



MI FluFocus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories



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Current Influenza Activity Levels:

- **Michigan:** Sporadic activity
- **United States:** During Nov. 21-27, influenza activity in the U.S. remained relatively low overall, but increased slightly in the Southeast

Updates of Interest:

- **International:** Egypt and Indonesia report new human cases of avian influenza H5N1

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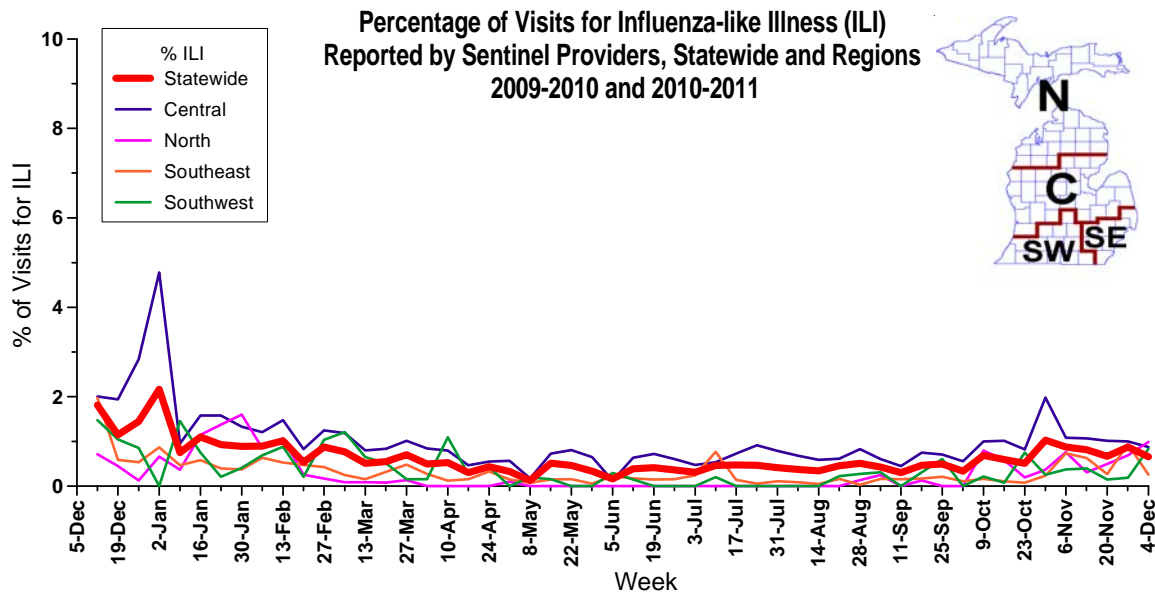
Influenza Surveillance Reports

Michigan Disease Surveillance System: MDSS data for the week ending December 4th indicated that individual influenza reports remained similar to the previous week's levels, while aggregate reports increased slightly. Aggregate influenza cases and individual influenza cases are significantly lower than levels seen during the same time last year, which was the fall peak of the 2009 H1N1 pandemic.

