



# MI Flu Focus

Influenza Surveillance Updates  
Bureaus of Epidemiology and Laboratories



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### Current Influenza Activity Levels:

- **Michigan:** Sporadic activity
- **National:** During December 4-10, influenza activity remained low in the United States

### Updates of Interest

- **International:** 3 novel H3N2 viruses from pigs in China, similar to those associated with 11 recent U.S. human infections, are reported

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### **\*\*Notice to Readers\*\***

Eleven human cases of a novel influenza A (H3N2) virus have recently been reported by CDC. There are no known cases in Michigan to date, but recent investigations in those states with cases have suggested some instances of limited human-to-human transmission. CDC has asked all states to conduct surveillance for suspect cases of this novel virus by increasing influenza testing. Therefore, the Michigan Department of Community Health is requesting all healthcare providers, hospitals and laboratories to assist in this effort. Influenza testing for all patients with an influenza-like illness is highly recommended, and all positive influenza specimens should be forwarded to the MDCH Bureau of Laboratories for additional confirmation. Please call the MDCH Division of Communicable Disease at 517-335-8165 with questions or to report suspect cases. Additional information and guidance is attached to this document and available at [www.michigan.gov/flu](http://www.michigan.gov/flu).

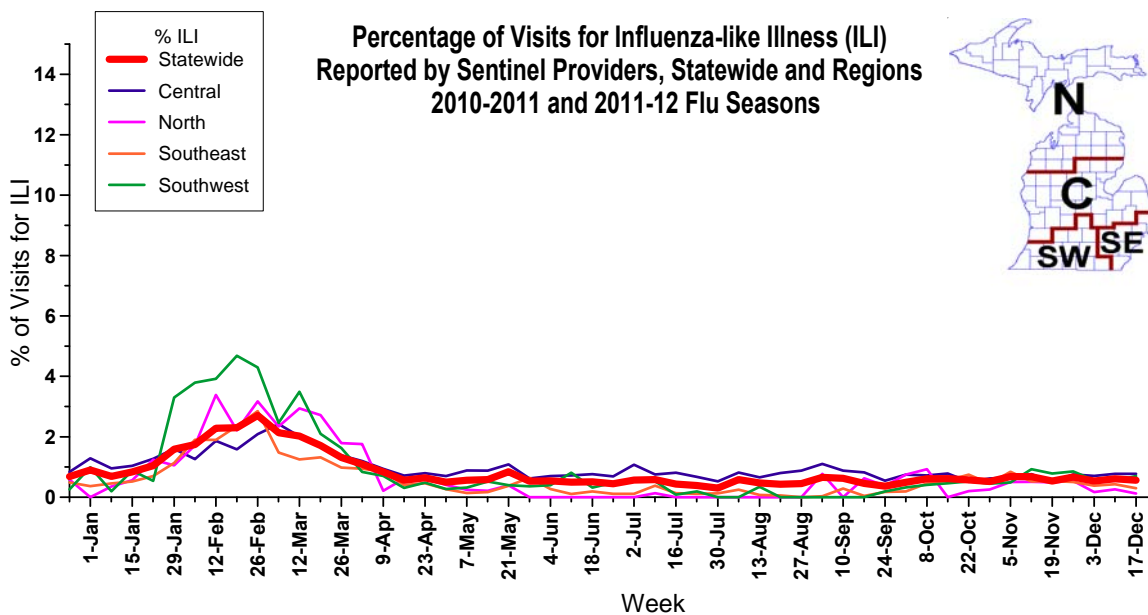
### **Influenza Surveillance Reports**

**Michigan Disease Surveillance System:** MDSS data for the week ending December 17<sup>th</sup> indicated that individual influenza cases remained at levels similar to the previous week. Aggregate reports decreased slightly, most likely due to the holiday school breaks. Both individual and aggregate reports are similar to levels seen during the same time last year.

