



# MI Flu Focus

Influenza Surveillance Updates  
Bureaus of Epidemiology and Laboratories

Michigan Department  
of Community Health



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## Current Influenza Activity Levels:

- **Michigan:** Local influenza activity
- **National:** During November 17-23, influenza activity increased slightly in the United States

## Updates of Interest:

- **International:** MERS-CoV is detected in a herd of camels in a barn linked to two confirmed human infections

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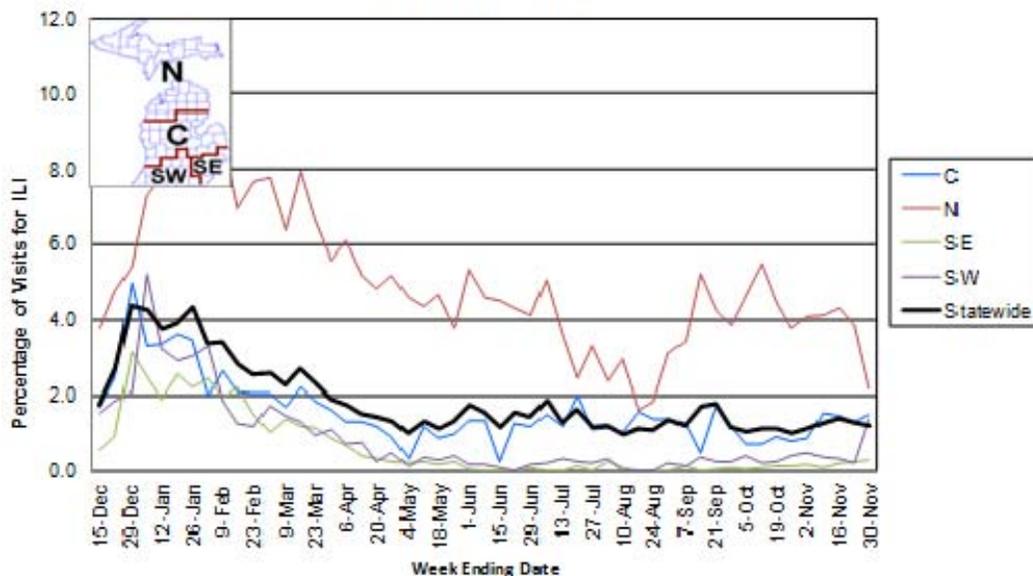
## Influenza Surveillance Reports

**Michigan Disease Surveillance System (as of December 5):** MDSS influenza data for the week ending November 30, 2013 indicated that compared to levels from the previous week, aggregate reports decreased and individual reports remained steady. The decrease in aggregate reports may be partially due to the school holiday break. Aggregate reports are slightly lower than levels seen during the same time period last year, while individual reports are slightly higher.

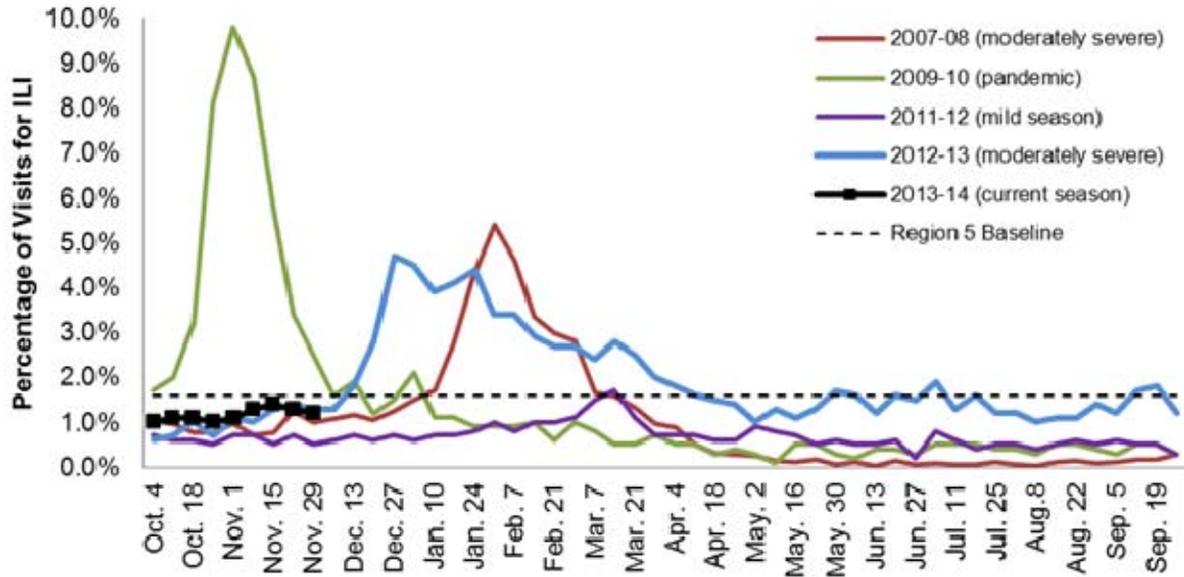
**Emergency Department Surveillance (as of December 5):** Emergency department visits due to constitutional complaints increased during the week ending November 30, 2013, while respiratory complaints remained steady. Emergency department visits from constitutional complaints were similar to levels during the same time period last year, while respiratory complaints were slightly lower. In the past week, there were 13 constitutional alerts in the SE(1), SW(8), C(3) and N(1) Influenza Surveillance Regions and 1 statewide alert and 9 respiratory alerts in the SW(6) and C(3) Regions.

