



MI FluFocus

Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology
Bureau of Laboratories

Michigan Department
of Community Health



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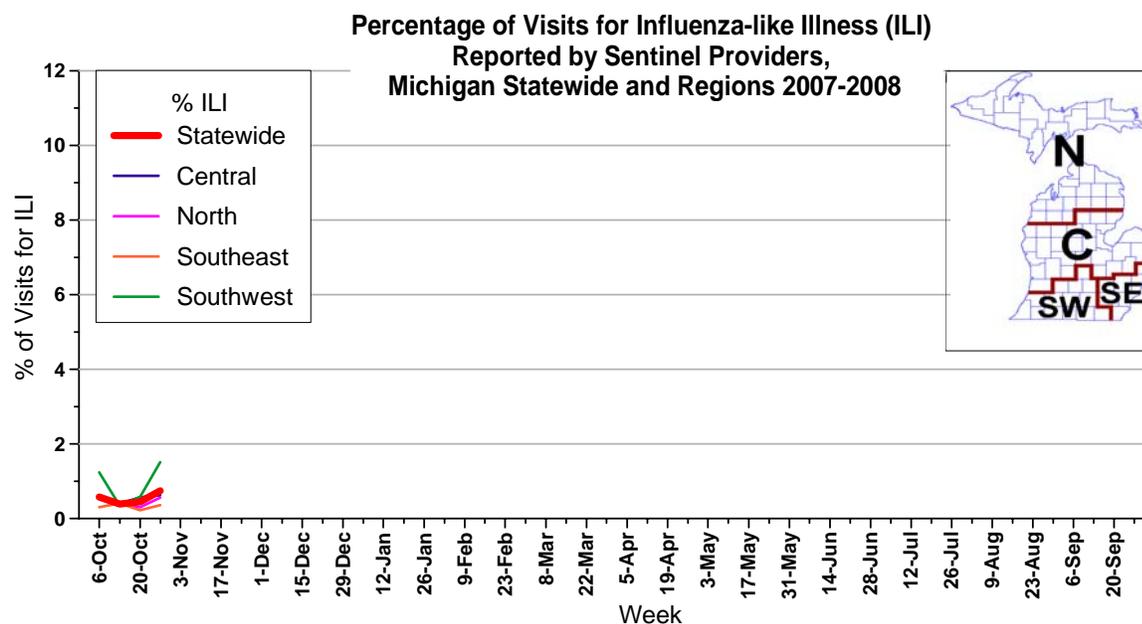
New updates in this issue:

- **Michigan Surveillance:** ILI activity remains low overall but with a slight increase in the Southwest.
- **National Surveillance:** Low influenza activity overall; P&I mortality continues to be slightly elevated.
- **Avian Influenza:** Indonesia announces its 111th human case of avian influenza H5N1.

Michigan Disease Surveillance System: The week ending October 27 saw a slight increase in aggregate flu-like illness reports, while individual influenza reports held steady at 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 saw a slight increase this past week, while constitutional complaints held steady this week. Both constitutional and respiratory complaints are consistent with numbers seen this time last year. Six constitutional alerts in the C(4) and N(2) Influenza Surveillance Regions and five respiratory alerts in the C(4) and SW(1) Influenza Surveillance Regions were generated last week.

Sentinel Surveillance (as of October 31): During the week ending October 27, 2007, the proportion of visits due to influenza-like illness (ILI) in Michigan increased slightly from last week to 0.7% of all visits. This represents 43 cases of ILI out of 5778 total patient visits; twenty-seven sentinels provided data for this report. By region, the proportion of visits due to ILI was: 0.6%, Central; 0.6%, North; 0.4%, Southeast; and 1.5% Southwest. A small increase in the number of ILI cases was reported by pediatric and family practice clinics in the Southwest region; laboratory results are pending. 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 November 1): 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 1): 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 November 1): There have been no reports for the 2007-2008 influenza season.

