



# MI FluFocus

## Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology  
Bureau of Laboratories

Michigan Department  
of Community Health



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October 2, 2008  
Vol. 5; No. 40

### New updates in this issue:

- **Michigan Surveillance:** ER respiratory complaints remain elevated but steady.
- **Avian Influenza:** H5N1 avian influenza outbreak reported in Vietnam.

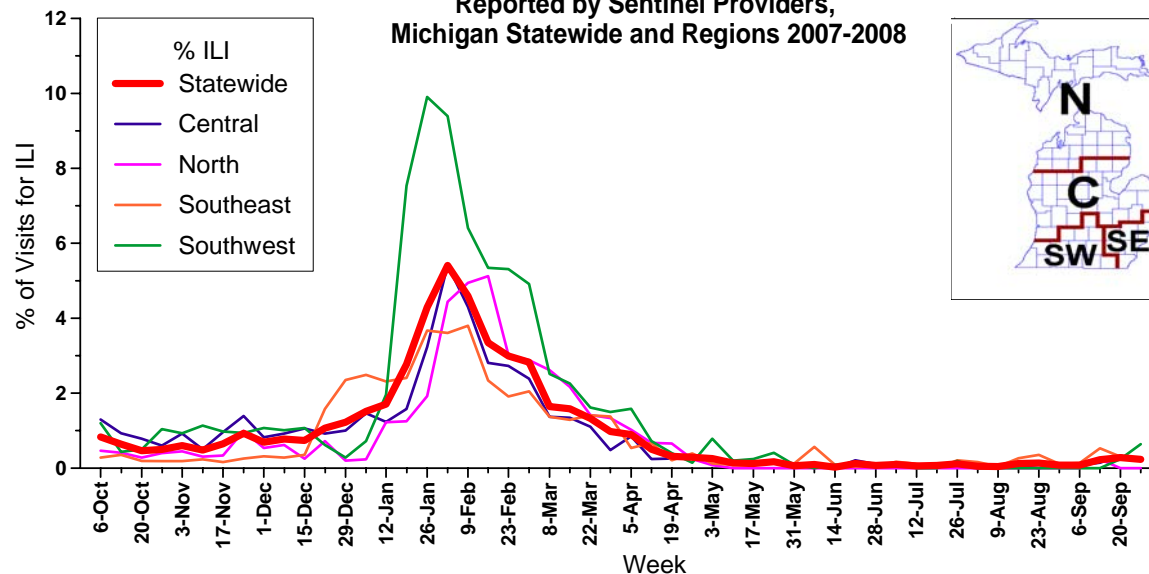
**Michigan Disease Surveillance System:** The week ending September 27 saw individual influenza reports remain steady near last week's levels, while aggregate flu-like illness reports increased slightly. Increases in aggregate reports are expected to continue as the school reporting season picks up. Individual flu reporting levels are expected to have a more gradual increase as the influenza season approaches. Both aggregate and individual reports are consistent with levels seen at this time last year.

**Emergency Department Surveillance:** Emergency department visits from both constitutional complaints and respiratory complaints remained steady near last week's levels. Constitutional complaints are consistent with numbers seen this time last year. Respiratory rates are slightly higher but consistent with what has been seen in previous years; however, the number of respiratory alerts decreased last week as respiratory rates stabilized. Six constitutional alerts in the C(2), SE(2) and SW(2) Influenza Surveillance Regions and eight respiratory alerts in the C(3), N(4) and SW(1) Influenza Surveillance Regions were generated last week.

**Over-the-Counter Product Surveillance:** Overall, OTC product sales were mixed last week. Chest rubs saw a slight drop last week, while the remainder of the indicators held steady near the previous week's levels. Indicator levels are comparable to those seen at this time last year.

**Sentinel Surveillance (as of October 2):** During the week ending September 27, 2008, the proportion of visits due to influenza-like illness increased slightly, to 0.2%, over levels that have been reported throughout the summer; eleven patient visits due to ILI were reported out of 4,803 office visits. This rate is consistent with those reported in early fall during prior years' surveillance. Seventeen sentinels provided data for this report. Note that these rates may change as additional reports are received.

