



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories

Michigan Department
of Community Health



Rick Snyder, Governor
James K. Haveman, Director

Editor *pro tem*: Bethany Reimink, MPH ReiminkB@michigan.gov
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Updates of Interest

- **Michigan:** MDCH updates H3N2v Guidance for Providers
- **National:** Indiana reports 4 cases of human infection with H3N2 variant virus (H3N2v) with exposure to a local fair
- **International:** WHO is reporting 77 cases of MERS-CoV including 40 deaths

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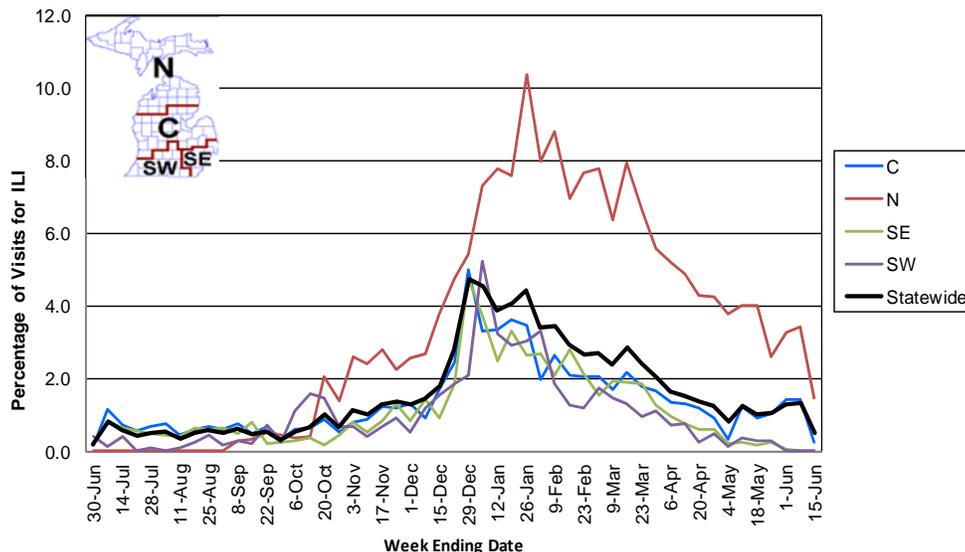
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of June 27): MDSS influenza data for the week ending June 22, 2013 indicated that compared to levels from the previous week, individual reports were higher, while aggregate reports decreased. Aggregate reports are lower than levels seen during the same time period last year, while individual reports are similar.

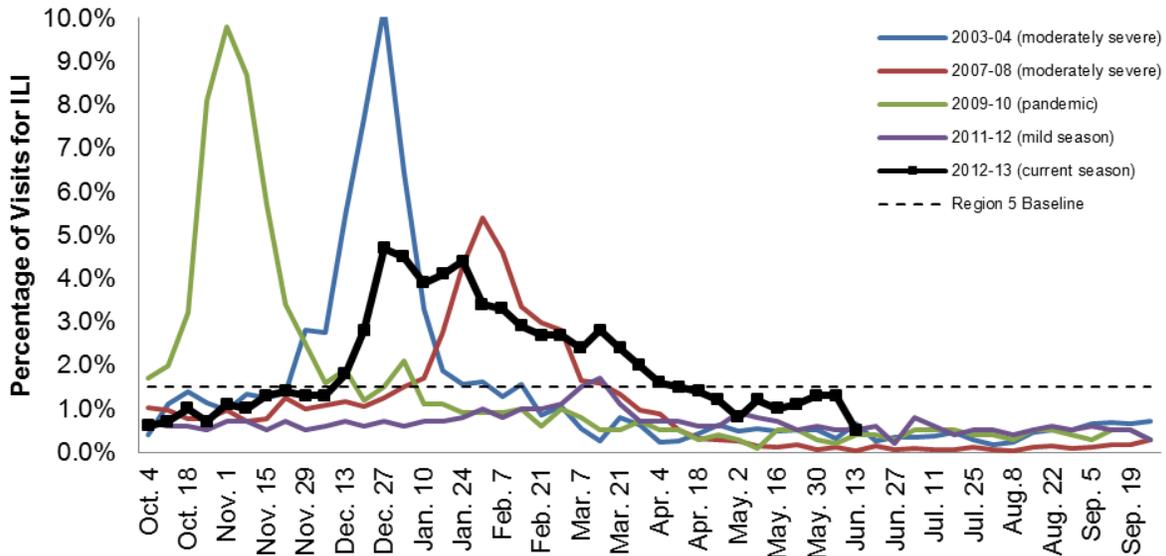
Emergency Department Surveillance (as of June 27): Emergency department visits due to constitutional complaints continue to remain steady compared to the previous week and are lower when compared to levels reported during the same time period last year. Emergency department visits from respiratory complaints are lower when compared to levels from the week prior and are slightly lower when compared to levels reported during the same time period last year. In the past week, there were 8 constitutional alerts in the N (4), C (3), and SW (1) Influenza Surveillance Regions and 1 respiratory alert in the Central Region.