National (CDC [edited], October 26): During week 42 (October 14-20, 2007), a low level of influenza activity was reported in the United States. WHO and NREVSS laboratories reported 1,349 specimens tested for influenza viruses, 29 (2.2%) of which were positive, including two influenza A (H1) viruses (New England region) and 27 influenza A viruses that were not subtyped (Mountain, Pacific, South Atlantic, and West North Central, West South Central regions). The proportion of outpatient visits for influenza-like illness (ILI) and acute respiratory illness (ARI) was below national and region-specific baseline levels. Thirteen states, the District of Columbia, and Puerto Rico reported sporadic influenza activity; and 37 states reported no influenza activity.

During week 42, 6.1% 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 5.9% for week 42. This is the seventh 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 seven 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.

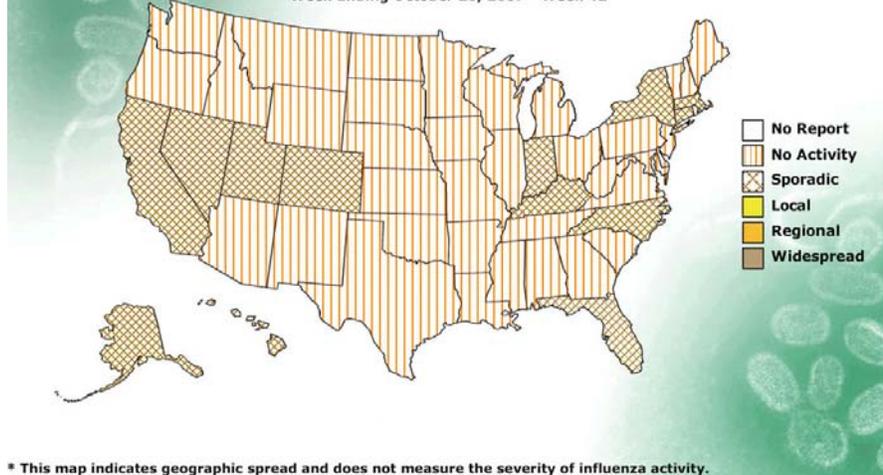
To access the entire CDC weekly surveillance report throughout the influenza season, visit <http://www.cdc.gov/flu/weekly/fluactivity.htm>

FLUVIEW

A Weekly Influenza Surveillance Report Prepared by the Influenza Division
Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*



Week Ending October 20, 2007 - Week 42



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.

MDCH reported **NO INFLUENZA ACTIVITY** to the CDC for the week ending October 27, 2007.

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, October 31): The Ministry of Health of Indonesia has announced a new case of human infection of H5N1 avian influenza. A 3-year-old male from the Tangerang District, Banten Province developed symptoms on October 14. The case has recovered. The investigation found that there were poultry deaths in the case's household prior to his onset of symptoms. The case was living in the same district but had no contact with the previously confirmed [5-year-old female](#). Of the 111 cases confirmed to date in Indonesia, 89 have been fatal.

International, Poultry (UN FAO news release [edited], October 25): The avian influenza [AI] virus H5N1 could become entrenched in chickens and domestic ducks and geese in parts of Europe, FAO warned today [Oct 25 2007].

The agency stressed that healthy domestic ducks and geese may transmit the virus to chickens and play a more important role in the persistence of the virus in the region than previously thought. H5N1 surveillance in countries with significant domestic duck and geese populations should be urgently increased.

FAO's warning followed the detection of H5N1 in diseased young domestic ducks by German scientists. "It seems that a new chapter in the evolution of avian influenza may be unfolding silently in the heart of Europe," said FAO's Chief Veterinary Officer, Joseph Domenech. "If it turns out to be true that the H5N1 virus can persist in apparently healthy domestic duck and geese populations, then countries need to urgently reinforce their monitoring and surveillance schemes in all regions with significant duck and geese production for the presence of H5N1."

