MI FluFocus

Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology
Bureau of Laboratories

Michigan Department of Community Health
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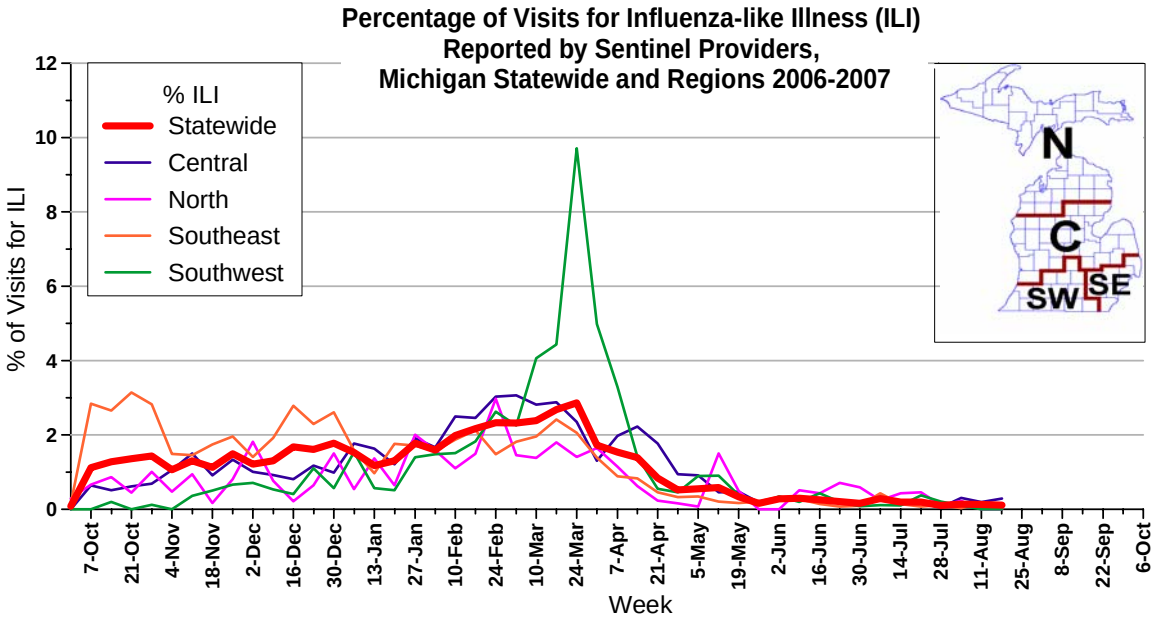
New updates in this issue:

- **Michigan Surveillance:** Two recent influenza cases reported by MDCH Bureau of Laboratories.
- **Avian Influenza:** H5N1 outbreaks in poultry in Germany and Vietnam.

Michigan Disease Surveillance System: The last week saw both aggregate flu-like illness reports and individual influenza reports hold steady near the previous week's levels. These indicators are expected to continue to fluctuate at baseline levels until fall.

Emergency Department Surveillance: Emergency department visits due to constitutional complaints remained steady overall this past week, while respiratory complaints saw a slight rise. Reported levels remained consistent with levels from this time last year. Eight constitutional alerts in Regions 1(1), 2S(1), 3(2), 5(2) and 7(2) and 12 respiratory alerts in Regions 1(2), 2N(2), 2S(4), 3(1), 5(1), 6(1) and 7(1) along with two statewide respiratory alerts were generated last week.

Sentinel Surveillance (as of August 30): During the week ending August 25, 2007, the proportion of visits due to influenza-like illness (ILI) in Michigan remained at low a low level; 0.2% of all visits. This represents 6 cases of ILI out of 2913 total patient visits; twenty-one sentinels provided data for this report. By surveillance region, the proportion of visits due to ILI was 0.4%, Central; 0.1%, North; 0.0%, Southeast; and 0.4%, 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.

