



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories

Michigan Department
of Community Health



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Updates of Interest

- **National:** Indiana reports 12 cases of human infection with H3N2 variant virus (H3N2v)
- **International:** WHO releases updated surveillance recommendations for human infections with MERS-CoV

Table of Contents

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

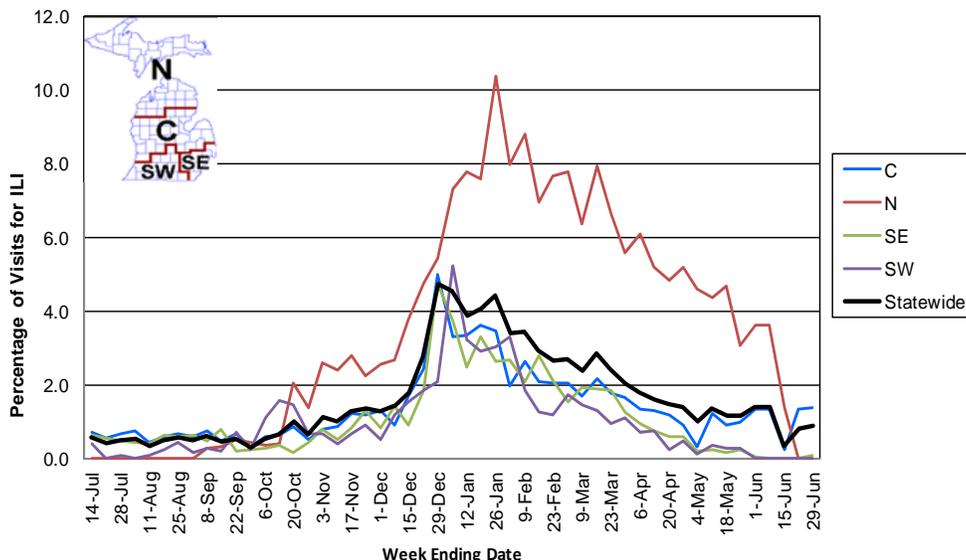
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of July 3): MDSS influenza data for the week ending June 29, 2013 indicated that compared to levels from the previous week, individual reports and aggregate reports decreased. Aggregate reports are lower than levels seen during the same time period last year, while individual reports are slightly lower.

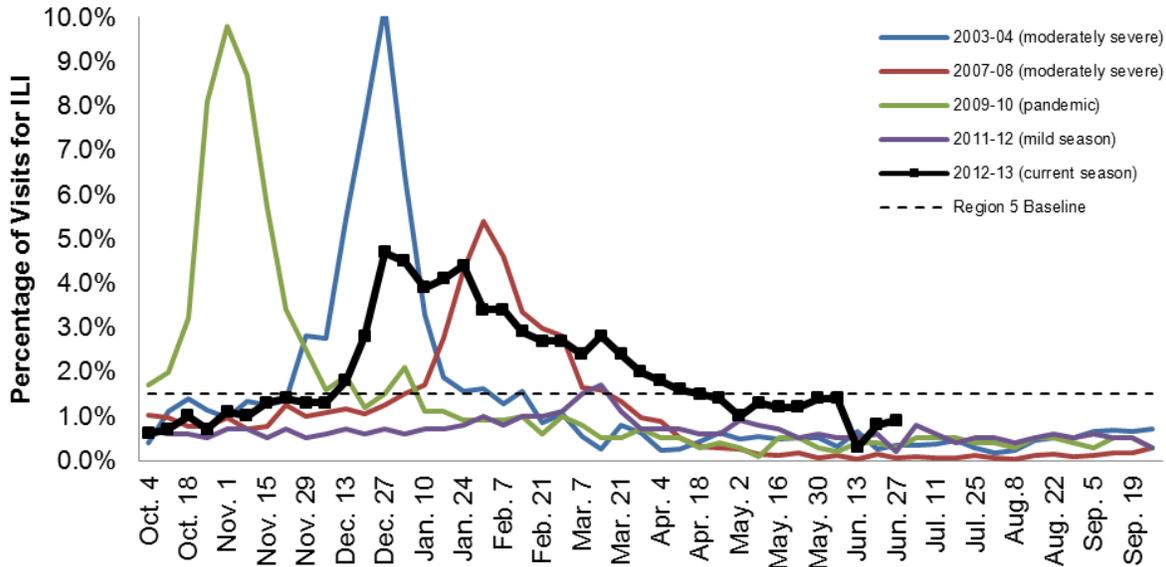
Emergency Department Surveillance (as of July 3): Emergency department visits due to constitutional complaints continue to remain steady compared to the previous week and are lower when compared to levels reported during the same time period last year. Emergency department visits from respiratory complaints are lower when compared to levels from the week prior and are slightly higher when compared to levels reported during the same time period last year. In the past week, there were 7 total constitutional alerts, including 1 Statewide alert, in the N (2), C (2), SW (2) Influenza Surveillance Regions and 1 respiratory alert in the Southwest Region.