**Sentinel Provider Surveillance (as of December 5):** During the week ending November 30, 2013, the proportion of visits due to influenza-like illness (ILI) increased to 1.2% overall; this is below the regional baseline (1.6%). A total of 94 patient visits due to ILI were reported out of 7,840 office visits. Data were provided by 30 sentinel sites from the following regions: Central (14), North, (4), Southeast (8), and Southwest (4). ILI activity increased in three regions: C (1.5%), SE (0.3%), and SW (1.4%) and decreased in one region: N (2.2%). 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  
2013-14 Flu Season



**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 November 30):** 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, 2013, for Clinton, Eaton, Genesee, and Ingham counties. One new adult case was identified during the past week. As of November 30<sup>th</sup>, there have been 4 influenza hospitalizations (2 pediatric, 2 adult) within the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. 9 hospitals (SE,SW,C,N) reported for the week ending November 30, 2013. Results are listed in the table below.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2013-14 Season
0-4 years	3 (1SE,2C)	4 (1SE,3C)
5-17 years	0	1 (1C)
18-49 years	2 (1SE,1C)	3 (2SE,1C)
50-64 years	0	1 (1C)
≥65 years	0	1 (1SE)
<b>Total</b>	<b>5 (2SE,3C)</b>	<b>10 (4SE,6C)</b>

**Laboratory Surveillance (as of November 30):** During November 24-30, 19 influenza 2009 A/H1N1pdm (10SE,6SW,2C,1N) and 1 influenza A/H3 (1SE) results were reported by MDCH Bureau of Laboratories. For the 2013-14 season (starting Sept. 29, 2013), MDCH has identified 67 positive influenza results:

- Influenza 2009 A/H1N1pdm: 57 (36SE,12SW,8C,1N)
- Influenza A/H3: 6 (6SE)
- Influenza A unsubtypeable: 1 (1SE)
- Influenza B: 3 (1SE,1SW,1C)
- Parainfluenza: 1 (1SE)

15 sentinel labs (SE,SW,C,N) reported for the week ending November 30, 2013. 9 labs (SE,SW,C,N) reported influenza A activity. 2 labs (SE) reported sporadic influenza B activity. 8 labs (SE,SW,C) had RSV activity. 3 labs (SE,C) had sporadic parainfluenza activity. 2 labs (SE,SW) had sporadic adenovirus activity. 1 lab (SE) reported sporadic hMPV activity. Testing volumes continue to increase at most sites.

**Michigan Influenza Antigenic Characterization (as of December 5):** For the 2013-14 season, no influenza specimens have been characterized at MDCH BOL.

**Michigan Influenza Antiviral Resistance Data (as of December 5):** For the 2013-14 season, 14 2009 A/H1N1pdm (10SE,2SW,2C) and 3 A/H3 (3SE) influenza specimens have been tested at the MDCH BOL for antiviral resistance. None of the influenza specimens 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 December 5):** No pediatric influenza-associated influenza mortalities have been reported to MDCH for the 2013-14 season.

