



# MI FluFocus

## Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology  
Bureau of Laboratories

Michigan Department  
of Community Health



Jennifer M. Granholm, Governor  
Janet Olszewski, Director

Editor: Susan Vagasky, DVM  
VagaskyS@Michigan.gov

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### New updates in this issue:

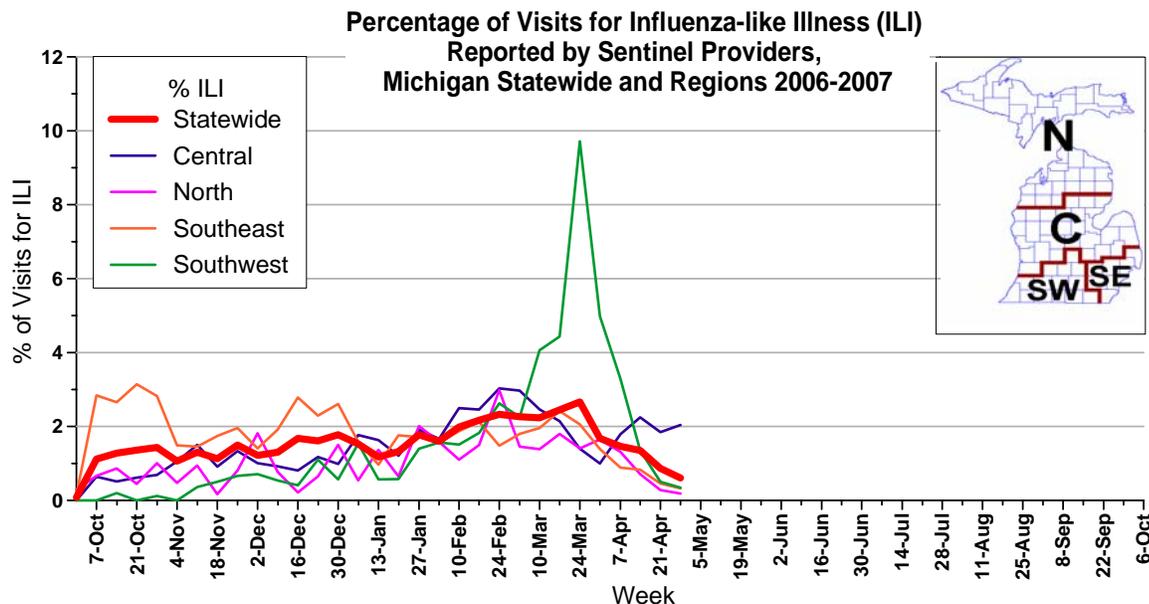
- **Michigan Surveillance:** Influenza activity continues to decrease but still present in the state.
- **National Surveillance:** Activity continues to decrease; majority of states are at sporadic levels.
- **Avian Influenza:** Ghana reports its first confirmed H5N1 outbreak in poultry.

**Michigan Disease Surveillance System:** The last week saw a slight increase in individual influenza reports while aggregate flu-like illness reports slightly decreased from last week. These indicators are expected to continue to fluctuate at baseline levels until next fall.

**Emergency Department Surveillance:** Emergency department visits due to constitutional complaints saw a fourth week of notable decline. Respiratory complaints also decreased noticeably, with a very slight increase at the end of the week. Reported levels are consistent with levels from this time last year. One constitutional alert in Region 3 and three respiratory alerts in Region 7 were generated last week.

**Over-the-Counter Product Surveillance:** OTC product sales remained steady last week. Chest rub sales slightly increased while adult liquid cold relief and children's electrolytes slightly decreased. Adult and pediatric cold liquids and thermometers saw a slight mid-week increase, but returned to levels seen at the beginning of the week. Indicators levels are comparable to those seen at this time last year, except for adult and pediatric cold liquid, which are holding 1-2% below its percentage of total sales for this time last year.

