



MI FluFocus

Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology
Bureau of Laboratories

Michigan Department of Community Health



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New updates in this issue:

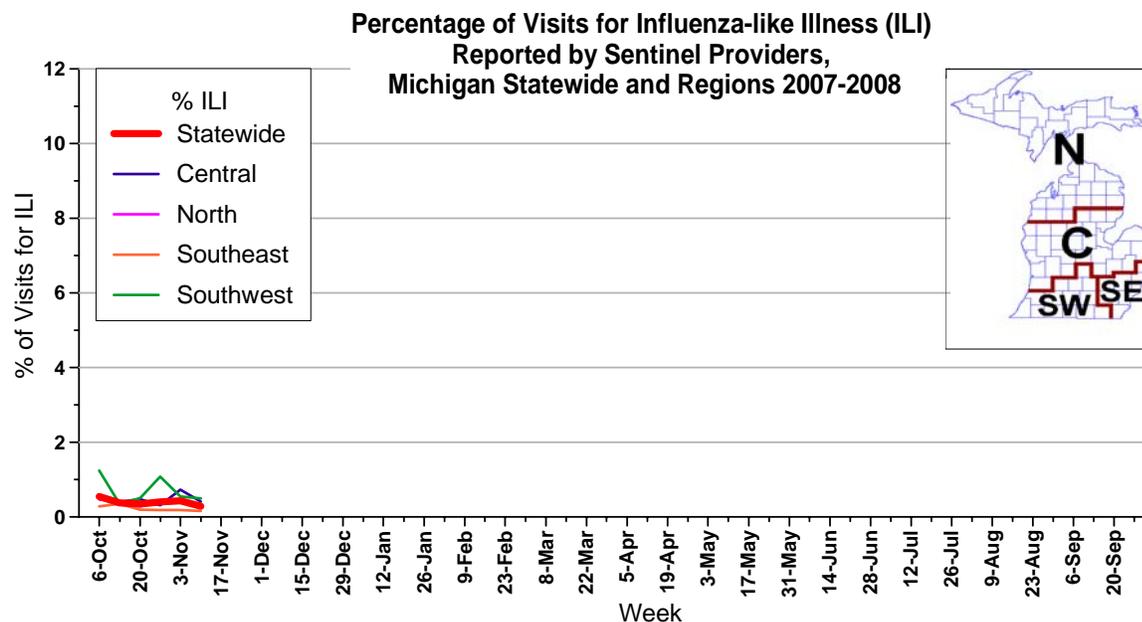
- **Michigan Surveillance:** ILI activity remains at low levels; respiratory complaints are rising slightly.
- **National Surveillance:** Influenza activity nationwide remains at low levels.
- **Avian Influenza:** New Indonesian H5N1 human case; poultry outbreaks in the UK and Saudi Arabia.

Michigan Disease Surveillance System: The week ending November 10 saw a slight increase in individual influenza reports, while aggregate flu-like illness reports held steady near last week's levels. Both aggregate and individual reports are consistent with levels seen at this time last year.

Emergency Department Surveillance: Emergency department visits due to respiratory complaints increased slightly this past week, while constitutional complaints held steady. Even though respiratory complaints are slightly higher, both constitutional and respiratory complaints are consistent with numbers seen this time last year. Eight constitutional alerts in the C(1), N(3), SE(2) and SW(2) Influenza Surveillance Regions and seven respiratory alerts in the C(4), N(2) and SW(1) Influenza Surveillance Regions were generated last week.

Over-the-Counter Product Surveillance: OTC product sales activity remained steady overall last week, holding near last week's levels with only minor fluctuations. The indicators levels are comparable to those seen at this time last year, except for chest rubs, which are slightly higher.

Sentinel Surveillance (as of November 15): During the week ending November 10, 2007, the proportion of visits due to influenza-like illness (ILI) in Michigan remained unchanged from last week at 0.3% of all visits. This represents 28 cases of ILI out of 9676 total patient visits; thirty-seven sentinels provided data for this report. By region, the proportion of visits due to ILI was: 0.4%, Central; 0.3%, North; 0.2%, Southeast; and 0.5% Southwest. 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 for more information.

Laboratory Surveillance (as of November 15): The MDCH Lab has not confirmed any cases of influenza for the 2007-2008 influenza season, which started on October 1.