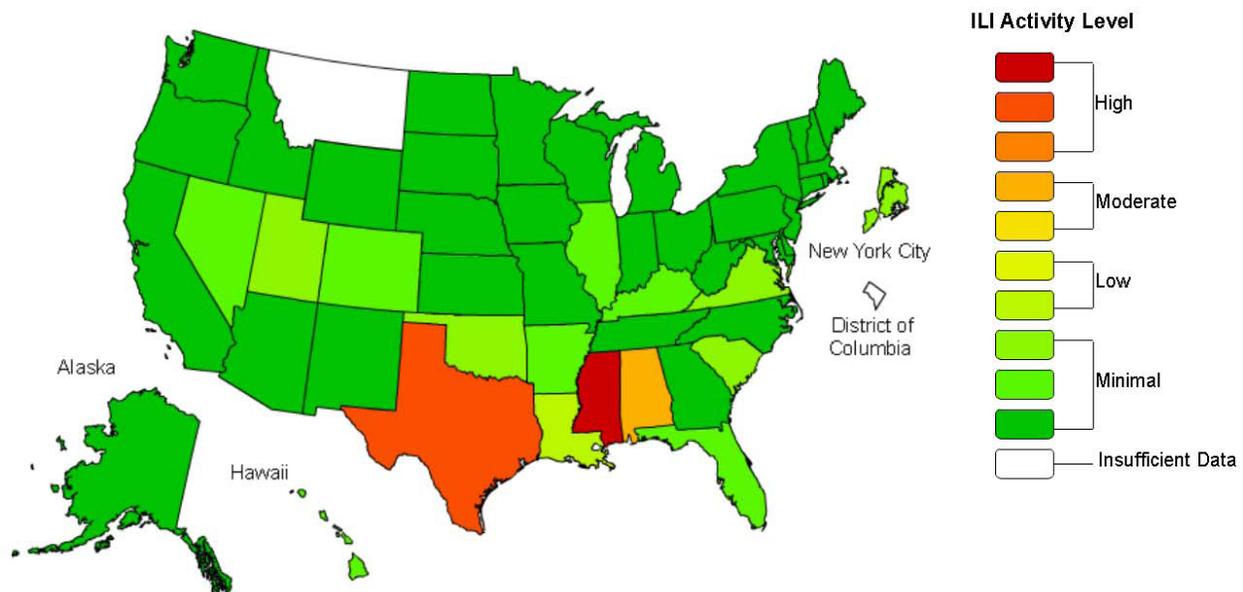
CDC requires reporting of flu-associated pediatric deaths (<18 yrs), including pediatric deaths due to an influenza-like illness with lab confirmation of influenza or any unexplained pediatric death with evidence of an infectious process. Contact MDCH immediately for proper specimen collection. The MDCH protocol is at [www.michigan.gov/documents/mdch/ME\\_pediatric\\_influenza\\_guidance\\_v2\\_214270\\_7.pdf](http://www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf).

**Influenza Congregate Settings Outbreaks (as of December 5):** No respiratory outbreaks have been reported to MDCH during the 2013-14 season.

