



# MI FluFocus

## Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology  
Bureau of Laboratories



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### New updates in this issue:

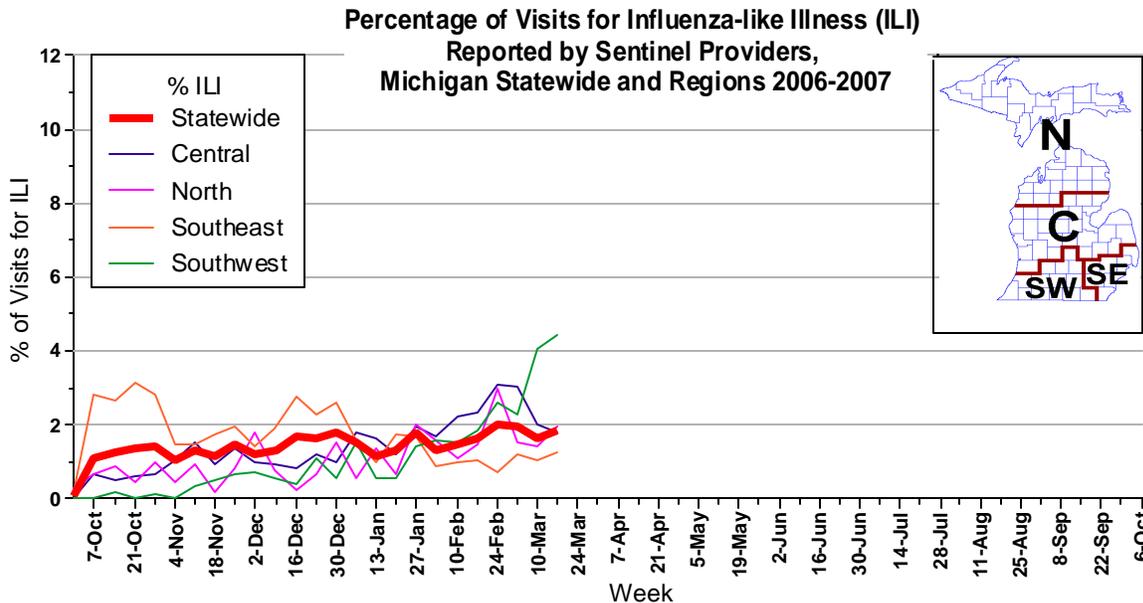
- **Michigan Surveillance:** Michigan influenza indicators generally remain steady
- **National Surveillance:** Continued decline seen in national influenza activity
- **Avian Influenza:** New human H5N1 cases: 2 in Egypt, 1 in Laos. Unconfirmed by WHO, H9N2 found in Hong Kong child. Poultry outbreaks reported in Myanmar, Kuwait, and Thailand

**Michigan Disease Surveillance System:** The last week saw a notable increase in aggregate flu-like illness to the local health departments and a decrease in individual influenza reports. Aggregate reporting levels are similar to this time last year; however, individual influenza reports are roughly half the amount seen last year.

**Emergency Department Surveillance:** Emergency department visits due to constitutional complaints saw an increase where respiratory complaints remained steady this past week. The levels reported are consistent with levels reported this time last year. Seven constitutional alerts in Regions 1(1), 3(1), 5(2), 6(1) and 7(2) and four respiratory alerts in Regions 2N(1), 5(2), and 6(1) were generated last week.

**Over-the-Counter Product Surveillance:** OTC product sales reflect a slight increase in activity last week. Most sales were steady (children's electrolytes and pediatric anti-fever) or saw a slight increase, except thermometers, which saw a very slight decrease. The indicators levels are comparable to those seen at this time last year, except for the adult and pediatric cold relief liquid, which seem to be holding about 1-2% below its percentage of total sales for this time last year.

**Sentinel Surveillance (as of March 22, 2007):** During the week ending March 17, 2007, the proportion of visits due to influenza-like illness (ILI) in Michigan remained elevated at 1.9% of all visits, representing 176 cases of ILI out of 9,579 total patient visits; thirty sentinels provided data for this report. Small increases in activity were reported in the North (2.0%), Southeast (1.3%), and Southwest (4.4%); activity decreased slightly in the Central region (1.8%). 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 March 15):** For the 2006-2007 influenza season, there have been 131 culture-confirmed cases from the MDCH Lab:

- 18 H3N2 (4SE, 3SW, 8N, 3C)
- 68 H1N1 (21SW, 21SE, 16C, 10N)
- 3 A subtype pending
- 42 B (15C, 11SW, 11SE, 5N)

All influenza B cultures at the MDCH Lab have been B/Malaysia, except for one B/Shanghai from the Southeast region, and one B that is untyped from the Central region.