***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.

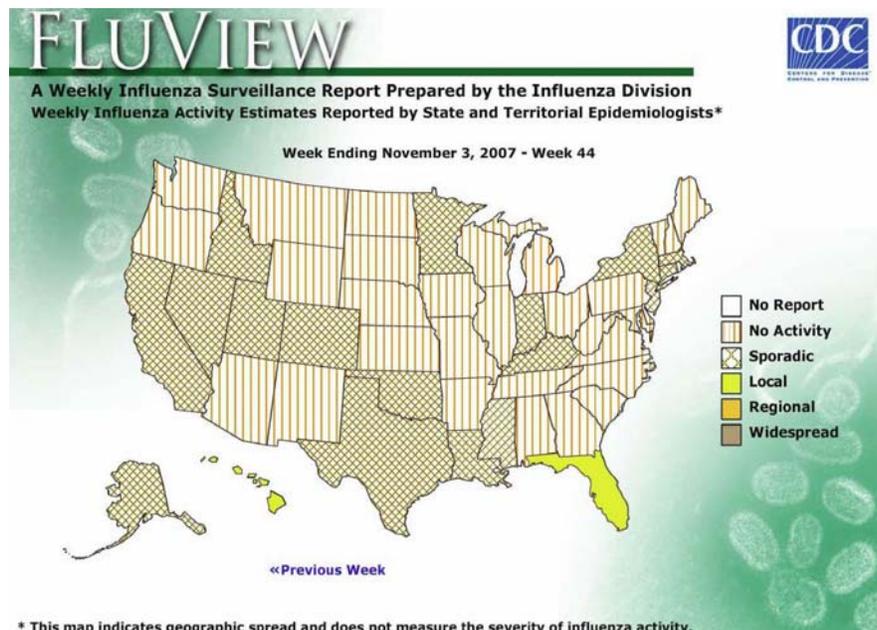
Influenza-Associated Pediatric Mortality (as of November 15): For the 2007-2008 season, there are no confirmed reports of influenza-related pediatric mortality in Michigan.

***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 for the complete protocol. It is important to immediately call MDCH to ensure that appropriate clinical specimens can be obtained.

Congregate Settings Outbreaks (as of November 15): There have been no reports for the 2007-2008 influenza season.

National (CDC [edited], November 9): During week 44 (October 28-November 3, 2007), a low level of influenza activity was reported in the United States. During week 44, WHO and NREVSS laboratories reported 2,015 specimens tested for influenza viruses, 50 (2.5%) of which were positive, including four influenza A (H1) viruses (Mid-Atlantic region), 45 influenza A viruses that were not subtyped (Pacific, South Atlantic, and West South Central regions) and one influenza B viruses (West South Central region). The District of Columbia and 18 states from eight of the nine surveillance regions have reported laboratory confirmed influenza this season. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. The proportion of outpatient visits for influenza-like illness (ILI) and acute respiratory illness (ARI) was below national baseline levels. The Mountain region reported ILI slightly above its region-specific baseline. Two states reported local activity; 17 states, the District of Columbia, and Puerto Rico reported sporadic influenza activity; and 31 states reported no influenza activity.

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



International, WHO (Weekly Epidemiological Record, November 9): During weeks 40-43, the level of overall influenza activity in the world remained low with sporadic activity observed in some countries.

United States of America: Between weeks 40 and 42, the number of states reporting localized influenza activity increased from 8 to 13: most of the circulating viruses were influenza type A.

During weeks 40-43, sporadic influenza activity was detected in Argentina (A, B), Canada (A, B), China (B predominant, H1, H3), France (A, B), Hong Kong Special Administrative Region of China (B predominant, H1, H3), Islamic Republic of Iran (B), Japan (H1), Madagascar (H1), Mexico (A), Panama (A, B), Sri Lanka (B), Sweden (A, B), Thailand (B predominant, H1, H3) and the United Kingdom (H1, B).

Austria, Belgium, Czech Republic, Denmark, Finland, Latvia, Norway, Philippines, Poland, Portugal, Romania, Slovenia, South Africa, Spain and Tunisia reported no influenza activity.

International, Antivirals (Associated Press [edited], November 13): Antiviral drugs can significantly cut the risk of death for older adults hospitalized with severe cases of influenza, even if the therapy is started outside the optimal treatment window, a new study from Toronto researchers suggests.

People stricken with a case of flu so severe it sent them to hospital were five times less likely to die if they were put on antiviral therapy compared to those who didn't receive one of these drugs, the study found.

The findings could alter the way doctors treat hospitalized flu patients, experts who were not involved with the study said. "I think and talk about flu a lot. And this is going to change what I say," said Dr. Anne Moscona, an infectious diseases expert at Weill Cornell Medical Center in New York City. "I think this could be a real advance."

