# MI FluFocus

## *Influenza Surveillance and Avian Influenza Update*

**Bureau of Epidemiology**
**Bureau of Laboratories**

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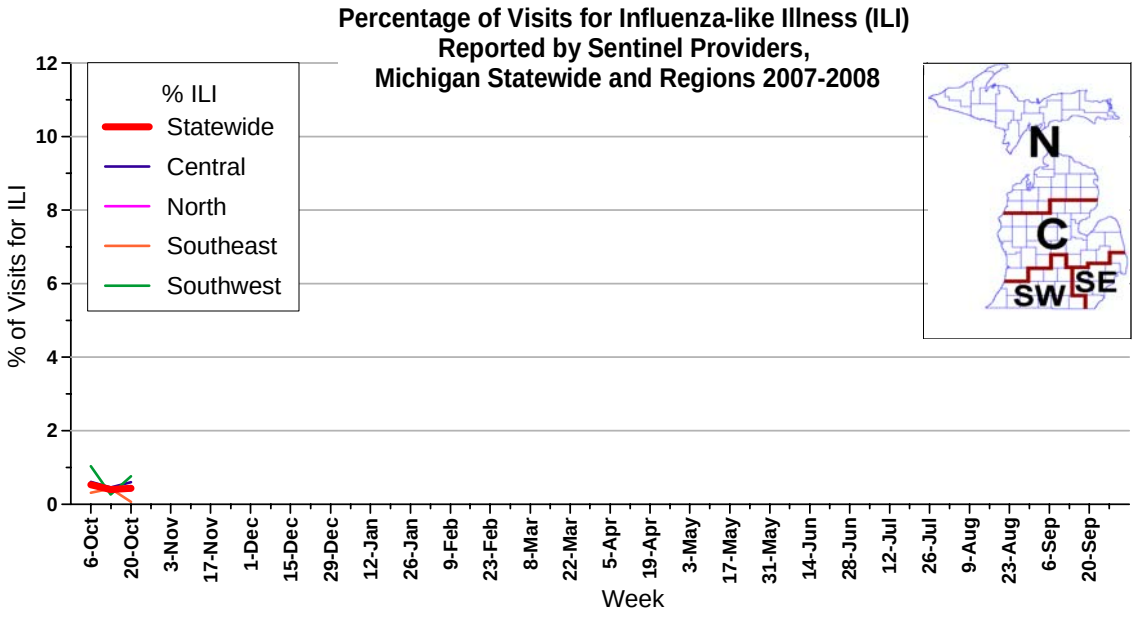
## *New updates in this issue:*

- **Michigan Surveillance:** Influenza-like illness remains at low levels statewide.
- **National Surveillance:** Overall influenza activity is low, but P&I deaths are above baseline.
- **Avian Influenza:** Indonesia reports its 89th fatality due to H5N1 avian influenza.

**Michigan Disease Surveillance System:** The week ending October 20 saw aggregate flu-like illness reports rise slightly, while individual influenza reports held steady near the previous week's levels. Both aggregate and individual reports are slightly lower, but should be considered 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 were steady. Both constitutional and respiratory complaints are consistent with numbers seen this time last year. Seven constitutional alerts in the C(4), N(1), and SE(2) Influenza Surveillance Regions, twelve respiratory alerts in the C(5), N(2), SE(1) and SW(3) Influenza Surveillance Regions, and one Statewide respiratory alert were generated last week.

**Sentinel Surveillance (as of October 25):** During the week ending October 20, 2007, the proportion of visits due to influenza-like illness (ILI) in Michigan remained relatively unchanged from last week at 0.4% of all visits. This represents 22 cases of ILI out of 5104 total patient visits; twenty-four sentinels provided data for this report. By region, the proportion of visits due to ILI was: 0.6%, Central; 0.4%, North; 0.1%, Southeast; and 0.8% 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.

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.

**Laboratory Surveillance (as of October 18):** The MDCH Lab has not confirmed any cases of influenza for the 2007-2008 influenza season, which started on October 1.