Laboratory Surveillance (as of August 30): For the 2006-2007 influenza season, there have been 160 culture-confirmed cases from the MDCH Lab:

- 70 A:H1N1 (Southeast (23), Southwest (21), Central (16), North (10))
- 1 A:H1, N pending (Central)
- 34 A:H3N2 (North (12), Southeast (12), Central (7), Southwest (3))
- 1 A:H3, N pending (Central)
- 54 B (Southeast (18), Central (17), Southwest (12), North (7))

All influenza B cultures have been B/Malaysia, except for six B/Shanghai results from the Southeast region.

***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 August 30): For the 2006-2007 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 August 30): There has been one report of an influenza A outbreak from a Central region extended care facility for the 2006-2007 influenza season.

Michigan Surveillance: The Michigan 2006-2007 Influenza Season Summary is now available online at http://www.michigan.gov/documents/mdch/MDCH2006-2007Summary_205808_7.pdf. Overall, Michigan had a mild season that peaked in mid- to late March, with A (H1N1), A (H3N2) and B virus activity.

National, Vaccination (CDC, August 29): There is a national system that enables all public health departments to easily advertise their influenza clinics to their public. This system is the American Lung Association's (ALA) Flu Clinic Locator, which CDC points to in many of its flu campaign messages throughout the influenza vaccination season. Visitors to the site simply enter their zip code, to find information about all clinics in this area. Included are date, time and location of these clinics, sorted by clinic date. For additional information about ALA's Locator, as well as to see how the public uses this tool, please visit the Locator home page at: www.flucliniclocator.org.

International (Eurosurveillance Weekly Release, August 23): Human seasonal influenza occurs in the northern and southern hemispheres in epidemics in the colder months of the year. These vary annually in their mix of viruses (which constantly evolve), the severity of the illness and the fit with the vaccine composition, which is reviewed annually by the World Health Organization (WHO) for each hemisphere. Those in Europe responsible for influenza prevention and recommending immunization for those at risk are always interested in how severe the coming winter season will be. That interest is highest in August and September, when preparations are being made for immunization campaigns. One clue can come from the severity of the winter epidemics in the southern hemisphere, which is coming to an end at about that time.

There have been a few unusual and widely reported influenza cases in some parts of the southern hemisphere this [2007] season. In Australia, several states have reported a higher number of cases this winter, with Queensland and New South Wales particularly affected. Six children under the age of 5 who contracted influenza A this year have died; the cases were in Western Australia, Queensland and New

South Wales. The predominant strain circulating in Australia is A(H3N2), although A(H1N1) has also been seen widely in some states. The country has only experienced low levels of influenza B activity this season.

In contrast, Chile has had a rise in cases from last year [2006], but not as many as in 2004; incidence has also been falling since week 28. The regular vaccination campaign there targeting the elderly, those with chronic diseases, public health workers, pregnant women, infants and workers in the avian industry was launched in March 2007; 3.2 million doses were given. H3N2 has been the predominant strain in Chile this season [2007]. This has also been the case in Argentina: in week 20, 10 samples were characterized as A/Wisconsin/67/2005-like (H3N2); in week 21, 7 samples were characterized as A/Wisconsin/67/2005-like (H3N2); and in week 22, 11 samples were characterized as A/Wisconsin/67/2005-like (H3N2).

In equatorial regions (where influenza is less seasonal), the experience was also unexceptional. In China, the Philippines, Thailand and Malaysia, the predominant strain this season [2007] has been A (H3N2), with A(H1N1) and B also present. According to the WHO's summary of seasonal influenza activity in the world, last updated in March 2007, Hong Kong saw a high level of A(H3N2) activity in weeks 8-11.