**Sentinel Surveillance (as of May 3):** During the week ending April 28, 2007, the proportion of visits due to influenza-like illness (ILI) in Michigan decreased to 0.6% of all visits, representing 43 cases of ILI out of 7,070 total patient visits; twenty-eight sentinels provided data for this report. No sites are reporting highly elevated ILI; most reporting sites have low levels. The proportion of visits due to ILI increased in the Central region (2%) and decreased in the North (0.2%), Southeast (0.3%), and Southwest (0.3%) surveillance regions. Note that these rates may change as additional reports are received.



As part of pandemic influenza preparedness, CDC and MDCH highly encourage and recommend year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Rachel Potter at 517-335-9710 or [potterr1@michigan.gov](mailto:potterr1@michigan.gov) for more information.

**Laboratory Surveillance (as of May 3):** For the 2006-2007 influenza season, there have been 151 culture-confirmed cases from the MDCH Lab:

- 69 A:H1N1 (Southeast (22), Southwest (21), Central (16), North (10))
- 31 A:H3N2 (North (12), Southeast (12), Central (4), Southwest (3))
- 51 B (Central (17), Southeast (17), Southwest (12), North (5))

All influenza B cultures have been B/Malaysia, except for three B/Shanghai results from the Southeast region. Submissions to MDCH BOL have decreased dramatically, with one new positive result last week.

Two sentinel labs reported low numbers of positive results for the past week; all other labs reported no positive test results. Very low numbers of respiratory syncytial virus, parainfluenza virus and adenovirus continue to be reported. This is the final week for traditional sentinel laboratory surveillance this season.

\*\*\*As a reminder, the positive predictive value of influenza rapid tests decreases during times of low influenza prevalence. MDCH suggests that during periods of low influenza activity in your community, all positive rapid tests results be confirmed by sending in a specimen for viral culture; this can be arranged through your local health department.

**Influenza-Associated Pediatric Mortality (as of May 3):** For the 2006-2007 season, there are no confirmed reports of influenza-related pediatric mortality in Michigan. MDCH and CDC investigated a possible pediatric death due to influenza from the Southeast region, but results were inconclusive.

\*\*\*Reminder: The CDC has asked all states to continue to collect information on any pediatric death associated with influenza infection. This includes not only any death in a child less than 18 years of age resulting from a clinically compatible illness confirmed to be influenza by an appropriate laboratory or rapid diagnostic test, but also unexplained death with evidence of an infectious process in a child. Refer to [http://www.michigan.gov/documents/fluletter\\_107562\\_7.pdf](http://www.michigan.gov/documents/fluletter_107562_7.pdf) for the complete protocol. It is important to immediately call or fax information to MDCH to ensure that appropriate clinical specimens can be obtained.

**Congregate Settings Outbreaks (as of May 3):** There has been one report of an influenza A outbreak from a Central region extended care facility for the 2006-2007 influenza season. Investigations for two possible facility outbreaks, one each from the Southwest and Central regions, were unable to confirm influenza as the cause of these outbreaks.

**National (CDC, April 27):** During week 16 (April 15 – 21, 2007), influenza activity continued to decrease in the United States. Data from the U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories indicated a decrease in the percentage of specimens testing positive for influenza. Other surveillance systems also indicated a decrease in influenza activity. The percentage of visits for ILI to sentinel providers decreased during week 16 and was below the national baseline for the fourth consecutive week. Five states reported regional influenza activity; 10 states reported local influenza activity; the District of Columbia, New York City, and 31 states reported sporadic influenza activity; and four states reported no influenza activity. The number of jurisdictions reporting widespread or regional influenza activity decreased from 11 for week 15 to five for week 16. The percent of deaths due to pneumonia and influenza remained below baseline level.

During week 16, WHO and NREVSS laboratories reported 1,821 specimens tested for influenza viruses, 215 (11.8%) of which were positive: 20 influenza A (H1) viruses, 87 influenza A (H3) viruses, 72 influenza A viruses that were not subtyped, and 36 influenza B viruses. Of the 87 influenza A (H3) viruses reported for week 16, 73 (83.9%) were reported from one state.