The findings were particularly striking because the bulk of the treated patients were started on antiviral drugs more than 48 hours after the onset of their symptoms. The studies used to win regulatory approval for the newer flu drugs showed they were of little benefit after 48 hours. But those studies were done in otherwise healthy adults whose immune systems would have kicked in to halt the replication of the virus by that point, setting them on the road to recovery. But this work suggests older people and people whose immune systems can't easily combat the flu can benefit from treatment past the 48-hour cut-off.

"It's clear from this experience now that there seems to be benefit even with later treatment," Dr. Frederick Hayden, an antiviral expert with the World Health Organization's global influenza program, said from Geneva. Hayden said the study will "add to the body of evidence . . . that hospitalized patients warrant therapy if there's evidence for ongoing (virus) replication."

The study evaluated what happened to 327 adults who were hospitalized with influenza in a network of south-central Ontario hospitals during the 2004-05 and 2005-06 flu seasons. The work was led by researchers at Mount Sinai Hospital and the University Health Network, both in Toronto. The research was supported by Hoffman-La Roche, which produces the antiviral drug oseltamivir, sold as Tamiflu. It will be published in the Dec. 15 issue of *Clinical Infectious Diseases*.

Lead author Dr. Allison McGeer said the researchers did not randomly select patients to either receive antiviral drugs or not on the belief that withholding drugs shown to be effective against influenza would be unethical. Instead they followed the testing, treatment and outcome of cases, leaving the decisions about whether to use the drugs up to the treating doctors, said McGeer, head of infection control at Mount Sinai.

Of the 327 adults, the mean age was 77 years of age. And 75 per cent had other health conditions, putting them at greater risk from a bout of flu. Interestingly, 71 per cent of the adults had been vaccinated against influenza in the year in which they were hospitalized. It's well known that aging weakens the immune system's ability to mount a strong response to flu shots, making the vaccine less effective in the people at highest risk of dying from influenza.

"But when you look at the data with the wisdom of hindsight, it seems logical to say that the reason that you can treat late in people admitted to hospital is that people admitted to hospital with influenza are different than the people who can control it themselves," McGeer said. "And if you need help controlling viral replication, it won't just be in the first 48 hours."

Moscona said the results suggest more physicians should be testing for influenza and prescribing antiviral treatment when they find it in hospitalized patients. "If we test more, we'll identify more," she said. "And people will get more antivirals, as opposed to antibiotics."

MDCH reported **NO INFLUENZA ACTIVITY** to the CDC for the week ending November 10, 2007.

For stakeholders interested in additional information regarding influenza vaccination and education, the MDCH publication *Michigan FluBytes* is available online at http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html. *FluBytes* is published weekly during the influenza season.

End of Seasonal Report

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 (WHO, November 12): The Ministry of Health of Indonesia has announced a new case of human infection of H5N1 avian influenza. A 31-year-old male from the Bengkalis District, Riau Province developed symptoms on 31 October, was hospitalized on 3 November and died in an AI referral hospital on 6 November. Identification of the source of his infection is ongoing and includes investigation into a large swallow farm in close proximity to the case's house. Of the 113 cases confirmed to date in Indonesia, 91 have been fatal.

International, Poultry (BBC News, November 13): About 6,500 birds are being slaughtered after avian flu was confirmed in turkeys on a Suffolk farm, government officials have announced. The H5 strain was found in turkeys at Redgrave Park Farm near Diss. All birds on the farm, which include ducks and geese, are to be slaughtered. A 3km protection zone and a 10km surveillance zone have been set up.

The government could not yet confirm if the birds had the highly pathogenic H5N1 strain, a spokeswoman said. Police officers have been seen at the entrance to the farm, and vehicles are being sprayed with a jet hose. A statement issued by the Department for Environment Food and Rural Affairs (Defra) said that preliminary tests showed the turkeys had the H5 strain of bird flu. It is not yet known whether it is H5N1, which has killed some 200 people worldwide.

All birds are being slaughtered on premises, and Defra said it was consulting on what further measures may be needed. It is expected that all the birds will be gassed and then put in sealed containers, officials said. The birds include about 5,000 turkeys, 1,000 ducks and 500 geese, a Defra spokeswoman added.