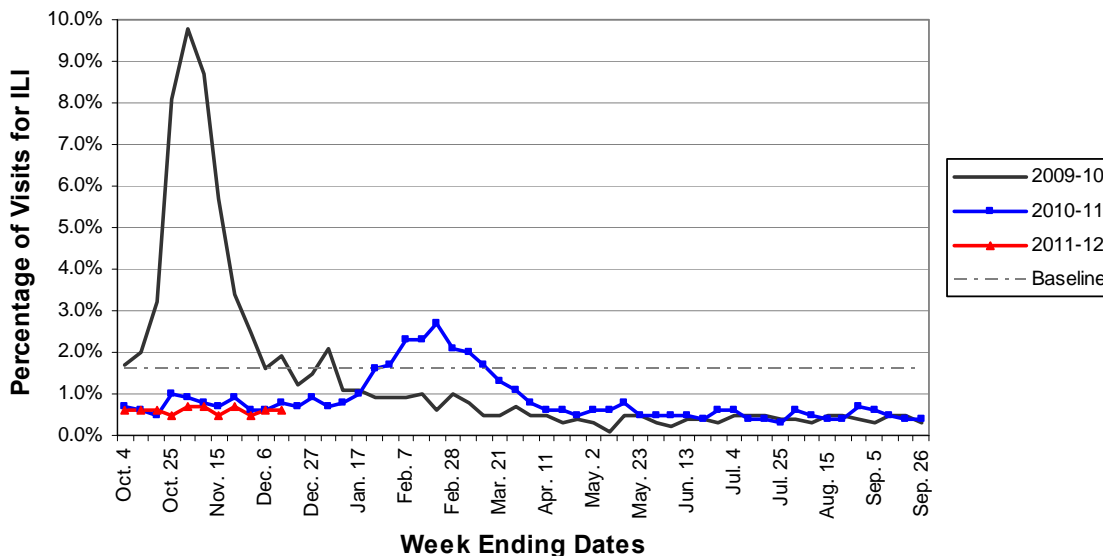
**Emergency Department Surveillance:** Compared to levels from the prior week, emergency department visits from constitutional complaints remained steady, while visits due to respiratory complaints decreased slightly. Both constitutional and respiratory complaints are similar to levels reported during the same time period last year. In the past week, there were four constitutional alerts in the C Influenza Surveillance Region and eleven respiratory alerts in the SE(1), SW(2), C(7) and N(1) Regions.

**Sentinel Provider Surveillance (as of December 22):** During the week ending December 17, 2011, the proportion of visits due to influenza-like illness (ILI) remained at 0.6% overall; this is below the regional baseline of 1.6%. A total of 57 patient visits due to ILI were reported out of 10,253 office visits. Thirty-four sentinel sites provided data for this report. Activity increased in one surveillance region: Southwest (0.7%); decreased in two regions: Southeast (0.3%) and North (0.1%); and remained the same in the Central region (0.8%). Please note these rates may change as additional reports are received.

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.



**Percentage of Visits for Influenza-like Illness (ILI) Reported by the US Outpatient Influenza-like Illness Surveillance Network (ILINet): Michigan 2009-2011**



**Hospital Surveillance (as of December 17):** The Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness in Clinton, Eaton and Ingham counties. No influenza hospitalizations were reported during the week ending December 17, 2011. For the 2011-12 season, there has been one adult lab-confirmed influenza hospitalization in the catchment area.

The MDCH Influenza Sentinel Hospital Network monitors influenza-associated hospitalizations reported voluntarily by hospitals statewide. Six hospitals (SE, SW, C, N) reported for the week ending December 17, 2011. One hospitalization (SW Region) in the 18-49 year old age group was reported from the week ending November 19. Results are listed in the table below.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2011-12 Season
0-4 years	0	1
5-17 years	0	0
18-49 years	1	3
50-64 years	0	0
≥65 years	0	0
<b>Total</b>	<b>1</b>	<b>4</b>

