



MI FluFocus

Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology
Bureau of Laboratories

Michigan Department
of Community Health



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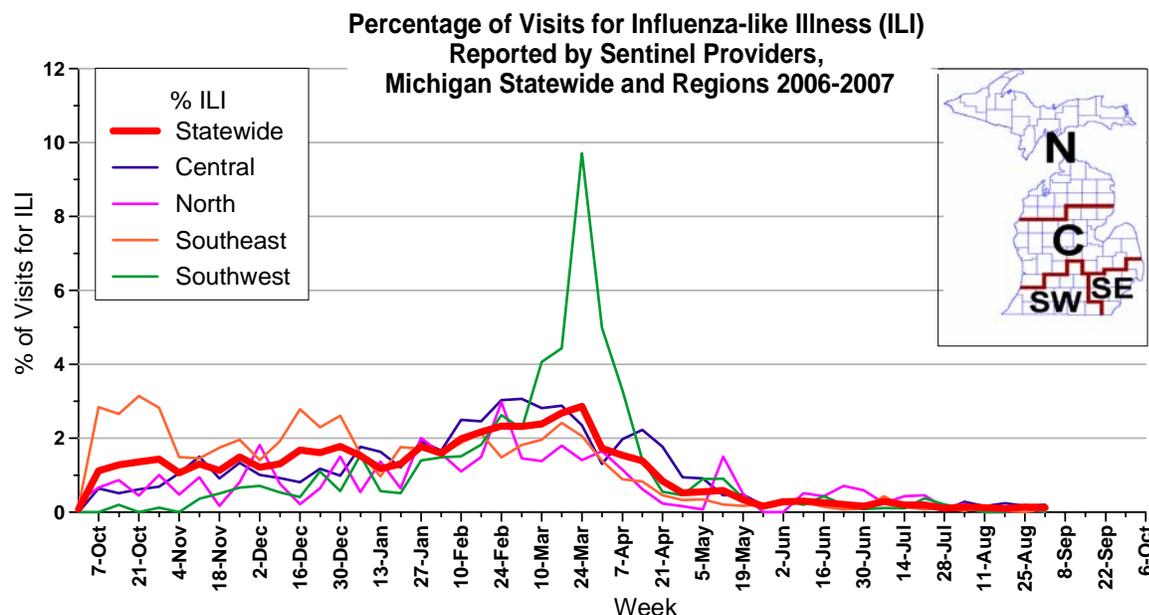
New updates in this issue:

- **Michigan Surveillance:** Influenza-like illness is at low levels statewide.
- **Avian Influenza:** Additional H5N1 human cases in Vietnam confirmed by the WHO.

Michigan Disease Surveillance System: The last week saw both aggregate flu-like illness reports and individual influenza reports hold steady near the previous week's levels. These indicators are expected to continue to fluctuate at baseline levels until fall.

Emergency Department Surveillance: Emergency department visits due to both constitutional and respiratory complaints remained steady overall this past week. Reported levels remain consistent with levels from this time last year. Four constitutional alerts in Regions 2S(1), 3(1) and 7(2) and five respiratory alerts in Regions 1(1), 3(1), 5(2) and 7(1) were generated last week.

Sentinel Surveillance (as of September 6): During the week ending September 1, 2007, the proportion of visits due to influenza-like illness (ILI) in Michigan remained at low a low level; 0.1% of all visits. This represents 3 cases of ILI out of 2546 total patient visits; twelve sentinels provided data for this report. By surveillance region, the proportion of visits due to ILI was 0.2%, Central; 0.0%, North; 0.1%, Southeast; and 0.0%, 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 September 6): For the 2006-2007 influenza season, there have been 160 culture-confirmed cases from the MDCH Lab:

- 70 A:H1N1 (Southeast (23), Southwest (21), Central (16), North (10))
- 1 A:H1, N pending (Central)
- 34 A:H3N2 (North (12), Southeast (12), Central (7), Southwest (3))
- 1 A:H3, N pending (Central)
- 54 B (Southeast (18), Central (17), Southwest (12), North (7))

All influenza B cultures have been B/Malaysia, except for six B/Shanghai results from the Southeast region.