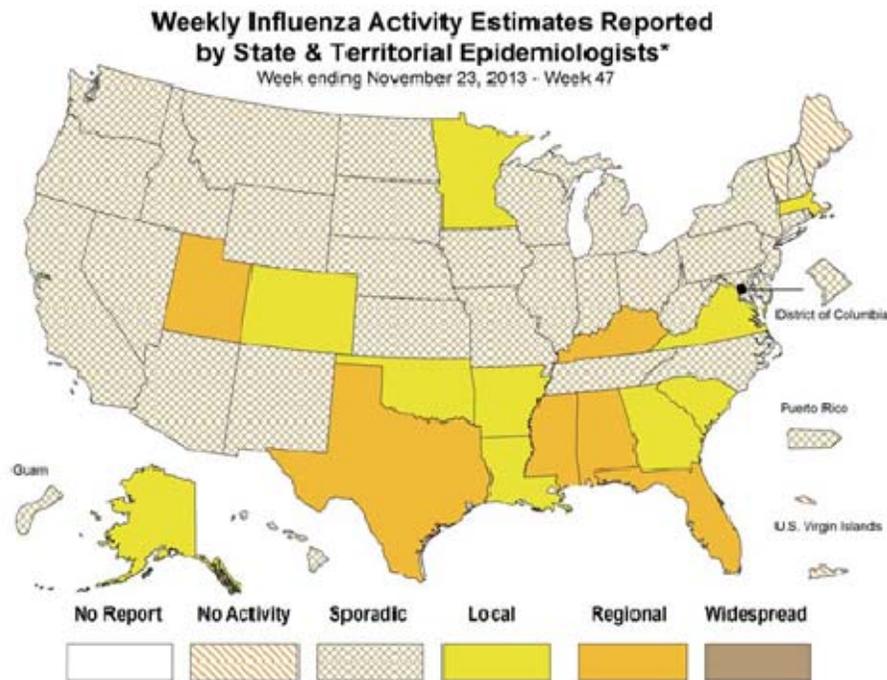
**National (CDC [edited], December 2):** During week 47 (November 17-23, 2013), influenza activity increased slightly in the United States. Of 4,996 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 47, 397 (7.9%) 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 1.7%, below the national baseline of 2.0%. Two regions reported ILI at or above region-specific baseline levels. Two states experienced high ILI activity, one state experienced moderate ILI activity, one state experienced low ILI activity, 45 states and New York City experienced minimal ILI activity and the District of Columbia and one state had insufficient data. The geographic spread of influenza in six states was reported as regional; 10 states reported local influenza activity; the District of Columbia, Guam, Puerto Rico, and 32 states reported sporadic influenza activity, and the U.S. Virgin Islands and two states reported no influenza activity.

Complete weekly FluView reports are available online at: <http://www.cdc.gov/flu/weekly/>.

**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet  
2013-14 Influenza Season Week 47 ending Nov 23, 2013**



This map uses the proportion of outpatient visits to healthcare 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 on 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.



**International (WHO [edited], November 22):** Overall influenza activity in North America increased slightly over the past three weeks, but remained at low levels throughout the region. Countries from the WHO European Region continued to report low levels of influenza activity with only a few countries reporting sporadic influenza detections among samples from sentinel and non-sentinel sources. In northern Asia, influenza activity slightly increased in the north of China and Mongolia. Influenza transmission in southern Asia was low. In Hong Kong Special Administrative Region, China, and in the south of China influenza detections decreased. In South East Asia, influenza activity decreased in Viet Nam, but increased in Cambodia, Lao People’s Democratic Republic and Thailand. In this area, co-circulation of influenza A(H1N1)pdm09, influenza A(H3N2) and influenza B virus was reported. In the Caribbean region of Central America and tropical South America, influenza A detections remained at low levels. Respiratory syncytial virus (RSV) continued to predominate in certain countries, but the RSV activity largely remained within expected seasonal levels. The influenza season in the southern hemisphere is largely over.

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).

MDCH reported LOCAL INFLUENZA ACTIVITY to CDC for the week ending November 30, 2013. 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.

**International, MERS-CoV (WHO [edited], November 22):** Middle East respiratory syndrome coronavirus (MERS-CoV) summary and literature update – as of 22 November 2013

The entire report is available online at [http://www.who.int/csr/disease/coronavirus\\_infections/Update12\\_MERSCoV\\_update\\_22Nov13.pdf](http://www.who.int/csr/disease/coronavirus_infections/Update12_MERSCoV_update_22Nov13.pdf).

**International, MERS-CoV (WHO [edited], November 29):** On 27 November, 2013, the National IHR Focal Point of Qatar notified WHO that the Supreme Council for Health and the Ministry of Environment, in collaboration with the National Institute of Public Health and Environment (RIVM) of the Ministry of Health and the Erasmus Medical Center in the Netherlands, have detected Middle East Respiratory

Syndrome coronavirus (MERS-CoV) in a herd of camels in a barn linked to two confirmed human infections (see DONs dated 18/10/13 and 29/10/13).

#### Qatar investigation findings

Following the detection of two human cases infected with MERS-CoV, Qatar authorities (Public Health Department and the Department of Animal Resources) conducted a comprehensive epidemiological investigation into potential sources of exposure of human cases, with the support of an international team constituted by WHO and FAO.

Laboratory investigations at RIVM and Erasmus Medical Center have confirmed the presence of MERS-CoV in 3 camels in a herd of 14 animals with which both human cases had contact. As a precautionary measure, the 14 camels on the farm have been isolated. All camels were asymptomatic or with mild symptoms when samples were taken and remained so during the following 40 days. All contacts of the two confirmed human cases, as well as the other worker employed in this barn, have been screened and laboratory tests were all negative for MERS-CoV.