"Europe should prepare for further waves of avian influenza outbreaks, most probably in an east-west direction, if the virus succeeds in persisting throughout the year in domestic waterfowl. This heightens the need for increased surveillance and monitoring of possible virus circulation in domestic ducks and geese," Domenech said.

The link between domestic ducks and geese and chickens is seen by many experts as one of the major underlying factors in outbreaks of HPAI in disease-entrenched countries. "We are particularly concerned about the Black Sea area which has a high concentration of chickens, ducks, and geese," said FAO senior animal health officer Jan Slingenbergh.

"In the Ukraine alone, the number of domestic ducks is estimated at around 20 million birds. In Romania, 4 million domestic ducks and 4 million domestic geese are found in the Danube delta. These figures compare easily with chicken and waterfowl densities in Asia, where the virus continues to circulate among chickens and has found a niche in countries with tens of millions of domestic ducks and geese," Slingenbergh said.

Importantly, the Black Sea area serves as a main wintering area for migratory birds coming from Siberia and moving also to the Mediterranean and other regions. All countries bordering the Black Sea have experienced outbreaks of avian influenza in the past, favoured by traditional open poultry systems with poor separation between wild and domestic birds.

The link between the H5N1 virus and domestic ducks and geese has recently been confirmed in Germany.

Scientists of the Friedrich-Loeffler-Institut in Riems have detected the H5N1 virus in diseased young ducks on a farm at the end of August [2007]. Further scrutiny at 2 other farms revealed that, despite the absence of clinical signs and mortality in these ducks, the animals had been in contact with the H5N1 virus, because their immune defense system showed antibodies, developed in response to the virus. Intensified monitoring finally confirmed pockets of H5N1 on one of the farms.

Based on its experience in fighting avian influenza around the world over the past 3 years, FAO considers that risk assessment, surveillance, and virus search strategies should be reviewed, Domenech said. Countries with significant domestic duck and geese populations in Western and Central Europe as well as the Black Sea region should consider the incidence in Germany as a wake-up call and should not limit the virus search to chickens. Good surveillance is already in place in many European countries and the European Commission has issued in 2007 very comprehensive guidelines.

But there are countries where more monitoring is urgently needed including more focus on ducks and geese, which should be considered as particularly risky populations.

"It could well be that there is more virus circulation in Europe than currently assumed," Slingenbergh said. "We are not saying that the virus is widely spread in European countries, in fact most of the countries are currently virus-free. But undetected localized virus spots in countries with significant waterfowl may pose a continuous risk."

After Asia and Africa, Europe could become the 3rd continent where the H5N1 could become endemic in some areas, FAO said.

International, Poultry (ChinaView, October 26): Bird flu outbreaks have occurred in Viet Nam's northern Cao Bang Province since Oct 10, 2007, raising the total number of localities currently affected by the disease to 3.

The disease has killed or infected 480 ducks and 80 chickens raised by 13 households in Trung Khanh district, the Department of Animal Health under the Vietnamese Ministry of Agriculture and Rural Development said Friday [Oct 26 2007], noting that samples from the fowls have been tested positive to bird flu virus strain H5N1.

To prevent bird flu spread, local veterinary agencies have culled all ill poultry and isolated the affected areas. Now, bird flu is hitting Cao Bang, central Quang Tri Province, and southern Tra Vinh Province.

Bird flu outbreaks in Viet Nam, starting in December 2003, have killed and led to the forced culling of dozens of millions of fowls in the country, according to the department.

Michigan Wild Bird Surveillance (USDA, as of November 1): For the 2007 testing season, 859 Michigan samples have been taken so far, comprised of 100 live bird samples, 485 hunter-killed birds, 99 morbidity/mortality samples, and 175 environmental samples.

