



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:** Surveillance indicators still showing sporadic influenza activity.
- **National Surveillance:** One state reports local activity and 19 states report sporadic for week 47.
- **Avian Influenza:** India reports two H5N1 avian influenza outbreaks in poultry.

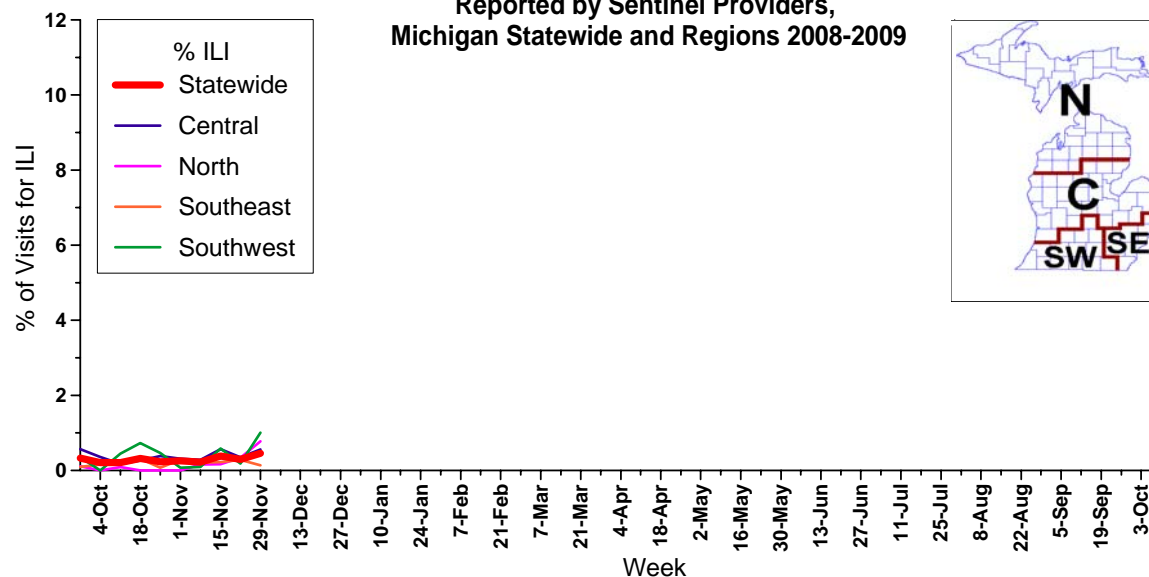
Michigan Disease Surveillance System: The week ending November 29 saw both aggregate flu-like disease reports and individual influenza numbers hold close to what was seen last week. Individual reports are consistent with levels seen at this time last year, while aggregate numbers are slightly lower.

Emergency Department Surveillance: Emergency department visits from both respiratory and constitutional complaints saw a slight increase last week. The numbers from both categories are slightly lower than what was seen this time last year. Eleven constitutional alerts in the C(3), N(2), SE(4) and SW(1) Influenza Surveillance Regions as well as one statewide alert and eleven respiratory alerts in the C(5), N(4) and SW(2) Influenza Surveillance Regions were generated last week.

Over-the-Counter Product Surveillance: Overall, OTC product sales were mixed last week. Children's electrolytes increased slightly, while thermometer sales saw a slight decrease in activity. The remainder of the indicators held near last week's numbers. All indicators, except cough and cold, seem to be showing a slight upward trend over the last few weeks. Indicator levels are comparable to those seen at this time last year.

Sentinel Provider Surveillance (as of December 4): During the week ending November 29, 2008, the proportion of visits due to influenza-like illness (ILI) increased slightly to 0.5% overall; 30 patient visits due to ILI were reported out of 6,486 office visits. This level of ILI activity is consistent with that reported in late fall during prior years' surveillance. Three of four surveillance regions reported slightly increased activity: North (0.6%), Central (0.8%), and Southwest (1.0%); activity decreased slightly in the Southeast (0.1%). Thirty-two 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 2008-2009



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 for more information.

Laboratory Surveillance (as of December 4): No new isolates were identified at the MDCH Bureau of Laboratories (BOL) during the past week. For the 2008-2009 influenza season, MDCH BOL has identified two influenza isolates:

- 1 A/H1N1
- 1 B/Florida/4/2006-like. B/Florida/4/2006-like matches the influenza B component of this season's Northern Hemisphere influenza vaccine.

Sporadic levels of influenza A and B were reported by sentinel laboratories in the SE Influenza Surveillance Region; sporadic influenza B positives were reported from the Northern Region as well. Sporadic parainfluenza (SE,C) and RSV (SE,SW,C) tests are also being reported.

