), SW(4), C(3), and N(1) Influenza Surveillance Regions, two statewide constitutional alerts, and eight respiratory alerts in the SE(1), SW(2), C(3) and N(2) Regions.

Over-the-Counter Product Surveillance: Sales of indicator products remained steady, except for a slight increase in children's electrolytes near the end of the week, when compared to the previous week's data. When compared to this time last year, sales of chest rubs and children's electrolytes are slightly increased, and thermometer sales are moderately decreased.

Sentinel Provider Surveillance (as of December 29): During the week ending December 25, 2010, the proportion of visits due to influenza-like illness (ILI) slightly decreased to 0.7% overall; this is below the regional baseline of 1.8%. A total of 32 patient visits due to ILI were reported out of 4,310 office visits. Nineteen sentinel sites provided data for this report. Activity increased in one surveillance region: Southeast (0.7%); decreased in two regions: Southwest (0.2%) and Central (0.9%); and remained the same in the North (0.0%) region. 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, 2008-2010**



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.

Hospital Surveillance (as of December 25): During December 19-25, there were two new lab-confirmed influenza hospitalizations within the catchment area (Clinton, Eaton and Ingham counties); the total since October 1, 2010 is 1 adult and 8 pediatric cases. Based on these data, the estimated influenza hospitalization incidence rate in the catchment area, from October 1-December 25, is 8 per 100,000 for children and 0.3 per 100,000 for adults.

Laboratory Surveillance (as of December 25): During December 19-25, one 2009 influenza A/H1N1 isolate, two influenza A/H3 isolates, one influenza A isolate with subtyping pending, and one influenza B isolate in Michigan residents were reported by MDCH Bureau of Laboratories. For the 2010-11 season (starting October 3, 2010), MDCH BOL has identified 19 influenza isolates from Michigan residents:

- 2009 Influenza A/H1N1: 4 (2SE, 2SW)
- Influenza A/H3: 12 (3SE, 7SW, 2C)
- Influenza A subtyping pending: 1 (SW)
- Influenza B: 2 (2SE)

14 sentinel labs reported for the week ending December 25, 2010. Seven labs (SE, SW, C, N) reported low levels of influenza A positives and three labs (SE, SW) reported sporadic influenza B positive results. Five sites (SE, SW, N) reported sporadic RSV positives; one site (SE) reported moderate RSV positives.

Michigan Influenza Antigenic Characterization (as of December 29): No influenza isolates for the 2010-2011 season have undergone further antigenic characterization at the CDC.

Michigan Influenza Antiviral Resistance Data (as of December 29): No influenza isolates for the 2010-2011 season have undergone antiviral resistance testing.

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>.

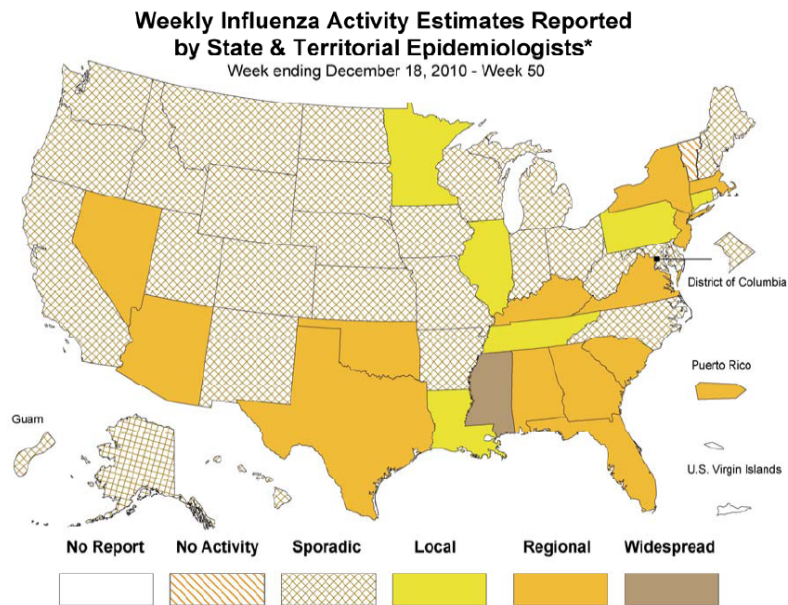
Influenza-Associated Pediatric Mortality (as of December 29): No influenza-associated pediatric mortalities have been reported to MDCH for the 2010-2011 influenza season.