**Laboratory Surveillance (as of December 17):** During December 11-17, one influenza A/H3 positive result was reported by the MDCH Bureau of Laboratories. For the 2011-12 influenza season (starting October 2, 2011), MDCH has identified 3 influenza results:

- Influenza A/H3: 2 (2SE)
- Parainfluenza: 2 (1SE, 1C)
- Influenza B: 1 (SE)
- Adenovirus: 1 (SE)

11 sentinel labs (SE, SW, C, N) reported for the week ending December 17, 2011. No influenza positive results were reported. One lab (SW) reported sporadic parainfluenza activity. Three labs (SE, C) reported sporadic RSV activity. Overall testing volumes are low to moderate but slightly increasing at some sites.

**Michigan Influenza Antigenic Characterization (as of December 22):** For the 2011-12 season, one Michigan influenza B specimen has been characterized as B/Brisbane/60/2008-like at MDCH BOL; this strain matches the influenza B component for the 2011-12 Northern Hemisphere influenza vaccine.

**Michigan Influenza Antiviral Resistance Data (as of December 22):** No Michigan influenza specimens have been tested for antiviral resistance at this time for the 2011-12 season.

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 22):** No pediatric influenza-associated influenza mortalities have been reported to MDCH for the 2011-12 season.

\*\*CDC has asked states for information on any pediatric death associated with influenza. This includes not only any pediatric death (<18 years) resulting from a compatible illness with laboratory confirmation of influenza, but also any unexplained pediatric death with evidence of an infectious process. Please immediately call MDCH to ensure proper specimens are obtained. View the complete MDCH protocol online at [http://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 22):** One respiratory outbreak from the C Region at a middle/high school was reported during the previous week; the outbreak did not appear to be due to influenza and no testing was performed. One respiratory outbreak has been reported to MDCH during the 2011-12 season.

**National (CDC [edited], as of December 16):** During week 49 (December 4-10, 2011), influenza activity remained low in the United States. Of the 2,480 specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories and reported to CDC/Influenza Division, 48 (1.9%) were positive for influenza. The proportion of deaths attributed to 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 1.2%, which is below the national baseline of 2.4%. All 10 regions reported ILI below region-specific baseline levels. Two states and New York City experienced low ILI activity, forty-eight states experienced minimal ILI activity, and the District of Columbia had insufficient data. The geographic spread of influenza in three states was reported as local; Guam, Puerto Rico, and 32 states reported sporadic activity, and the District of Columbia, the U.S. Virgin Islands, and 15 states reported no influenza activity.

CDC has antigenically characterized 61 influenza viruses [nine 2009 influenza A (H1N1), 42 influenza A (H3N2) viruses, and 10 influenza B viruses] collected by U.S. laboratories since October 1, 2011. All nine Influenza A (H1N1) viruses were characterized as A/California/7/2009-like, the influenza A (H1N1) component of the 2011-12 influenza vaccine for the Northern Hemisphere. All 42 Influenza A (H3N2) viruses were characterized as A/Perth/16/2009-like, the influenza A (H3N2) component of the 2011-12 influenza vaccine for the Northern Hemisphere. Six of 10 influenza B viruses tested belong to the B/Victoria lineage of viruses and were characterized as B/Brisbane/60/2008-like, the recommended influenza B component for the 2011-12 Northern Hemisphere influenza vaccine. Four of 10 influenza B viruses tested belong to the B/Yamagata lineage of viruses. It is too early in the influenza season to determine how well the seasonal influenza vaccine strains and circulating strains will match.

