



# 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 activity remains at widespread levels. Numerous schools close due to high absenteeism rates.
- **National Surveillance:** All 10 regions report influenza-like illness above region-specific baseline levels.
- **International Surveillance:** Influenza activity in the northern hemisphere is similar to last week, though respiratory disease activity continues to spread and increase in intensity.

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### ***\*\*\*2009 Influenza A (H1N1) virus Updates\*\*\****

On August 17 and September 18, MDCH released guidance for healthcare providers, laboratorians and public health personnel regarding appropriate patients for influenza testing at the MDCH lab and reporting of influenza hospitalizations and deaths. The guidance is available at [www.michigan.gov/h1n1flu](http://www.michigan.gov/h1n1flu).

Please continue to reference the State of Michigan's novel 2009 influenza A (H1N1) website at [www.michigan.gov/h1n1flu](http://www.michigan.gov/h1n1flu) and the MDCH influenza website at [www.michigan.gov/flu](http://www.michigan.gov/flu) for additional information. Local health departments can find guidance documents in the MI-HAN document library. In addition to the previous websites, additional laboratory-specific information is located at the Bureau of Laboratories H1N1 page at [http://www.michigan.gov/mdch/0,1607,7-132-2945\\_5103-213906--,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2945_5103-213906--,00.html).

**International (WHO Pandemic H1N1 2009 update 71 [edited], October 23):** As of 17 October 2009, worldwide there have been more than 414,000 laboratory confirmed cases of pandemic influenza H1N1 2009 and nearly 5000 deaths reported to WHO.

As many countries have stopped counting individual cases, particularly of milder illness, the case count is significantly lower than the actual number of cases that have occurred. WHO is actively monitoring the progress of the pandemic through frequent consultations with the WHO Regional Offices and member states and through monitoring of multiple sources of data.

**New Activity:** Mongolia, Rwanda, and Sao Tome and Principe have reported pandemic influenza cases for the first time this week. Iceland, Sudan, and Trinidad and Tobago reported their first fatal cases.

In general, influenza activity in the northern hemisphere is much the same as in the last week, though respiratory disease activity continues to spread and increase in intensity. In North America, the U.S.A. is still reporting nationwide rates of Influenza-Like Illness (ILI) well above baseline rates with high rates of pandemic H1N1 2009 virus detections in clinical laboratory specimens (29% of all specimens tested are positive for influenza A and all of those subtyped are pandemic H1N1 2009 virus. Canada reports increases in ILI rates for the fourth straight week but the highest level of activity is in the western province of British Columbia. Mexico still reports active transmission in some areas of the country. Although influenza activity is low in most countries in Europe, in Belgium, Israel, the Netherlands, Norway, and parts of the United Kingdom consultation ILI/ARI rates are above baseline levels. Similarly the number of influenza virus detections relatively high, which may indicate the early start of an influenza season. Rates of respiratory illness in Eastern Europe and Northern Asia are increasing but are not yet at levels normally seen in an influenza season (baseline levels are not defined in many countries of the area). Of note, the proportion of cases in Asia that are related to seasonal influenza A(H3N2) continue to decline globally as the proportion related to pandemic H1N1 2009 virus increases. Currently, only East Asia is reporting any significant numbers of influenza A(H3N2) isolates.

In tropical areas of the world, rates of illness are generally declining, with a few exceptions. Cuba, Colombia, and El Salvador are reporting increases in the tropical region of the Americas. In tropical Asia, of the countries that are reporting this week, all report decreases in respiratory disease activity.

The temperate region of the southern hemisphere has no significant pandemic related activity in the past week.

Region	Cumulative total	
	as of 18 October 2009	
	Cases*	Deaths
WHO Regional Office for Africa (AFRO)	13297	75
WHO Regional Office for the Americas (AMRO)	160129	3539
WHO Regional Office for the Eastern Mediterranean (EMRO)	14739	96
WHO Regional Office for Europe (EURO)	Over 63000	At least 261
WHO Regional Office for South-East Asia (SEARO)	41513	573
WHO Regional Office for the Western Pacific (WPRO)	122267	455
Total	Over 414945	At least 4999

\*Given that countries are no longer required to test and report individual cases, the number of cases reported actually understates the real number of cases.