***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 September 6): For the 2006-2007 season, there are no confirmed reports of influenza-related pediatric mortality in Michigan. One possible case from the Southwest region is currently under investigation by MDCH and the CDC.

***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 or fax information to MDCH to ensure that appropriate clinical specimens can be obtained.

Congregate Settings Outbreaks (as of September 6): There has been one report of an influenza A outbreak from a Central region extended care facility for the 2006-2007 influenza season.

National (CDC, August 28): CDC has posted a summary of questions regarding the 2006-2007 influenza season on their website. The document "Questions & Answers: 2006-07 Influenza (Flu) Season" can be found at <http://www.cdc.gov/flu/about/qa/0607season.htm>.

International (Eurosurveillance Weekly Release, August 23): Apart from the unusual cases in children in Australia, the 2007 influenza season in the southern hemisphere has not been exceptional, either in the number of cases being reported or the strains circulating. Those strains that have been seen were also seen in the northern hemisphere in its last season [2006], and most of them are included in the current vaccine for the southern hemisphere this season (an A/New Caledonia/20/99(H1N1)-like virus, an A/Wisconsin/67/2005(H3N2)-like virus and a B/Malaysia/2506/2004-like virus). As was seen in the northern hemisphere's 2006/07 season, A(H3N2) strains in the southern hemisphere have not reacted well to antiserum A/Wisconsin/67/2005. The WHO will formally address the southern hemisphere experience in its coming regular consultation for selection of vaccine strains. For the entire report, visit <http://www.eurosurveillance.org/ew/2007/070823.asp#4>.

Weekly reporting to the CDC has concluded for the 2006-2007 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, August 31): WHO has introduced an External Quality Assessment Project ([see description of EQA project](#)) for national reference laboratories for the detection of subtype influenza

A viruses by polymerase chain reaction (PCR) testing and has now amended the criteria for accepting confirmed cases of A(H5) infection ([see amended WHO criteria](#)).

Based on the amended criteria, the Ministry of Health of Viet Nam confirms the following 5 additional cases of human infection with H5N1 avian influenza, including 4 deaths, in the country. The table of [cumulative number of confirmed human cases](#) has been amended accordingly.

Sex	Age	Location	Onset date	Hospitalized	Outcome
F	28	Ha Nam	3 Jun 07	6 Jun 07	Died 21 Jun 07
M	29	Thanh Hoa	30 May 07	31 May 07	Recovered
M	20	Ha Tay	2 Jun 07	8 Jun 07	Died 10 Jun 07
F	22	Ha Tay	20 Jul 07	22 Jul 07	Died 28 Jul 07
M	15	Thanh Hoa	27 Jul 07	1 Aug 07	Died 3 Aug 07

International, Research (ABC News Australia [edited], August 31): A new study by a US university has apparently confirmed for the first time that bird flu has been transmitted from human to human.

It happened in Indonesia last year and reveals the world only narrowly avoided a global bird flu pandemic.

Researchers from the University of Washington have studied the case of a woman on the Indonesian island of Sumatra who caught the H5N1 bird flu virus from poultry in May last year. Professor Ira Longini, who led the research, says they have confirmed that not only did she pass the virus on to her 10-year-old nephew, it was then transmitted to other relatives. Seven of eight family members who caught the disease were soon dead.

"This proves there is person-to-person transmission in this case, in that setting, in Indonesia, northern Sumatra," he said.

Professor Longini says this shows there is a serious threat of a bird flu pandemic. "It could happen and will happen eventually, and this simply confirms this particular H5N1 virus is capable of person-to-person transmission," he said.