***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.

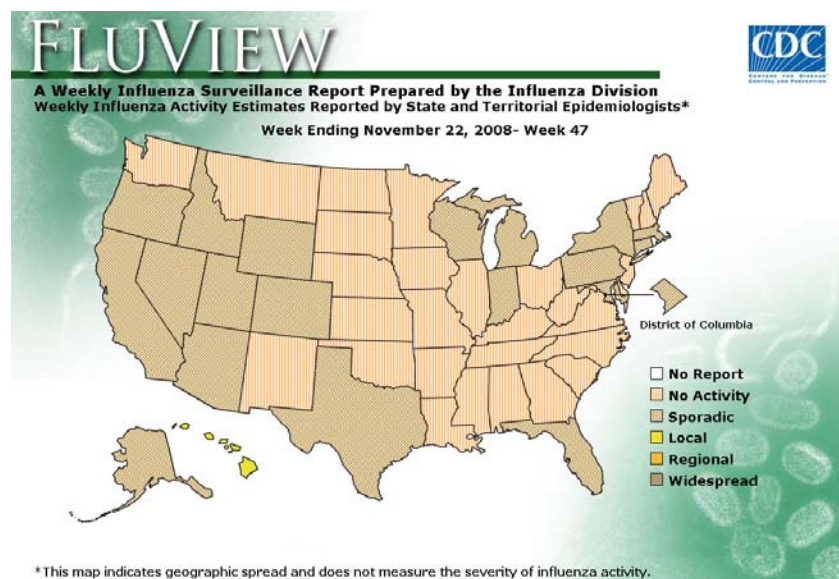
Influenza-Associated Pediatric Mortality (as of December 4): No influenza-associated pediatric mortalities have been reported to MDCH for the 2008-2009 influenza season.

***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. Please immediately call MDCH to ensure that proper clinical specimens are obtained. View the complete MDCH protocol online at http://www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf.

Congregate Settings Outbreaks (as of December 4): No congregate setting outbreaks due to influenza have been reported to MDCH for the 2008-2009 influenza season.

National (CDC [edited], November 26): During week 47 (November 16-22, 2008), a low level of influenza activity was reported in the United States. Fifty-two (2.5%) 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. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold. The proportion of outpatient visits for influenza-like illness (ILI) was below national and region-specific baseline levels. One state reported local influenza activity; the District of Columbia and 19 states reported sporadic influenza activity; 29 states reported no influenza activity; and one state did not report.

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



International (WHO, November 20): During the weeks 45-46, the level of overall influenza activity in the world remained low with sporadic activity observed in some countries.

Between weeks 45-46 sporadic influenza activity was detected in Argentina (A), Belarus (A), Brazil (A), Cameroon (H1, B), Canada (A,B), Chile (A, B), China (H1, B), China, Hong Kong Special Administrative Region (H1,H3,B), Denmark (H3), Egypt (H3), France (H3), the Islamic Republic of Iran (H1, H3), Italy (H3), Japan (B), Kenya (A), Norway (H3,B), Portugal (H3), Romania (H3), Russian Federation (H3,B), Switzerland (A), Tunisia (H1), the United Kingdom of Great Britain and Northern Ireland (H3, H1) and the United States of America (H1, H3, B).

Belgium, Bulgaria, Finland, Greece, Latvia, Oman, Poland, Senegal, and Slovenia reported no influenza activity.

MDCH reported **SPORADIC INFLUENZA ACTIVITY** to the CDC for the week ending Nov. 29, 2008.

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.

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, Poultry (MSN News, November 29): Authorities in Assam have culled some 12,000 of the estimated 60,000 birds ordered to be killed after an outbreak of the deadly bird flu virus in the region, officials said Saturday.

Culling operations are on in the district of Kamrup since Friday and so far about 12,000 chickens and ducks were killed, Manoranjan Choudhury, deputy director of Assam's veterinary department, told IANS.

The culling is being carried out in 48 villages within a five kilometre radius of village Thakurchuba in Kamrup district, about 40 km west of Assam's main city of Guwahati.

The poultry targeted includes ducks and chickens. About 20 Rapid Response Teams comprising about seven personnel, including a veterinarian, are engaged in the operation that is expected to continue for about a week until the entire area is depopulated of the estimated 60,000 poultry, Parthajyoti Gogoi, a central health ministry official said.

The Indian health ministry Thursday confirmed the outbreak of bird flu after laboratory tests confirmed strains of the deadly H5N1 avian influenza. More than 300 birds died in the past one week in the area. Assam's veterinary and animal husbandry department has sounded an alert and is maintaining strict surveillance on farms in the state with veterinarians carrying out checks on all poultry.