In September 2007, a positive rapid influenza A test from August 2007 was confirmed at the MDCH Bureau of Laboratories as an influenza A (H1N2) virus. This test result was referenced in the September 20, 2007 edition of *MI FluFocus*. Recent testing by the Centers for Disease Control and Prevention (CDC) has confirmed the strain as A (H1N2); in addition, the strain was determined to be of swine origin. The case was a 16-month-old from the Central Influenza Surveillance region who developed moderate flu-like symptoms and subsequently recovered with no complications. A comprehensive follow-up investigation by MDCH, CDC and the local health department is currently underway. No additional cases have been identified at this time, and this case is believed to be an isolated event with the most probable exposure route being contact with infected swine. This case highlights the value of increased off-season influenza surveillance to detect circulating human and novel influenza viruses.

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

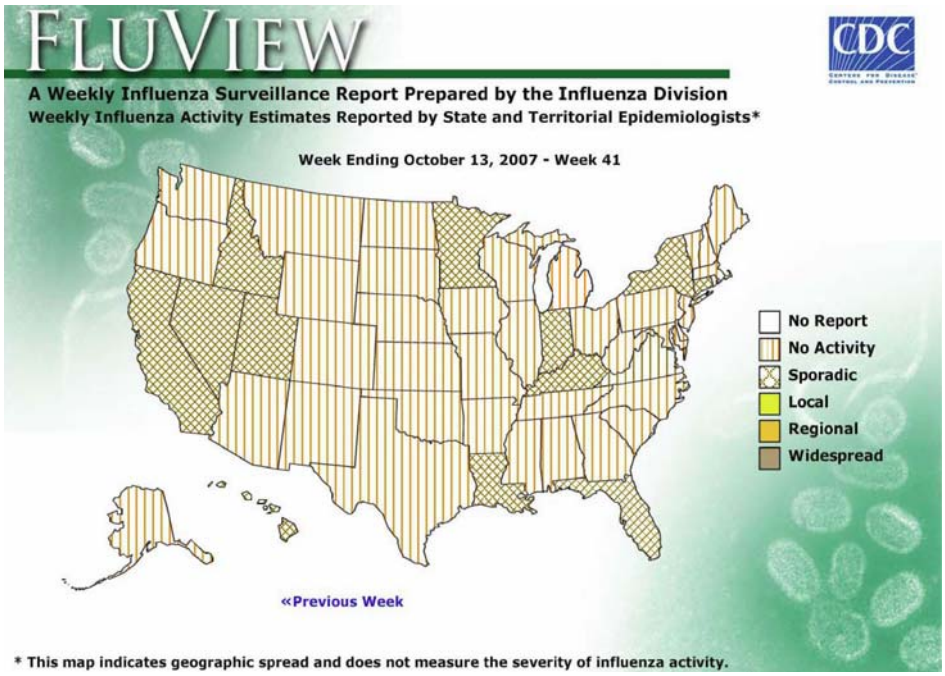
**Congregate Settings Outbreaks (as of October 25):** There have been no reports for the 2007-2008 influenza season.

**National (CDC [edited], October 22):** During week 41 (October 7-13, 2007), a low level of influenza activity was reported in the United States. WHO and NREVSS laboratories reported 1,136 specimens tested for influenza viruses, 21 (1.9%) of which were positive, including five influenza A (H1) viruses (Mountain region), one influenza A (H3) virus (South Atlantic region), 14 influenza A viruses that were not subtyped (Pacific, South Atlantic, and West South Central regions), and one influenza B virus (Pacific region). 1.3% of patient visits reported through the U.S. Influenza Sentinel Provider Surveillance Network were due to influenza-like illness (ILI) and 1.8% of patient visits to Department of Veteran's Affairs (VA) and Department of Defense (DoD) outpatient treatment facilities were for acute respiratory illness (ARI). These percentages are less than the national baseline of 2.2% and 3.2%, respectively. Twelve states and the District of Columbia reported sporadic influenza activity; and 38 states reported no influenza activity.

During week 41, 6.0% of all deaths reported through the 122-Cities Mortality Reporting System were reported as due to P&I. This percentage is above the epidemic threshold of 5.8% for week 41. This is the sixth consecutive week that the percentage of deaths due to P&I has been above the epidemic threshold. No other component of the national surveillance system showed evidence of increased influenza activity or virus circulation. Both national and regional percentages of death due to P&I during the last six weeks are similar to the percentages reported during this time period last year. The baseline percentage of P&I deaths is projected for the current season based on P&I data from the previous five years. The five-year period used to project the current season's baseline included three mild seasons, therefore, the elevation relative to the baseline may be due to in part to the lowering of the baseline

values. However, potential explanations for the increase in P&I mortality above threshold continue to be investigated.

