



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories

Michigan Department
of Community Health



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Surveillance and Infectious Disease Epidemiology

January 16, 2014
Vol. 11; No. 3

Current Influenza Activity Levels:

- **Michigan:** Widespread influenza activity
- **National:** During December 29-January 4, U.S. influenza activity continued to increase

Updates of Interest:

- **International:** China reports multiple new human cases of avian influenza H7N9

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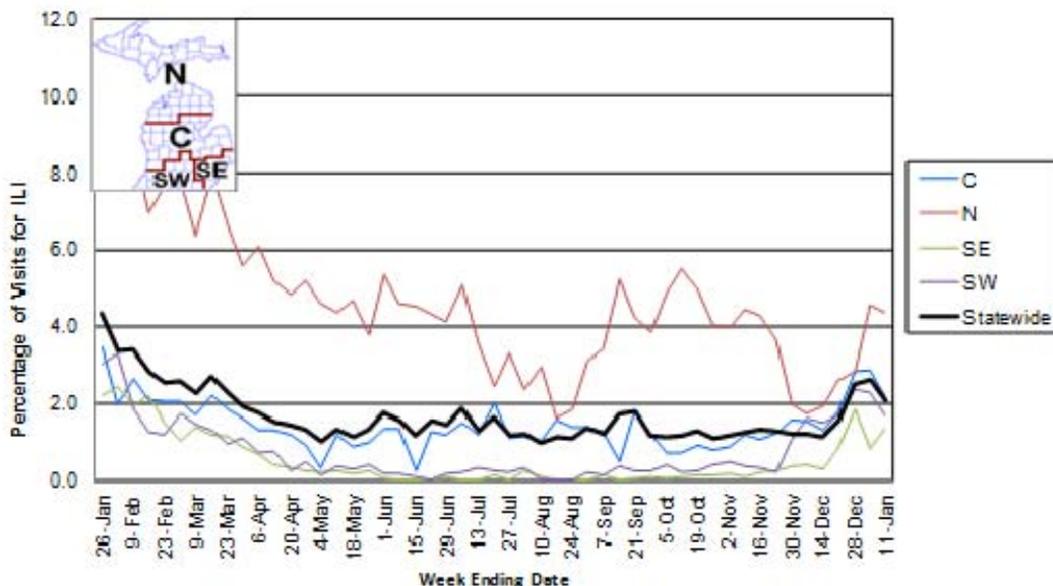
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of January 16): MDSS influenza data for the week ending January 11, 2014 indicated that compared to levels from the previous week, aggregate reports slightly increased and individual reports moderately increased. The overall low numbers of aggregate reports may be partially explained by school breaks and weather-related closures. Aggregate reports are significantly lower than levels seen during the same time period last year, while individual reports are slightly higher.

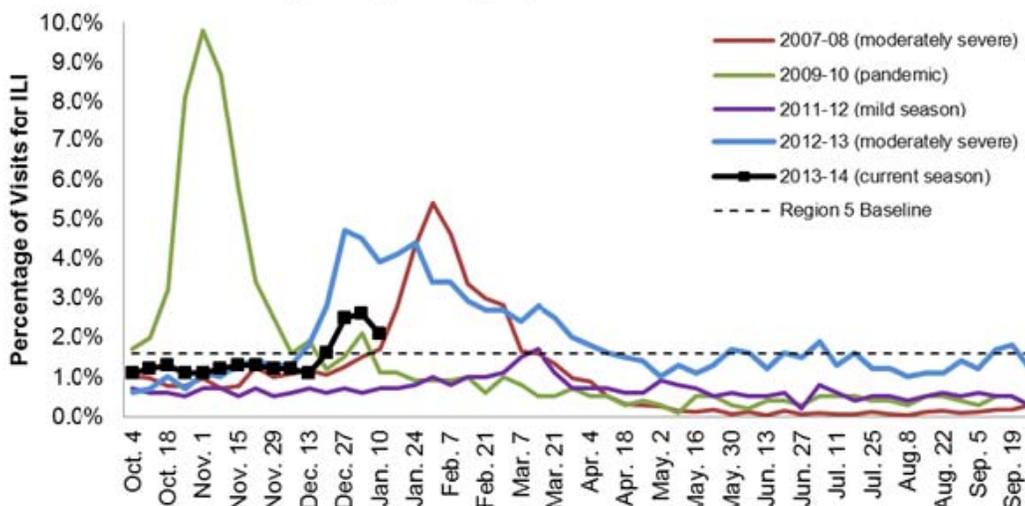
Emergency Department Surveillance (as of January 16): Emergency department visits due to constitutional complaints significantly decreased during the week ending January 11, 2014, while respiratory complaints moderately decreased. Emergency department visits from constitutional complaints were lower than levels during the same time period last year, while respiratory complaints were similar. In the past week, there were 5 constitutional alerts in the SW(2) and C(3) Influenza Surveillance Regions and 1 respiratory alert in the C Region.