Inside the zones, bird movements will be restricted and all birds must be housed or isolated from contact with wild birds. All poultry keepers on the British poultry register will be notified and EU officials have been informed. Geoffrey Buchanan, operations director of Redgrave Poultry, which rents the farm, said that all employees at the site had been given antiviral drugs as a precaution. He added that all the birds on the site were now indoors, and that he hoped this would be a contained outbreak.

National Farmers' Union president Peter Kendall said: "Obviously this is another huge blow to the farming industry, which is still dealing with the effects of bluetongue and foot-and-mouth."

Acting Chief Veterinary Officer Fred Landeg said that laboratory results on what type of bird flu it was were expected "in the next 24 hours". Defra officials said that 10% of birds in one shed died over one night. Susan Watts, science editor of the BBC's *Newsnight*, said that this would seem to suggest that the outbreak involved a highly pathogenic strain of the virus.

Mr. Landeg told BBC Radio 5Live that the disease was discovered on Sunday by a vet, who noticed there had been an increasing number of deaths among turkeys in one of the five sheds on the farm. Results on Monday morning showed that the flu the H5 type - but more tests were needed to ascertain whether it is the dangerous variant. He said that the risk of bird flu spreading was increased during the autumn months

because of wild bird migration. Mr. Landeg confirmed that the affected birds were free-range - meaning they had access to the outdoors and may have been of greater risk of catching the disease.

A statement released on behalf of poultry producer Bernard Matthews said the affected farm was not owned by the company, and none of the firm's farms fell within the exclusion zone. Earlier this year bird flu was discovered at a Bernard Matthews turkey farm in Suffolk. More than 160,000 birds were killed after an outbreak of the virulent H5N1 strain of the disease on the farm in February.

The Food Standards Agency reassured consumers that there was no threat to human health so long as eggs and poultry were properly cooked. And National Farmers' Union poultry board chairman Charles Bourns insisted that turkey supply over Christmas would not be affected. He added that the cull accounted for only a small proportion of the 10m festive turkeys sold each year.

International, Poultry (DEFRA website [edited], November 13): Following further test results from the Veterinary Laboratories Agency (VLA) the acting chief veterinary officer has confirmed that the strain of avian influenza present at the Infected Premises near Diss is the highly pathogenic H5N1 strain. Further characterization of the virus is in progress, which may give an indication of the origin of the strain.

Local authorities and Animal Health are enforcing a 3 km (2 mi) Protection Zone, a 10 km (6 mi) Surveillance Zone and a wider Restricted Zone covering the whole of Suffolk and most of Norfolk around the Infected Premises. In these zones, movement restrictions will be imposed and poultry must be isolated from wild birds. In addition, it has been announced that the national general license on bird gatherings has been revoked, and bird shows and pigeon racing will not be permitted for the time being.

A full epidemiological investigation and tracings of any dangerous contacts are underway and all possible sources of the outbreak will be investigated.

International, Poultry (Agence France-Presse, November 14): The lethal H5N1 strain of bird flu has been detected at a poultry farm in Saudi Arabia and 50,000 birds have been culled, the agriculture ministry announced on Wednesday. It said tests were carried out after 1,500 birds died in a farm of the Al-Kharj region, 150 kilometers (90 miles) south of Riyadh.

All the birds on the farm were subsequently culled and the area disinfected, with measures taken to ensure other farms in the area were not affected, the ministry said in a statement carried by the official SPA news agency. It said no human case has been found and an investigation was taking place to determine the origin of the illness.

The kingdom banned all live poultry imports after bird flu was last detected in Saudi Arabia in March. In April, neighboring Kuwait culled 1.7 million birds after the strain was found.

Michigan Wild Bird Surveillance (USDA, as of November 15): For the 2007 testing season, 963 Michigan samples have been taken so far, comprised of 100 live bird samples, 489 hunter-killed birds, 99 morbidity/mortality samples, and 275 environmental samples. Three recent samples from Michigan have been entered into the HEDDS system: a mallard from Bay County on 10/30/07, an American black duck from Saint Clair County on 10/31/07, and an American black duck from Tuscola County on 11/4/07. All samples have preliminarily tested positive for the North American H5N1 strain (unrelated to current outbreaks in the Eastern Hemisphere), and confirmatory testing is underway.

H5N1 subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 49,411 birds or environmental samples tested nationwide. The 2007 testing season will run from April 1, 2007-March 31, 2008. For more information, visit the National H5N1 Early Detection Data System website at <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>.