Percentage of Visits for Influenza-like Illness (ILI)  
Reported by Sentinel Providers,  
Michigan Statewide and Regions 2007-2008



As part of pandemic influenza preparedness, CDC and MDCH highly encourage 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 October 2):** No new influenza isolates were identified at the MDCH Bureau of Laboratories (BOL) during the past week. For the 2007-2008 influenza season, MDCH BOL has identified 249 influenza isolates:

- 190 A/H3N2: Central (58); Southwest (51); Southeast (49); North (32)
- 4 A/H1N1: Southeast (2); North (2)
- 2 A subtyping unable to be performed: Southeast (2)
- 53 B: Southeast (30); North (10); Southwest (6); Central (6); Indiana (1). 51 have been typed as B/Shanghai/361/2002-like and 2 were B/Malaysia/2506/2004-like (SE).

\*\*\*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 October 2):** For the 2007-2008 season, MDCH has confirmed one influenza-related pediatric mortality in Michigan. The case was a 13 year-old from the Central region with an influenza A/H3N2 and MRSA co-infection; disease onset was in late February.

\*\*\*The CDC has asked all states to collect information on any pediatric death associated with influenza infection. This includes not only any death in a child (<18 years) resulting from a compatible illness confirmed to be influenza by an appropriate diagnostic test, but also any unexplained death with evidence of an infectious process in a child. See [www.michigan.gov/documents/fluletter\\_107562\\_7.pdf](http://www.michigan.gov/documents/fluletter_107562_7.pdf) for the complete protocol. Please immediately call MDCH to ensure that proper clinical specimens are obtained.

**Congregate Settings Outbreaks (as of October 2):** Congregate setting outbreaks have been reported in all regions of the state, peaking in the first two weeks of February. 7 outbreaks have been culture-confirmed at MDCH; 6 as influenza A/H3N2 and 1 as influenza B for the 2007-2008 season.

**International (WHO, September 29):** During the weeks 37-38, overall influenza activity in the southern hemisphere declined, except for New Zealand, where a widespread outbreak was reported. Activity was low in the rest of the world.

*China, Hong Kong Special Administrative Region.* A decline in the activity of influenza A(H3) and A(H1) viruses was observed, with influenza A(H3) still predominating. Both B/Yamagata and B/Victoria lineage viruses were detected.

*New Zealand.* Influenza activity remained widespread with influenza B viruses predominating and A(H3) co-circulating.

Between weeks 37 to 38, sporadic influenza activity was detected in Argentina (A,B), Canada (B), Chile (B) and the United Kingdom (A).

Belgium, Cameroon, Germany, the Islamic Republic of Iran, Kyrgyzstan, Mongolia, Oman, Paraguay, Poland, Slovenia, Sri Lanka and Switzerland reported no influenza activity.

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Seasonal influenza reporting to the CDC has ended for the 2007-2008 influenza season.

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](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**

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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.

**National, Research (U.S. Health and Human Services website, September 30):** The U.S. Food and Drug Administration (FDA) today cleared a new test developed by the U.S. Centers for Disease Control and Prevention (CDC) to diagnose human influenza infections and the highly pathogenic influenza A (H5N1) viruses.

The device, called the Human Influenza Virus Real-Time RT-PCR Detection and Characterization Panel (rRT-PCR Flu Panel), uses a molecular biology technique to detect flu virus and differentiate between seasonal and novel influenza.

The device is used to isolate and amplify viral genetic material present in secretions taken from a patient's nose or throat. The viral genetic material is labeled with fluorescent molecules, which are then detected and analyzed by a diagnostic instrument called the Applied Biosystems 7500 Fast Dx, also cleared today by the FDA for diagnostic use simultaneously with the CDC's rRT-PCR Flu Panel.

The test panel and diagnostic system can detect and identify commonly circulating human influenza viruses as well as influenza A (H5N1) viruses. Results can be available within four hours and the system can test multiple samples at once.

"This is a significant achievement for public health surveillance," HHS Secretary Mike Leavitt said. "The test allows us to better support laboratories on the front line of influenza testing in the United States and abroad."

"The application of the test to detect an emergent influenza virus would be especially important in the early stages of a pandemic," Secretary Leavitt added. "This breakthrough allows for a more timely detection of a pandemic virus, which helps in determining when to begin broad control strategies as well as life-saving mitigation measures, such as closing schools, canceling social gatherings and informing businesses to begin work-at-home policies."

The test will be available to CDC-qualified laboratories for diagnosing influenza this fall, and some laboratories will be able to obtain reagents (certain substances used in the testing process) at no cost. This test should help ensure the accuracy of influenza testing results among the different qualified laboratories that conduct influenza subtype testing.