### \*\*\*Influenza Surveillance Reports\*\*\*

**Ed. Note: The 2009-10 influenza season began on Oct. 4, 2009. Data was reset at that time, except for influenza hospitalizations and deaths, which is reported from Sept. 1, 2009 per CDC guidance.**

**Michigan Disease Surveillance System:** The week ending October 30 saw aggregate flu-like numbers nearly double over the previous week, while individual influenza reports were five times higher than the previous week. Individual influenza reports are currently double the peak seen this past spring. The 2009 Novel influenza reports saw a considerable increase over the previous week's numbers, and total novel influenza reports are currently about twice as high as their previous peak this spring. Aggregate numbers are approximately double the numbers seen this time last year, while individual reports are noticeably higher than the same reporting week last year.

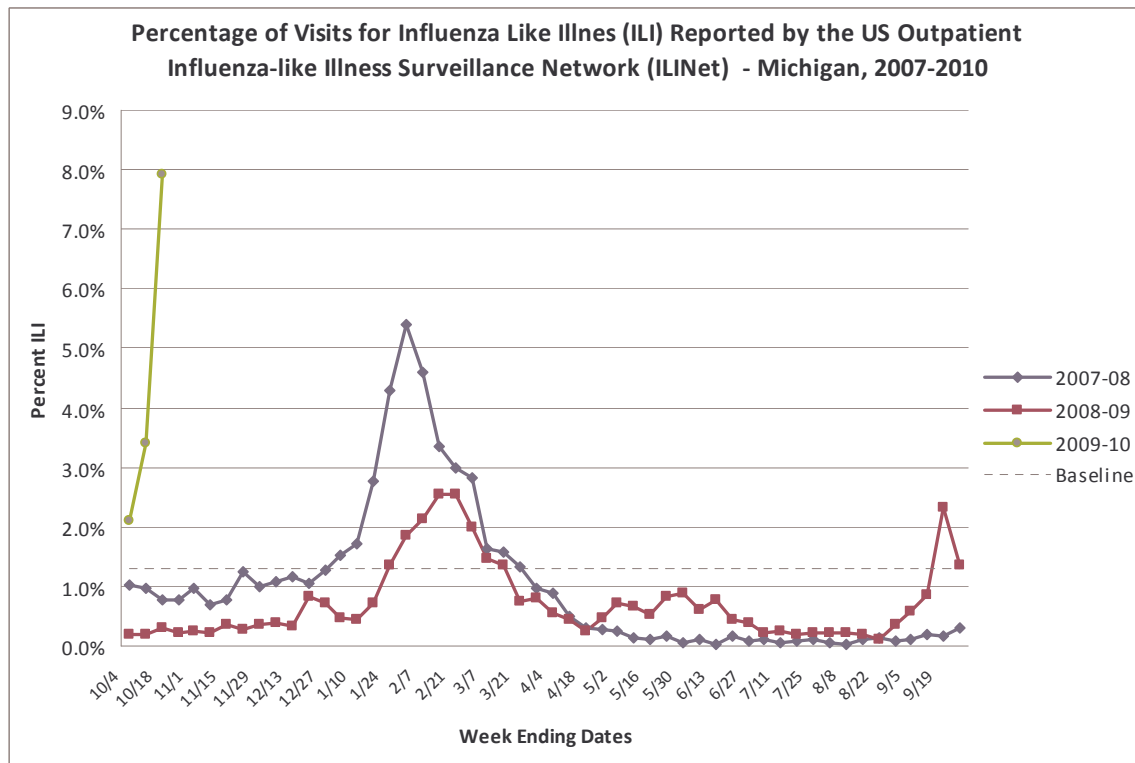
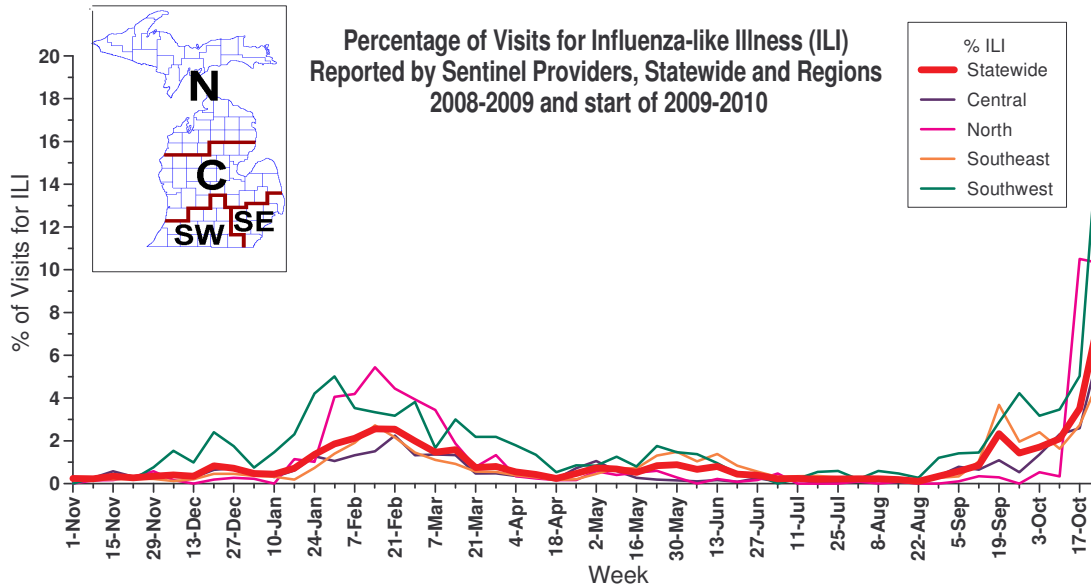
During the week of October 18-24, 2009, 47,550 cases of flu-like illness and confirmed and probable cases of seasonal and novel influenza were reported in Michigan. 135 hospitalizations and 3 deaths associated with influenza were also reported during this time. This report is updated every Tuesday by 5:00 pm and can be accessed at a link on this website: <http://www.michigan.gov/h1n1flu>.