These results demonstrate that camels can be infected with MERS-CoV but there is insufficient information to indicate the role camels and other animals may be playing in the possible transmission of the virus, including to and from humans. The Supreme Council of Health is working with the RIVM and the Erasmus Medical Center to test additional samples from other animal species and from the environment of the barn. In addition, the Public Health Department and the Department of Animal Resources are conducting further studies at the national level to investigate the infection risk among individuals in close contact with animals.

People at high risk of severe disease due to MERS-CoV should avoid close contact with animals when visiting farms or barn areas where the virus is known to be potentially circulating. For the general public, when visiting a farm or a barn, general hygiene measures, such as regular hand washing before and after touching animals, avoiding contact with sick animals, and following food hygiene practices, should be adhered to.

WHO is working with the Qatari authorities to further review these findings and to develop additional guidance as necessary.

Globally, from September 2012 to date, WHO has been informed of a total of 160 laboratory-confirmed cases of infection with MERS-CoV, including 68 deaths.

The full article is available online at [http://www.who.int/csr/don/2013\\_11\\_29/en/index.html](http://www.who.int/csr/don/2013_11_29/en/index.html).

**International, MERS-CoV (WHO [edited], December 2):** On 1 December 2013 WHO was informed of an additional three laboratory-confirmed cases of infection with Middle East respiratory syndrome coronavirus (MERS-CoV) in the United Arab Emirates

The three cases belong to a family in Abu Dhabi – a mother (32 years old), father (38 years old) and son (8 years old). The earliest onset of illness was 15 November 2013. Both the mother and father are in a critical condition in hospital. They had no travel history, no contact with a known confirmed case and no history of contact with animals. While hospitalized, the mother gave birth to a newborn child. The 8 year old son, who has mild respiratory symptoms, was detected from epidemiological investigation of family contacts, and is being kept in hospital isolation. Further investigations into close contacts of the family, the newborn baby, and healthcare workers are on-going.

Additionally, two previously laboratory-confirmed cases from Qatar died on 19 and 29 November 2013.

Globally, from September 2012 to date, WHO has been informed of a total of 163 laboratory-confirmed cases of infection with MERS-CoV, including 70 deaths.

The full article is available online at [http://www.who.int/csr/don/2013\\_12\\_02/en/index.html](http://www.who.int/csr/don/2013_12_02/en/index.html).

**International, Human (CIDRAP, December 2):** Hong Kong today reported its first case of H7N9 avian flu, in a 36-year-old woman who had traveled to Shenzhen and had slaughtered and eaten a chicken. Meanwhile, mainland China recently confirmed its fifth H7N9 case since October.

The Hong Kong patient is a domestic helper from Indonesia who traveled to Shenzhen in November, bought a chicken at a live-bird market, and slaughtered and ate it, said Ko Wing-man, MBBS, secretary for food and health, according to a Hong Kong government news release. The woman is in critical condition at Queen Mary Hospital, he added.

She became sick Nov 21 and was admitted to Tuen Mun Hospital in Hong Kong on Nov 27. She was transferred to Queen Mary Hospital on Nov 30.

The woman's home contacts are being isolated and tested at Princess Margaret Hospital, Ko said.

The woman is currently on a ventilator, Leung Ting-hung, controller for Hong Kong's Centre for Health Protection (CHP), said in a video statement accompanying the government news release. He added that a friend traveled with her to the poultry market, but officials do not know where the friend is or whether the friend is from mainland China or Hong Kong.

Four of the patient's family members have had respiratory symptoms and are among those in isolation at Princess Margaret Hospital, Leung said.

#### Elevated alert level

In response to the case, the Hong Kong government has escalated the response level of its pandemic flu preparedness plan from "alert" to "serious," Ko said. In addition, the Hospital Authority will strengthen infection control measures, including limiting visiting hours.

Hong Kong has also suspended the importation of poultry from Shenzhen's three registered poultry farms.

The CHP will continue to work on contact tracing, Ko said. He added that results of the testing on the case-patient's close contacts may be available as early as tomorrow. In addition, government agencies will ensure strict adherence to biosafety measures at live-bird markets and chicken farms in Hong Kong.

