



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories



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Updates of Interest

- **International:** An oseltamivir-resistant 2009 H1N1 virus that spread in one Australian community in 2011 apparently did not escape to a nearby large city, according to a report published in *Eurosurveillance*
- **International:** Indonesia reports a new human case of avian influenza H5N1

Table of Contents

Influenza Surveillance Reports	
Michigan.....	1-3
National.....	3
International.....	3
Novel Influenza and Other News	
WHO Pandemic Phase.....	3
Avian Influenza Surveillance.....	4
Avian Influenza H5N1 in Humans.....	4-5

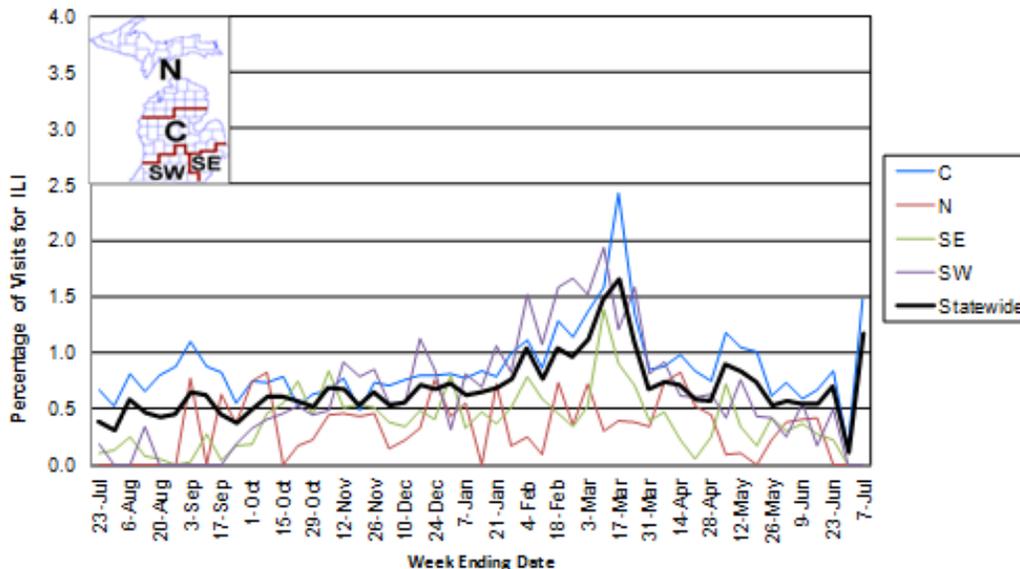
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of July 12): MDSS data for the week ending July 7th indicated that compared to levels from the previous week, aggregate reports remained steady at low levels, while no individual cases were reported. Individual and aggregate reports are similar to levels seen during the same time period last year.

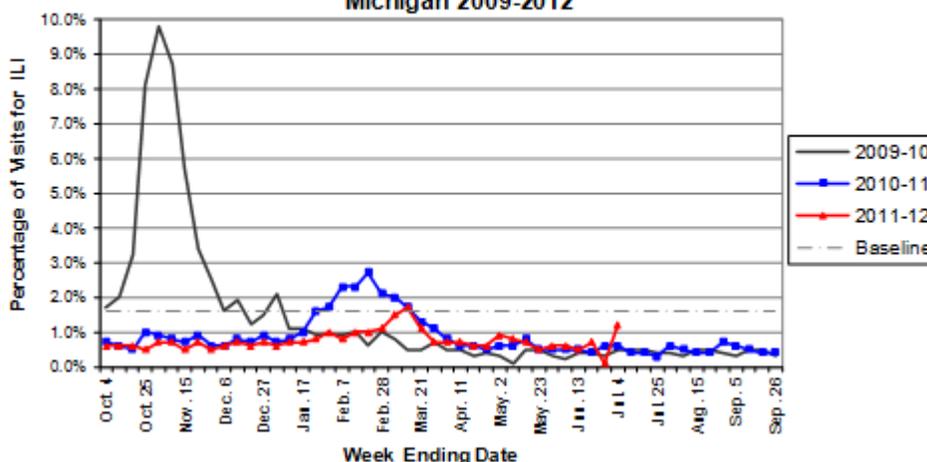
Emergency Department Surveillance (as of July 12): Compared to levels from the week prior, emergency department visits from both constitutional and respiratory complaints remained steady. Both constitutional and respiratory complaints are similar to levels reported during the same time period last year. In the past week, there were five constitutional alerts in the SW(1), C(3) and N(1) Influenza Surveillance Regions and three respiratory alerts in the SE(1), SW(1) and C(1) Regions.