CDC has antigenically characterized 619 influenza viruses [324 influenza A (H1), 123 influenza A (H3) viruses, and 172 influenza B viruses] collected by U.S. laboratories since October 1, 2006. For influenza A (H1), three hundred and one (93%) of the 324 viruses characterized were similar to A/New Caledonia/20/99-like, which is the influenza A (H1) component of the 2006-07 influenza vaccine. Twenty-three (7%) of the 324 viruses showed somewhat reduced titers with antisera produced against A/New Caledonia/20/99 and are similar to A/Solomon Islands/3/2006-like. A/Solomon Islands/3/2006 is a recent antigenic variant of A/New

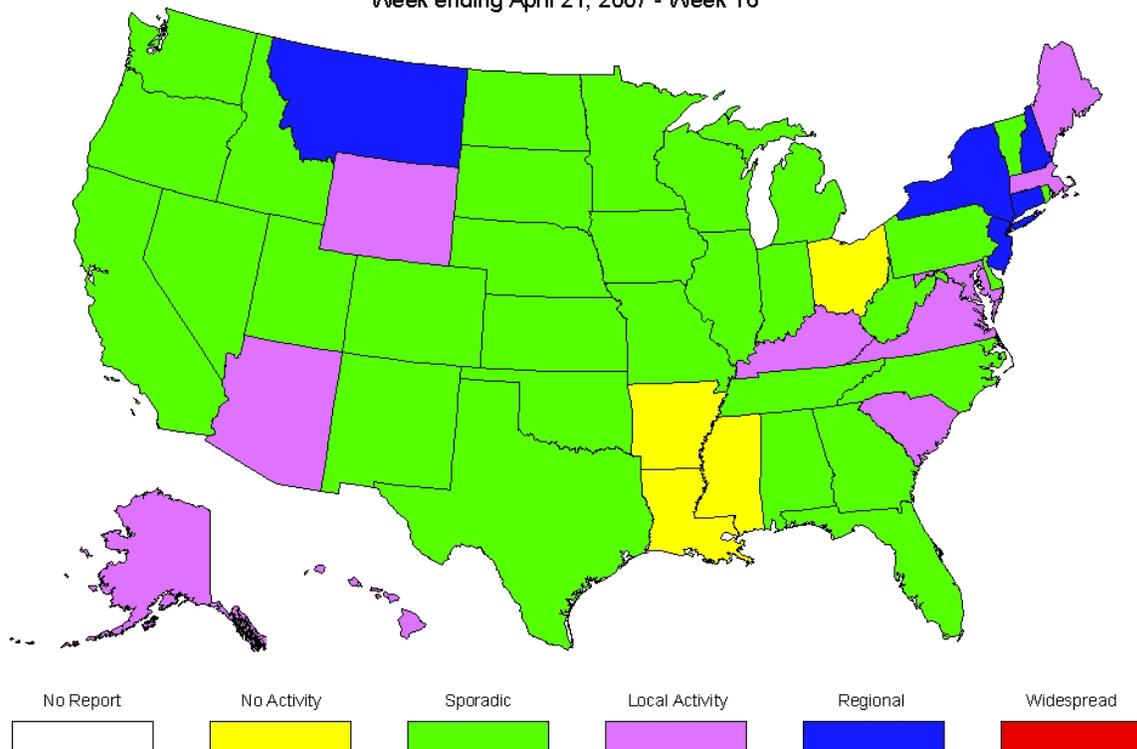
Caledonia/20/99. Regarding influenza A (H3), thirty-five (28%) of the 123 viruses were characterized as A/Wisconsin/67/2005-like, which is the influenza A (H3) component of the 2006-07 influenza vaccine. Eighty-eight (72%) of the 123 viruses showed somewhat reduced titers with antisera produced against A/Wisconsin/67/2005. One hundred and twenty-eight (74%) of the 172 influenza B viruses characterized belong to the B/Victoria lineage of viruses, of which eighty-one (63%) of these 128 viruses were similar to B/Ohio/01/2005, the B component of the 2006-07 influenza vaccine. Forty-seven (37%) of these 128 viruses showed somewhat reduced titers with antisera produced against B/Ohio/01/2005. Forty-four (26%) of the 172 influenza B viruses characterized belong to the B/Yamagata lineage of viruses.