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

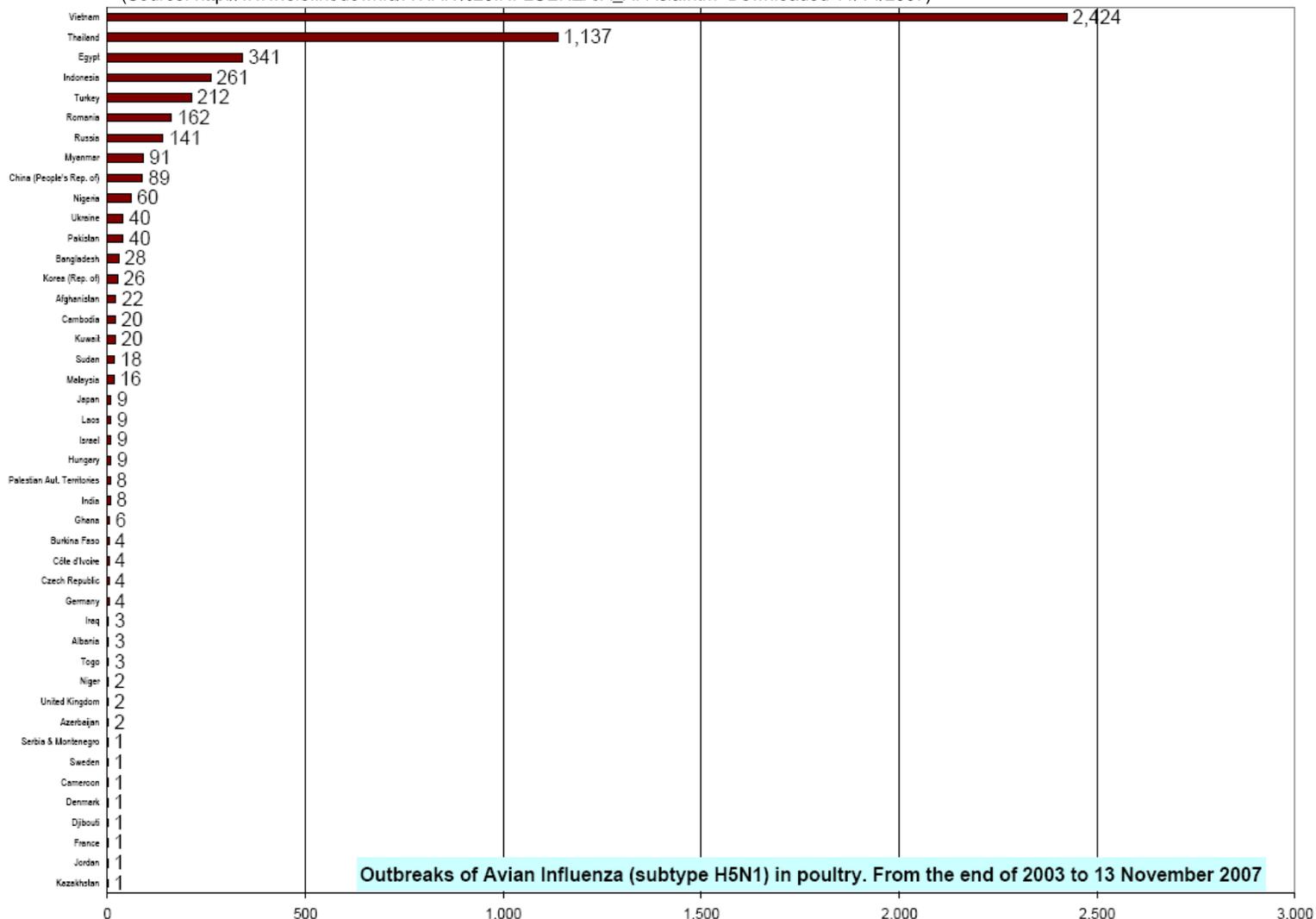
Contributors

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Table 1. H5N1 Influenza in Poultry (Outbreaks up to November 13, 2007)

(Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 11/14/2007)



Outbreaks of Avian Influenza (subtype H5N1) in poultry. From the end of 2003 to 13 November 2007

Table 2. H5N1 Influenza in Humans (Cases up to November 12, 2007)

(http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2007_11_12/en/index.html Downloaded 11/13/2007)

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	cases	deaths	cases	deaths	cases	deaths	cases	deaths	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	3	2	25	16
Djibouti	0	0	0	0	0	0	1	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	20	5	38	15
Indonesia	0	0	0	0	20	13	55	45	38	33	113	91
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	7	4	100	46
Total	4	4	46	32	98	43	115	79	72	48	335	206