**Emergency Department Surveillance:** Emergency department visits from constitutional complaints continue to quickly increase, while respiratory complaints were slightly higher than last week's levels. Compared to the same time period last year, constitutional reports are considerably higher, and respiratory numbers are slightly higher. Forty-five constitutional alerts were generated in the C(22), SW(8), N(6), SE(5), and 4 statewide alerts across the Influenza Surveillance Regions last week. Three respiratory alerts were generated in the N(2) and SW(1) Influenza Surveillance Regions last week.

**Over-the-Counter Product Surveillance:** This week, OTC product sales were consistent with the previous week's sales except for thermometers. Thermometers continued to increase beyond last week's levels. All sales indicators, with the exception of thermometer sales, which are slightly higher, are comparable to levels seen at this time last year.

**Sentinel Provider Surveillance (as of October 29):** During the week ending October 24, 2009, the proportion of visits due to influenza-like illness (ILI) increased notably compared to the previous week at 7.9% overall; 1,044 patient visits due to ILI were reported out of 13,180 office visits. Thirty-nine sentinel sites provided data for this report. Activity increased in three surveillance regions: Central (6.3%); Southeast (4.9%) and; Southwest (17.4%) and slightly decreased in the North (10.3%); Only 4 sites have

reported from the North region at this time; one of which reported 45% ILI. Pediatrician offices reported a mean ILI of 14.2% and Student Health Centers reported a mean of 8.6%. Please note that these rates may change as additional reports are received.



As part of pandemic influenza surveillance, CDC and MDCH highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Cristi Carlton at 517-335-9104 or [CarltonC2@michigan.gov](mailto:CarltonC2@michigan.gov) for more information.

**Laboratory Surveillance (as of October 24):** During the week of October 18-24, MDCH Bureau of Laboratories identified 191 novel H1N1 influenza isolates. For the 2009-2010 season (starting on October 4, 2009), MDCH BOL has identified 266 influenza isolates:

- Novel Influenza A (H1N1): 264
- Influenza A unsubtypeable: 1
- Influenza B: 1

15 sentinel labs reported for the week ending October 24, 2009. 8 labs reported rapidly increasing influenza A positives (SE, SW, C), 6 labs reported moderately elevated or sustained increases in A

positives (SE, SW, C, N), and 1 lab had low sustained levels of A positives (N). 3 labs reported sporadic influenza B positives (SE, SW, N).

**Michigan Influenza Antigenic Characterization (as of October 29):** CDC antigenic characterization results are currently not available for any 2009-10 season specimens.

**Michigan Influenza Antiviral Resistance Data (as of October 29):** Results are currently not available for antiviral resistance at CDC for the 2009-2010 season.

Antiviral resistance testing takes months to complete and cannot be used to guide individual patient treatment. However, CDC has made recommendations regarding the use of antivirals for treatment and prophylaxis of influenza. The guidance is available at <http://www.cdc.gov/H1N1flu/recommendations.htm>.