Sentinel Provider Surveillance (as of June 20): During the week ending June 15, 2013, the proportion of visits due to influenza-like illness (ILI) decreased to 0.5% overall; this is below the regional baseline (1.5%). A total of 24 patient visits due to ILI were reported out of 4,831 office visits. Data were provided by 18 sentinel sites from the following regions: Central (8), North (3), Southeast (5) and Southwest (2). ILI activity decreased in two regions: C (0.3%) and N (1.5%). ILI activity remained the same in two regions: SE (0.0%) and SW (0.0%). 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 22): During June 16-22, 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)

8 sentinel labs reported (SE(1), SW(2), C(5), N(0)) for the week ending June 22, 2013. No labs reported influenza A or B activity. No labs reported Parainfluenza, RSV activity, or hMPV activity. All sites are at very low testing volumes.

Michigan Influenza Antigenic Characterization (as of June 27): 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 June 27): 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 June 27): 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 June 27): 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

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, June 26): State health officials announced the detection of four cases of variant influenza A (H3N2v) this week. All individuals visited the Grant County Agricultural Fair, June 16-22, prior to illness, and at least two had contact with swine. Variant influenza A H3N2v was identified in Indiana last year, with a total of 138 cases in 2012.

According to the State Board of Animal Health, thirteen pigs at the fair tested positive for H3N2. It is not uncommon for pigs to be infected with swine influenza viruses but not show any signs of illness. As several county fairs will open in the next few weeks, State health officials are increasing surveillance for influenza-like illness.

In 2012, the Centers for Disease Control and Prevention (CDC) reported 309 infections with 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 person who died had one or more high risk conditions.

For more information about variant influenza A, 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 fullpress release is available online at:

http://www.in.gov/activecalendar/EventList.aspx?view=EventDetails&eventidn=108220&information_id=183563&type=&syndicate=syndicate

More information about H3N2v, including CDC recommendations for treatment of suspect or confirmed H3N2v infection, is available at <http://www.cdc.gov/flu/swineflu/h3n2v-cases.htm>.

International, Human (WHO, June 26): The Ministry of Health (MoH) in Saudi Arabia has announced seven additional laboratory-confirmed cases and a death in a previously confirmed case of Middle East respiratory syndrome coronavirus (MERS-CoV).

Four cases have been detected among contacts of confirmed cases in Riyadh and the Eastern Region. They range in age from seven to 15 years, and all were asymptomatic. Two further asymptomatic cases have been record among female healthcare workers in the Eastern Region and Al-Ahsa. A seventh case has been detected in a 50 year-old female in the Eastern Region. She is currently hospitalized with pulmonary disease and her condition is considered stable.

In addition, the MoH has announced the death of a previously reported confirmed case from the Eastern Region (the 32 year-old male first reported on 23 June).

Globally, from September 2012 to date, WHO has been informed of a total of 77 laboratory-confirmed cases of infection with MERS-CoV, including 40 deaths.

WHO has received reports of laboratory-confirmed cases originating in the following countries in the Middle East to date: Jordan, Qatar, Saudi Arabia, and the United Arab Emirates (UAE). France, Germany, Italy, Tunisia and the United Kingdom also reported laboratory-confirmed cases; they were either transferred there for care of the disease or returned from the Middle East and subsequently became ill. In France, Italy, Tunisia and the United Kingdom, there has been limited local transmission among patients who had not been to the Middle East but had been in close contact with the laboratory-confirmed or probable cases.

Based on the current situation and available information, WHO encourages all Member States to continue their surveillance for severe acute respiratory infections (SARI) and to carefully review any unusual patterns.

Health care providers are advised to maintain vigilance. Recent travellers returning from the Middle East who develop SARI should be tested for MERS-CoV as advised in the current surveillance recommendations. Specimens from patients' lower respiratory tracts should be obtained for diagnosis where possible. Clinicians are reminded that MERS-CoV infection should be considered even with atypical signs and symptoms, such as diarrhoea, in patients who are immunocompromised.

Health care facilities are reminded of the importance of systematic implementation of infection prevention and control (IPC). Health care facilities that provide care for patients suspected or confirmed with MERS-CoV infection should take appropriate measures to decrease the risk of transmission of the virus to other patients, health care workers and visitors.

All Member States are reminded to promptly assess and notify WHO of any new case of infection with MERS-CoV, along with information about potential exposures that may have resulted in infection and a description of the clinical course. Investigation into the source of exposure should promptly be initiated to identify the mode of exposure, so that further transmission of the virus can be prevented.