"The other thing it says is that we need to be very vigilant to find these clusters, to assess whether there's transmission and to stop transmission as quickly as we can each time they arise. We're going to see strains of influenza that are capable of causing pandemics arising, probably avian strains, and that will happen for sure, there's no doubt about it."

Professor Longini says in this case, a pandemic may have been averted because of the quick action of health authorities or, statistically at least, it could have been luck. He said because the sample group was so small, it was impossible to say how fast the disease could have spread in the workplace or the street.

But he says that in the home, it was a fast mover. "It had about a one-third chance of transmitting from person to person due to close contact in that household setting," he said.

Other scientists say the research confirms their suspicions about the disease. Dr Alan Hampson is a member of the World Health Organization's (WHO) Pandemic Taskforce and an adviser to the Australian Government on influenza. "This study has looked at the dynamics of the spread of the virus in the family environment in Sumatra and has come down with the conclusion that it clearly does show person-to-person transmission," he said. "We had already believed that that was probably the case and we haven't had confirmation through analysis of the viruses. The information relating to those viruses is information that's held in Indonesia, so we haven't seen that, but what we do believe, from people who have seen the information, is that that too indicated that it was person-to-person spread and that the virus was changing as it spread from one person to another, as we would expect it to do."

Dr Hampson says the Sumatra case could have become a pandemic. "If it had gone further, we do know that the virus is very good at adapting, so while on the one hand it may have to go through a number of steps, if its passage is from one person to another, then that chance is there," he said.

International, Wild Birds (International Herald Tribune, September 3): Samples from 350,000 healthy wild birds in Europe, Asia, Africa and the Americas have tested negative for bird flu, offering further proof that spread of the virus is mostly contained in domesticated poultry, the United Nations said Monday.

But experts at a three-day workshop on the issue said increased and better coordinated surveillance of wild bird populations was necessary, given that individual birds from 90 species have been found to carry the deadly H5N1 virus. Most of those were either sick or dead birds.

"We know from global wildlife surveillance (that) 300,000 to 350,000 healthy, wild birds have been sampled looking for this virus. It hasn't been found," Scott Newman, the international wildlife coordinator for the U.N. Food and Agriculture Organization, said of the survey results taken between 2005 and 2007.

"We know now that we haven't found a species that even suggests that it would be a reservoir for this disease," he added.

Scientists have long feared that the spread of the virus would pick up speed with the wild birds' winter migration to Africa and the Middle East, and their spring return to Europe. But that has failed to happen.

Newman and others said the negative tests do not mean that wild birds should be dropped altogether as a possible transmission source. Instead, he said governments need to step up their surveillance of wild birds, including better testing at sites where domestic and wild birds congregate.

Some experts are calling on governments to focus their resources on containing the virus in domesticated bird populations and to not get distracted by efforts to search for it in wild birds. "It's very easy to say our poultry system must be working well because we think wild birds are the source of our problem," said William Karesh, chief of party for the Global Avian Influenza Network for Surveillance.

The H5N1 virus has killed at least 199 people worldwide, according to the World Health Organization, and led to the slaughter of more than 200 million birds since 2003.

It is hard for humans to catch, but experts fear it could mutate into a form that spreads easily among people, potentially sparking a global pandemic. To date, most human cases have been traced to contact with infected birds.

Michigan Wild Bird Surveillance (USDA, September 6): For the 2007 testing season, 254 Michigan samples have been taken so far, comprised of 100 live bird samples, 99 hunter-killed birds and 55 morbidity/mortality samples.

According to the National HPAI Early Detection Data System website, HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 15,866 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 HPAI 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.