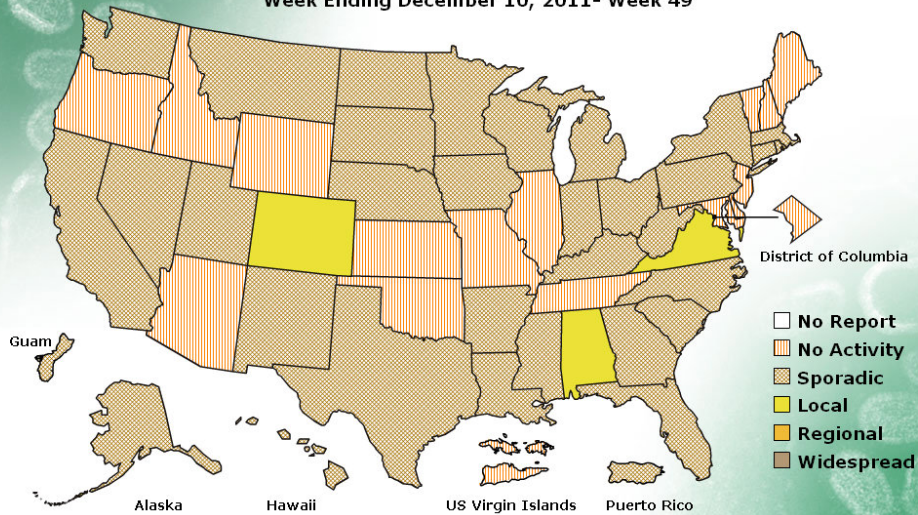
The entire weekly report is available online at <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

# FLUVIEW



A Weekly Influenza Surveillance Report Prepared by the Influenza Division  
Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists\*

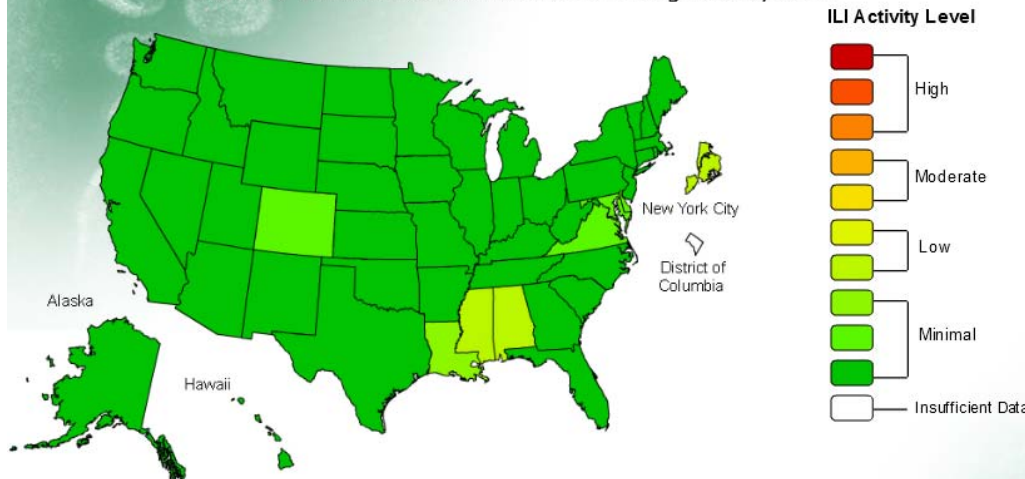
Week Ending December 10, 2011- Week 49



\*This map indicates geographic spread and does not measure the severity of influenza activity.

# FLUVIEW

A Weekly Influenza Surveillance Report Prepared by the Influenza Division  
**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet**  
2011-12 Influenza Season Week 49 ending Dec 10, 2011



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 epidemiologist.

**International (WHO [edited], December 16):** Influenza activity in the temperate regions of the northern hemisphere remains at low levels, with sporadic activity reported in Canada, the United States of America, and some European countries. Countries in the tropical zone mostly reported low influenza activity except Costa Rica, primarily influenza A(H3N2), and Cameroon, which is experiencing transmission of A(H3N2) following on recent peaks of A(H1N2)pdm09 and type B. Influenza activity in the temperate countries of the southern hemisphere is at inter-seasonal levels.