***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

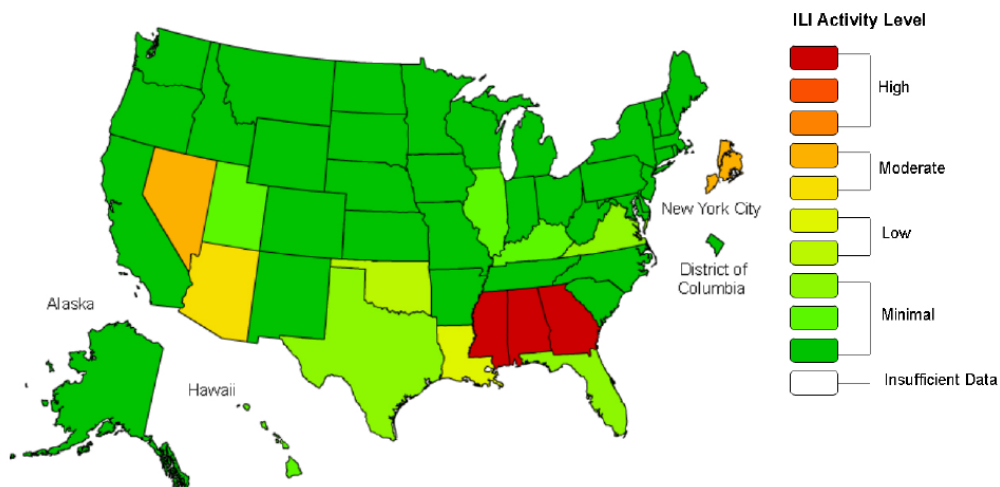
influenza, but also any unexplained pediatric death with evidence of an infectious process. Please immediately call MDCH to ensure proper specimens are obtained. View the complete MDCH protocol online at http://www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf.

Influenza Congregate Settings Outbreaks (as of December 29): No respiratory congregate setting outbreaks have been reported to MDCH for the 2010-2011 influenza season.

National (CDC [edited], December 23): During week 50 (December 12-18, 2010), influenza activity in the United States increased. Of the 4,733 specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories and reported to CDC/Influenza Division, 744 (15.7%) were positive for influenza. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold. No influenza-associated pediatric deaths were reported. The proportion of outpatient visits for influenza-like illness (ILI) was 2.1%, which is below the national baseline of 2.5%. One of the 10 regions (Region 4) reported ILI above region specific baseline levels; three states (Alabama, Georgia, and Mississippi) experienced high ILI activity, New York City and two states experienced moderate ILI activity, two states experienced low ILI activity, and the District of Columbia and 43 states experienced minimal ILI activity. The geographic spread of influenza in one state (Mississippi) was reported as widespread, Puerto Rico and 13 states reported regional activity, six states reported local activity; the District of Columbia, Guam, and 29 states reported sporadic activity, one state reported no influenza activity, and the U.S. Virgin Islands did not report.



**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2010-11 Influenza Season Week 50 ending Dec 18, 2010**



This map uses the proportion of outpatient visits to health care providers for influenza-like illness to measure the ILI activity level within a state. Therefore, outbreaks occurring in a single city could cause the state to display high activity levels. Data collected in ILINet may disproportionately represent certain populations within a state, and therefore, may not accurately depict the full picture of influenza activity for the whole state. Data displayed in this map are based on data collected in ILINet, whereas the State and Territorial flu activity map are based on reports from state and territorial epidemiologists.

The entire weekly report is available online at <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

International (WHO [edited], December 17): Since the last update, increasing influenza activity has been observed across parts of Europe, most notably in the United Kingdom, indicating the start of wintertime influenza epidemics in several countries. Influenza activity is also increasing in other temperate regions of the Northern Hemisphere, including East Asia and North America where there is evidence of the beginnings of the local winter influenza season. Worldwide, influenza A(H3N2), B, and H1N1 (2009) viruses are co-circulating with significant regional heterogeneity in the predominant circulating influenza viruses.