A central health ministry team is also assisting the local authorities in the culling operations. We have taken all precautionary health measures as well in the area to ensure that humans are not affected, Gogoi said.

The World Health Organization (WHO) fears that the H5N1 strain could mutate into a form easily transmitted between humans and spark a deadly pandemic. Sale and purchase of poultry in the area was banned.

International, Poultry (Reuters India, December 3): A fresh outbreak of bird flu in poultry was detected in Assam on Wednesday and authorities prepared to start culling thousands of chickens, a senior official said.

"Yes, bird flu has spread to new areas, we are getting ready to start culling in those areas shortly," Ashim Kumar Kakoty, a top veterinary official in Assam, told Reuters.

More than 40,000 chickens and ducks have been be slaughtered over the weekend in around 20 villages, after one of them, just 35 km west of Guwahati -- the biggest city in the region -- was hit by bird flu.

Authorities were worried about a new outbreak after some poultry deaths were reported in Palasbari, also close to Guwahati.

"The newly affected areas cover about 20 villages," Kakoty said.

Sale and movement of poultry in and around Guwahati has been prohibited and precautionary measures stepped up in other parts of the state.

Health workers have moved to affected areas to check people for any flu-like symptoms.

India has not reported any human infections so far, though the first outbreak in poultry was reported in 2006 in Maharashtra.

National, Recommendations (CIDRAP News, December 3): The US Department of Agriculture (USDA) yesterday released a draft of its risk assessment for contracting highly pathogenic avian influenza from eating poultry products, shell eggs, and egg products, a tool that could be used to reduce human illness from the virus and help target messages to consumers.

In releasing the risk-assessment draft, the USDA's Food Safety and Inspection Service (FSIS) said it was seeking public comments, which are due by Jan 31. The 186-page report and information on how to submit comments are available on the FSIS Web site.

The draft risk assessment, which addresses highly pathogenic H5 and H7 subtypes, was developed by representatives from the FSIS, the USDA's Animal and Plant Health Inspection Service (APHIS), and the Food and Drug Administration, according to a press release yesterday from the USDA. The document went through an external peer review, along with reviews by other government agencies, the USDA said. So far there has been no compelling evidence that links eating cooked poultry, eggs, or egg products to avian influenza infections in humans, the draft report said. Though the viruses aren't considered foodborne pathogens, researchers have isolated them from poultry muscle and egg interiors.

Two human illnesses may have been related to consuming infected duck blood products, though investigators could not rule out contact that the patients may have had with infected poultry. Despite this lack of evidence, human exposure to contaminated poultry and eggs is a concern for food safety experts, the report said.

Experts used available information on avian influenza viruses and mathematical modeling to make risk estimates for several poultry and egg scenarios, including production, processing, and consumer preparation. For example, the estimates assume that the viral load in a serving of poultry relates to the time between when the bird was infected and when it was slaughtered.

According to some of the scenarios, the draft risk assessment for poultry meat predicts that:

- Poultry flocks infected early in their growing period are 94% (chicken) and 98% (turkey) likely to be identified as positive for the virus before slaughter, processing, and sale.
- Infected flocks approaching market weight present a small risk of infected meat reaching commerce—6% (chicken) and 2% (turkey)—because there is less time for bird deaths to be detected on the farm.
- On-farm avian influenza testing offers the greatest chance of for curbing human infections; 95% can be prevented when birds are tested before slaughter.
- Relying on mortality observations on the farm and after transport isn't as practical, especially if birds are late in the grow-out period.
- Cooking poultry to the FSIS-recommended temperature of 165°F inactivates the virus, lowering the public health risk to a negligible level.
- Cross-contamination from infected poultry to uncooked foods could increase illness levels by 2.5%, and public health messages should emphasize this food-handling risk.

Regarding eggs and egg products, the USDA's risk assessment predicts that nearly all contaminated eggs from an infected flock could be removed from the distribution chain before they reach consumers. The report notes that thoroughly cooking eggs to 150°F inactivates the virus, but a few human illnesses are possible from undercooking contaminated eggs.

USDA research has shown that time and temperature recommendations for egg product processing can kill avian flu viruses. The report said dried egg white processing may not completely inactivate the pathogen, but the 7-day processing period may allow officials time to alert egg product processors before the drying is completed and the product is released to consumers. The USDA said its APHIS division is developing a separate illness risk assessment for egg products that are contaminated with avian influenza.

Once finalized, the avian flu illness assessment for poultry and eggs will give risk managers the decision-making tools they need to gauge the effectiveness of interventions that could reduce or prevent foodborne illnesses, the report said.