### *Countries in the temperate zone of the northern hemisphere*

Sporadic reports of influenza activity have been reported in the temperate areas of northern hemisphere, though no country has yet crossed its seasonal threshold. Canada reported localized influenza activity in eight regions, three outbreaks of influenza or influenza-like illness (ILI), and three influenza-related hospitalizations. In the United States, nationally, ILI consultations remained below the baseline and the percentage of samples positive for influenza was <2%, with sporadic detections of influenza A(H3N2) and influenza type B. In Europe, consultation rates for ILI continue to be low but nine countries have reported increasing trends. Only 1.8% of sentinel laboratory specimens tested were positive for influenza; A(H3N2) was the most common virus identified. Influenza activity in north China increased slightly as compared to the previous week with influenza type B as the predominant type.

### *Countries in the tropical zone*

No notable influenza transmission has been reported in the majority of the Caribbean and Central America with the exception of Costa Rica, which has continued to report increasing numbers of influenza A(H3N2) detections.

In sub-Saharan Africa, only sporadic detections of influenza viruses were reported with the exception of Cameroon. Influenza type B transmission began in June in Cameroon and appears to be declining overall since peaking in early September. Transmission of influenza A(H1N1)pdm09, which began about six weeks after influenza type B, appears to have peaked in early November, coincident with a rise in influenza A(H3N2) detections, which appears to be peaking only now. Sierra Leone, which has recently begun influenza surveillance, experienced a peak of A(H3N2) transmission in late August, which has now subsided. Kenya has reported continuous detections of influenza viruses throughout the year, which is now predominantly A(H3N2) with smaller numbers of A(H1N1)pdm09 and influenza type B.

The overall influenza activity in the tropical Asia remained low with some notable localized areas of transmission. India has reported influenza type B circulation since September. In Lao People's Democratic Republic, 11 of the 88 samples were tested positive for influenza A(H3N2) during 20-26 November. Transmission of the previously reported A(H3N2) in Thailand has now returned to very low levels of virus detection. Other countries of southern Asia continue to report small numbers of both A(H3N2) and influenza type B.

### *Countries in the temperate zone of the southern hemisphere*

In the temperate regions of South America influenza activity has declined to inter-seasonal levels. Paraguay and Chile reported low numbers of influenza A(H3N2).

Southern Africa: Influenza detections in this region are at very low levels.

In Australia and New Zealand, influenza activity is now at inter-seasonal levels. As was seen in the last year, inter-seasonal low level activity persists in Australia with low detections of influenza type B and A(H3N2). In the Pacific Islands, there was sustained levels of activity in American Samoa, Fiji, Marshall Islands and Northern Mariana Islands.

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 **SPORADIC ACTIVITY** to CDC for the week ending December 17, 2011.

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.

**National, Marine (JAVMA News [edited] via ProMed, December 15):** The National Oceanic and Atmospheric Administration (NOAA) is stepping up an investigation into the cause of 146 harbor seal deaths along the New England coast since September [2011] after influenza A virus was identified in 5 of the seals. On 4 Nov [2011], NOAA announced it had declared the seal deaths an "unusual mortality event," which authorizes the federal agency to mobilize additional resources in the investigation.

The declaration followed a consultation with the Working Group on Marine Mammal Unusual Mortality Events, a panel of international experts established under the Marine Mammal Protection Act to monitor and investigate marine mammal health concerns.

Between 1 Sept 2011 and 3 Nov 2011, 146 seal strandings were reported in Maine, New Hampshire, and northern Massachusetts -- more than 3 times the average number of strandings for that time of year. Most of the animals were harbor seals less than a year old.

Samples from 5 seals analyzed at the New England Aquarium tested positive for influenza A virus. Test results for several other viral pathogens and biotoxins were negative.

Additional evaluations were under way to determine whether the influenza virus has played a role in the deaths.

An investigation team of marine mammal experts will work closely with NOAA, New England Stranding Network partners, and the Working Group on Marine Mammal Unusual Mortality Events to identify and characterize the specific type of influenza A virus found in these animals.

People were being advised not to allow their dogs to approach stranded seals, as seals and dogs can infect each other with diseases, NOAA noted.