The entire summary is available online at http://www.who.int/csr/disease/influenza/2010_12_17_GIP_surveillance/en/index.html#whatare

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>.

MDCH reported **SPORADIC INFLUENZA ACTIVITY** to CDC for the week ending December 25, 2010.

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, Swine (CIDRAP, December 28): An article published yesterday in *Scientific American* explores what experts see as the vastly inadequate global efforts to monitor influenza viruses in swine, in the wake of a pandemic caused by a swine flu virus that jumped to humans. Reporter Helen Branswell writes that most pork-producing countries don't test their swine herds for flu at all. In the United States, pork producers generally test their animals, but they don't usually share the results with public health officials, since they know that any news about swine flu scares people away from eating pork. The Centers for Disease Control and Prevention (CDC) recently worked with the US Department of Agriculture to launch a program to share animal testing results with the public health sector, Branswell reports. But the program has limitations, in that swine flu surveillance data are stripped of identifying information, so health officials know what state a sample came from but not what county or farm. And when a human case of swine flu occurs, the herd suspected as the source can be tested only with the owner's permission. Flu experts are planning a February meeting in Italy to try to find ways to overcome the barriers to better surveillance, the article says.

The article is available online at <http://www.scientificamerican.com/article.cfm?id=pandemic-flu-factories>.

International, Human (WHO, December 29): The Ministry of Health of Egypt has announced two new cases of human infection with H5N1 avian influenza.

A 28 year-old woman from Manshaet district of Damnhour governorate developed symptoms on 12 December. She was admitted to hospital on the 14th and subsequently discharged on the 22nd in good and stable condition. She has a history of exposure in a market where live animals are sold.

An 11 year-old girl from Esna district of Luxor governorate developed symptoms on 18 December and was admitted in the hospital the following day. She experienced severe respiratory symptoms requiring mechanical ventilation and died on 23 December. No information is available regarding poultry exposure. Investigations into the source of infection are underway.

Laboratory tests have confirmed H5N1 virus and both patients were treated with antiviral medications. Of the 115 cases confirmed to date in Egypt, 38 have been fatal.

International, Poultry (OIE [edited], December 22): Country: Hong Kong (SAR - PRC)

Causal Agent: Highly pathogenic avian influenza Serotype(s) H5N1
 Date of first confirmation of the event: 21/12/2010; Date of Start of Event: 18/12/2010
 Date of report: 22/12/2010; Date Submitted To OIE: 23/12/2010
 Province: HONG KONG; District: Sha Lo Wan; Location: Lantau Island
 Species: Birds; Deaths: 1

Affected Population: The chicken carcass from unknown source was detected on the coast of the Lantau Island. The body was badly decomposed at the time of collection.

Epidemiological comments: Since the occurrence of the event, inspections of the Lantau coast and the nearby villages have been conducted, no poultry carcass was found and there was no evidence of any backyard poultry being kept there (the HKSAR government has banned backyard poultry since February 2006). There was no poultry farm within three kilometres of where the carcass was found. The HKSAR government will continue to monitor the situation including wild bird surveillance and local poultry farm monitoring. The date of event ended is the same as the finding of the bird (i.e. 18 Dec 2010).

Source of the outbreak(s) or origin of infection: Unknown or inconclusive

Control Measures Applied: Screening

To be applied: No Planned Control Measures; Disinfection of infected premises/establishment(s)

Animals treated: No

Vaccination Prohibited: No

Michigan Wild Bird Surveillance (USDA, as of December 29): For the 2010 season (April 1, 2010-March 31, 2011), highly pathogenic avian influenza H5N1 has not been recovered from 31,384 samples tested nationwide, including 1201 Michigan samples (7 live bird, 1121 hunter-killed birds, 73 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. H5N1 Influenza in Humans - Cases up to December 29, 2010. http://www.who.int/csr/disease/avian_influenza/country/cases_table_2010_12_29/en/index.html. Downloaded 12/29/2010. 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	2	1	40	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	25	11	115	38
Indonesia	0	0	0	0	20	13	55	45	42	37	24	20	21	19	9	7	171	141
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	44	22	512	304