"This new test provides us another tool in our toolbox to fight seasonal influenza, a virus that unfortunately kills thousands of people each year in the United States," said CDC Director Dr. Julie Gerberding. "We'll now be able to detect influenza in the community faster, which allows us to take steps more quickly to protect and save lives."

Since influenza viruses are always changing, test reagents need to be evaluated regularly against circulating viruses to ensure the sensitivity and specificity of the test to diagnose current influenza viruses.

"Because the test can tell the difference between seasonal human influenza viruses and novel viruses, it will also provide qualified laboratories with a means to rapidly detect new influenza viruses that have not been identified yet and that could pose a pandemic risk," said FDA Principal Deputy Commissioner and Chief Scientist Dr. Frank Torti, M.D., M.P.H.

The CDC, Applied Biosystems of Foster City, Calif., and the Association of Public Health Laboratories collaborated on the development of this new test. State public health laboratories in Virginia, Iowa, California, Massachusetts, Wisconsin, and Washington performed clinical evaluations of the new flu panel.

Scientists around the world are concerned that the H5N1 virus could one day mutate and acquire the properties needed to quickly spread between people, resulting in a pandemic. H5N1 viruses circulate widely in birds in Asia, Africa and Europe and have caused human illness and death. These viruses have never been detected in the Americas.

For more information, please visit [www.pandemicflu.gov](http://www.pandemicflu.gov), and [www.cdc.gov](http://www.cdc.gov)

**International, Poultry (Trend News Agency, September 26):** Vietnamese authorities have detected the H5N1 avian flu virus in a flock of ducks on a farm in the southern province of Ca Mau, a government official said Friday.

Hoang Van Nam, deputy director of Vietnam's Animal Health Department, said inspectors had found on September 22 that bird flu had killed more than 50 of 500 ducks on a Ca Mau farm, reported [dpa](#).

All the ducks at the farm were ducklings under 45 days old, and had thus not been vaccinated yet, Nam said.

Authorities have culled all the ducks at the farm.

"Bird flu occurs occasionally in Vietnam," Nam said. "We cannot extinguish it, but only limit its spread."

On September 7, the Animal Health Department announced it had detected bird flu in a flock of 600 ducks on a farm in the southern province of Ben Tre, adjacent to Ho Chi Minh City.

According to Nam, bird flu outbreaks have been detected in 26 Vietnamese provinces since the beginning of 2008, killing 5 people and forcing authorities to cull more than 60,000 ducks.

H5N1 mainly affects poultry and wild birds, but can infect humans who have close contact with sick fowl. Scientists fear that if it spreads unchecked, the disease could mutate into a form which could be transmitted between humans, leading to a worldwide pandemic that could kill millions.

Bird flu has infected 105 people in Vietnam and killed at least 51 of them since it first appeared in the country in late 2003.

**Michigan Wild Bird Surveillance (USDA, as of October 2):** For the 2008 testing season, 736 Michigan samples have been taken so far, comprised of 247 live birds, 339 hunter-killed birds, 25 morbidity/mortality samples and 125 environmental samples.

H5N1 subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 33,059 birds or environmental samples tested nationwide for the 2008 testing season, which will run from April 1, 2008 - March 31, 2009. For more information, visit the National HPAI Early Detection Data System website at <http://wildlifedisease.nh.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](mailto:VagaskyS@Michigan.gov) with any questions regarding this newsletter or to be added to the weekly electronic mailing list.**

