



# 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 March 2-8, influenza activity continued to decrease in the United States

## Updates of Interest:

- **International:** Additional human cases of avian influenza H7N9 and MERS-CoV are reported

## Table of Contents

Influenza Surveillance Reports	
Michigan.....	1-3
National.....	3-4
International.....	4
Novel Influenza and Other News	
WHO Pandemic Phase.....	4
Avian Influenza in Humans.....	5,7
MERS-CoV.....	5-6

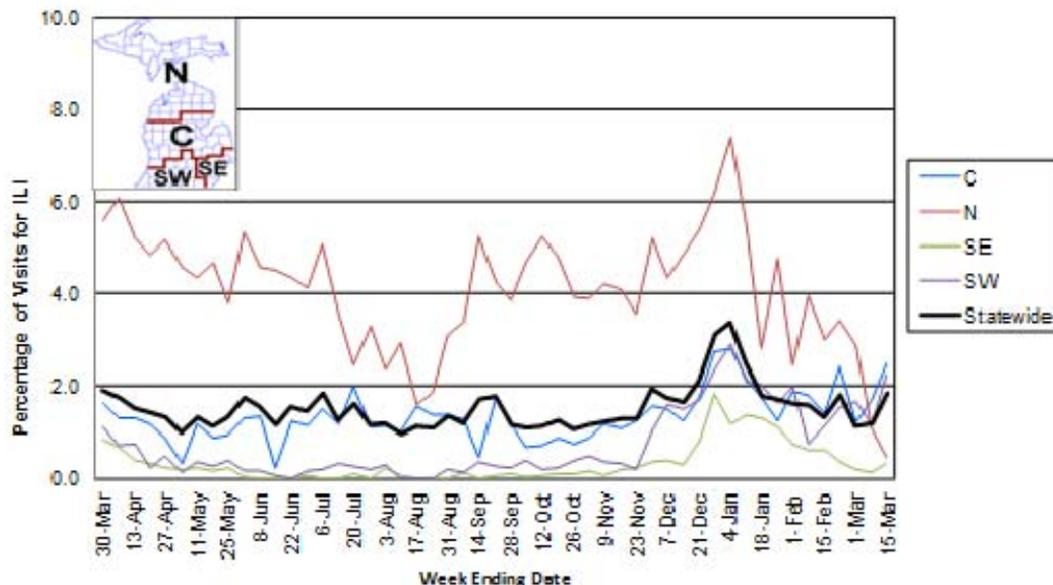
## Influenza Surveillance Reports

**Michigan Disease Surveillance System (as of March 20):** MDSS influenza data for the week ending March 15, 2014 indicated that compared to levels from the previous week, aggregate reports remained steady and individual reports slightly increased. Both individual and aggregate reports are significantly lower than levels seen during the same time period last year.

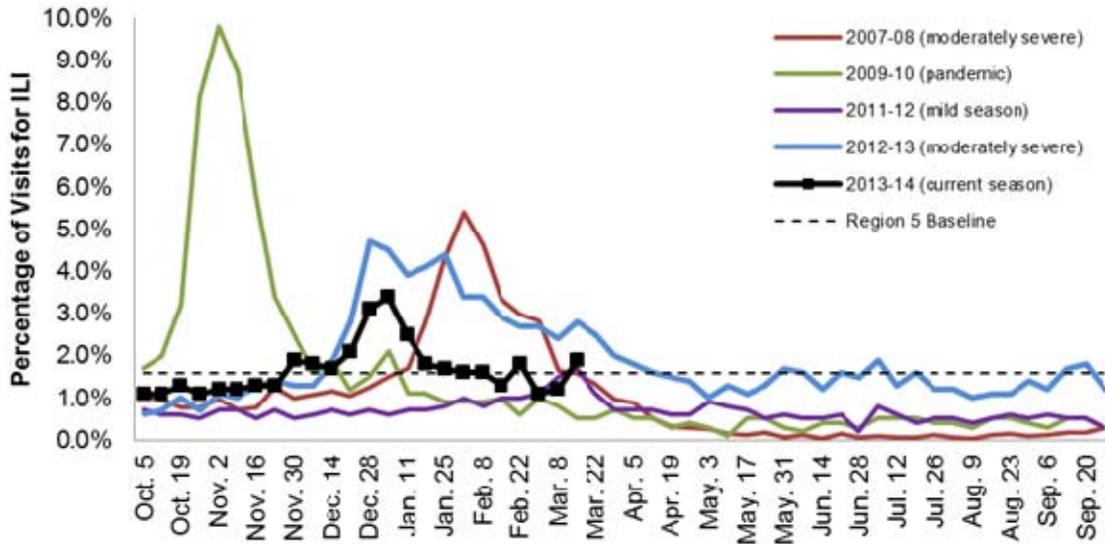
**Emergency Department Surveillance (as of March 20):** Emergency department visits due to respiratory complaints remained steady during the week ending March 15, 2014, while constitutional visit slightly increased. Emergency department visits from both constitutional and respiratory complaints are moderately lower than levels during the same time period last year. Both are at fall/winter baseline levels. In the past week, there were 2 constitutional alerts in the C(2) Influenza Surveillance Region and 4 respiratory alerts in the SW(1) and C(3) Regions.