Sentinel Provider Surveillance (as of January 16): During the week ending January 11, 2014, the proportion of visits due to influenza-like illness (ILI) decreased to 2.1% overall; this is above the regional baseline (1.6%). A total of 219 patient visits due to ILI were reported out of 10,620 office visits. Data were provided by 40 sentinel sites from the following regions: Central (19), North (4), Southeast (13), and Southwest (4). ILI activity increased in one region: SE (1.3%) and decreased in three regions: C (2.2%), N (4.3%), and SW (1.7%). 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 January 16): 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. 28 new cases (8 pediatric, 20 adult) were identified since the last report. As of January 16th, there have been 123 influenza hospitalizations (39 pediatric, 84 adult) within the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. 8 hospitals (SE,SW,C,N) reported for the week ending January 11, 2013. Results are listed in the table below.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2013-14 Season
0-4 years	3 (2SE,1C)	26 (6SE,20C)
5-17 years	3 (3C)	12 (1SE,11C)
18-49 years	10 (6SE,4C)	65 (36SE,1SW,22C,6N)
50-64 years	13 (5SE,3C,5N)	68 (41SE,3SW,14C,10N)
≥65 years	8 (4SE,1C,3N)	53 (36SE,1SW,6C,10N)
Total	37 (17SE,12C,8N)	224 (120SE,5SW,73C,26N)

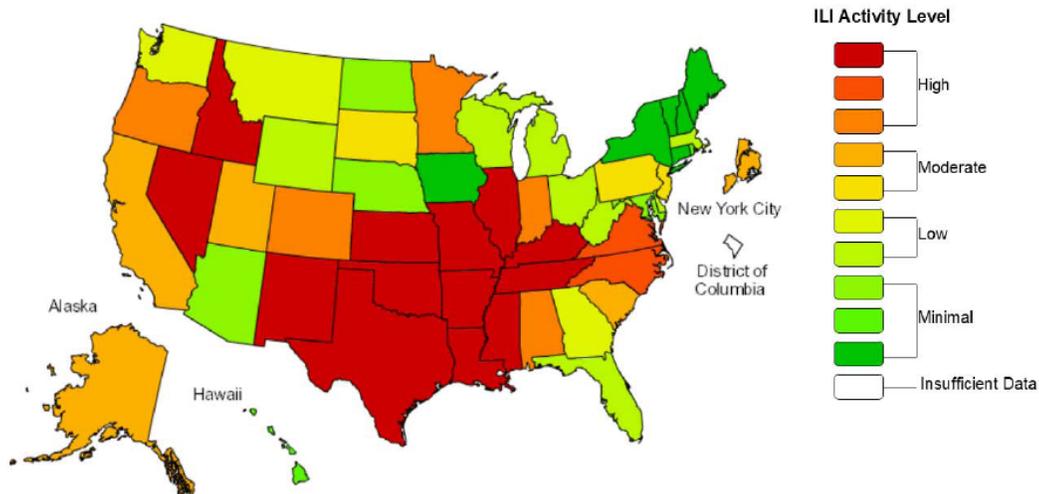
Laboratory Surveillance (as of January 11): During January 5-11, 46 influenza 2009 A/H1N1pdm (6SE,17SW,12C,11N) results and 3 influenza A/H3 results (1SE,2SW) were reported by MDCH Bureau of Laboratories. For the 2013-14 season (starting Sept. 29, 2013), MDCH has identified 218 positive influenza results:

- Influenza 2009 A/H1N1pdm: 203 (53SE,57SW,58C,35N)
- Influenza A and B (LAIV recovery): 1 (1SE)
- Influenza A/H3: 9 (7SE,2SW)
- Adenovirus: 1 (1SE)
- Influenza A unsubtypeable: 1 (1SE)
- Parainfluenza: 2 (1SE,1SW)
- Influenza B: 4 (1SE,1SW,2C)

15 sentinel labs (SE,SW,C,N) reported for the week ending January 11, 2013. 15 labs (SE,SW,C,N) reported elevated but stable influenza A activity. 8 labs (SE,C,N) reported sporadic influenza B activity, except for 1 SE site with increasing activity. 12 labs (SE,SW,C,N) had RSV activity; most SE sites reported an increasing trend. 3 labs (SE,SW,C) had sporadic parainfluenza activity. 3 labs (SE,SW) had sporadic adenovirus activity. 5 labs (SE,SW,C) reported sporadic hMPV activity. Testing volumes remain high but are starting to decline.

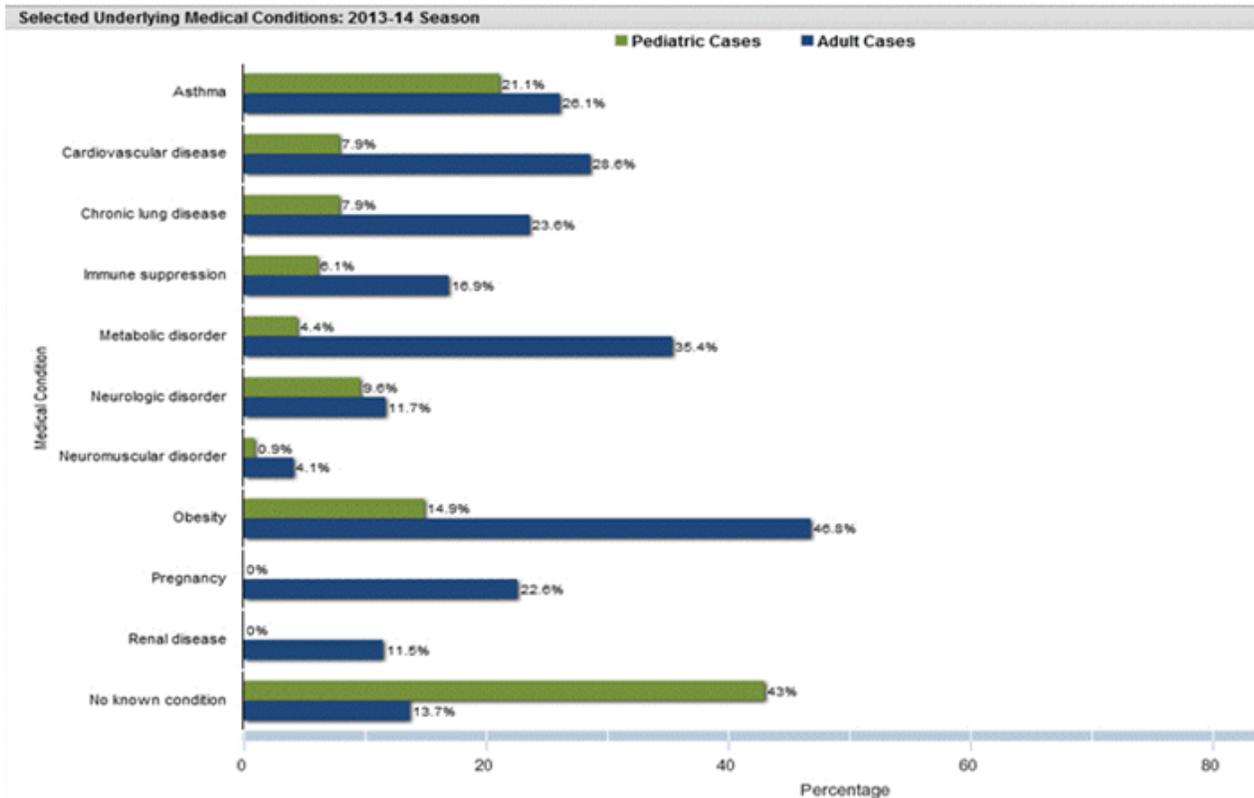
Michigan Influenza Antigenic Characterization (as of January 16): For the 2013-14 season, no influenza specimens have been characterized at MDCH BOL.