Sentinel Provider Surveillance (as of July 3): During the week ending June 29, 2013, the proportion of visits due to influenza-like illness (ILI) increased slightly to 0.9% overall; this is below the regional baseline (1.5%). A total of 59 patient visits due to ILI were reported out of 6,685 office visits. Data were provided by 19 sentinel sites from the following regions: Central (9), North (0), Southeast (8) and Southwest (2). ILI activity increased in two regions: C (1.4%) and SE (0.1%). ILI activity remained the same in one region: SW (0.0%). Data were not provided by any sites in the North region last week. 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
2011-2012 and 2012-13 Flu Seasons**



**Percentage of Visits for Influenza-like Illness (ILI) Reported by
the US Outpatient Influenza-like Illness Surveillance Network
(ILINet): Michigan, Select Seasons**



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 Stefanie DeVita at 517-335-3385 or DeVitaS1@michigan.gov for more information.

Hospital Surveillance (as of May 18): The CDC Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness through active surveillance and chart review of lab-confirmed cases, starting on October 1, 2012, in the Clinton, Eaton, Genesee, and Ingham counties. Reporting for the season has concluded. There were 258 influenza hospitalizations (168 adult, 90 pediatric) within the catchment area. The incidence rate for adults was 24.7 hospitalizations per 100,000 population and for children was 43.0 hospitalizations per 100,000.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. Reporting for the 2012-13 influenza season has concluded. 437 hospitalizations (278SE, 21SW, 64C, 74N) were reported by 12 hospitals during the 2012-13 season.

Laboratory Surveillance (as of June 29): During June 23-29, no positive influenza results were reported by MDCH. For the 2012-13 season (starting Sept. 30, 2012), MDCH has identified 681 influenza results:

- Influenza A(H3): 500 (124SE, 169SW, 169C, 38N)
- Influenza A(H1N1)pdm09: 36 (20SE, 4SW, 9C, 3N)
- Influenza B: 153 (30SE, 31SW, 74C, 18N)
- Parainfluenza: 8 (3SW, 1C, 4N)
- RSV: 1 (1N)
- hMPV: 2 (2SW)

6 sentinel labs reported (SE(1), SW(2), C(3), N(0)) for the week ending June 29, 2013. No labs reported influenza A or B activity. One lab (SW) reported sporadic Parainfluenza activity and sporadic hMPV activity. No labs reported RSV activity. All sites are at very low testing volumes.

Michigan Influenza Antigenic Characterization (as of July 3): For the 2012-13 season, 113 Michigan influenza B specimens have been characterized at MDCH BOL. 94 specimens are B/Wisconsin/01/2010-like, matching the B component of the 2012-13 influenza vaccine. 19 influenza B specimens were characterized as B/Brisbane/60/2008-like, which is not included in the 2012-13 vaccine.

Michigan Influenza Antiviral Resistance Data (as of July 3): For the 2012-13 season, 32 influenza A/H3 specimens and 25 influenza A(H1N1)pdm09 specimens have been tested at the MDCH BOL for antiviral resistance. None of the influenza isolates tested have been resistant.

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 3): 7 pediatric influenza-associated influenza mortalities (3 A/H3, 4B) have been reported for the 2012-13 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 3): 112 respiratory outbreaks (22SE, 30SW, 41C, 19N) have been reported to MDCH during the 2012-13 season; testing results are listed below.