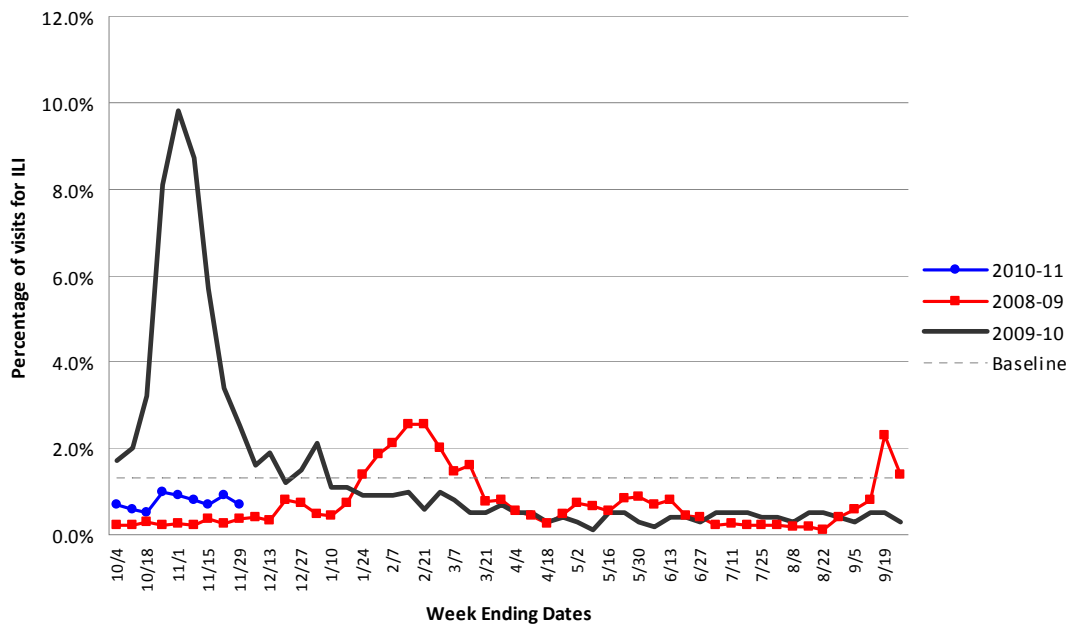
Emergency Department Surveillance: Emergency department visits from constitutional and respiratory complaints increased slightly compared to the previous week; however, both are lower than levels during the same reporting period last year. In the past week, there were four constitutional alerts in the SW(1), C(2) and N(1) Influenza Surveillance Regions and three respiratory alerts in the SE(1) and C(2) Regions.

Over-the-Counter Product Surveillance: Over the past week, un-promoted sales of cough/cold medications, children's electrolytes and thermometers all increased slightly, while chest rub sales remained steady. When compared to this time last year, chest rub sales are slightly increased, and thermometer sales are significantly decreased.

Sentinel Provider Surveillance (as of December 9): During the week ending December 4, 2010, the proportion of visits due to influenza-like illness (ILI) slightly decreased to 0.7% overall; this is below the regional baseline of 1.8%. A total of 72 patient visits due to ILI were reported out of 10,991 office visits. Thirty-five sentinel sites provided data for this report. Activity increased in two surveillance regions: North (0.9%) and Southwest (0.8%); and decreased in the remaining two surveillance regions: Southeast (0.3%) and Central (0.9%). Please note these rates may change as additional reports are received.



**Percentage of Visits for Influenza Like Illness (ILI) Reported by the US Outpatient
Influenza-like Illness Surveillance Network (ILINet) - Michigan, 2008-2010**



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 December 4): During Nov. 28-Dec. 4, there were no new lab-confirmed influenza cases hospitalized within the catchment area (Clinton, Eaton and Ingham counties); the total since October 1, 2010 remains at 4 pediatric cases. Based on these data, the estimated incidence rate of pediatric influenza hospitalization in the catchment area, from October 1-December 4, is 4 per 100,000.

Laboratory Surveillance (as of December 4): During November 28 – December 4, two new influenza A/H3 isolates and one new 2009 influenza A/H1N1 isolate in Michigan residents were reported by MDCH Bureau of Laboratories. For the 2010-11 season (starting October 3, 2010), MDCH BOL has identified five influenza isolates from Michigan residents:

- 2009 Influenza A/H1N1: 2 (2SE)
- Influenza A/H3: 3 (2SE, 1SW)

12 sentinel laboratories reported for the week ending December 4, 2010. One lab (N) reported one influenza A positive lab result and one lab (SE) reported one influenza B positive result. Influenza testing volumes remain at low to moderate levels. Five sites (SE, C) reported sporadic RSV positive results.

Michigan Influenza Antigenic Characterization (as of December 9): No influenza isolates for the 2010-2011 season have undergone further antigenic characterization at the CDC.

Michigan Influenza Antiviral Resistance Data (as of December 9): No influenza isolates for the 2010-2011 season have undergone antiviral resistance testing.