To access the CDC weekly surveillance report throughout the influenza season, visit <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

April 1 – 21, 2007 (specimens testing positive)		
Michigan is in the East North Central region		
< 10% positive	10-20% positive	> 20% positive
West North Central (5.0%)	New England (13.3%)	South Atlantic (25.3%)
West South Central (3.9%)	Mid Atlantic (14.6%)	
Mountain (7.0%)	East North Central (11.2%)	
Pacific (5.7%)	East South Central (11.8%)	

### Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists

Week ending April 21, 2007 - Week 16



**International (WHO, as of March 29):** Overall influenza activity in the northern hemisphere remained moderate in weeks 8–11. In North America, influenza activity declined in general, while in Europe and some Asian countries and areas, widespread activity continued, with influenza A(H3N2) viruses predominating.

Influenza A(H1N1) viruses circulated in the United States and in a few eastern European countries. Influenza B viruses circulated at low levels.

For influenza activity from individual countries, please visit the full WHO article "Seasonal Influenza Activity in the World, 2007" at <http://www.who.int/csr/disease/influenza/update/en/>.

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MDCH reported **SPORADIC ACTIVITY** to the CDC for this past week ending April 28, 2007.

## **End of Seasonal Report**

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### **Avian Influenza Activity**

**WHO Pandemic Phase:** Phase 3 - Human infection(s) with a new subtype, but no human-to-human spread or rare instances of spread to a close contact.

**International, Poultry (Associated Press, April 27):** Malaysia is stepping up vigilance over poultry smuggling amid fears that frozen chicken meat is being illegally shipped from China and other countries hit by bird flu, a news report said Thursday. Customs officials have destroyed 28 tons of frozen chicken meat worth USD 29,500 that were seized Saturday [April 21] from a truck that entered Malaysia's southern Johor state from neighboring Singapore, the New Straits Times newspaper reported. The report quoted Johor Customs Deputy Director Rumainor Sarif as saying officials were concerned that the meat could have come from a country hit by bird flu.

Government offices were closed Thursday [April 26] for a national holiday, and no one at Johor's customs department could immediately be contacted for comment.

Several international syndicates are suspected to be involved in poultry smuggling, raking in profits because frozen chicken meat, particularly from China, is substantially cheaper than Malaysian poultry, the report said. The meat is believed to be repacked in Singapore before being smuggled through southern Malaysia and sold to food processing companies and restaurants, the report added.

China has suffered dozens of bird flu cases in its vast poultry flocks. Millions of birds have been destroyed to contain outbreaks on farms. Malaysia was officially declared free of bird flu in June 2006, 3 months after the last outbreak of the virulent H5N1 strain was detected in chickens in a northern Malaysian village.

Bird flu has killed at least 172 people worldwide since it began its spread through Asian poultry in 2003, according to the World Health Organization. Most deaths come from contact with infected birds, but experts fear it could mutate into a form that spreads easily among people.

**International, Poultry (Associated Press, May 2):** The deadly H5N1 strain of bird flu has spread to fowl in the West African nation of Ghana, a World Health Organization official confirmed Wednesday. Ghanaian officials had said earlier this week they were investigating a suspected outbreak of the disease in birds around the eastern port city of Tema. Though H5N1 had been documented elsewhere in the region, Ghana had not previously had a case confirmed, the Health Ministry said.

Sophia Twum-Barimah, a WHO spokeswoman in Ghana's capital, Accra, said the virus was first detected by a Ghanaian lab and then confirmed by an Egyptian research center. "The public should remain calm. The situation is being technically and expertly handled," Health Minister Ernest Debrah told reporters. He added that there was "no need for panic or fear of poultry." He said 145 birds on the same farm were infected, but that no people had been infected.

H5N1 has killed at least 172 people worldwide since it began its spread through Asian poultry in 2003, according to WHO. Most human deaths come from contact with infected birds, but experts fear H5N1 could mutate into a form that spreads easily among people.