- Influenza A/H3: 16 (7SW, 9C)
- Influenza A: 55 (10SE, 13SW, 20C, 12N)
- Influenza B: 8 (1SE, 3SW, 2C, 2N)
- Influenza A and B: 2 (1SE, 1SW)
- Influenza A/H3 and B: 1 (1C)
- Influenza positive: 4 (1SE, 1SW, 2C)
- Influenza and RSV positive: 1 (1C)
- Influenza B and RSV positive: 1 (1SE)
- hMPV: 1 (1SW)
- Negative/no testing: 23 (8SE, 4SW, 6C, 5N)

National (CDC): Past weekly reports and updated data during the summer months are available online at: <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

International (WHO [edited], June 21): Influenza activity in the northern hemisphere temperate zones decreased to low levels. Similarly, influenza activity decreased in most regions of tropical Asia except for Sri Lanka and Viet Nam where activity of influenza A continued increasing. In Central America and the Caribbean, influenza activity remained low or similar compared to previous weeks, except in Cuba and the Dominican Republic where increasing influenza activity was reported. Influenza activity in the southern hemisphere started to increase slightly in South America and in South Africa but remained low in Oceania. In South America, respiratory syncytial virus remained the predominant circulating virus, but the proportion of influenza positive viruses was increasing. For information on H7N9 in China please see link: http://who.int/influenza/human_animal_interface/influenza_h7n9/en/index.html

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 2012-2013 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, Human (Indiana State Department of Health adapted from the press release, July 3): State health officials continue to encourage Hoosiers to take steps to protect themselves at county and 4H fairs around the state this summer following detection of 12 cases of variant influenza A (H3N2v), also known as swine influenza. At least 10 individuals had exposure to swine at the Grant and Hancock county fairs and one individual had contact with swine at their home farm. Variant influenza A H3N2v was identified in Indiana last year, with a total of 138 cases in 2012.

The Indiana State Department of Health and local health departments continue to investigate these cases. Human infections with swine influenza are rare but have most commonly occurred after close proximity to live infected pigs, such as working with them in barns and livestock exhibits at fairs. Influenza viruses are not transmitted by eating pork and pork products.

According to the State Board of Animal Health, 29 pigs from the Grant and Hancock county fairs have tested positive for influenza. It is not uncommon for pigs to be infected with swine influenza viruses, but not show any signs of illness. If ill with influenza they typically recover.

In 2012, the Centers for Disease Control and Prevention (CDC) reported 309 infections with variant influenza A H3N2v in the United States. According to the CDC, most of these infections resulted in mild illness, though 16 people were hospitalized and one person died. Most of the people who were hospitalized and the individual who died had one or more high risk conditions.

For more information about variant influenza A H3N2v, visit www.StateHealth.in.gov or follow the Indiana State Department of Health on Twitter at [@StateHealthIN](https://twitter.com/StateHealthIN) and on Facebook at www.facebook.com/isdh1.

The full press release is available online at:

http://www.in.gov/activecalendar/EventList.aspx?view=EventDetails&eventidn=110246&information_id=184208&type=&rss=rss

International, Human (WHO, June 27): Interim surveillance recommendations for human infection with Middle East respiratory syndrome coronavirus

WHO is updating its guidance for surveillance for Middle East respiratory syndrome coronavirus (MERS-CoV) that were first published in late 2012. WHO will continue to update these recommendations as new information becomes available.

Two key changes in the 27 June 2013 update:

- Stronger recommendations for lower respiratory specimens, rather than nasopharyngeal swabs, to be used to diagnose MERS-CoV infection.
- A longer period of observation for contacts of cases; this is based on accumulating information about the incubation period.

The full recommendations are available at

http://www.who.int/csr/disease/coronavirus_infections/InterimRevisedSurveillanceRecommendations_nCoV_infection_27Jun13.pdf

Past WHO updates on MERS-CoV can be found at:

June 26 WHO Update: http://www.who.int/csr/don/2013_06_26/en/index.html

June 23 WHO Update: http://www.who.int/csr/don/2013_06_23/en/index.html

June 22 WHO Update: http://www.who.int/csr/don/2013_06_22/en/index.html

International, Human (NEJM [summary], June 27): Family Cluster of Middle East Respiratory Syndrome Coronavirus Infections - A human coronavirus, called the Middle East respiratory syndrome coronavirus (MERS-CoV), was first identified in September 2012 in samples obtained from a Saudi Arabian businessman who died from acute respiratory failure. Since then, 49 cases of infections caused by MERS-CoV (previously called a novel coronavirus) with 26 deaths have been reported to date. In this report, we describe a family case cluster of MERS-CoV infection, including the clinical presentation, treatment outcomes, and household relationships of three young men who became ill with MERS-CoV infection after the hospitalization of an elderly male relative, who died of the disease. Twenty-four other family members living in the same household and 124 attending staff members at the hospitals did not become ill. MERS-CoV infection may cause a spectrum of clinical illness. Although an animal reservoir is suspected, none has been discovered. Meanwhile, global concern rests on the ability of MERS-CoV to cause major illness in close contacts of patients.

The full article is available online at <http://www.nejm.org/doi/full/10.1056/NEJMoa1303729#t=abstract>

International, Human (CIDRAP, July 2): Cambodian girl dies from H5N1 infection

Cambodia's health ministry today reported that a 6-year-old girl has died from H5N1 avian flu, continuing a pattern this year of regular, sporadic cases that have made the country the hardest hit so far this year.

A joint statement from the ministry and the World Health Organization (WHO) said the girl, from Kampot province in southern Cambodia, died at a children's hospital in Phnom Penh on Jun 28, Agence France-Press (AFP) reported today.

The girl got sick on Jun 24 and was treated at a private clinic before her condition worsened. She was transferred to Kantha Bopha Hospital on Jun 28, where she died later that night, despite treatment with oseltamivir (Tamiflu) at the facility, according to a report from Xinhua, China's state news agency.

An investigation found poultry deaths had recently been reported in the girl's village and that she had probably been exposed to sick and dead birds before she became ill, the report said.

Cambodia has now reported 12 cases this year, and 9 have been fatal. The girl's case pushes Cambodia overall H5N1 total to 33 cases and 28 deaths, based on the WHO's June tally. However, the health ministry said the girl's illness would boost the number of illnesses to 34, so it's not clear if the country has another H5N1 case to report.

In its June update on global H5N1 activity, the WHO said Cambodia's cases this year have all been from the southern part of the country and reflect sporadic infections related to contact with sick poultry.

Last month a research team from Cambodia and London identified a host of obstacles to treating H5N1 patients in Cambodia, one of Southeast Asia's poorest countries.

Their study, published in *BMC Public Health*, found that the care of usually young patients is rife with hospitalization delays, inadequate antiviral treatment, and little access to mechanical ventilation. The group's analysis covered H5N1 cases reported in Cambodia from 2005 through August 2011.

The full article can be found online at <http://www.cidrap.umn.edu/news-perspective/2013/07/cambodian-girl-dies-h5n1-infection-0>

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Table. H5N1 Influenza in Humans – As of June 4, 2013. http://www.who.int/influenza/human_animal_interface/EN_GIP_20130604_CumulativeNumberH5N1cases.pdf. Downloaded 06/07/2013. Cumulative lab-confirmed cases reported to WHO. Total cases include deaths.

Country	2003-2009		2010		2011		2012		2013		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Azerbaijan	8	5	0	0	0	0	0	0	0	0	8	5
Bangladesh	1	0	0	0	2	0	3	0	1	1	7	1
Cambodia	9	7	1	1	8	8	3	3	11	8	32	27
China	38	25	2	1	1	1	2	1	2	2	45	30
Djibouti	1	0	0	0	0	0	0	0	0	0	1	0
Egypt	90	27	29	13	39	15	11	5	4	3	173	63
Indonesia	162	134	9	7	12	10	9	9	0	0	192	160
Iraq	3	2	0	0	0	0	0	0	0	0	3	2
Lao PDR	2	2	0	0	0	0	0	0	0	0	2	2
Myanmar	1	0	0	0	0	0	0	0	0	0	1	0
Nigeria	1	1	0	0	0	0	0	0	0	0	1	1
Pakistan	3	1	0	0	0	0	0	0	0	0	3	1
Thailand	25	17	0	0	0	0	0	0	0	0	25	17
Turkey	12	4	0	0	0	0	0	0	0	0	12	4
Vietnam	112	57	7	2	0	0	4	2	2	1	125	62
Total	468	282	48	24	62	34	32	20	20	15	630	375