**Seasonal Influenza-Associated Pediatric Mortality (as of October 29):** No influenza-associated pediatric mortalities have been reported to MDCH for the 2009-2010 influenza season.

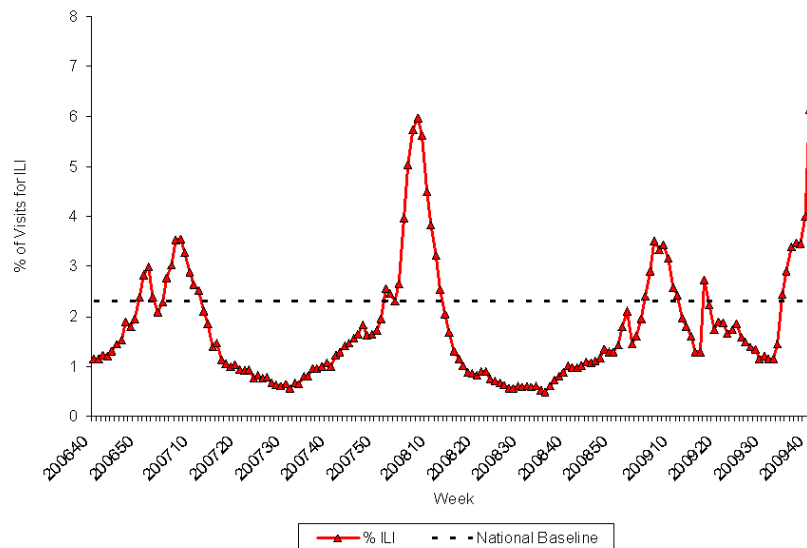
\*\*\*CDC has asked states for information on any pediatric death associated with influenza. This includes not only any pediatric death (<18 years) resulting from a compatible illness with laboratory confirmation of influenza, but also any unexplained pediatric death with evidence of an infectious process. Please immediately call MDCH to ensure proper specimens are obtained. View the complete MDCH protocol online at [http://www.michigan.gov/documents/mdch/ME\\_pediatric\\_influenza\\_guidance\\_v2\\_214270\\_7.pdf](http://www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf).

**Influenza Congregate Settings Outbreaks (as of October 29):** Five congregate setting outbreaks with confirmatory novel influenza A H1N1 testing (3 SW, 1C, 1N), and two outbreaks associated with positive influenza A tests (1C, 1N) have been reported to MDCH for the 2009-2010 influenza season. These are all school facilities.

As of 2:00pm on October 29, 464 influenza-related school and/or district closures in Michigan (Public Health Preparedness Region 1 - 41, Region 2N - 1, Region 2S - 1, Region 3 - 36, Region 5 - 144, Region 6 - 92, Region 7 - 84, Region 8 - 65) have been reported.

**National (CDC [edited], October 23):** 4,855 (37.5%) specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories and reported to CDC/Influenza Division were positive for influenza. All subtyped influenza A viruses being reported to CDC were 2009 influenza A (H1N1) viruses. The proportion of deaths attributed to pneumonia and influenza (P&I) was above the epidemic threshold. Eleven influenza-associated pediatric deaths were reported. Nine of these deaths were associated with 2009 influenza A (H1N1) virus infection and two were associated with an influenza A virus for which subtype is undetermined. The proportion of outpatient visits for influenza-like illness (ILI) was above the national baseline. All 10 regions reported ILI above region-specific baseline levels. Forty-six states reported geographically widespread influenza activity, Guam and three states reported regional influenza activity, one state, the District of Columbia, and Puerto Rico reported local influenza activity, and the U.S. Virgin Islands did not report.