Antiviral resistance testing takes months to complete and cannot be used to guide individual patient treatment. However, 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 9): No influenza-associated pediatric mortalities have been reported to MDCH for the 2010-2011 influenza season.

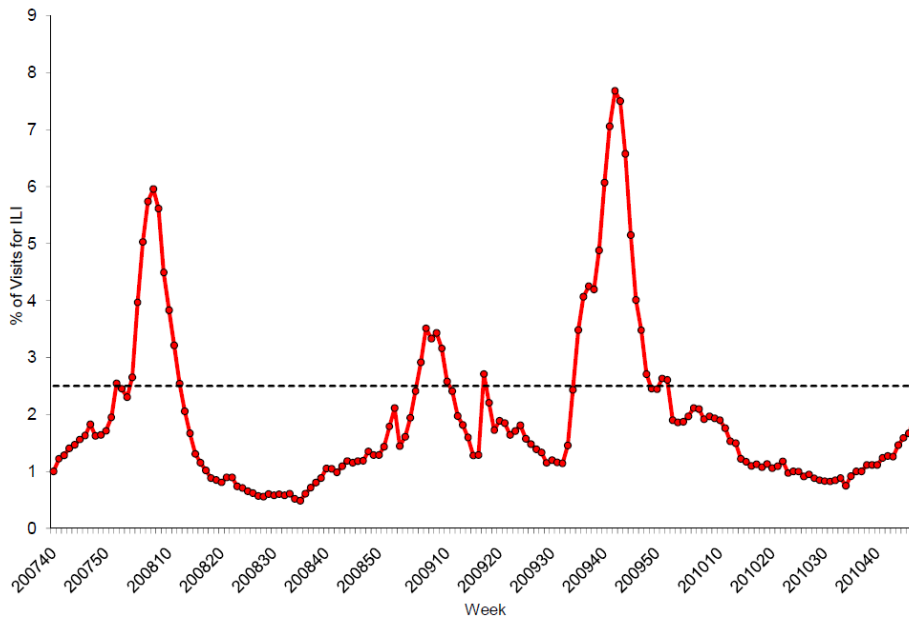
***CDC has asked states for information on any pediatric death associated with influenza. This includes not only any pediatric death (<18 years) resulting from a compatible illness with laboratory confirmation of influenza, but also any unexplained pediatric death with evidence of an infectious process. 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.

Influenza Congregate Settings Outbreaks (as of December 9): No respiratory congregate setting outbreaks have been reported to MDCH for the 2010-2011 influenza season.

National (CDC [edited], December 3): During week 47 (November 21-27, 2010), influenza activity in the United States remained relatively low overall, but increased slightly in the Southeast. Of the 3,430 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, 366 (10.7%) 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 1.9%, which is below the national baseline of 2.5%. One of the 10 regions (Region 4) reported ILI above region specific baseline levels; one state experienced high ILI activity, one state experienced low ILI activity, and 48 states experienced minimal ILI activity. The geographic spread of influenza in one state was reported as regional, Puerto Rico and nine states reported local activity; the District of Columbia, Guam, the U.S. Virgin Islands, and 33 states reported sporadic activity; and seven states reported no influenza activity.