**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2013-14 Influenza Season Week 1 ending Jan 04, 2014**



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.

**Laboratory-Confirmed Influenza Hospitalizations
Preliminary data as of Jan 04, 2014**



International (WHO [edited], January 13): In North America influenza activity has sharply increased over recent weeks. The predominant subtype of influenza viruses detected was A(H1N1)pdm09. In China influenza activity has been increasing with influenza (H1N1)pdm09, A(H3N2) and B circulating. For the rest of the northern hemisphere as well as in the southern hemisphere influenza activity remained low. In countries of tropical areas variable influenza activity was reported. Based on FluNet reporting (as of 9 January 2014), during weeks 50 to 52 (8 December to 28 December 2013), National Influenza Centres and other national influenza laboratories from 99 countries, areas or territories reported data. The WHO GISRS laboratories tested more than 88471 specimens. 17640 were positive for influenza viruses, of which 15233 (86.4%) were typed as influenza A and 2406 (13.6%) as influenza B. Of the sub-typed influenza A viruses,

6889 (67.2%) were A(H1N1)pdm09, and 3365 (32.8%) were A(H3N2). Of the characterized B viruses, 352 (81.1%) belong to the B-Yamagata lineage and 82 (18.9%) to the B-Victoria lineage.

The full report is online at www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html.

MDCH reported WIDESPREAD INFLUENZA ACTIVITY to CDC for the week ending Jan. 11, 2014

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.

International, Human (WHO [edited], January 10): The Centre for Health Protection, China, Hong Kong SAR, notified WHO on 8 January 2014 of an additional laboratory-confirmed case of human infection with avian influenza A(H7N9) virus.

The patient is a 65-year-old man with underlying illness. He became ill on 3 January and was admitted to hospital on 7 January with a chest infection and transferred to the intensive care unit later that day. He tested positive for avian influenza A(H7N9) virus on 8 January. The patient is currently under isolation and in a critical condition. The patient had travelled to Shenzhen, Guangdong province, with a family member from 1 to 2 January. They passed by a wet market in Shenzhen on 1 January. In Hong Kong, the patient did not enter a wet market, but may have passed a market entrance in the mornings.

The patient's close contact has remained asymptomatic and is under quarantine for 10 days since the last contact with the patient. Contact tracing for other contacts, including hospital patients as well as healthcare workers and relevant hospital visitors, are under way. The infection is considered to have occurred outside Hong Kong. The investigation is ongoing.

On 9 January 2014, the National Health and Family Planning Commission of China notified WHO of an additional laboratory-confirmed case of human infection with avian influenza A(H7N9) virus.