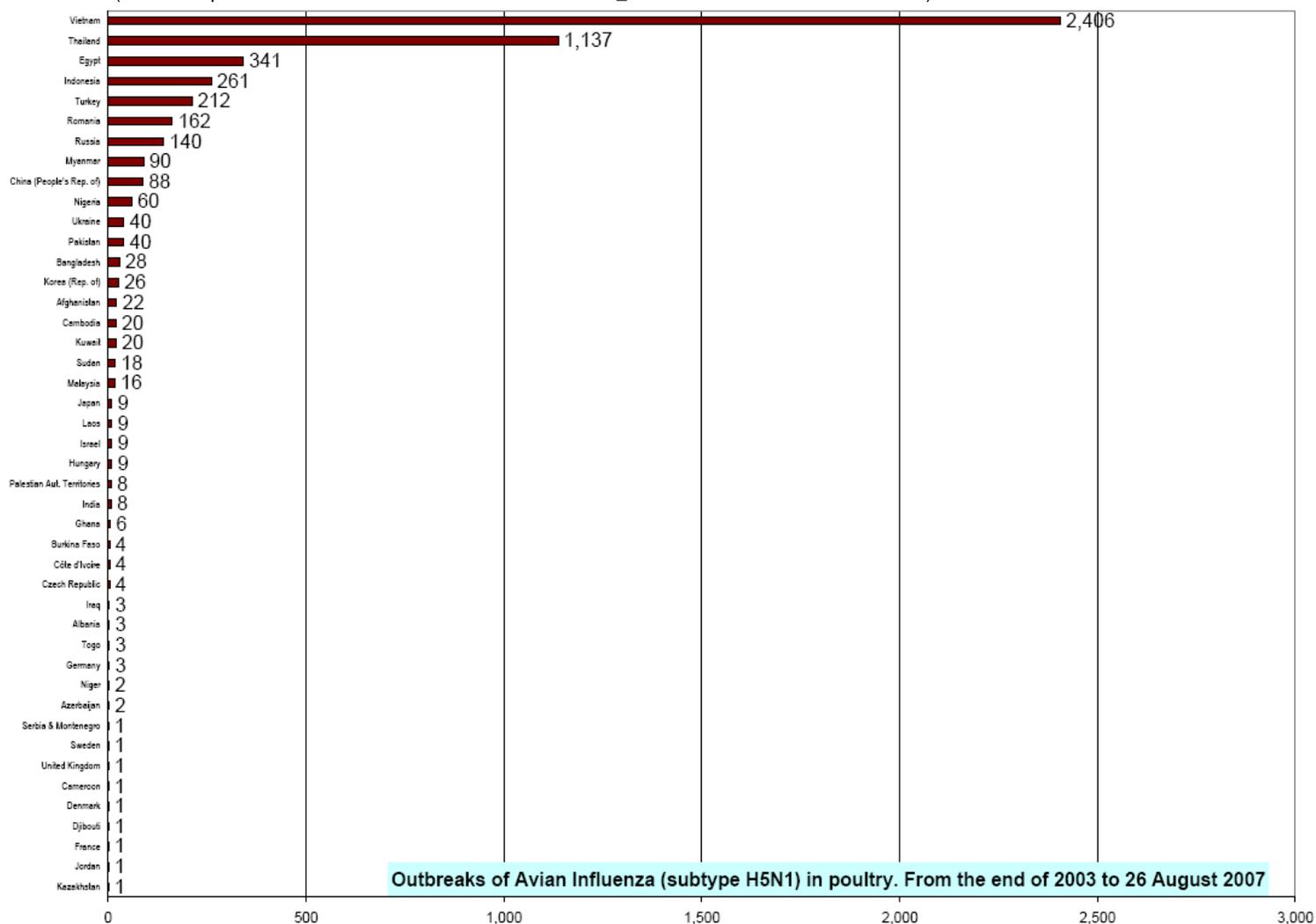
Contributors

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Table 1. H5N1 Influenza in Poultry (Outbreaks up to August 26, 2007)

(Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 8/27/2007)



Outbreaks of Avian Influenza (subtype H5N1) in poultry. From the end of 2003 to 26 August 2007

Table 2. H5N1 Influenza in Humans (Cases up to August 31, 2007)

(http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2007_08_31/en/index.html Downloaded 9/5/2007)

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	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	30	26	105	84
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	64	41	327	199