Africa's most populous nation, Nigeria, was the first on the continent to report an outbreak of the disease last year. Outbreaks have also been reported in Cameroon, Djibouti, Egypt, Niger, Ivory Coast, Sudan and Burkina Faso. Ghana had stepped up surveillance to try to prevent incursion of the disease: banning

imported poultry and related products from Asia and some neighboring countries, including Nigeria and Ivory Coast.

Debrah said measures had been taken to contain the virus, including the immediate closure of Tema area bird markets and a ban on transporting birds in or out of the area. He said more than 1,500 birds had already been destroyed as a precaution. The government has pledged to pay 50-90 percent of market value as compensation for culled animals, Debrah said.

The HN51 virus is particularly worrisome in Africa, where poverty and poor health care means disease spreads quickly. In January, a young woman became the first Nigerian to die from H5N1. Djibouti and Egypt have also reported infections in humans and eleven people have died of the disease in Egypt.

**International, Poultry (Yahoo News, May 3):** Some 8500 chickens have been culled in Bangladesh following the spread of bird flu in the country, an official said Wednesday [May 2]. "We have culled 8500 chickens in a one-sq-km area. It (the virus) was 1st identified at a government-run farm and then in 3 nearby farms," a government livestock official, speaking on condition of anonymity, told AFP.

Samples from other farms in the southwestern district of Jessore, where the outbreak occurred, had also been taken for analysis, he said. The cull took the total number of birds killed so far in Bangladesh to more than 70,000.

Officials said last month [April 2007] that around 66,000 birds at 22 farms had been destroyed after the disease spread in other parts of the country, including to the north.

The disease was 1st identified in Bangladesh in late March 2007, after samples from a farm near the capital, Dhaka, tested positive for the deadly H5N1 strain of bird flu. So far, there has been no report of any human infection in the impoverished south Asian nation.

Bangladesh is home to hundreds of thousands of poultry farms employing more than a million people. It had already banned imports of live birds from more than 50 countries, including neighboring India and Myanmar, after outbreaks were detected there.

**Michigan Wild Bird Surveillance (USDA, May 1):** According to the National HPAI Early Detection Data System website, available at <http://wildlifedisease.nbii.gov/ai/>, Michigan has results for a total of 2 samples submitted for testing for the 2007 season. These samples were dead birds that were submitted for testing. HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 246 birds or environmental samples tested nationwide. The 2007 testing season will run from April 1, 2007-March 31, 2008.

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>.

Please contact Susan Vagasky at [VagaskyS@Michigan.gov](mailto:VagaskyS@Michigan.gov) with any questions regarding this newsletter or to be added to the weekly electronic mailing list.