**Sentinel Provider Surveillance (as of March 20):** During the week ending March 15, 2014, the proportion of visits due to influenza-like illness (ILI) increased to 1.9% overall; this is above the regional baseline (1.6%). A total of 130 patient visits due to ILI were reported out of 7,008 office visits. Data were provided by 21 sentinel sites from the following regions: Central (11), North (3), Southeast (5), and Southwest (2). ILI activity increased in three regions: C (2.5%), SE (0.3%), and SW (2.3%) and decreased in one region: N (0.5%). 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 March 20):** 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. 6 new cases (4 pediatric, 2 adult) were identified since the last report. As of March 20<sup>th</sup>, there have been 208 influenza hospitalizations (60 pediatric, 154 adult) within the catchment area. Based on these counts, there are 28.7 pediatric influenza hospitalizations/100,000 population and 22.6 adult influenza hospitalizations/100,000 population 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 March 15, 2014. Results are listed in the table below. Additional results from prior weeks have also been added to the totals.

Age Group	Hospitalizations Reported During the Previous Week	Total Hospitalizations 2013-14 Season
0-4 years	2 (2C)	52 (7SE,2SW,40C,3N)
5-17 years	1 (1C)	21 (1SE,20C)
18-49 years	1 (1SE)	111 (62SE,3SW,37C,9N)
50-64 years	2 (1C,1N)	136 (86SE,5SW,31C,14N)
≥65 years	3 (1SE,2N)	108 (69SE,7SW,14C,18N)
<b>Total</b>	<b>9 (2SE,4C,3N)</b>	<b>428 (225SE,17SW,142C,44N)</b>

**Laboratory Surveillance (as of March 15):** During March 9-15, 2 influenza 2009 A/H1N1pdm (1SE,1SW) results were reported by MDCH Bureau of Laboratories. For the 2013-14 season (starting Sept. 29, 2013), MDCH has identified 352 positive influenza results:

- Influenza 2009 A/H1N1pdm: 324 (71SE,121SW,93C,38N)
- Influenza A/H3: 13 (10SE,2SW,1C)
- Influenza A unsubtypeable: 1 (1SE)
- Influenza A and B (LAIV recovery): 1 (1SE)
- Influenza B: 13 (7SE,2SW,3C,1N)
- RSV: 2 (2SW)
- Adenovirus: 1 (1SE)
- Parainfluenza: 2 (1SE,1SW)
- Human metapneumovirus: 4 (4SW)

11 sentinel labs (SE,SW,C,N) reported for the week ending March 15, 2014. 8 labs (SE,SW,C) reported influenza A activity; most were at low or sporadic levels although a few reported slight increases. 4 labs (SE) had sporadic flu B activity. 2 labs (SE,SW) had sporadic parainfluenza activity. 10 labs (SE,SW,C,N) had steady or declining RSV activity. 4 labs (SE,SW) had hMPV activity. 1 lab (SE) reported slightly increasing adenovirus activity. Most testing volumes continue to slowly decline.