Sentinel laboratories throughout the state are reporting steady influenza activity. Increases in influenza B positives were noted in the Southwest and Southeast areas of the state. Respiratory syncytial virus continued to be reported moderately throughout the state. Low levels of parainfluenza and adenovirus positives were reported in all areas.

\*\*\*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 March 15):** For the 2006-2007 season, there are no confirmed reports of influenza-related pediatric mortality in Michigan. MDCH is currently investigating a possible pediatric death due to influenza from the Southeast region.

\*\*\*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 March 15):** There has been one report of an influenza outbreak to MDCH for the 2006-2007 influenza season. Two outbreaks of respiratory disease in the Southwest are currently under investigation.

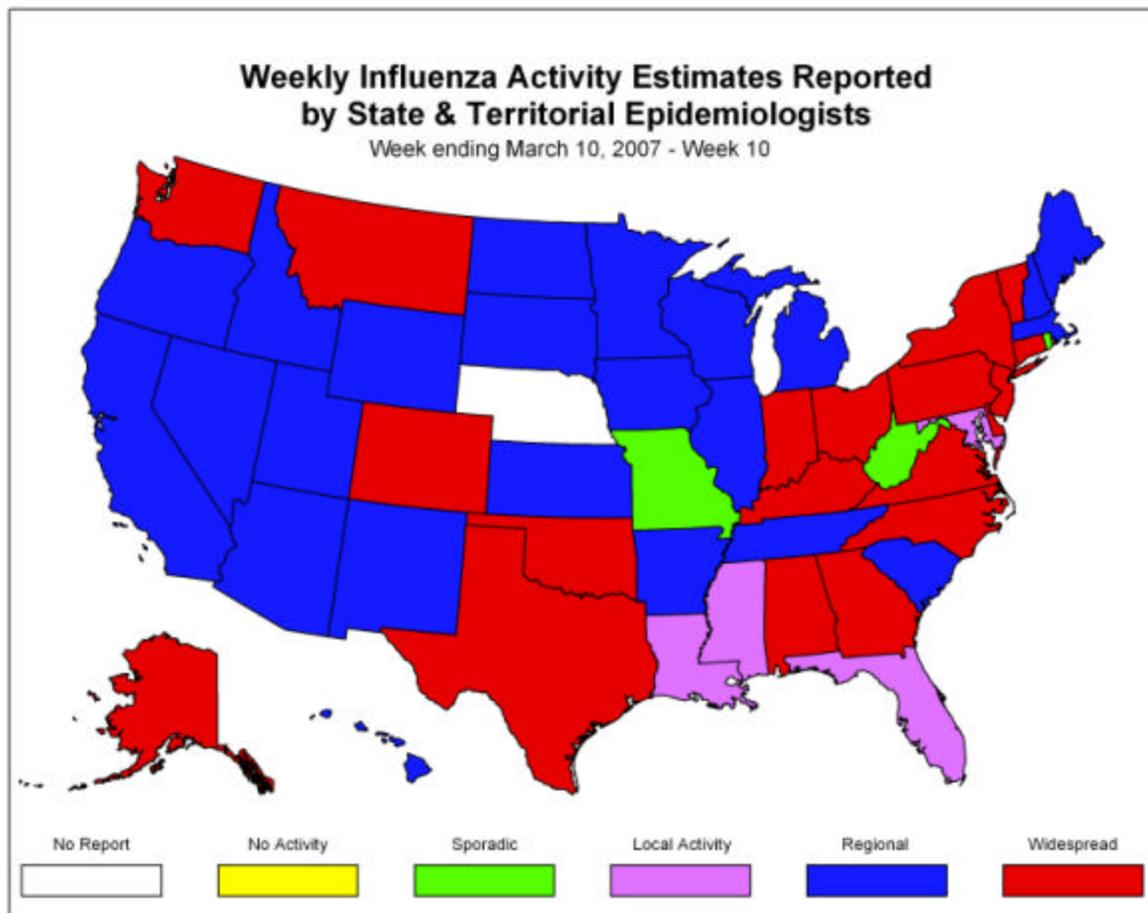
**National (CDC, March 22):** During week 10 (March 4 – March 10, 2007)\*, influenza activity continued to decrease in the United States. Data from the U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories indicated a decline in activity for the fourth consecutive week; 18.8% of specimens tested positive for influenza this week. ILI data was above baseline for the twelfth week this season but is declining. Nineteen states reported widespread influenza activity; 23 states reported regional influenza activity; four states, New York City, and the District of Columbia reported local influenza activity; three states reported sporadic influenza activity; and one state did not report. The reporting of widespread or regional influenza activity increased from 41 for week 9 to 42 for week 10. The percent of deaths due to pneumonia and influenza remained below baseline level.

