



# MI Flu Focus

Influenza Surveillance Updates  
Bureaus of Epidemiology and Laboratories



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## Updates of Interest

- **International:** The 2009 pandemic killed an estimated 284,500 people, some 15 times the number confirmed by laboratory tests at the time, according to a new study
- **International:** Mexico reports an outbreak of highly pathogenic avian influenza H7N3 in poultry

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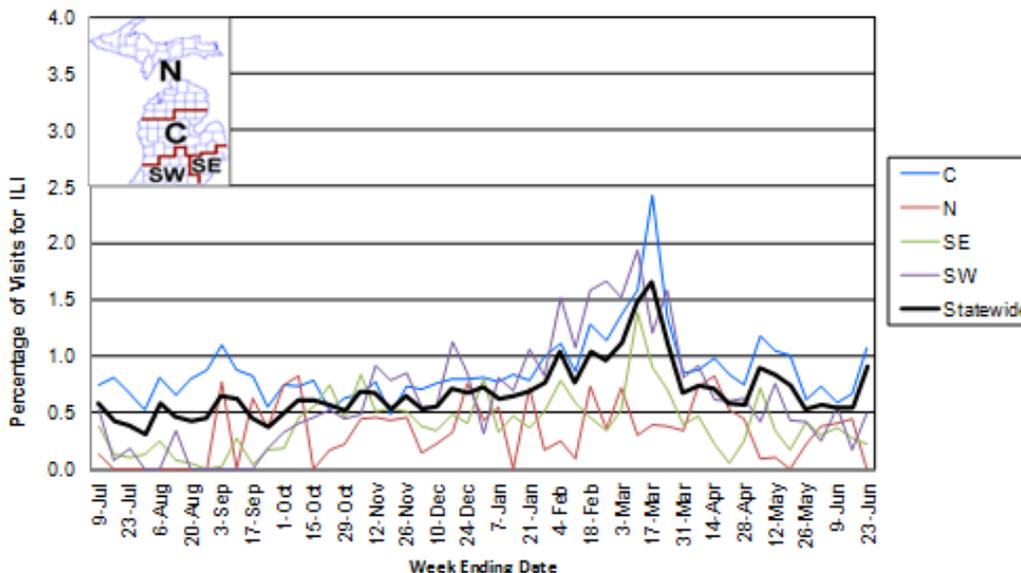
## Influenza Surveillance Reports

**Michigan Disease Surveillance System (as of June 28):** MDSS data for the week ending June 23<sup>th</sup> indicated that compared to levels from the previous week, aggregate reports decreased, while individual reports slightly increased. Individual reports are marginally higher, while aggregate reports are similar, than levels seen during the same time last year.

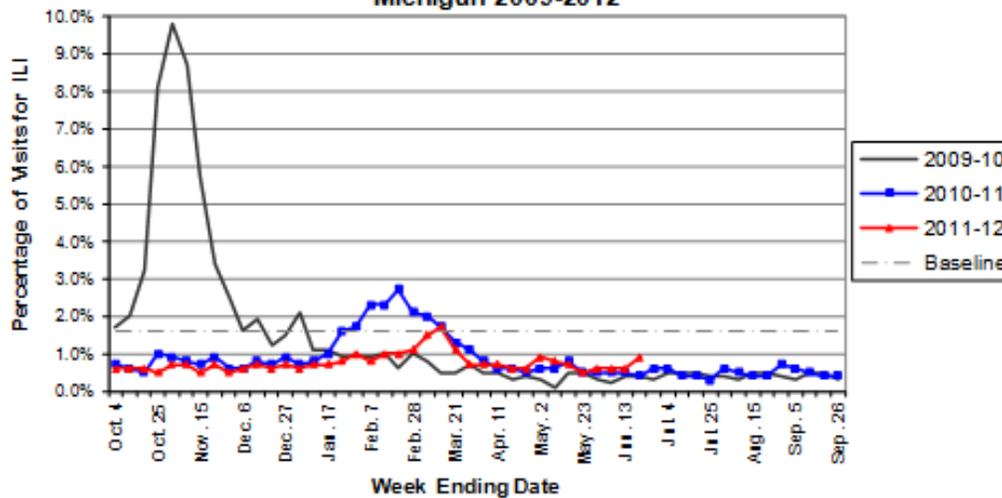
**Emergency Department Surveillance (as of June 28):** Compared to levels from the week prior, emergency department visits from constitutional complaints remained steady, while respiratory complaints slightly decreased. Constitutional complaints are similar to levels reported during the same time period last year, while respiratory complaints are slightly lower. In the past week, there was 1 constitutional alert in the C Influenza Surveillance Region and five respiratory alerts in the SW(2) and C(3) Regions.