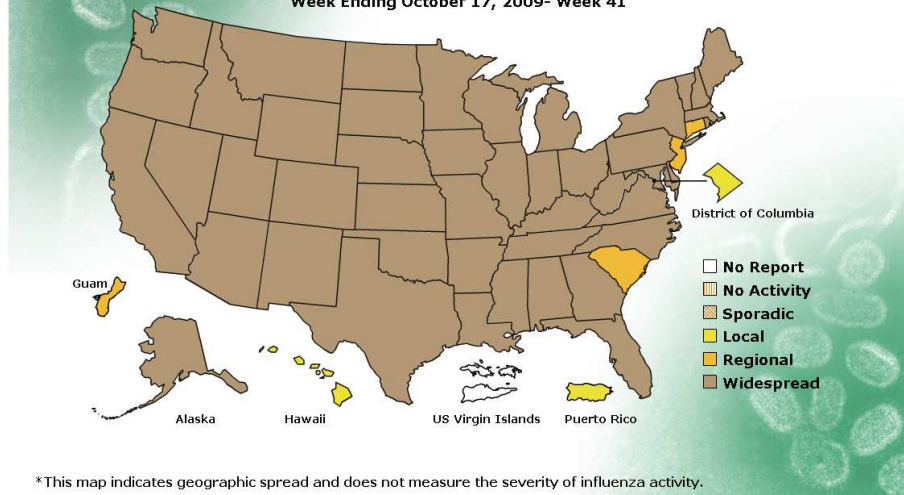
Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, October 1, 2006 - October 17, 2009



# FLUVIEW



A Weekly Influenza Surveillance Report Prepared by the Influenza Division  
 Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists\*  
 Week Ending October 17, 2009- Week 41



\*This map indicates geographic spread and does not measure the severity of influenza activity.

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

From <http://www.cdc.gov/h1n1flu/updates/us/#totalcases>:

*U.S. Influenza and Pneumonia-Associated Hospitalizations and Deaths from Aug 30 – October 17, 2009*

Cases Defined by	Hospitalizations	Deaths
Influenza and Pneumonia Syndrome*	21,823	2,416
Influenza Laboratory-Tests**	8,204	411

\*Reports can be based on syndromic, admission or discharge data, or a combination of data elements that could include laboratory-confirmed and [influenza-like illness](#) hospitalizations.  
 \*\*Laboratory confirmation includes any positive influenza test (rapid influenza tests, RT-PCR, DFA, IFA, or culture), whether or not typing was done.

**International (WHO, October 19):** During the weeks 38-39, the pandemic influenza A (H1N1) virus continued to be the predominant circulating strain of influenza in most of the countries with influenza activity.

Widespread outbreaks of pandemic influenza A (H1N1) were reported in the some parts of North America, Europe and Asia. The United States of America and China Hong Kong Special Administrative Region reported widespread pandemic influenza A (H1N1) activity together with low levels of H1, H3 and B viruses. Israel had widespread pandemic influenza A (H1N1) activity while China reported regional outbreaks of pandemic influenza A (H1N1) with cocirculation of H3, H1 and B. Japan and Spain also reported regional outbreaks of pandemic influenza A (H1N1). Belgium, Canada and Ireland reported increasing pandemic influenza A (H1N1) activity while local outbreaks were reported by the Netherlands and Slovenia. In parts of India, Bangladesh and Cambodia, pandemic influenza A (H1N1) transmission continued to be active. In Central America, Mexico, Cuba, Jamaica, Bahamas, Dominica, Saint Lucia, Costa Rica, Nicaragua, Panama and El Salvador reported outbreaks of pandemic influenza A (H1N1). Pandemic influenza transmission in the southern hemisphere continued to decrease or had returned to baseline.

Sporadic pandemic influenza A (H1N1) 2009 activity was reported in Argentina, Chile, Denmark, France, France - French Guiana, France - Guadeloupe, France - New Caledonia, Greece, Iran (Islamic Republic of), Italy, Kenya, Latvia, Netherlands, New Zealand, Norway, Poland, Romania, Russian Federation, Slovenia, South Africa and Ukraine.

The level of seasonal influenza activity in most countries was low with only sporadic detections except in China where outbreaks of H3 were reported as well as low levels of H1 and B. Sporadic seasonal influenza activity was observed in Australia (H1), Côte d'Ivoire (H3,B), Denmark (H3), France - French Guiana (H1), France - Guadeloupe (H3), Kenya (H1,H3,B), Lithuania (H1), Madagascar (B), Morocco (H1,H3), Norway (B), Russian Federation (H1,H3,B) and South Africa (H3,B).

Austria, Bulgaria, Cameroon, Estonia, France - Saint Barthélemy, France - Saint Martin, Georgia, Kyrgyzstan, Serbia, Slovakia, Sudan, Switzerland, Tunisia and Uzbekistan reported no influenza activity.

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MDCH reported **WIDESPREAD INFLUENZA ACTIVITY** to the CDC for the week ending Oct. 24, 2009.

For those interested in additional influenza vaccination and education information, the MDCH *FluBytes* is available 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).