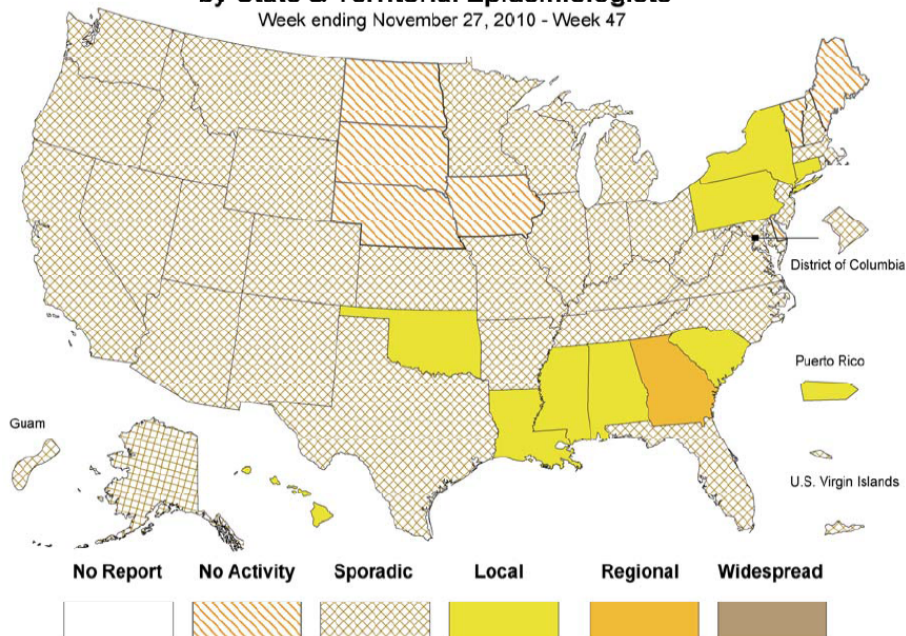
The entire weekly report is available online at <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, September 30, 2007 – November 27, 2010

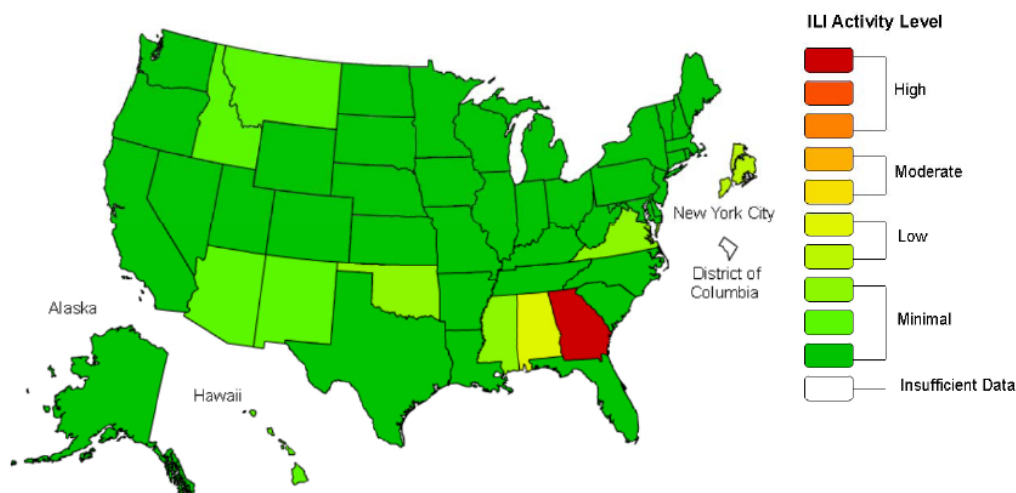


Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists*

Week ending November 27, 2010 - Week 47



**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2010-11 Influenza Season Week 47 ending Nov 27, 2010**



*This map uses the proportion of outpatient visits to health care 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 in 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], December 3): Worldwide, influenza activity remained low, except in areas of South Asia and central and western Africa, which have seen recent surges in influenza H1N1 (2009) virus detections. As the northern hemisphere winter approaches, with few exceptions, most countries in the temperate zone of the northern hemisphere continued to report low levels of ILI and influenza virus detections. Except for a few countries in Southeast Asia, most countries in the tropics of the Americas and Asia have recently reported low levels of influenza activity. Globally, there continued to be co-circulation of influenza H1N1 (2009), A(H3N2), B viruses, with the latter two being predominant.

Countries in the temperate zone of the Northern Hemisphere

In North America, overall influenza activity and levels of ILI remained below baseline. Notably, however, in the southeastern part of the United States, influenza activity has steadily increased in November; in the southwestern region, as of the third week of November, approximately 17% of respiratory specimens tested positive for influenza, including both A(H3N2) and B viruses, with the later being predominant.