Sri Lanka has seen a lot of A(H1N1) activity this season [2007], while in Singapore, it has been the B virus that has been most reported. In contrast to Australia, New Zealand has been having a relatively mild influenza season in 2007 so far, with a mix of A(H1N1), A(H3N2) and some B viruses circulating. South Africa, which saw a peak of activity in weeks 29 and 30, has had both A and B viruses in roughly equal proportions, with H1N1 viruses more common than H3N2 so far.

In summary, therefore, apart from the unusual cases in children in Australia, the 2007 influenza season in the southern hemisphere has not been exceptional, either in the number of cases being reported or the strains circulating. Those strains that have been seen were also seen in the northern hemisphere in its last season [2006], and most of them are included in the current vaccine for the southern hemisphere this season (an A/New Caledonia/20/99(H1N1)-like virus, an A/Wisconsin/67/2005(H3N2)-like virus and a B/Malaysia/2506/2004-like virus). As was seen in the northern hemisphere's 2006/07 season, A(H3N2) strains in the southern hemisphere have not reacted well to antiserum A/Wisconsin/67/2005. The WHO will formally address the southern hemisphere experience in its coming regular consultation for selection of vaccine strains.

Weekly reporting to the CDC has concluded for the 2006-2007 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 (Associated Press, August 27): Straw contaminated with the H5N1 strain of bird flu was the likely source of an outbreak of the disease at a poultry farm in southern Germany that resulted in 160,000 birds being slaughtered, an official said Monday.

Ottmar Fick, the chief veterinarian in the Erlangen district of northern Bavaria, said it remained unclear how the straw, which was stored on the farm, became infected, although wild birds were a possible source.

Two experts from a federal animal disease lab were at the site, he said.

The virus was detected in ducklings at the farm Friday, and the federal lab confirmed the presence of the lethal H5N1 strain on Saturday.

Authorities ordered the slaughter of all 160,000 birds on the farm as a precaution -a process Fick said was completed Sunday night. A three-kilometer (1.85-mile) exclusion zone is in place around the farm.

Several cases of the virus have surfaced among wild birds in Germany this year. Last month, it was detected in a domestic goose in the east of the country.

The H5N1 virus has killed more than 190 people worldwide, according to the World Health Organization.

It is hard for humans to catch, but experts fear it could mutate into a form that spreads easily among people, potentially sparking a global pandemic. To date, most human cases have been traced to contact with infected birds.

International, Poultry (Reuters Alertnet, August 25): Bird flu has spread to 2 more provinces in Viet Nam, killing hundreds of chickens and ducks, the Agriculture Ministry said on Friday [Aug 24].

The outbreak of H5N1 in the northern province of Thai Nguyen and Dong Thap to the south brought to 4 the number of provinces on the government's current bird flu watch list. Vietnam has 64 provinces.

A total of 150 ducks and 35 chickens fell sick on Wednesday [Aug 22] in Thai Nguyen, 80 km (50 miles) north of Hanoi, and tests have confirmed they had the H5N1 virus, the ministry's Animal Health Department said in a report.

The virus also struck a farm in the southern Mekong delta province of Dong Thap where 250 chickens were found dead on Sunday [Aug 19], it said.

Bird flu has infected 7 people in Viet Nam so far this year [2007], 4 of whom have died, bringing the death toll since late 2003 to 46, the government said.

Michigan Wild Bird Surveillance (USDA, August 30): For the 2007 testing season, 254 Michigan samples have been taken so far, comprised of 100 live bird samples, 99 hunter-killed birds and 55 morbidity/mortality samples.