**Michigan Influenza Antigenic Characterization (as of March 20):** For the 2013-14 season, 3 Michigan influenza specimens (1SE,2C) have been characterized at CDC as A/California/07/2009-like/H1N1/pdm09, matching the influenza A/H1N1pdm09 strain in the 2013-14 Northern Hemisphere vaccine. 1 specimen (1C) has been characterized at CDC as B/Brisbane/60/2008-like, which is a B/Victoria lineage virus; it is not in the 2013-14 Northern Hemisphere trivalent vaccine but is in the quadrivalent vaccine. 8 specimens (6SE,2SW) have been characterized at CDC and MDCH as B/Massachusetts/02/2012-like, which is a B/Yamagata lineage virus that is included in both the 2013-14 trivalent and quadrivalent vaccines.

**Michigan Influenza Antiviral Resistance Data (as of March 20):** For the 2013-14 season, 104 2009 A/H1N1pdm (25SE,29SW,38C,12N) and 8 A/H3 (5SE,2SW,1C) 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>.

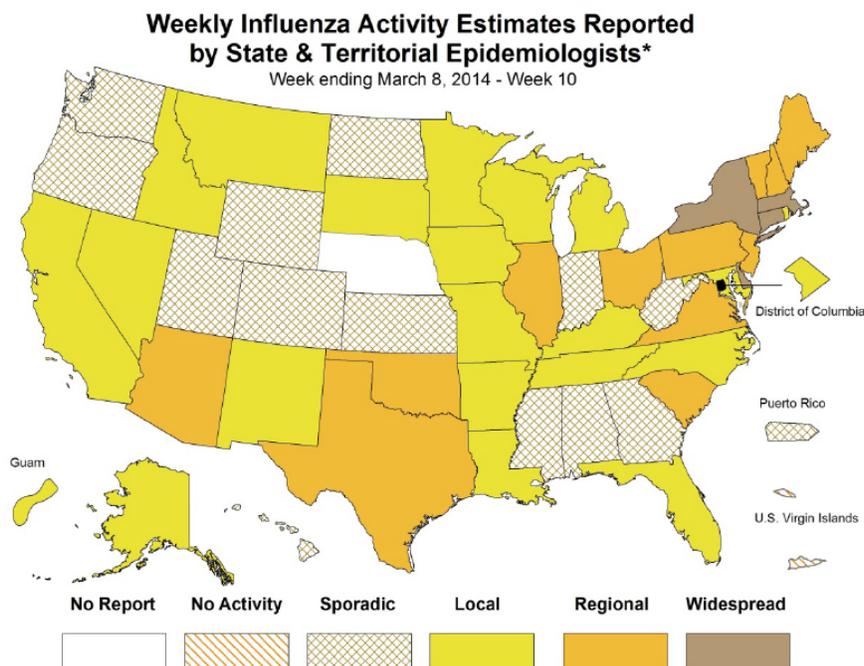
**Influenza-associated Pediatric Mortality (as of March 20):** 2 pediatric influenza-associated influenza mortalities (1SE,1C) have been reported to MDCH for the 2013-14 season.

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).

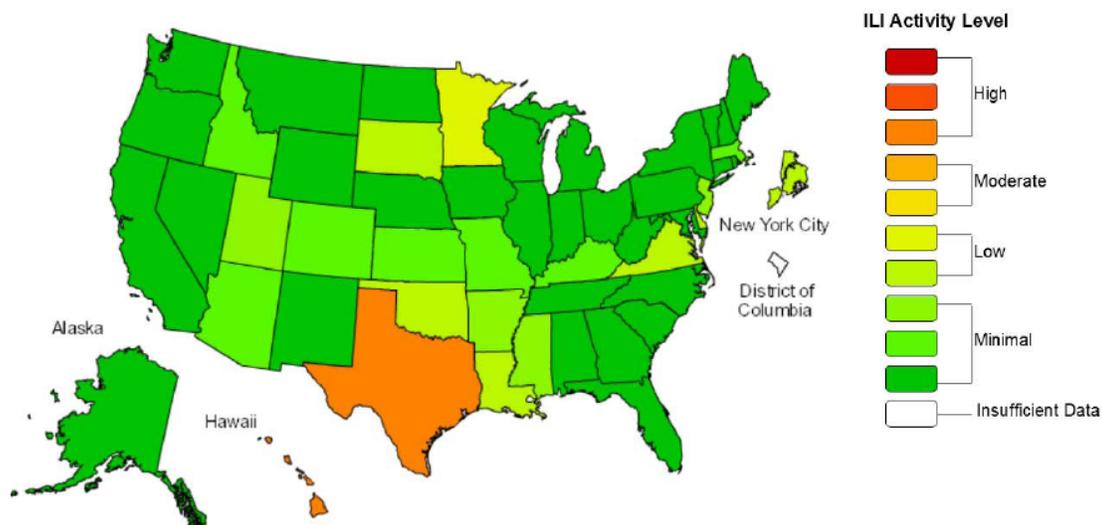
**Influenza Congregate Settings Outbreaks (as of March 20):** One previously reported outbreak in a correctional facility (SE) was confirmed as influenza 2009 A/H1N1pdm. 15 respiratory outbreaks (1SE,8SW,5C,1N) have been reported during the 2013-14 season:

- Influenza 2009 A/H1N1pdm: 4 (1SE,2SW,1C)
- Influenza A/H3 positive: 1 (1SW)
- Influenza A positive: 3 (3SW)
- Influenza positive: 1 (1SW)
- Human metapneumovirus: 1 (1N)
- RSV: 1 (1SW)
- Negative/no testing: 4 (4C)

**National (CDC [edited], March 14):** During week 10 (March 2-8, 2014), influenza activity continued to decrease in the United States. Of 6,372 specimens tested and reported during week 10 by U.S. WHO and NREVSS collaborating laboratories, 535 (8.4%) were positive for influenza. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. Three influenza-associated pediatric deaths were reported. A season-cumulative rate of 29.2 laboratory confirmed influenza-associated hospitalizations per 100,000 population was reported. The proportion of outpatient visits for influenza-like illness (ILI) was 2.0%, which is at the national baseline. 4 of 10 regions reported ILI at or above region-specific baseline levels. Two states experienced high ILI activity; six states and New York City experienced low ILI activity; 42 states experienced minimal ILI activity, and the District of Columbia had insufficient data. The geographic spread of influenza in 4 states was reported as widespread; 12 states reported regional activity; the District of Columbia, Guam, and 20 states reported local activity; Puerto Rico and 13 states reported sporadic activity; the U.S. Virgin Islands reported no influenza activity, and 1 state did not report.



**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet  
2013-14 Influenza Season Week 10 ending Mar 08, 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.

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

**International (WHO [edited], March 10):** In North America, influenza activity continued to decrease overall, but remained elevated in some regions. Influenza A(H1N1)pdm09 continued as the predominant circulating virus, and influenza B detections increased slightly throughout the region. In Europe, activity was variable between countries. Overall trends showed slight increases in activity in the northern and eastern regions, and decreases in the southwestern region. Influenza A(H1N1)pdm09 and A(H3N2) continued to circulate with variable predominance among countries. In Eastern Asia, A(H1N1)pdm09 remained predominant and trends were inconsistent. Influenza activity in China began to decrease while activity in Mongolia continued to increase. In Tropical Asia, activity was largely decreased, however Thailand reported increasing influenza A(H1N1)pdm09 activity. In Northern Africa and Western Asia, activity varied, with Egypt continuing to report high activity of influenza A(H1N1)pdm09. Based on FluNet reporting (as of 4 March 2014), during 9 February to 22 February 2014, National Influenza Centres and other national influenza laboratories from 80 countries, areas or territories reported data. The WHO GISRS laboratories tested more than 80809 specimens. 16409 were positive for influenza viruses, of which 13869 (84.5%) were typed as influenza A and 2540 (15.5%) as B. Of the sub-typed A viruses, 6283 (70.6%) were influenza A(H1N1)pdm09 and 2612 (29.4%) were influenza A(H3N2). Of the characterized B viruses, 124 (84.9%) belonged to the B-Yamagata lineage and 22 (15.1%) 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](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 March 8, 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](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], March 17):** On 14 March 2014, the National Health and Family Planning Commission (NHFPC) of China notified WHO of two additional laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus.