Sentinel Provider Surveillance (as of July 12): During the week ending July 7, 2012, the proportion of visits due to influenza-like illness (ILI) slightly increased to 1.2% overall; this is below the regional baseline of (1.6%). A total of 39 patient visits due to ILI were reported out of 3,346 office visits. Eighteen sentinel sites provided data for this report. ILI activity increased in one surveillance region: Central (1.5%) and continued at no activity in the remaining three surveillance regions: North (0.0%), Southeast (0.0%) and Southwest (0.0%). Please note: the low number of sentinel reports likely contributed to the overall increase in ILI; 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 7): 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. 2 hospitals (SE, SW) reported for the week ending July 7, 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 7): During July 1-7, 2 influenza A/H3 (1SE, 1C) results were reported by MDCH BOL. For the 2011-12 season (starting October 2, 2011), MDCH has identified 1165 influenza results:

- Influenza A(H3): 1053 (606SE, 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 12): 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 12): 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 12): 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 12): 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 influenza 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 type B were also reported in South Africa and to a lesser extent, Australia. Very few influenza 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.

International, Human Surveillance (CIDRAP, July 6): An oseltamivir-resistant 2009 H1N1 virus that spread in one Australian community in 2011 apparently did not escape to a nearby large city, according to a report published in *Eurosurveillance* yesterday. Researchers previously reported the community spread of a resistant 2009 H1N1 virus in the Newcastle, Australia, area from June through August of 2011, the report notes. The authors of the new study looked for signs of the resistant strain in Sydney, the nearest major city to Newcastle, 120 kilometers away. They ran genetic assessments of H1N1 viruses from 143 patients who had not received oseltamivir and from 23 patients who had been treated with it. Only 2 (1.4%) of the 143 isolates from untreated patients carried the resistance mutation (H275Y in the neuraminidase), indicating a low prevalence of the resistant strain and "no convincing evidence" of its spread from the Newcastle area. The resistance mutation was found in 3 (13%) of the 23 samples from treated patients, a significantly higher proportion, which is consistent with previous findings that resistance usually emerges in response to drug selection pressure, the authors say. They add that their findings show continued genetic evolution and antigenic drift in 2009 H1N1 viruses in Australia.

The article is available online at <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20210>.

International, Human (WHO, July 6): The Ministry of Health of Indonesia has notified WHO of a new case of a human infection with avian influenza A(H5N1) virus.

The case is an 8 year-old female from the province of West Java. She developed fever on 18 June 2012 and then travelled on vacation the following day to Singapore, where she saw a private physician who diagnosed pharyngitis on 20 June. The case returned to Jakarta on 24 June and was still feeling unwell with coughing, decreased appetite and vomiting. Her family took her for treatment to the local hospital. Her condition deteriorated and she was transferred to intensive care, but died on 3 July. Infection with avian influenza A(H5N1) virus was confirmed by the National Institute of Health Research and Development (NIHRD), Ministry of Health.

Epidemiological investigation has been conducted in the case's neighborhood and nearby market, which revealed that the case had contact with poultry when she went to a market with her father to buy live chickens. She was present when the chicken was culled in the designated part of the market.

The Ministry of Health in Singapore has been informed about the case under the International Health Regulations.

To date, the total number of human influenza A(H5N1) cases in Indonesia is now 190 with 158 fatalities.

International, Wild Birds (OIE [edited], July 6): Highly pathogenic avian influenza H5N1; Hong Kong Outbreak 1: Yuen Po Street, Mong Kok, HONG KONG

Date of start of the outbreak: 25/06/2012; Outbreak status: Continuing

Species: Birds; Susceptible: 1453; Cases: 1; Deaths: 0; Destroyed: 1453

Affected population: A sample collected from a bird cage holding Oriental magpie robin (*Copsychus saularis*) in a pet bird shop on 25 June 2012 was tested positive for H5N1 highly pathogenic avian influenza (HPAI) during regular surveillance.

Outbreak 2: 10 Osmanthus Road, Kowloon Tong, HONG KONG

Date of start of the outbreak: 29/06/2012; Outbreak status: Resolved

Species: Wild species; Susceptible: 1; Cases: 1; Deaths: 1; Destroyed: 0

Affected population: A house crow (*Corvus splendens*) was collected on 29 June 2012 at Kowloon Tong. The house crow is an invasive bird species in Hong Kong.

Michigan Wild Bird Surveillance (USDA, as of July 12): 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 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	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