According to the National HPAI Early Detection Data System website, HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 15,108 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 August 26, 2007)
(Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 8/27/2007)

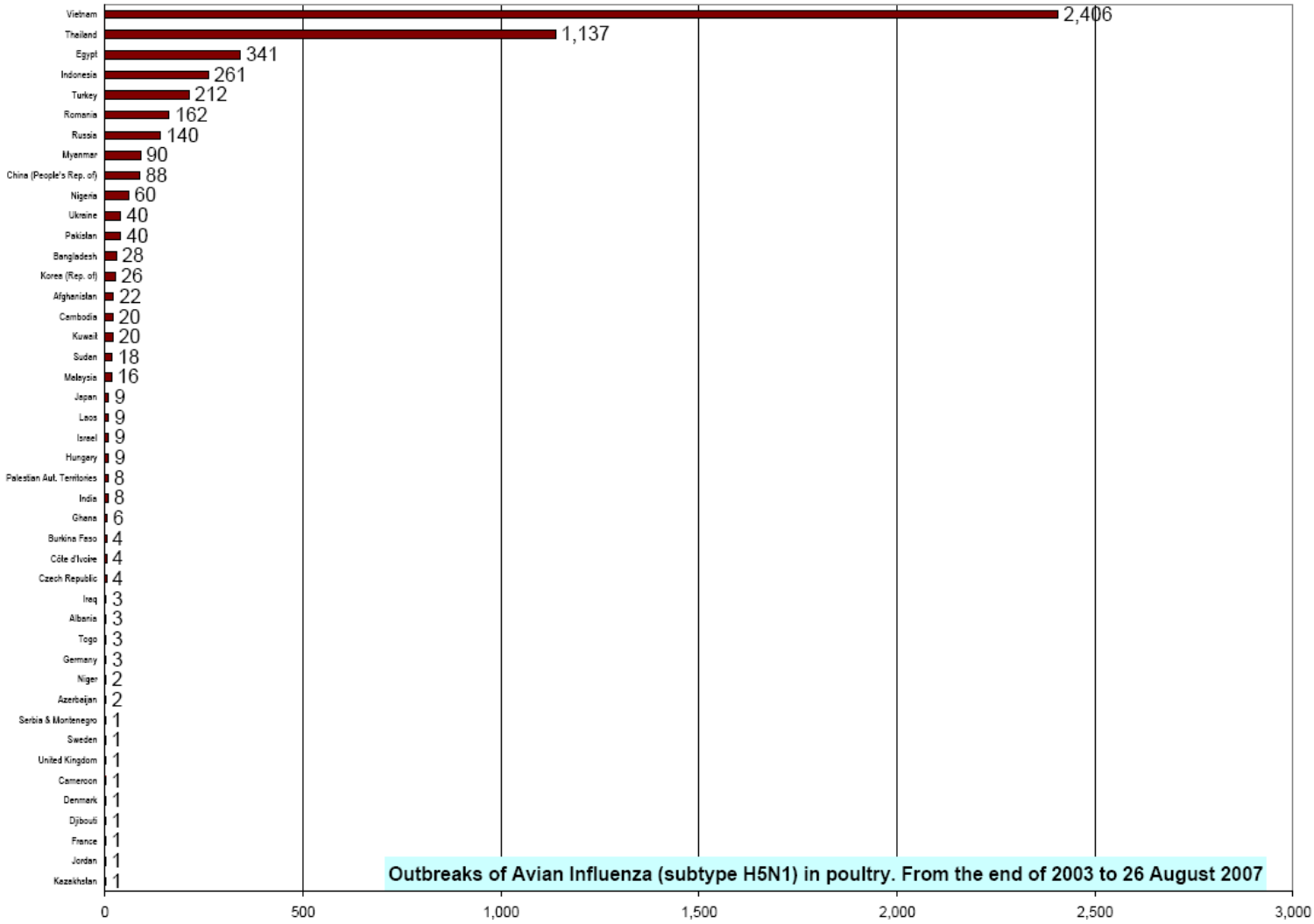

Table 2. H5N1 Influenza in Humans (Cases up to August 23, 2007)
(http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2007_08_23/en/index.html Downloaded 8/23/2007)
Cumulative number of lab-confirmed human cases reported to WHO. Total number of cases includes deaths.

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	30	26	105	84
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	2	0	95	42
Total	4	4	46	32	98	43	115	79	59	37	322	195