**International, Human (WHO, December 15):** The Ministry of Health and Population of Egypt has notified WHO of two cases of human infection with avian influenza A (H5N1) virus.

The two cases are a mother and her young child from Dakahlia Governorate. Both developed symptoms on 26 November 2011. The mother was admitted to a Hospital on 1 December 2011 and received oseltamivir on admission. The child was hospitalised on 2 December 2011 and received oseltamivir on admission. The mother was 24 weeks pregnant. She died on 3 December 2011. The child is in stable condition.

Investigations into the source of infection indicate that both cases had exposure to sick and dead backyard poultry (chicken and turkeys).

The case was confirmed by the Egyptian Central Public Health Laboratories, a National Influenza Centre of the WHO Global Influenza Surveillance Network, on 3 December 2011.

Of the 155 cases confirmed to date in Egypt, 53 have been fatal.

**International, Human (WHO, December 21):** The Ministry of Health and Population of Egypt has notified WHO of a case of human infection with avian influenza A (H5N1) virus.

The case is a 29-year-old male from Dakahlia Governorate. He developed symptoms on 8 December 2011 and was admitted to hospital on 15 December 2011, where he received oseltamivir treatment. He was in critical condition and died on 19 December 2011.

The case was confirmed by the Central Public Health Laboratories, a National Influenza Centre of the WHO Global Influenza Surveillance Network on 18 December 2011.

Investigations into the source of infection indicated that the case had exposure to backyard poultry.

Of the 156 cases confirmed to date in Egypt, 54 have been fatal.

**International, Swine (CIDRAP, December 15):** Chinese researchers have isolated three novel H3N2 reassortant viruses from pigs in southern China that contain genetic material from a pH1N1 strain, similar

to those associated with 11 recent infections in US patients, according to a report yesterday in the *Journal of Virology*. The scientists said it was the first evidence of such a virus in the country, and the first detection of H3N2 in pigs during ongoing surveillance in southern China since 2005. The viruses, which contain surface genes derived from a triple-reassortant H3N2 swine flu virus and internal genes from pH1N1, were detected in two pigs in Hong Kong on Jun 21 and in a Guangxi pig on Nov 7, 2010. In spite of their separation geographically and chronologically, they are genetically very closely related, the authors write. "This provides direct evidence that the pdm/09-like internal gene complex has been successfully incorporated into a swine H3N2 virus, and been prevalent in the pig population for a period of time," they add.

The abstract is available online at <http://jvi.asm.org/content/early/2011/12/07/JVI.06824-11.short>.

**International, Poultry (OIE [edited], December 21):** Highly pathogenic avian influenza H5N1  
Country: Bangladesh

Outbreak 1: Rajbari poultry farm, Charbagmara, Mizanpur, Rajbari Sadar, Rajbari, DHAKA  
Date of start of the outbreak: 12/11/2011; Outbreak status: Resolved  
Epidemiological unit: Farm; Affected population: a commercial poultry farm  
Species: Birds; Susceptible: 11500; Cases: 270; Deaths: 270; Destroyed: 11230; Slaughtered: 0

Outbreak 2: Farm of Bidhan Mridha, Joykha, Sonaitola, Mangla, Bagerhat, KHULNA  
Date of start of the outbreak: 18/12/2011; Outbreak status: Resolved  
Epidemiological unit: Farm; Affected population: a commercial poultry farm  
Species: Birds; Susceptible: 720; Cases: 320; Deaths: 320; Destroyed: 400; Slaughtered: 0

Outbreak 3: Mamtaj poultry farm, Rathura, Baniajuri, Ghior, Manikgonj, DHAKA  
Date of start of the outbreak: 23/11/2011; Outbreak status: Resolved  
Epidemiological unit: Farm; Affected population: a commercial poultry farm  
Species: Birds; Susceptible: 2104; Cases: 572; Deaths: 572; Destroyed: 1532; Slaughtered: 0