H5N1 subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 43,351 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 October 31, 2007)

(Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 10/31/2007)

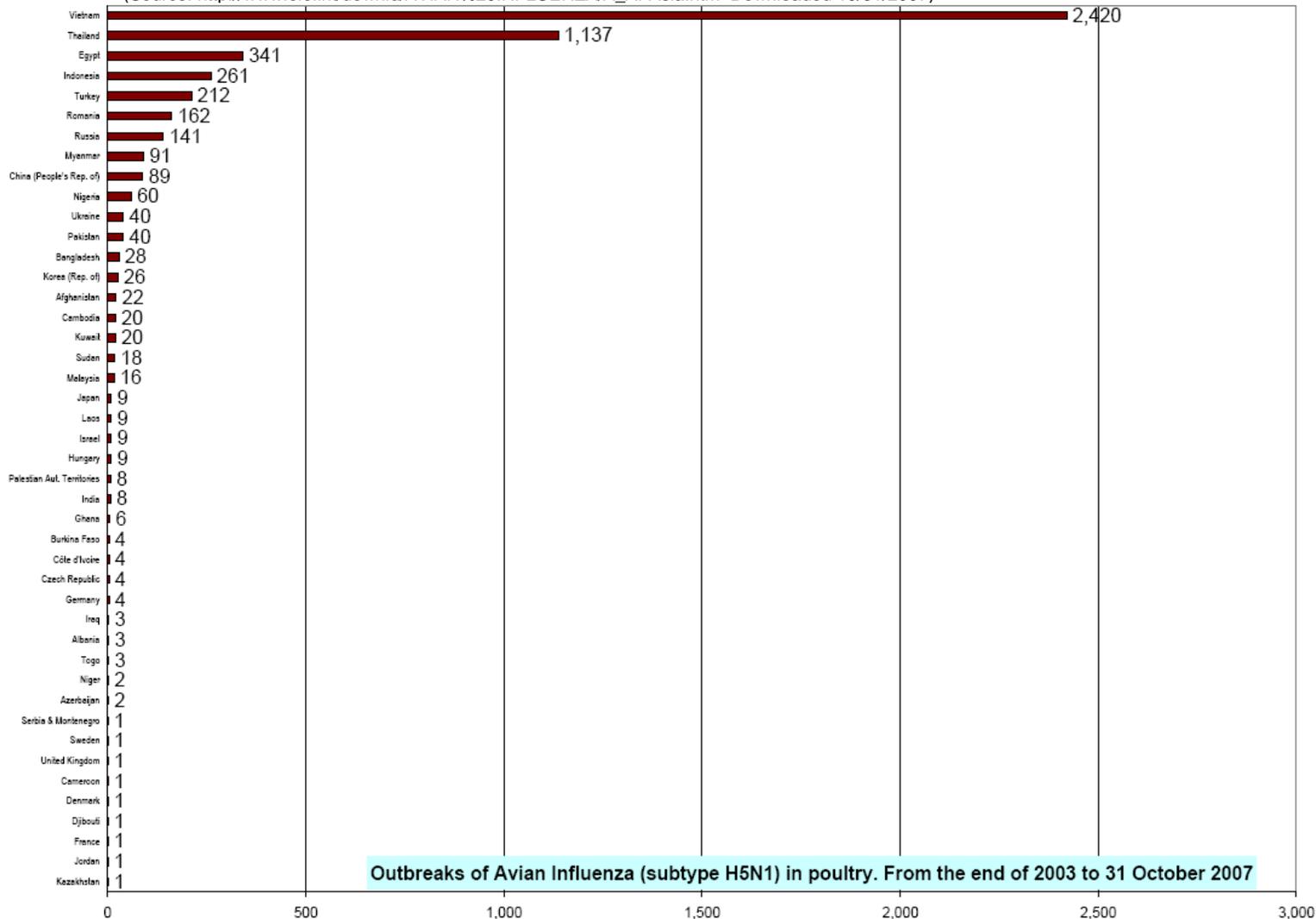


Table 2. H5N1 Influenza in Humans (Cases up to October 31, 2007)

(http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2007_10_31/en/index.html Downloaded 10/31/2007)

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	36	31	111	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	70	46	333	204