Most countries of the European region continued to report low overall levels of ILI and low to sporadic levels of influenza virus detections. In Bulgaria and the Russian Federation, a medium intensity of respiratory diseases activity was reported, however, it is not yet known if these increases were associated with circulation of influenza viruses.

In East Asia, overall influenza activity remained low across China, Japan, and the Republic of Korea. In northern China, the number of respiratory specimens testing positive for influenza (primarily A(H3N2)) increased between late October and mid-November 2010, however, the increase in the detection rate was associated with only a small rise the levels of ILI. In Mongolia, during mid to late November, reported an increase in the detection rate of influenza A(H3N2) viruses which was associated with an increase in the rate of ILI above the seasonal threshold, suggesting that local winter influenza season has begun.

Countries in the temperate zone of the Southern Hemisphere

Overall, little influenza activity is being reported as the summer months approach in countries of the temperate Southern Hemisphere. Late season and regionally variable epidemics of influenza A(H3N2) virus in Chile and Argentina now appear to have largely subsided. In South Africa, influenza activity has also largely subsided after a period of low level springtime circulation of influenza B and H1N1 (2009) viruses detected in the sentinel ILI surveillance system during November 2010.

Countries in the tropical zone

In South Asia, only Sri Lanka reported a recent surge of influenza H1N1 (2009) virus detections during mid-October through late November 2010, however, to date there have not been reports of unusual clinical severity of cases. In India and Bangladesh, influenza activity observed during recent months has

now largely subsided. In Southeast Asia, several countries continued to report low to moderate levels of influenza A(H3N2) virus detections.

In Sub-Saharan Africa, overall influenza activity remained low in most countries, except in Cameroon and Ethiopia, which as of early to mid-November 2010, reported a recent surge in the numbers of specimens testing positive for H1N1 (2009) virus [18(69%) of 26 specimens testing positive in Ethiopia and 18(23%) of 79 specimens testing positive in Cameroon]. The extent to which these increased detections of influenza virus have been associated with increased ILI in the community is not yet known. Across the rest of the region, low to moderate levels of influenza A(H3N2) virus circulation continued to be detected in Kenya and Ghana, respectively.

In the tropical zone of the Americas, overall influenza activity remained low to sporadic in most areas. In Costa Rica, influenza A(H3N2) and B viruses continued to co-circulate at low levels during November 2010. In Columbia, small numbers of influenza H1N1 (2009) viruses were detected during November 2010. In Bolivia, sustained active circulation of influenza A(H3N2) viruses has been observed since mid-September 2010. In Cuba, there has been a fluctuating low to moderate level circulation of influenza A(H3N2) viruses since early August 2010. In southern Mexico, influenza activity has largely subsided after a period of active influenza A(H3N2) circulation spanning August to mid-November 2010.

The entire summary is available online at

http://www.who.int/csr/disease/influenza/2010_12_03_GIP_surveillance/en/index.html.

Map of International Activity (CDC): A Map of International Co-circulation of Seasonal Influenza is available online at <http://cdc.gov/flu/international/map.htm>.

MDCH reported **SPORADIC INFLUENZA ACTIVITY** to CDC for the week ending December 4, 2010.

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. 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, Human (WHO, December 8): The Ministry of Health of Egypt has announced a new case of human infection of H5N1 avian influenza. A 30-year-old female from Gharbia Governorate, developed symptoms on 28 November, was hospitalized on 1st of December, where she received oseltamivir treatment, and died on 2nd of December. Investigations into the source of infection indicated that the case had exposure to sick and dead poultry. The case was confirmed by the Egyptian Central Public Health Laboratories, a National Influenza Center of the WHO Global Influenza Surveillance Network (GISN). Of the 113 cases confirmed to date in Egypt, 37 have been fatal.