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

February 18 – March 10, 2007 (specimens testing positive)

Michigan is in the East North Central Region

>20% positive	10-20% positive
East North Central (34.7%)	New England (12.8%)
West North Central (22.7%)	Mid Atlantic (18.8%)
East South Central (31.0%)	South Atlantic (16.8%)
West South Central (29.5%)	Mountain (19.7%)
	Pacific (14.1%)



**International (WHO, as of February 28):** Overall influenza activity in the northern hemisphere increased during weeks 1–7 but remained moderate in general. Influenza A(H3N2) viruses predominated in many European countries and in some Asian countries/areas, where this season’s activity started to increase in early January 2007. 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/>.

For a summary of worldwide influenza activity from September 2006 to January 2007, please see the WHO article “Influenza in the World” in the March 9, 2007 edition of the *Weekly Epidemiological Record*, available at <http://www.who.int/wer/2007/wer8210.pdf>.

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MDCH reported **REGIONAL ACTIVITY** to the CDC for this past week ending March 17, 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, Human Egypt (WHO, March 20):** The Egyptian Ministry of Health and Population has announced a new human case of avian influenza A(H5N1) virus infection. The case was confirmed by the Egyptian Central Public Health Laboratory and by the US Naval Medical Research Unit No.3 (NAMRU-3). The 2-year-old boy from Aswan Governorate developed symptoms on 15 March. He was admitted to hospital the following day where he remains in a stable condition. Investigations indicate a history of contact with backyard poultry. No epidemiological link has been found between this case and that of the [10-year-old girl](#) from the same area that was announced on 19 March 2007. Of the 26 cases confirmed to date in Egypt, 13 have been fatal.

**International, Human Egypt (WHO, March 19):** The Egyptian Ministry of Health and Population has announced a new human case of avian influenza A(H5N1) virus infection. The case was confirmed by the Egyptian Central Public Health Laboratory and by the US Naval Medical Research Unit No.3 (NAMRU-3). The 10-year-old girl from Aswan Governorate, was admitted to hospital with symptoms on 13 March and her condition remains stable. Investigations indicate that she had recently been exposed to sick poultry. Contacts of the girl are being kept under observation. Of the 25 cases confirmed to date in Egypt, 13 have been fatal.

**International, Human Laos (WHO, March 16):** The Ministry of Health in Lao People's Democratic Republic has reported a second human case of infection with the H5N1 avian influenza virus. The case was fatal. Initial testing was conducted by the National Centre for Laboratory and Epidemiology in Laos. In line with WHO policy, samples were sent to a WHO collaborating laboratory in Tokyo for diagnostic verification and further analysis. The collaborating centre has now confirmed H5N1 infection. The 42-year-old female was from Saka village, Pong Hong district in Vientiane province. She developed fever 26 February and was hospitalized in Vientiane Provincial hospital on 28 February and then transferred to Sethathirat hospital on 1 March. She died on 4 March. Tests taken during an investigation to determine the source of exposure have found a duck positive for H5 in the woman's household. Close family and hospital contacts are being monitored and to date, none has shown signs of infection. WHO continues to work closely with the Lao government to strengthen case reporting, improve diagnostic capacity and increase awareness of the disease in the community.

**International, Human Not Confirmed by WHO (ProMed, March 20):** A 9-month-old girl was infected with H9N2 - a less virulent strain of avian influenza - in Hong Kong and was being isolated at a hospital, health officials said Tuesday [20 Mar 2007].

Before becoming sick on 4 Mar 2007, the baby almost daily visited a food market that sold live poultry, said Thomas Tsang Ho-fai of the Center for Health Protection. Officials suspected she was infected by birds at the market, he said.

H9N2 is a mild strain [of avian influenza A virus], [the H5N1 strain of avian influenza A virus] has caused the deaths of at least 169 people worldwide. [The H9N2 virus belongs to a different serotype of avian influenza A virus and should not be described as a strain of H5N1 virus. These 2 avian influenza A viruses should be regarded as distinct viruses differing in virulence, host range and transmissibility. - Mod.CP]. "The baby's case is not that serious, and there's no serious indication that there was human-to-human infection," Tsang said.

Hong Kong reported 2 cases of the mild strain in 1999 and one in 2003, he said. The patients were children who all recovered, he said. The recent case returned home after spending 5 days in the hospital, but the child was put into isolation after her samples tested positive for H9N2, said Tsang, adding that the case was confirmed Tuesday [20 Mar 2007].