Outbreak 4: Bulbul poultry farm, House 25 West Baniakhamar, Khulna, KHULNA  
Date of start of the outbreak: 10/12/2011; Outbreak status: Resolved  
Epidemiological unit: Farm; Affected population: a commercial poultry farm  
Species: Birds; Susceptible: 660; Cases: 95; Deaths: 95; Destroyed: 565; Slaughtered: 0

**International, Poultry (CNN, December 21):** The Hong Kong government said Wednesday that more than 17,000 chickens were being culled at a poultry market after a chicken carcass tested positive for avian flu. The territory's Director of Agriculture, Fisheries & Conservation declared the Cheung Sha Wan Temporary Wholesale Poultry Market an infected place, the government said in a statement. Local farmers will be prevented from sending chickens to the market for 21 days. The government said that it was working to trace the origin of the chicken, which was infected with the H5N1 avian influenza virus, but that it did not know at this point whether it was from a local farm or imported.

**International, Wild Birds (OIE [edited], December 19):** Highly pathogenic avian influenza virus H5N1  
Country: Hong Kong Special Administrative Region  
Date of first confirmation of the event: 19/12/2011  
Outbreak: 7 Tai Yuk Road, Yuen Long, HONG KONG  
Species: Wild species; Cases: 1; Deaths: 1; Destroyed: 0; Slaughtered: 0  
Affected population: A Black-headed Gull (*Chroicocephalus ridibundus*) was collected on 13 December 2011 at 7 Tai Yuk Road, Yuen Long. The Black-headed Gull is a common winter visitor in Hong Kong.  
Source of the outbreak(s): unknown or inconclusive  
Epidemiological comments: An intensive surveillance system is in place for all poultry farms, poultry markets, pet bird shops in Hong Kong. The H5N1 infected wild bird was detected in the framework of the ongoing surveillance program on wild birds. No spread of disease was evident. As this was a wild bird case, the date of event ended is the same as the date the bird was found (i.e. 13 December 2011).

**Michigan Wild Bird Surveillance (USDA, as of December 22):** For the 2011 season (April 1, 2011-March 31, 2012), highly pathogenic avian influenza H5N1 has not been recovered from 7 Michigan samples or 408 samples tested nationwide. For more information, visit <http://wildlifedisease.nbio.gov/ai/>.

To learn about avian influenza surveillance in Michigan wild birds or to report dead waterfowl, go to Michigan's 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).

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 December 21, 2011.** [http://www.who.int/influenza/human\\_animal\\_interface/EN\\_GIP\\_20111221CumulativeNumberH5N1casesN.pdf](http://www.who.int/influenza/human_animal_interface/EN_GIP_20111221CumulativeNumberH5N1casesN.pdf). Downloaded 12/22/2011. Cumulative lab-confirmed cases reported to WHO. Total cases includes deaths.

Country	2003-2004		2005		2006		2007		2008		2009		2010		2011		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Azerbaijan	0	0	0	0	8	5	0	0	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	3	0
Cambodia	0	0	4	4	2	2	1	1	1	0	1	0	1	1	8	8	18	16
China	1	1	8	5	13	8	5	3	4	4	7	4	2	1	0	0	40	26
Djibouti	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Egypt	0	0	0	0	18	10	25	9	8	4	39	4	29	13	37	14	156	54
Indonesia	0	0	20	13	55	45	42	37	24	20	21	19	9	7	11	9	182	150
Iraq	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	3	2
Lao PDR	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2
Myanmar	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Nigeria	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
Pakistan	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	3	1
Thailand	17	12	5	2	3	3	0	0	0	0	0	0	0	0	0	0	25	17
Turkey	0	0	0	0	12	4	0	0	0	0	0	0	0	0	0	0	12	4
Vietnam	32	23	61	19	0	0	8	5	6	5	5	5	7	2	0	0	119	59
Total	50	36	98	43	115	79	88	59	44	33	73	32	48	24	60	32	574	337