The patient is a 51 year old woman from Jiaxing City in Zhejiang Province. She became ill on 28 December and was admitted to the hospital on 6 January. She is currently in critical condition. The source of infection is still under investigation.

The full report is available online at http://www.who.int/csr/don/2014_01_10_h7n9/en/index.html.

International, Human (WHO [edited], January 13): On 10 January 2014, the National Health and Family Planning Commission of China notified WHO of 6 additional laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus, including 1 death.

Details are as follows:

- 54-year-old man from Nanjing City in Jiangsu Province who became ill on 28 December 2013 and was admitted to the hospital on 5 January. He is currently in serious condition.
- 79-year-old woman farmer from Jiaxing City of Zhejiang Province who became ill on 2 January and was admitted to the hospital on 5 January. She is currently in critical condition. The patient had exposure to poultry.
- 30-year-old male from Ningbo City of Zhejiang Province who became ill on 2 January and was admitted to the hospital on 7 January. He is currently in critical condition. The patient had exposure to poultry.
- 59-year-old woman from Foshan City of Guangdong Province who became ill on 29 December 2013 and was admitted to the hospital on 2 January. She is currently in mild condition.
- 42-year-old woman from Foshan City of Guangdong Province who became ill on 5 January and was admitted to the hospital on 9 January. She is currently in mild condition. The patient works in the poultry wholesale industry
- 38-year-old man from Quanzhou City of Fujian Province who became ill on 3 January and was admitted to the hospital on 8 January. The patient had an underlying illnesses (including tuberculosis and pneumoconiosis) and died on 10 January.

The source of infection is still under investigation. So far, there is no evidence of sustained human-to-human transmission.

The full report is available online at http://www.who.int/csr/don/2014_01_13/en/index.html.

International, Human (WHO [edited], January 14): The National Health and Family Planning Commission of China notified WHO of 5 additional laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus, including 1 death.

On the 11 January 2014, WHO was notified of the following cases:

- 58-year-old woman from Shanghai who became ill on 1 January and was admitted to hospital on 8 January. She is currently in a critical condition. The patient had a history of exposure to poultry.
- 56-year-old man from Shanghai who became ill on 6 January and was admitted to hospital on 9 January. He is currently in a critical condition. The patient had a history of exposure to poultry.
- 75-year-old woman from Zhuji City, Zhejiang Province who became ill on 1 January, was admitted to hospital on 5 January, and died on 9 January. The patient had a history of exposure to poultry.

On 12 January 2014, WHO was notified of the following cases:

- 29 year old man from Guangzhou City, Guangdong Province who became ill on 3 January and was admitted to hospital on 9 January. He is currently in a critical condition. The patient works near to a poultry market.
- 76 year old man from Shenzhen City, Guangdong Province who became ill on 3 January and was admitted to hospital on 9 January. He is currently in a stable condition. The patient had no history of exposure to poultry.

The source of infection is still under investigation. So far, there is no evidence of sustained human-to-human transmission.

The full report is available online at http://www.who.int/csr/don/2014_01_14/en/index.html.

International, Human (WHO [edited], January 15): On 13 January 2014, the National Health and Family Planning Commission of China notified WHO of 6 additional laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus, and the death of a previously reported case.

Details of the cases are as follows:

- 34 year old man from Ningbo City, Zhejiang Province who became ill on 1 January and was admitted to hospital on 10 January. He is currently in a serious condition. The patient has a history of exposure to poultry.
- 78 year old man from Yiwu City, Zhejiang Province who became ill on 3 January and was admitted to hospital later that day and later transferred to another hospital on 9 January. He is currently in a critical condition. The patient has a history of exposure to poultry.
- 59 year old woman from Ningbo City, Zhejiang Province who became ill on 5 January and was admitted to hospital on 9 January 2014. She is currently in a serious condition. The patient has a history of exposure to poultry.
- 46 year old man from Foshan City, Guangdong Province who became ill on 6 January and was admitted to hospital on 9 January. He is currently in a critical condition. The patient has a history of exposure to poultry.
- 41 year old woman from Ningbo City, Zhejiang Province who became ill on 7 January 2014 and was admitted to hospital on 11 January. She is currently in a serious condition. The patient has a history of exposure to poultry.
- 28 year old woman from Foshan City, Guangdong Province who became ill on 8 January and was admitted to hospital on 12 January. She has a mild illness. The patient is employed in the poultry sales industry.