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### **Avian and Novel Influenza Activity**

**WHO Pandemic Phase:** Phase 6 – characterized by increased and sustained transmission in the general population. Human to human transmission of an animal or human-animal influenza reassortant virus has caused sustained community level outbreaks in at least two WHO regions.

**International, Mink (OIE [edited], October 23):** Information received on 23 Oct 2009 from Dr Jan Mousing, Chief Veterinary Officer, Danish Veterinary and Food Administration, Ministry of Food, Agriculture and Fisheries, Soborg, Denmark

Report type: Immediate notification

Start date 28 Sep 2009

Date of 1st confirmation of the event 21 Oct 2009

Date submitted to OIE 23 Oct 2009

Reason for notification: Emerging disease

Zoonotic impact: The potential for infecting humans is unknown, but cannot be ruled out

Causal agent Influenza A (H3N2)

Outbreak 1 Holstebro, Holstebro, North

Date of start of the outbreak 28 Sep 2009

Outbreak status: Continuing (or date resolved not provided)

Epidemiological unit: Farm

Susceptible 15000; Cases 200; Deaths 80; Destroyed 0; Slaughtered 0

Affected Population: The holding consists of minks (*Mustela vison*) for fur production. The clinical signs have been seen in the upper respiratory organs as sneezing and coughing followed by pneumonia.

Apparent morbidity rate 1.33 percent; Apparent mortality rate 0.53 percent; Apparent case fatality rate 40.00 percent

Proportion susceptible animals lost\* 0.53 percent; \* Removed from the susceptible population through death, destruction and/or slaughter

Epidemiology: Source of the outbreak(s) or origin of infection. Unknown or inconclusive

Measures applied - Quarantine;

Movement control inside the country; Screening; No vaccination;

No treatment of affected animals.

**International, Swine (OIE [edited], October 27):** Information received on 27 Oct 2009 from Mr Halldor Runolfsson, Chief Veterinary Officer, Ministry of Agriculture, Agricultural Authority of Iceland, Selfoss, Iceland

Report type: Immediate notification

Start date: 24 Oct 2009

Date of 1st confirmation of the event: 27 Oct 2009

Report date: 27 Oct 2009

Reason for notification: Emerging disease

Morbidity: 10 percent; Mortality: 0 percent

Zoonotic impact: Possible transmission of the influenza virus between humans and pigs

Causal agent: Pandemic influenza A/H1N1 virus

Total outbreaks: 1

Location(s): GULLBRINGU (Minni-Vatnsleysa, Vogar)

Total animals affected: Swine population of 4500

Source of the outbreak(s) or origin of infection: Possible transmission from human to pigs  
Epidemiological comments: Clinical signs commenced on 24 Oct 2009 with 10 sows off feed, temperature greater than 40 C, some were coughing, and 2 aborted. Two workers had had flu-like symptoms for a few days prior to the clinical signs in the pigs.

Measures applied: Quarantine, Movement control inside the country, Vaccination prohibited, No treatment of affected animals

Diagnostic test results

Laboratory name and type: Institute for Experimental Pathology at Keldur, Iceland (National laboratory)

Tests and results: reverse transcription - polymerase chain reaction (RT-PCR)/27 Oct 2009/Positive

**Michigan Wild Bird Surveillance (USDA, as of October 29):** For the 2009 testing season (April 1, 2009-March 31, 2010), HPAI subtype H5N1 has not been recovered from any of the 62 Michigan samples tested to date, including 36 live wild birds, 16 hunter-killed birds and 10 morbidity/mortality specimens. H5N1 HPAI has not been recovered from 13,102 samples tested nationwide for the 2009 season. For more information, visit the National HPAI Early Detection Data System 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 Peters at [PetersS1@Michigan.gov](mailto:PetersS1@Michigan.gov) with any questions regarding this newsletter or to be added to the weekly electronic mailing list.**