**Sentinel Provider Surveillance (as of June 28):** During the week ending June 23, 2012, the proportion of visits due to influenza-like illness (ILI) slightly increased to 0.9% overall; this is below the regional baseline of (1.6%). A total of 48 patient visits due to ILI were reported out of 5,264 office visits. Twenty-one sentinel sites provided data for this report. ILI activity increased in two surveillance regions: Central (1.1%) and Southwest (0.5%); activity decreased in the remaining two regions: North (0.0%) and Southeast (0.2%). 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  
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 June 23):** 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. 3 hospitals (SE, SW) reported for the week ending June 23, 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
<b>Total</b>	0	147

**Laboratory Surveillance (as of June 23):** During June 17-23, 1 influenza B (SW) result was reported by MDCH BOL. For the 2011-12 season (starting October 2, 2011), MDCH has identified 1160 influenza results:

- Influenza A(H3): 1051 (605SE, 97SW, 302C, 47N)
- Influenza A(H1N1)pdm09: 32 (22SE, 3SW, 5C, 2N)
- Influenza B: 76 (30SE, 29SW, 12C, 5N)
- Influenza A(H3) and B co-infection: 1 (SE)
- Parainfluenza: 2 (1SE, 1C)
- Adenovirus: 3 (3SE)
- RSV: 4 (1SW, 1C, 2N)

9 sentinel labs (SE, SW, C, N) reported for the week ending June 23, 2012. 1 lab (SW) reported sporadic influenza B activity. 1 lab (SW) reported sporadic parainfluenza activity. No labs reported influenza A, RSV, adenovirus or HMPV activity. Testing volumes are at low levels.

**Michigan Influenza Antigenic Characterization (as of June 28):** 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 June 28):** 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 June 28):** 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\\_pediatic\\_influenza\\_guidance\\_v2\\_214270\\_7.pdf](http://www.michigan.gov/documents/mdch/ME_pediatic_influenza_guidance_v2_214270_7.pdf).

**Influenza Congregate Settings Outbreaks (as of June 28):** 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], June 22):** The influenza season is largely finished in the temperate countries of the northern hemisphere with some persistent low level influenza transmission in eastern Europe and northern China. Most northern hemisphere temperate countries have now stopped weekly influenza data reporting. Some tropical countries are experiencing an increase or stable transmission of influenza viruses including countries in Central America, the Caribbean, South America and, in Sub-Saharan Africa. The influenza season has not yet started in the temperate countries of the southern hemisphere, although several countries including Australia, Chile, Paraguay and South Africa have reported small but sustained increase of influenza virus detections. Influenza A(H3N2) viruses are the most commonly detected type/sub-type in recent weeks in the Southern Hemisphere temperate region. A detailed review of the recent influenza season in the temperate countries of the northern hemisphere is available online at: <http://www.who.int/wer/2012/wer8724/en/>.

The entire WHO report is available online at [www.who.int/influenza/surveillance\\_monitoring/updates/latest\\_update\\_GIP\\_surveillance/en/index.html](http://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](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, Research (Reuters [edited], June 26):** The swine flu pandemic of 2009 killed an estimated 284,500 people, some 15 times the number confirmed by laboratory tests at the time, according to a new study by an international group of scientists.

The study, published on Tuesday in the London-based journal *Lancet Infectious Diseases*, said the toll might have been even higher - as many as 579,000 people.

The original count, compiled by the World Health Organization, put the number at 18,500.

Those were only the deaths confirmed by lab testing, which the WHO itself warned was a gross underestimate because the deaths of people without access to the health system go uncounted, and because the virus is not always detectable after a victim dies.

The new study also shows the pandemic's impact varied widely by region, with 51 percent of swine flu

deaths occurring in Africa and southeast Asia, which account for only 38 percent of the world's population.

"This pandemic really did take an enormous toll," said Dr. Fatimah Dawood of the U.S. Centers for Disease Control and Prevention, who led the study. "Our results also suggest how best to deploy resources. If a vaccine were to become available, we need to make sure it reached the areas where the death toll is likely to be highest."

Swine flu, caused by the H1N1 influenza virus, infected its first known victim in central Mexico in March 2009. By April it had reached California, infecting a 10-year-old, and then quickly spread around the world, triggering fears and even panic.