WHO does not advise special screening at points of entry with regard to this event nor does it currently recommend the application of any travel or trade restrictions.

WHO continues to closely monitor the situation.

The update is available online at 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 (WHO EMRO [edited], June 24): Strengthening countries' abilities to control, detect, and treat cases of MERS-CoV infection are among the most urgent actions needed at national level to stem the growing outbreak of disease caused by the virus, over 100 public health experts meeting at WHO's Eastern Mediterranean Regional Office agreed.

The experts, who came from all countries in the Middle East and North Africa and Europe which have already registered MERS-CoV cases, and from throughout WHO's Eastern Mediterranean Region (EMR), agreed that there is a list of priority actions which need to be agreed internationally and implemented nationally.

At an international level, fast and complete reporting of cases, with contact histories, clinical care and treatment outcomes in as much detail as possible, and collected in a uniform manner across countries, is necessary for the international public health community to be able to build up a picture of what works and what doesn't in combatting this virus.

The full press release is available online at <http://www.emro.who.int/press-releases/2013/corona-virus-detection-control.html>

International, Human (The Lancet [abstract], June 24): Human infection with avian influenza A H7N9 virus: an assessment of clinical severity

Background: Characterization of the severity profile of human infections with influenza viruses of animal origin is a part of pandemic risk assessment, and an important part of the assessment of disease epidemiology. Our objective was to assess the clinical severity of human infections with avian influenza A H7N9 virus, which emerged in China in early 2013.

Methods: We obtained information about laboratory-confirmed cases of avian influenza A H7N9 virus infection reported as of May 28, 2013, from an integrated database built by the Chinese Center for Disease Control and Prevention. We estimated the risk of fatality, mechanical ventilation, and admission to the intensive care unit for patients who required hospital admission for medical reasons. We also used information about laboratory-confirmed cases detected through sentinel influenza-like illness surveillance to estimate the symptomatic case fatality risk.

Findings: Of 123 patients with laboratory-confirmed avian influenza A H7N9 virus infection who were admitted to hospital, 37 (30%) had died and 69 (56%) had recovered by May 28, 2013. After we accounted for incomplete data for 17 patients who were still in hospital, we estimated the fatality risk for all ages to be 36% (95% CI 26—45) on admission to hospital. Risks of mechanical ventilation or fatality (69%, 95% CI 60—77) and of admission to an intensive care unit, mechanical ventilation, or fatality (83%, 76—90) were high. With assumptions about coverage of the sentinel surveillance network and health-care-seeking behaviour for patients with influenza-like illness associated with influenza A H7N9 virus infection, and pro-rata extrapolation, we estimated that the symptomatic case fatality risk could be between 160 (63—460) and 2800 (1000—9400) per 100 000 symptomatic cases.

Interpretation: Human infections with avian influenza A H7N9 virus seem to be less serious than has been previously reported. Many mild cases might already have occurred. Continued vigilance and sustained intensive control efforts are needed to minimise the risk of human infection.

The abstract is available online at [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(13\)61207-6/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)61207-6/abstract)

National, Poultry (Governor of Arkansas news release, June 18): Scott County Chicken Tests Positive for Avian Flu - LITTLE ROCK - The Arkansas Livestock and Poultry Commission received confirmation Tuesday evening that a chicken in a Scott County, Arkansas, chicken house has tested positive for H7N7 Low Pathogenic Avian Influenza.

Thirty Livestock and Poultry personnel have quarantined all poultry within a 6.2-mile radius of the growing operation where the infected bird was located. They are coordinating their response and additional testing with the U.S. Department of Agriculture. Only the USDA can officially confirm avian flu cases.

Chickens tend to contract avian flu via infected waterfowl or water contaminated by waterfowl. Livestock and Poultry officials believe the recent flooding in Scott County contributed to this transmission.

Leaders at the Arkansas Department of Health say the positive test poses no public-health threat.

Avian flu cannot be transmitted to people through the consumption of properly prepared poultry.

The press release is available online at

http://governor.arkansas.gov/newsroom/index.php?do:newsDetail=1&news_id=4005

Additional information can be found at http://www.nwhc.usgs.gov/disease_information/avian_influenza/ or at <http://www.promedmail.org/direct.php?id=20130620.1782674>

For questions or to be added to the distribution list, please contact Bethany Reimink at ReiminkB@michigan.gov

Contributors

MDCH Bureau of Epidemiology – S. Bidol, MPH; S. DeVita, RN, MPH; R. Sharangpani, MD, MPH; F. Mamou, MPH

MDCH Bureau of Laboratories – B. Robeson, MT; V. Vavricka, MS

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