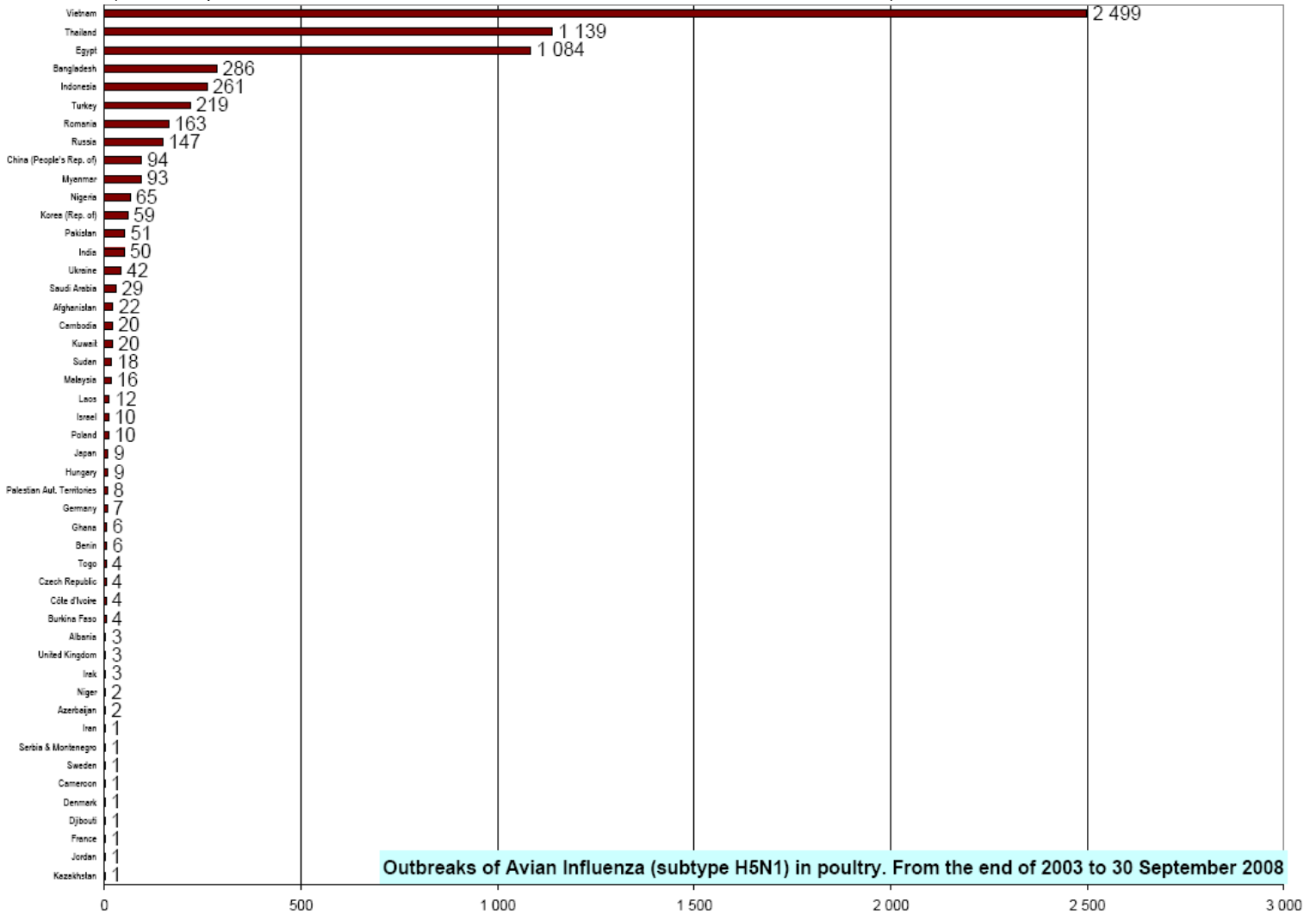
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**Table 1. H5N1 Influenza in Poultry (Outbreaks up to September 30, 2008)**

(Source: [http://www.oie.int/downld/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm) Downloaded 9/30/08)



**Outbreaks of Avian Influenza (subtype H5N1) in poultry. From the end of 2003 to 30 September 2008**

**Table 2. H5N1 Influenza in Humans (Cases up to September 10, 2008)**

([http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2008\\_09\\_10/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2008_09_10/en/index.html) Downloaded 9/10/2008)

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

Country	2003		2004		2005		2006		2007		2008		Total	
	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	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	1	0
Cambodia	0	0	0	0	4	4	2	2	1	1	0	0	7	7
China	1	1	0	0	8	5	13	8	5	3	3	3	30	20
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	7	3	50	22
Indonesia	0	0	0	0	20	13	55	45	42	37	20	17	137	112
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	3	2
Lao PDR	0	0	0	0	0	0	0	0	2	2	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	5	5	106	52
<b>Total</b>	<b>4</b>	<b>4</b>	<b>46</b>	<b>32</b>	<b>98</b>	<b>43</b>	<b>115</b>	<b>79</b>	<b>88</b>	<b>59</b>	<b>36</b>	<b>28</b>	<b>387</b>	<b>245</b>