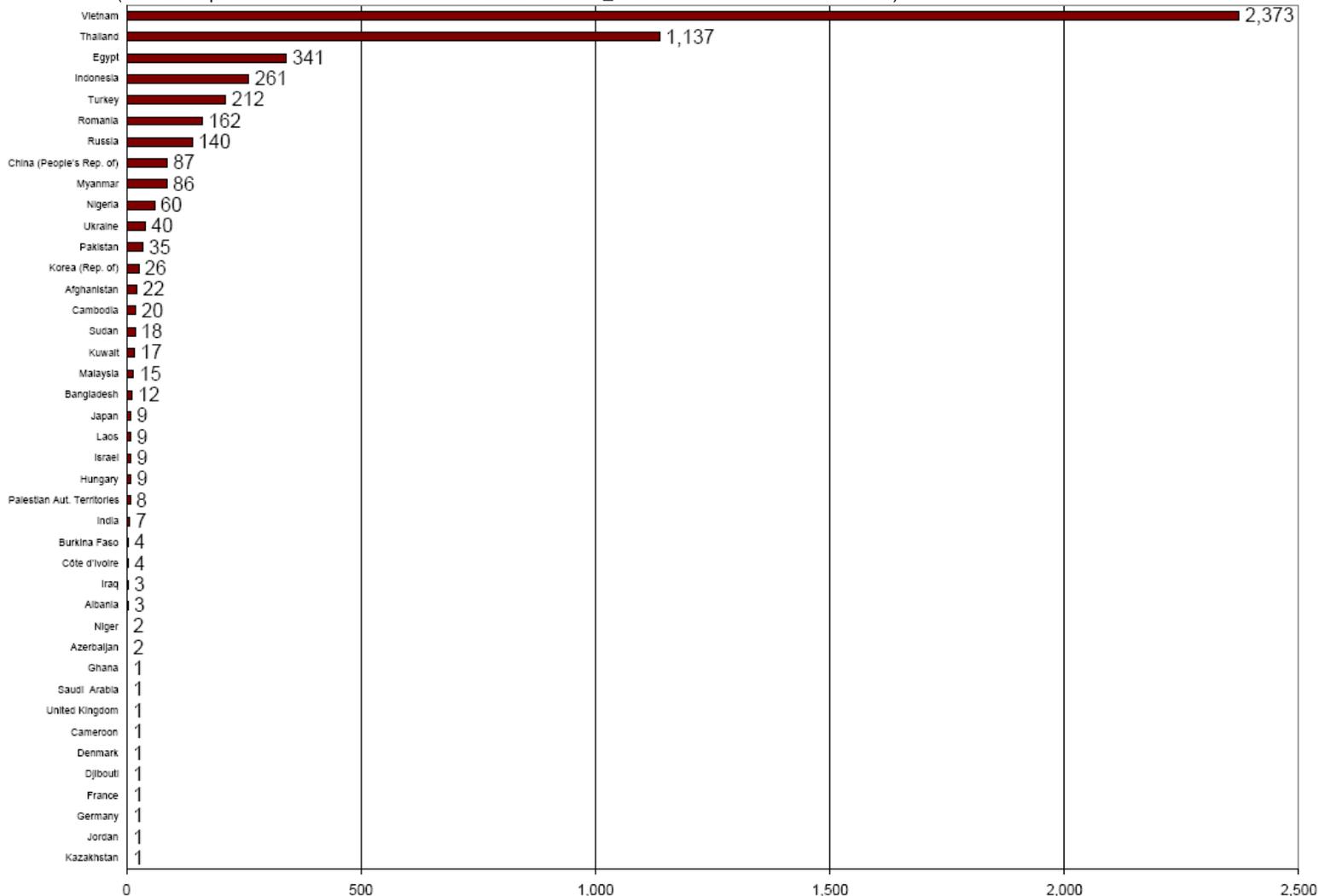
**Contributors**

MDCH Bureau of Epidemiology - Sally Bidol, MPH; Edward Hartwick, MS; Elizabeth Lewis, MHS; Rachel Potter, DVM, MS

MDCH Bureau of Laboratories – Patricia Clark, MPH

**Table 1. H5N1 Influenza in Poultry (Outbreaks up to May 3, 2007)**

(Source: [http://www.oie.int/download/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm) Downloaded 5/3/2007)



**Table 2. H5N1 Influenza in Humans (Cases up to April 11, 2007)**

([http://www.who.int/entity/csr/disease/avian\\_influenza/country/cases\\_table\\_2007\\_04\\_11/en/index.html](http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2007_04_11/en/index.html) Downloaded 4/11/2007)

Cumulative number of lab-confirmed human cases reported to WHO. Total number of cases includes deaths.

Country	2003		2004		2005		2006		2007		Total	
	cases	deaths										
Azerbaijan	0	0	0	0	0	0	8	5	0	0	8	5
Cambodia	0	0	0	0	4	4	2	2	1	1	7	7
China	1	1	0	0	8	5	13	8	2	1	24	15
Djibouti	0	0	0	0	0	0	1	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	16	4	34	14
Indonesia	0	0	0	0	20	13	55	45	6	5	81	63
Iraq	0	0	0	0	0	0	3	2	0	0	3	2
Lao PDR	0	0	0	0	0	0	0	0	2	2	2	2
Nigeria	0	0	0	0	0	0	0	0	1	1	1	1
Thailand	0	0	17	12	5	2	3	3	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	0	0	93	42
Total	4	4	46	32	98	43	115	79	28	14	291	172