"This risk assessment can also be used to target risk communication messages, identify and prioritize research needs, and provide a framework for coordinating efforts with stakeholders," the USDA added.

Michigan Wild Bird Surveillance (USDA, as of December 4): For the 2008 testing season, 1977 Michigan samples have been taken so far, comprised of 327 live birds, 1168 hunter-killed birds, 32 morbidity or mortality samples and 450 environmental samples.

HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 64,182 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.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.

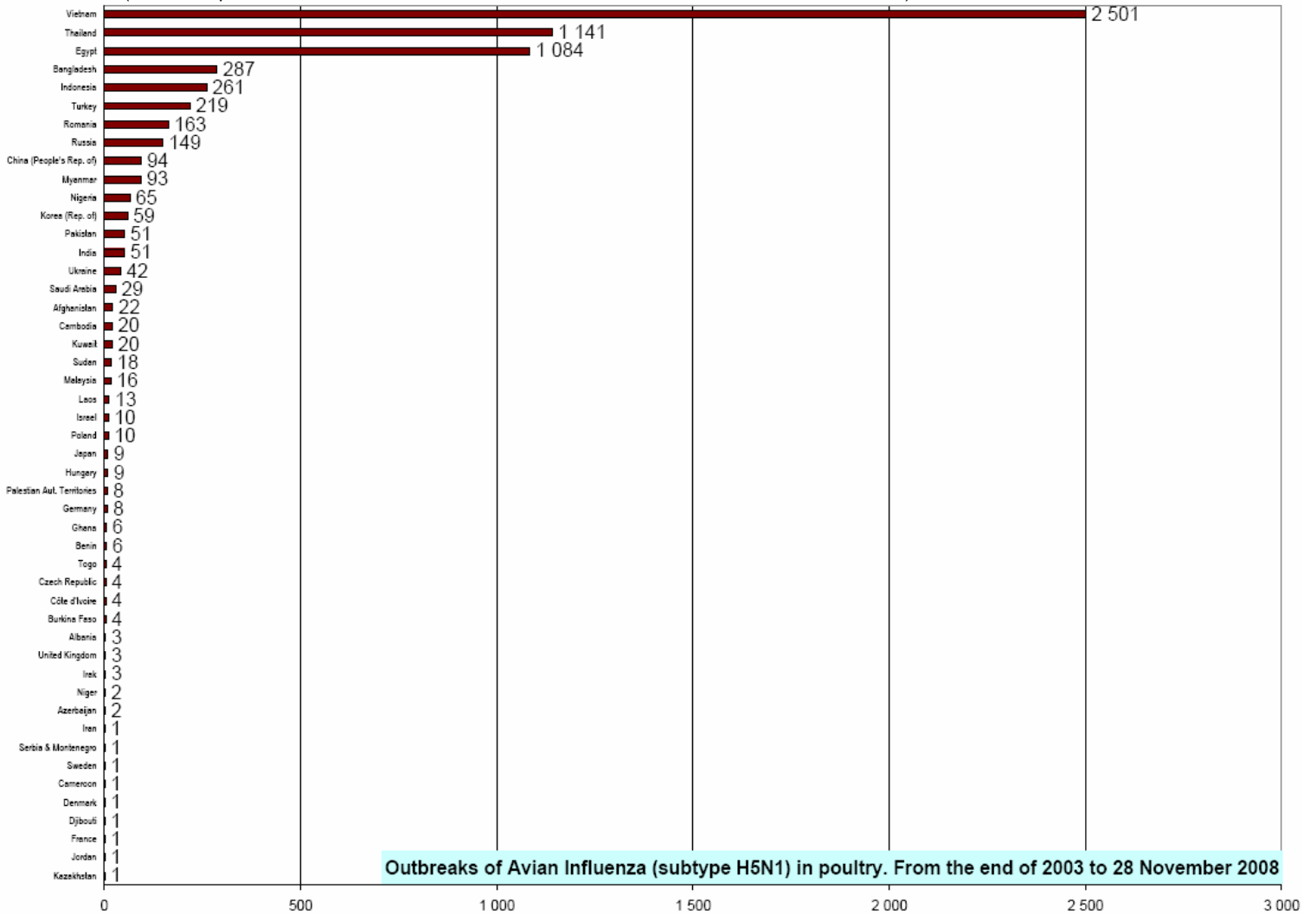
Contributors

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Table 1. H5N1 Influenza in Poultry (Outbreaks up to November 28, 2008)

(Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 12/1/08)



Outbreaks of Avian Influenza (subtype H5N1) in poultry. From the end of 2003 to 28 November 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 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
Total	4	4	46	32	98	43	115	79	88	59	36	28	387	245