Details of the cases reported on 14 March are as follows:

An 86 year-old man from Hefei City, Anhui Province. He became ill on 7 March, was admitted to a hospital on 10 March and is currently in a critical condition.

A 57 year-old man from Shenzhen City, Guangdong Province. He became ill on 8 March, was admitted to a hospital on 13 March and is currently in a severe condition.

The full report is available online at [http://www.who.int/csr/don/2014\\_03\\_17\\_h7n9/en/](http://www.who.int/csr/don/2014_03_17_h7n9/en/).

**International, Human (WHO [edited], March 20):** On 17 March 2014, the Centre for Health Protection (CHP) of the Department of Health, Hong Kong SAR, China, notified WHO of an additional laboratory-confirmed case of human infection with avian influenza A(H7N9) virus.

Details of the case reported:

The patient is a 5 month-old girl who lives in Foshan, Guangdong Province but stayed in Shenzhen, Guangdong Province during the week prior to her illness. She became ill on 16 March, the day she travelled to Hong Kong, and was subsequently hospitalized. Laboratory confirmation on the patient was conducted on 17 March and she is currently in a stable condition.

The full report is available online at [http://www.who.int/csr/don/2014\\_03\\_20\\_h7n9/en/](http://www.who.int/csr/don/2014_03_20_h7n9/en/).

**International, Human (WHO [edited], March 20):** On 19 March 2014, the National Health and Family Planning Commission (NHFPC) of China notified WHO of an additional three laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus.

Details of the cases reported are as follows:

A 71 year-old woman from Shenzhen City, Guangdong Province. She became ill on 5 March, was admitted to a hospital on 15 March and is currently in a severe condition. The patient had a history of exposure to poultry.

A 73 year-old man from Shenzhen City, Guangdong Province, He became ill on 10 March, was admitted to a hospital on 17 March and is currently in a critical condition. The patient had a history of exposure to poultry.

A 75 year-old woman from Chenzhou City, Hunan she became ill on 10 March, is currently hospitalised and in a stable condition.

The full report is available online at [http://www.who.int/csr/don/2014\\_03\\_20\\_h7n9bis/en/](http://www.who.int/csr/don/2014_03_20_h7n9bis/en/).

**International, MERS-CoV (WHO [edited], March 17):** On 26 February and 6 March 2014, the Ministry of Health of Saudi Arabia announced an additional two laboratory-confirmed cases of infection with Middle East respiratory syndrome coronavirus (MERS-CoV).

Details of the case announced on 26 February are as follows:

A 56 year-old woman from Riyadh region with underlying medical conditions. She became ill on 12 February and was admitted to a hospital on 22 February 2014. The patient had no known contact with animals or with previously laboratory-confirmed case.

Details of the case announced on 6 March are as follows:

An 86 year-old man from Riyadh region with no reported symptoms of illness. He is reported to have had contact with a previously laboratory-confirmed case.

Globally, from September 2012 to date, WHO has been informed of a total of 191 laboratory-confirmed cases of infection with MERS-CoV, including 82 deaths.

The full report is available online at [http://www.who.int/csr/don/2014\\_03\\_17/en/](http://www.who.int/csr/don/2014_03_17/en/).

**International, MERS-CoV (WHO [edited], March 18):** On 14 March 2014, the Ministry of Health of Saudi Arabia announced an additional five laboratory-confirmed cases of infection with Middle East respiratory syndrome coronavirus (MERS-CoV).

Details of the cases provided to WHO are as follows:

An 83 year-old man from Riyadh region with underlying medical conditions. He became ill on 24 February, was hospitalized on 1 March and is currently in a critical condition. He has no history of exposure to animals or contact with a previously laboratory-confirmed case.

A 19 year-old man from Riyadh region with underlying medical conditions. He became ill on 1 March, was hospitalised on 7 March and died shortly afterwards. He had a history of exposure to animals, including camels.

A 22 year-old woman from Riyadh region. She developed mild illness on 10 March and is in a stable condition. She had contact with the above mentioned 19 year-old case.

An 18 year-old woman from Riyadh region. She developed mild illness on 14 March and has recovered. She had contact with the above mentioned 19 year-old case.