#### Case on Chinese mainland

Elsewhere, a 57-year-old man from Zhejiang province is infected with H7N9 flu, according to a Nov 29 report from Xinhua, China's state news agency. The case is the country's fifth this autumn after it logged 134 from spring through August.

The man tested positive for H7N9 on Nov 27 after presenting to a Zhejiang University hospital for fever treatment, according to provincial health authorities. He then suffered respiratory failure and shock and is in critical condition, hospital officials said.

This is the third case reported in November in China. The others were confirmed Nov 4 in Zhejiang province and Nov 5 in southern Guangdong province. As of Oct 25, 45 of the H7N9 cases have proved fatal, according to World Health Organization statistics.

#### Market closure plans

In related news, Shanghai will suspend trading of live poultry from Jan 31, 2014, the first day of the Chinese Lunar New Year, through Apr 30 to prevent the spread of H7N9, Xinhua reported today.

The suspension will continue annually for 5 years, pending evaluation from officials, the story said. The news was released in a joint statement by the Shanghai Agricultural Commission and the Shanghai Commerce Commission.

All wholesale and retail markets will be forbidden to sell poultry, and violators will face fines of about \$1,600 to \$4,900. Poultry from outside Shanghai will be shipped to designated slaughterhouses and cannot enter the local market directly, the statement said.

In April of this year, all of Shanghai's live-poultry markets were shut down to stem H7N9 transmission. The ban, which affected about 110 poultry markets, was lifted in June.

The article is available online at <http://www.cidrap.umn.edu/news-perspective/2013/12/hong-kong-reports-its-first-h7n9-flu-case>.

**International, Poultry (OIE [edited], December 2):** Low path avian influenza H5N3; Netherlands

Outbreak: Sint Annen, GRONINGEN; Date of start of outbreak: 27/11/2013; Epidemiological unit: Farm  
 Species: Birds; Susceptible: 9301; Cases: 25; Deaths: 0; Destroyed: 9301

**International, Poultry (OIE [edited], December 2):** Low path avian influenza H7; Portugal  
 Outbreak 1 (2013/01): Alcaria Ruiva - Mértola, Baixo Alentejo, DSVR DO ALENTEJO  
 Date of start of the outbreak: 28/11/2013; Epidemiological unit: Farm  
 Species: Birds; Susceptible: 63; Cases: 0; Deaths: 63; Destroyed: 0  
 Affected population: The outbreak has been detected in the framework of the avian influenza surveillance programme and no clinical signs were observed. The infected premise consists of a backyard flock with 18 chickens, 36 broilers, 6 guinea fowls and 3 ducks.

**International, Poultry (OIE [edited], December 3):** Low path avian influenza H5N3; Chinese Taipei  
 Outbreak 1: Yuli Township, HUALIEN COUNTY; Date of start of the outbreak: 04/11/2013  
 Epidemiological unit: Farm; Affected population: duck  
 Species: Birds; Susceptible: 10000; Cases: 20; Deaths: 0; Destroyed: 0

**International, Poultry (OIE [edited], December 3):** Low path avian influenza H5N3; Germany  
 Outbreak: Blumberg, Riedöschingen, Schwarzwald-Baar-Kreis, BADEN-WURTTENBERG  
 Date of start of the outbreak: 02/12/2013; Epidemiological unit: Farm  
 Species: Birds; Susceptible: 130; Cases: 20; Deaths: 0; Destroyed: 28  
 Affected population: Laying hens culled and safely disposed of on 3 December 2013; ostriches will be culled until the end of 49th week; cleansing and disinfection follow.

**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\\_Al-Asia.htm](http://www.oie.int/download/AVIAN%20INFLUENZA/A_Al-Asia.htm).

**For questions or to be added to the distribution list, please contact Susan Peters at [peterss1@michigan.gov](mailto:peterss1@michigan.gov)**

**MDCH Contributors**

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**Table. H5N1 Influenza in Humans – As of October 8, 2013.** [http://www.who.int/influenza/human\\_animal\\_interface/EN\\_GIP\\_20131008CumulativeNumberH5N1cases.pdf](http://www.who.int/influenza/human_animal_interface/EN_GIP_20131008CumulativeNumberH5N1cases.pdf). Downloaded 10/8/2013. 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	20	11	41	30
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	2	2	194	162
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	31	20	641	380