Officials were taking more samples from the market and family members, he said. Hong Kong aggressively monitors bird flu because an outbreak [caused by a highly pathogenic strain of different serotype - Mod CP.] in 1997 jumped to humans and killed 6 people. That prompted the government to slaughter the entire poultry population of about 1.5 million birds.

**International, Poultry Myanmar (ProMed, March 21):** The U.N. reported a new outbreak of bird flu in Myanmar on Wednesday [21 Mar 2007] and called for more stringent measures to control the spread of the deadly H5N1 virus. About 1600 chickens contracted the virus and died during the weekend at a farm in Nyaunghnapin, about 40 km (25 miles) north of Yangon, Myanmar's largest city, said Tang Zang Ping, the Myanmar representative for the United Nations' Food and Agriculture Organization. Authorities slaughtered the farm's remaining 20 700 birds as a precautionary measure, he said. "We need to impose stricter control on the movement of poultry, poultry products, chicken feed, eggs and even the trucks that carry these materials," Tang told The Associated Press.

The Livestock Breeding and Veterinary Department said in a statement that the virus might have spread in the farm, located in Hmawyby township, through contaminated trays used to carry eggs or small birds, the New Light of Myanmar reported Wednesday. The statement said chickens, ducks and quails within a 1-km (0.6-mile) radius of the farm were being monitored and that authorities imposed a ban on the sale and transport of fowl within 6 km (4 miles) of the outbreak. But authorities conceded that the measures might not be enough to control the disease. "Despite preparedness and designating restricted zones and controlled zones, there can be more bird flu outbreaks in other regions," the paper quoted the livestock department as saying.

Myanmar has reported 2 H5N1 outbreaks in recent weeks among poultry at 2 farms on the outskirts of Yangon. Until the recent cases, Myanmar last reported an H5N1 outbreak among poultry in March 2006. It has reported no human H5N1 cases.

**International, Poultry Kuwait (ProMed, March 21):** Altogether a total of 17 outbreaks of H5N1 highly pathogenic avian influenza (HPAI) were reported to the OIE, 6 on 26 Feb 2007 and 11 just recently on 13 Mar 2007. [For additional cases, see commentary]. Based on the OIE report, about 3238 backyard chickens, turkeys, geese, pigeons, falcons, guinea fowl, quails, and ducks have either died of HPAI or have been destroyed as part of Kuwait's control measures. About 4233 birds were termed susceptible. Outbreak locations were Al Farwaniyah, Al Ahmadi, Al Jarah, Hawalli, Mubarak Al Kabeer, and Al Kuwayt governorates, which happen to be 5 of the 6 governorates in Kuwait.

No human cases have been reported. The 1st case of HPAI was confirmed in 2005.

Kuwait has also implemented measures to control movement inside the country, vaccinate, disinfect infected premises, and [implement] zoning for the whole country. A 3-month ban has also been imposed on urban poultry slaughtering and sales of live poultry and live poultry imports, as well as conducting health inspections of all poultry shops, closure of the zoo, and the ban of poultry in cages at schools and kindergartens.

Kuwaiti broiler meat production is expected to remain at 35 000 MT, due to continued tepid demand stemming from AI. About 40-60 percent of production is sold live with the remainder as frozen or chilled whole birds, however demand for live chicken has declined, due to the convenience of the frozen/chilled products and health concerns, which could impact this trend. Local production does not compete with imported products as local frozen whole chicken commands a 50-60 percent higher retail price over frozen imported whole chicken, while local chilled whole chicken retails twice that of imported frozen whole chicken. Per capita chicken meat consumption is forecast to be 43 kg in 2007.

The full report, including tables, is available at [<http://www.ams.usda.gov/poultry/mncs/InternationalPoultryandEgg/2007Reports/PY20070320WIntlPoultryandEgg.pdf>]

**International, Poultry Thailand (ProMed, March 20):** Thai livestock development Chief Pirom Srichan reported the 4th bird flu outbreak in north-eastern province of Mukdahan. The past 3 outbreaks occurred in Phitsanulok in the lower North, Ang Thong in the Central Plains, and Nong Khai in the Northeast. The fresh bird flu outbreak was discovered 2 weeks ago in domestic chickens raised on a farm in Mukdahan, Thai news network The Nation reported. Provincial livestock officials had culled the entire flock to prevent any

possible spread of the virus. The World Health Organization reports that the virus has infected at least 277 people in 12 countries since 2003 killing at least 168.