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, October 12):** Between September 2006 and August 2007, the level of influenza activity was generally mild to low. In North America, influenza activity began in November and increased in December, while in Asia and Europe, activity started in December and increased in January. Overall activity in the northern hemisphere declined in April-May. In the southern hemisphere, it began in April in South America, increased in May, remained high throughout July and declined in August. In Oceania and South Africa, activity started in June, peaked in July-August and declined in September.

A total of 84 countries/areas -10 from Africa, 16 from the Americas, 19 from Asia, 35 from Europe and 4 from Oceania – reported influenza activity to WHO between September 2006 and August 2007. Of these, 44 reported regional/widespread outbreaks associated with influenza A(H1N1), A(H3N2) and B viruses.

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MDCH reported **NO INFLUENZA ACTIVITY** to the CDC for the week ending October 20, 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 (WHO, October 25):** The Ministry of Health of Indonesia has announced a new case of human infection of H5N1 avian influenza. A 5-year-old female from the Tangerang District, Banten Province developed symptoms on 14 October, was hospitalized on 20 October and died in an AI referral hospital on 22 October. The investigation found that there were poultry deaths in the case's neighborhood in the two weeks prior to her onset of symptoms. Of the 110 cases confirmed to date in Indonesia, 89 have been fatal.

**International, Poultry (OIE, October 23):** According to an official report submitted to OIE, an outbreak of highly pathogenic avian influenza H5N1 was identified in Bago, Myanmar on October 19, 2007. 400 of 33,859 birds died, and the remaining birds have been destroyed. 32,070 quail, 3118 quail eggs, 52 kg of feed, 1242 layer chickens, 147 ducklings and 30,500 hatching duck eggs were all destroyed. Thanatpin is considered as a high risk township by international epidemiologists because it is very close to lake Moeyungyi, occupied by wild birds, with a high population of ducks (nearly 800,000) and with a rapidly increasing number of raised quails. The source of infection is probably seropositive ducks, infecting quail or chickens and other fomites.

**International, Poultry (Reuters, October 24):** Bird flu has killed nearly 300 ducklings in central Vietnam, the second infection found in the Southeast Asian country this month, the government said on Wednesday. Tests performed by a Vietnamese laboratory confirmed the H5N1 virus had infected 310 ducklings that were nearly two months old, and 290 of them died on Tuesday at a farm in Quang Tri province, the Agriculture Ministry's Animal Health Department said in a report. Animal health workers were working at the site to contain the virus, it said.

The outbreak is the second detected this month, after officials found the H5N1 virus among ducks in the southern Mekong delta province of Tra Vinh on Oct. 6. None of the infected ducks had been vaccinated against the virus.

Agriculture Minister Cao Duc Phat said earlier this month that bird flu would soon return among unvaccinated birds, especially as the weather cooled in late autumn and winter in northern provinces.

The second phase of vaccination has now been under way in 40 out of Vietnam's 64 provinces and 62.65 million birds have been injected, nearly one third of the country's total poultry stock, the Agriculture Ministry said.

Vietnam's poultry stock has been increasing, with 226 million birds counted at the end of August, 5.3 percent up from a year ago, of which the waterfowl stock expanded 8.7 percent to 68 million, government figures showed.

Bird flu has killed four people among the seven cases of infection in Vietnam so far this year, bringing the death toll since late 2003 to 46. Globally, the H5N1 virus has killed 203 people out of 331 known cases, with most of the deaths in Indonesia, Vietnam, Thailand and Egypt, the World Health Organisation said.

**National, Vaccines (Department of Health and Human Services, October 23):** Draft guidance on the allocation and targeting of a pandemic influenza virus vaccine in the United States has just been released. The draft guidance can be found at http://www.pandemicflu.gov/vaccine/prioritization.html. Public comments on the guidance are welcome and can be submitted at the above website starting October 26.

**Michigan Wild Bird Surveillance (USDA, as of October 25):** For the 2007 testing season, 444 Michigan samples have been taken so far, comprised of 100 live bird samples, 99 hunter-killed birds, 95 morbidity/mortality samples, and 150 environmental samples.

HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 30,265 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.nbii.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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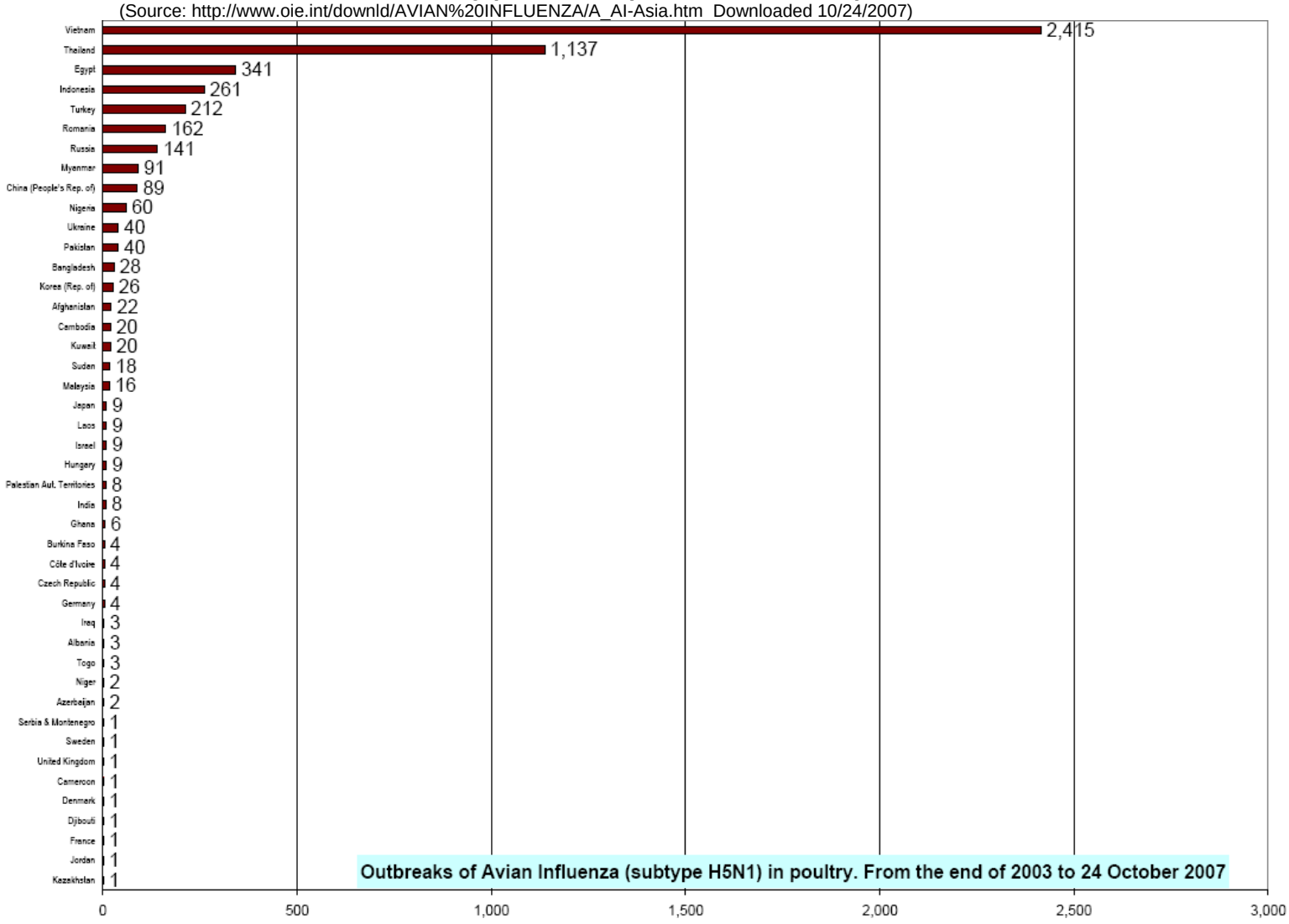
## Table 1. H5N1 Influenza in Poultry (Outbreaks up to October 24, 2007)

(Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 10/24/2007)




## Table 2. H5N1 Influenza in Humans (Cases up to October 25, 2007)

(http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2007_10_25/en/index.html Downloaded 10/25/2007)

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 | 35 | 31 | 110 | 89 |
| 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 | 69 | 46 | 332 | 204 |