The CDC warned Americans not to travel to Mexico if they could avoid it. Egypt ordered the slaughter of all the country's pigs in a misguided attempt to contain the virus, which was in fact spread from person to person.

The fears reflected the unusual nature of the virus, which contained bits and pieces of bird, swine and human flu viruses, a combination never before detected.

Scientists were unsure how transmissible or deadly this mongrel flu would be, but early signs were ominous: the World Health Organization declared swine flu a pandemic in June 2009, when labs had identified cases in 74 countries.

Such lab-based identification is the gold standard, but every expert acknowledges that it misses more cases than it catches.

One reason is that "some people who contract flu do not have access to health care," said CDC's Dawood, so their illness and even death goes unnoticed by authorities. Another reason is that the virus is not always detectable by the time a victim dies.

View the full article at <http://www.reuters.com/article/2012/06/26/us-swineflu-idUSBRE85O1DF20120626>.

**International, Poultry (OIE [edited], June 22):** Low pathogenic avian influenza H7; Mexico

Outbreak 1: Tepatitlan de Morelos, Valle de Guadalupe, JALISCO

Date of start of the outbreak: 13/06/2012; Outbreak status: Continuing; Epidemiological unit: Farm

Species: Birds; Susceptible: 480000; Cases: 321600; Deaths: 11899

Outbreak 2: Tepatitlan de Morelos, Pegureros, JALISCO

Date of start of the outbreak: 13/06/2012; Outbreak status: Continuing; Epidemiological unit: Farm

Species: Birds; Susceptible: 298599; Cases: 107496; Deaths: 29024

Outbreak 3: Acatic, Tierras Coloradas, JALISCO

Date of start of the outbreak: 13/06/2012; Outbreak status: Continuing; Epidemiological unit: Farm

Species: Birds; Susceptible: 263440; Cases: 158064; Deaths: 63226; Destroyed: 60000

Epidemiological comments: An epidemiological investigation is being conducted. The event includes 3 commercial layer farms. The birds showed: gasping, depression, lethargy, drooping wings, prostration, fever and death. The birds are 32, 72, 75, 84 and 94 weeks old. Isolates are being tested by intravenous pathogenicity test to determine their pathogenicity and by gene sequencing. Epidemiological investigation is on-going to establish the extent of the problem and the source of infection in order to implement additional measures to rapidly resolve the problem. Additional sampling is underway to identify the possible presence of other pathogens involved in the outbreaks.

**International, Poultry (OIE [edited], June 25):** Highly pathogenic avian influenza H7N3; Mexico

Follow-up report No. 1; Date of first confirmation of the event: 21/06/2012

There are no new outbreaks in this report

Epidemiological comments: The epidemiological investigation is on-going to identify the source of the infection and the risk factors. The isolates were tested by intravenous pathogenicity test and correspond to a highly pathogenic avian influenza virus subtype H7N3. A full gene sequencing of the virus is ongoing. Following this diagnosis, about 60 poultry farms within the area around the outbreaks have been sampled in order to determine their health status. The samples are being tested by the official national reference laboratory. Preventive quarantine measures will be established throughout the poultry region at risk,

which is estimated at around 500 production units. Currently, the following control measures are being applied: official movement control measures on poultry and poultry products inside and outside the area around the outbreaks; official sampling in industrial poultry farms, backyard poultry farms and poultry markets; assessment of biosecurity and good livestock practices; depopulation of affected farms in order to introduce later sentinel animals.

**International, Wild Birds (OIE [edited], June 22):** Highly pathogenic avian influenza H5N1; Hong Kong Outbreak 1: 28 Hong Yip Street, Yuen Long, HONG KONG  
 Date of start of the outbreak: 18/06/2012; Outbreak status: Resolved  
 Species: Wild species; Cases: 1; Deaths: 1  
 Affected population: A scaly-breasted munia (*Lonchura punctulata*) was collected on 18 June 2012 at Yuen Long. The scaly-breasted munia is a common local resident in Hong Kong.

**Michigan Wild Bird Surveillance (USDA, as of June 7):** 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](http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm).

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**Table. H5N1 Influenza in Humans – As of June 7, 2012.** [http://www.who.int/influenza/human\\_animal\\_interface/EN\\_GIP\\_20120607CumulativeNumberH5N1cases.pdf](http://www.who.int/influenza/human_animal_interface/EN_GIP_20120607CumulativeNumberH5N1cases.pdf). Downloaded 6/20/2012. 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	6	6	189	157
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	28	17	606	357