Additionally, a 65 year-old man reported earlier by the Centre for Health Protection (CHP), Hong Kong SAR, China, died on 13 January (see disease outbreak news, 10 January 2014).

The source of infection is still under investigation. So far, there is no evidence of sustained human-to-human transmission.

The full report is available online at http://www.who.int/csr/don/2014_01_15/en/index.html.

International, Human (WHO [edited], January 16): On 14 January 2014, the National Health and Family Planning Commission of China notified WHO of 3 additional laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus.

Details of the cases are as follows:

- A 29 year old man from Hangzhou City, Zhejiang Province, who became ill on 2 January and was admitted to hospital on 12 January. He is currently in a serious condition.
- A 58 year old man from Hangzhou City, Zhejiang Province, who became ill on 6 January and was admitted to hospital on 12 January. He is currently in a critical condition. The patient has a history of exposure to poultry.
- A 50 year old man from Jinjiang City, Fujian Province, who became ill on 5 January and was admitted to hospital on 11 January. He is currently in a critical condition. The patient has a history of exposure to poultry.

The source of infection is still under investigation. So far, there is no evidence of sustained human-to-human transmission.

The full report is available online at http://www.who.int/csr/don/2014_01_16/en/index.html.

International, Poultry (OIE [edited], January 10): Highly pathogenic avian influenza H5N1; Vietnam
Summary of outbreaks: Total outbreaks: 4
Total animals affected: Susceptible: 9787; Cases: 3895; Deaths: 2600; Destroyed: 7187

International, Poultry (OIE [edited], January 13): Highly pathogenic avian influenza H5N1; China
Outbreak 1: Wanjia Village, Paishi, Huangshi, HUBEI; Date of start of the outbreak: 07/01/2014
Epidemiological unit: Farm
Species: Birds; Susceptible: 50000; Cases: 6700; Deaths: 3200; Destroyed: 46800

International, Poultry (OIE [edited], January 16): Low pathogenic avian influenza H7N9; China
Outbreak 1: Agriculture products market, Anji, Huzhou, ZHEJIANG; Date of start of outbreak: 8/12/2013
Species: Birds; Susceptible: 2310; Cases: 18; Deaths: 0; Destroyed: 2310
Affected population: All specimens were collected according to the national surveillance plan and no clinical signs were found: 8 specimens from Sanliting Agriculture Products Market (6 oral/cloacal swabs, 2 environmental faecal swabs); 3 specimens from Central Agriculture Products Market (2 oral/cloacal swabs, 1 environmental faecal swab); 1 specimen (oral/cloacal swab) from Fenghuangshan Agriculture Products Market and 6 specimens from Guoqing Poultry Wholesale Market (3 oral/cloacal swabs, 3 environmental faecal swabs).

Outbreak 2: Agriculture products market, Yangjiang, GUANGDONG; Date of start of outbreak: 18/12/13
Affected population: All specimens were collected according to the national surveillance plan and no clinical signs were found: 1 specimen (oral/cloacal swab) from Muai Agriculture Products Market; 1 specimen (oral/cloacal swab) from Yuhuan Agriculture Products Market.

International, Poultry (OIE [edited], January 16): Low pathogenic avian influenza H7; Vietnam
Outbreak 1: Can Tho, CAN THO; Date of start of the outbreak: 15/01/2013
Species: Birds; Cases: 2; Deaths: 0; Destroyed: 0 Slaughtered
Affected population: Live bird market

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

MDCH Contributors

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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