A 53 year-old man from Riyadh region. He has no symptom of illness. He had contact with the above mentioned 19 year-old case.

Globally, from September 2012 to date, WHO has been informed of a total of 196 laboratory-confirmed cases of infection with MERS-CoV, including 83 deaths.

The full report is available online at [http://www.who.int/csr/don/2014\\_03\\_18/en/](http://www.who.int/csr/don/2014_03_18/en/).

**International, MERS-CoV (WHO [edited], March 20):** On 18 March 2014, WHO was notified of an additional two laboratory-confirmed cases of infection with Middle East respiratory syndrome coronavirus (MERS-CoV). One case was notified by the National IHR Focal Point of Kuwait and the other by the National IHR Focal Point of the United Arab Emirates (UAE).

Details of the case notified from Kuwait are as follows:

A 60 year-old Syrian national who was admitted to a hospital in Kuwait on 13 February and died on 6 March. He had underlying health conditions. The patient was confirmed with MERS-CoV on 9 March. All close contacts of the patients are being followed up.

Details of the case notified from the UAE are as follows:

A 68 year-old man from Abu Dhabi with underlying health conditions. He became ill on 7 March, was admitted to a hospital on 11 March with injury to his finger. He has mild symptoms. The patient was laboratory-confirmed with MERS-CoV on 17 March. The patient returned from Saudi Arabia five days prior to his admission in the hospital. He frequently visits Saudi Arabia where he owns a camel farm. Public health authorities are carrying out contact tracing and epidemiological investigations.

Globally, from September 2012 to date, WHO has been informed of a total of 198 laboratory-confirmed cases of infection with MERS-CoV, including 84 deaths.

The full report is available online at [http://www.who.int/csr/don/2014\\_03\\_20\\_mers/en/](http://www.who.int/csr/don/2014_03_20_mers/en/).

**International, Poultry (OIE [edited], March 14):** Low pathogenic avian influenza H5N2; Netherlands Outbreak 1: Bruchem, GELDERLAND; Date of start of outbreak: 12/03/2014; Epidemiological unit: Farm Species: Birds; Susceptible: 10541; Deaths: 0; Destroyed: 10541

**International, Poultry (OIE [edited], March 16):** Highly pathogenic avian influenza H5N1; Cambodia

Outbreak 1: Cambodia Agriculture Research and Development Institute (CARDI), Sangkat Pratas Lang, Khan Dangkao, PHNOM PENH; Date of start of the outbreak: 24/02/2014  
 Species: Birds; Susceptible: 200; Cases: 83; Deaths: 83; Destroyed: 117  
 Affected population Local chicken farm raising for research at the institute.

**International, Poultry (OIE [edited], March 20):** Highly pathogenic avian influenza H5N1; Vietnam  
 Outbreak 1: Nam Chinh, Nam Chinh, Duc Linh, BINH THUAN; Date of start of the outbreak: 18/03/2014  
 Epidemiological unit: Village  
 Species: Birds; Susceptible: 6800; Cases: 750; Deaths: 500; Destroyed: 6300

**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).

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

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**Table. H5N1 Influenza in Humans – As of January 24, 2014.** [http://www.who.int/influenza/human\\_animal\\_interface/EN\\_GIP\\_20130124CumulativeNumberH5N1cases.pdf](http://www.who.int/influenza/human_animal_interface/EN_GIP_20130124CumulativeNumberH5N1cases.pdf). Downloaded 02/05/2014. Cumulative lab-confirmed cases reported to WHO. Total cases include deaths.

Country	2003-2010		2011		2012		2013		2014		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	2	0	3	0	1	1	0	0	7	1
Cambodia	10	8	8	8	3	3	26	14	0	0	47	33
Canada	0	0	0	0	0	0	1	1	0	0	1	1
China	40	26	1	1	2	1	2	2	0	0	45	30
Djibouti	1	0	0	0	0	0	0	0	0	0	1	0
Egypt	119	40	39	15	11	5	4	3	0	0	173	63
Indonesia	171	141	12	10	9	9	3	3	0	0	195	163
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	119	59	0	0	4	2	2	1	1	1	126	63
Total	516	306	62	34	32	20	39	25	1	1	650	386