**Michigan Wild Bird Surveillance (USDA, March 22):** According to the National HPAI Early Detection Data System website, available at <http://wildlifedisease.nhii.gov/ai/>, Michigan has results for a total of 1827 samples, from both wild birds and the environment, submitted for testing as of March 22<sup>nd</sup>. 232 of these were live-captured birds, 605 were hunter-killed, 174 were sentinel animals, 609 were dead birds that were submitted for testing, and 207 were environmental samples. HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 111,460 birds or environmental samples tested nationwide.

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.**

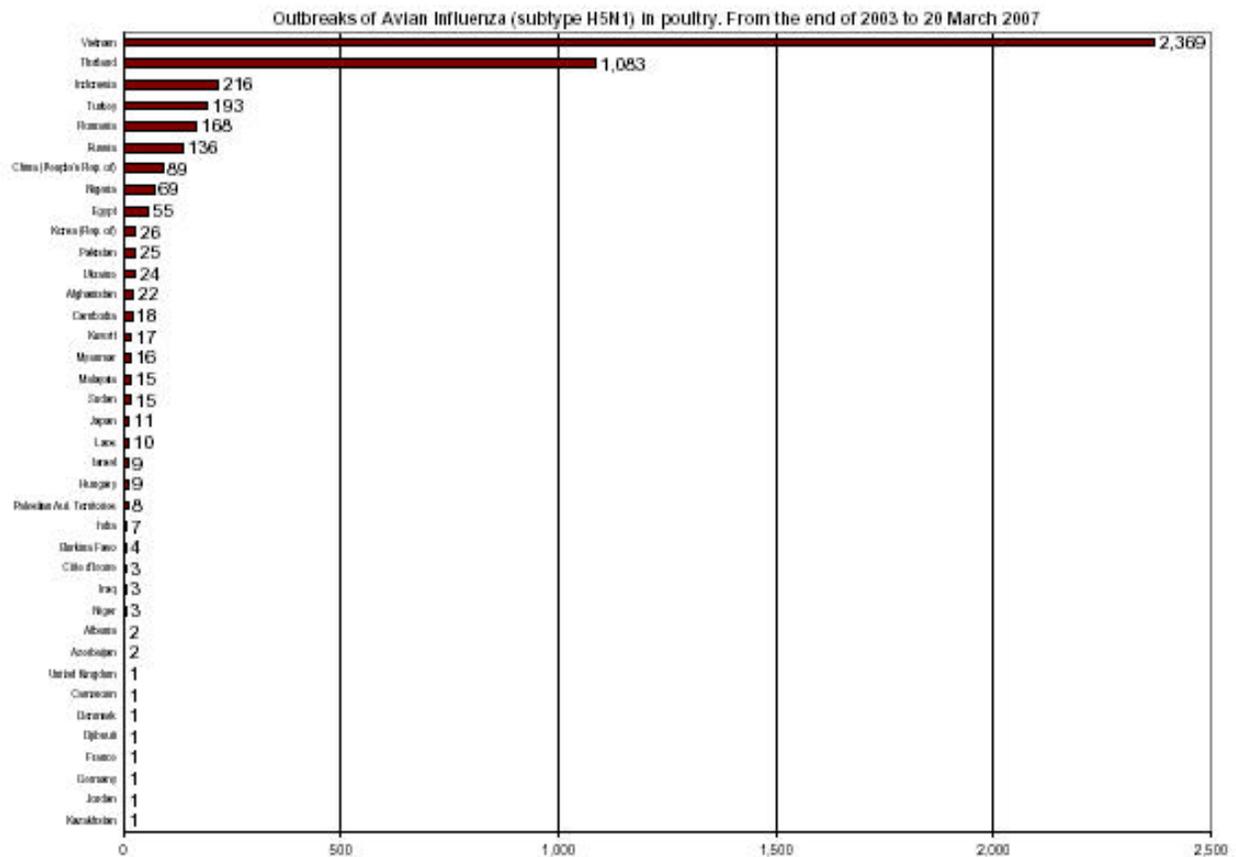
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**Table 1. H5N1 Influenza in Poultry (Outbreaks up to March 20, 2007)**

(Source: [http://www.oie.int/downld/AVIAN%20INFLUENZA/A\\_A-Asia.htm](http://www.oie.int/downld/AVIAN%20INFLUENZA/A_A-Asia.htm) Downloaded 3/22/2007)



**Table 2. H5N1 Influenza in Humans (Cases up to March 20, 2007)**

([http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2007\\_03\\_20/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2007_03_20/en/index.html) Downloaded 3/22/2007)

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	0	0	6	6
China	1	1	0	0	8	5	13	8	1	0	23	14
Djibouti	0	0	0	0	0	0	1	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	8	3	26	13
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 People's Democratic Republic	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	18	11	281	169