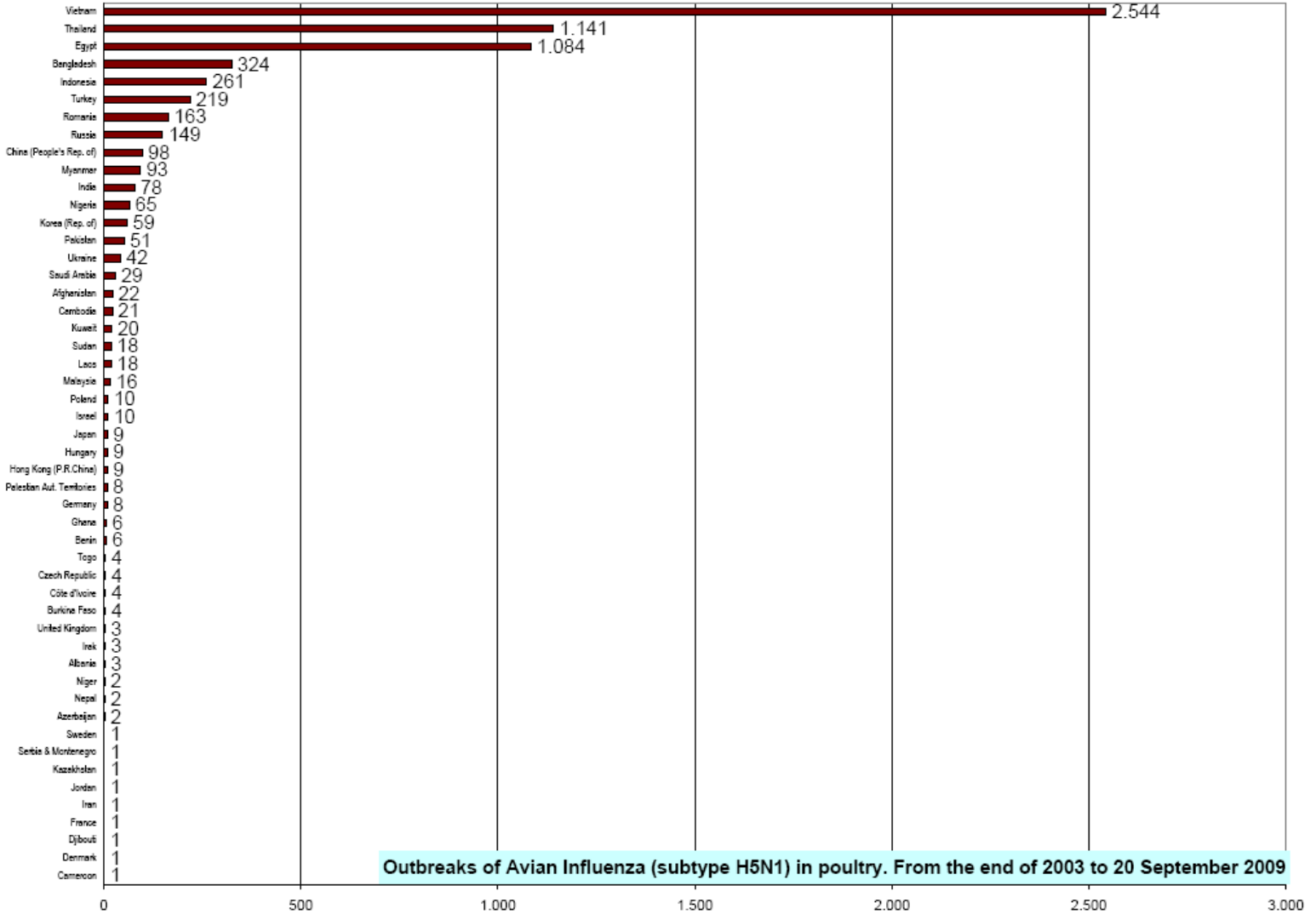
**Contributors**

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**Table 1. H5N1 Influenza in Poultry (Outbreaks up to September 20, 2009)**

(Source: [http://www.oie.int/downld/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm) Downloaded 9/22/09)



**Table 2. H5N1 Influenza in Humans (Cases up to September 24, 2009)**

([http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2009\\_09\\_24/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2009_09_24/en/index.html) Downloaded 9/24/2009)

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

Country	2003		2004		2005		2006		2007		2008		2009		Total	
	cases	deaths	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	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Cambodia	0	0	0	0	4	4	2	2	1	1	1	0	0	0	8	7
China	1	1	0	0	8	5	13	8	5	3	4	4	7	4	38	25
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	8	4	36	4	87	27
Indonesia	0	0	0	0	20	13	55	45	42	37	24	20	0	0	141	115
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	0	0	3	2
Lao People's Democratic Republic	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	6	5	4	4	111	56
Total	4	4	46	32	98	43	115	79	88	59	44	33	47	12	442	262