International, Human (WHO, December 9): The Ministry of Health of Indonesia has announced a new case of human infection of H5N1 avian influenza. A 21-year-old female from Bandung City, West Java developed symptoms on 14 November, was hospitalized on 22 November and is currently in hospital. Initial investigations indicate the case resided in an area close to a business where chickens were kept and the area was found to be lacking cleanliness with chicken droppings present. Additional investigation on the possible source of infections is being undertaken. Laboratory tests have confirmed infection with the H5N1 avian influenza virus. Of the 171 cases confirmed to date in Indonesia, 141 have been fatal.

International, Poultry (OIE [edited], December 5): Country: Nepal
Causal Agent: Highly pathogenic avian influenza virus Serotype(s) H5N1
Date of first confirmation of the event: 27/10/2010; Date of Start of Event: 25/10/2010
Date of report: 05/12/2010; Date Submitted To OIE: 05/12/2010
Zone: NARAYANI; District: Chitwan; Village: Mangalpur-3; Location: Nawaganga Poultry Farm
Species: Birds; Susceptible: 11503; Cases: 66; Deaths: 66; Destroyed: 11437; Slaughtered: 0
Affected Population: A commercial poultry farm

Epidemiological comments: Stamping out and cleaning and disinfection of the infected farm and premises were completed on 30 October 2010. Post-surveillance activities are ongoing and no further cases in other areas have been detected so far.

Source of the outbreak(s) or origin of infection: Unknown or inconclusive

Control Measures Applied: Stamping out

International, Wild Birds (OIE [edited], December 9): Country: Korea (Rep. of)

Causal Agent: Highly pathogenic avian influenza virus Serotype(s) H5N1

Date of first confirmation of the event: 07/12/2010; Date of Start of Event: 29/11/2010

Date of report: 09/12/2010; Date Submitted To OIE: 09/12/2010

Province: CHOLLA-BUKDO; District: Iksan city; Sub-district: Chunpo-myun; Location: Chunpo-ri

Species: Wild species; Susceptible: 39; Cases: 1; Deaths: 0; Destroyed: 0; Slaughtered: 0

Affected Population: Anas platyrhynchos (mallard duck)

Epidemiological comments: As part of a continuous avian influenza surveillance programme, 39 wild birds were captured and samples (faeces, laryngo-pharyngeal swab) were collected. The NVRQS found avian influenza antigen (H5) by PCR and confirmed it as highly pathogenic avian influenza (H5N1) virus by gene sequencing from one mallard duck on 7 December 2010. Clinical surveillance and disinfection on the neighbouring poultry farms were enhanced.

Source of the outbreak(s) or origin of infection: Unknown or inconclusive

Control Measures Applied: Movement control inside the country; Zoning; Disinfection of infected premises

Michigan Wild Bird Surveillance (USDA, as of December 9): For the 2010 season (April 1, 2010-March 31, 2011), highly pathogenic avian influenza H5N1 has not been recovered from 31,202 samples tested nationwide, including 1201 Michigan samples (7 live bird, 1121 hunter-killed birds, 73 morbidity/mortality). 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.

For questions or to be added to the distribution list, please contact Susan Peters at PetersS1@michigan.gov

Contributors

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Table. H5N1 Influenza in Humans - Cases up to December 9, 2010. http://www.who.int/csr/disease/avian_influenza/country/cases_table_2010_12_09/en/index.html. Downloaded 12/9/2010. Cumulative number of lab-confirmed cases reported to WHO. Total cases includes deaths.

Country	2003		2004		2005		2006		2007		2008		2009		2010		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Cambodia	0	0	0	0	4	4	2	2	1	1	1	0	1	0	1	1	10	8
China	1	1	0	0	8	5	13	8	5	3	4	4	7	4	2	1	40	26
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	8	4	39	4	23	10	113	37
Indonesia	0	0	0	0	20	13	55	45	42	37	24	20	21	19	9	7	171	141
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	3	2
Lao PDR	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	6	5	5	5	7	2	119	59
Total	4	4	46	32	98	43	115	79	88	59	44	33	73	32	42	21	510	303