



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories

Michigan Department
of Community Health



Rick Snyder, Governor
James K. Haveman, Director

Editor: Susan Peters, DVM PetersS1@michigan.gov
Surveillance and Infectious Disease Epidemiology

February 28, 2013
Vol. 10; No. 9

Current Influenza Activity Levels:

- **Michigan:** Widespread activity
- **National:** During February 10 - 16, influenza activity remained elevated in the United States, but decreased in most areas

Updates of Interest

- **International:** Saudi Arabia confirms another novel coronavirus (NCoV) case

Table of Contents

Influenza Surveillance Reports	
Michigan.....	1-3
National.....	3-4
International.....	4-5
Novel Influenza and Other News	
WHO Pandemic Phase.....	5
Avian Influenza Surveillance.....	7-8
Avian Influenza H5N1 in Humans.....	6-8

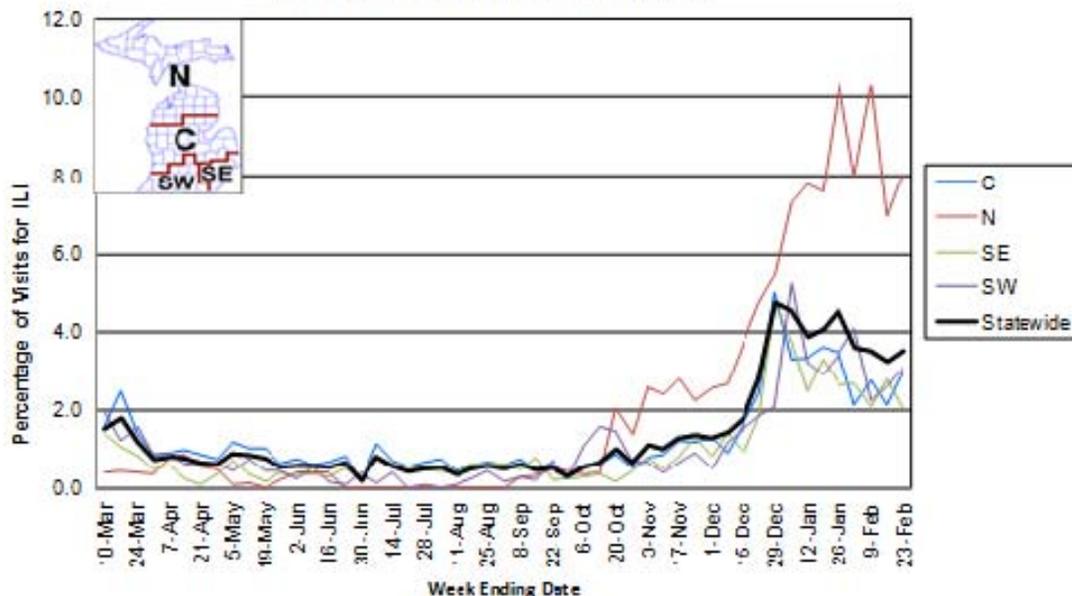
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of February 28): MDSS data for the week ending February 23rd indicated that compared to levels from the previous week, aggregate reports remained steady while individual influenza reports slightly decreased. Aggregate reports are slightly decreased when compared to levels seen during the same time period last year, while individual reports are moderately increased.

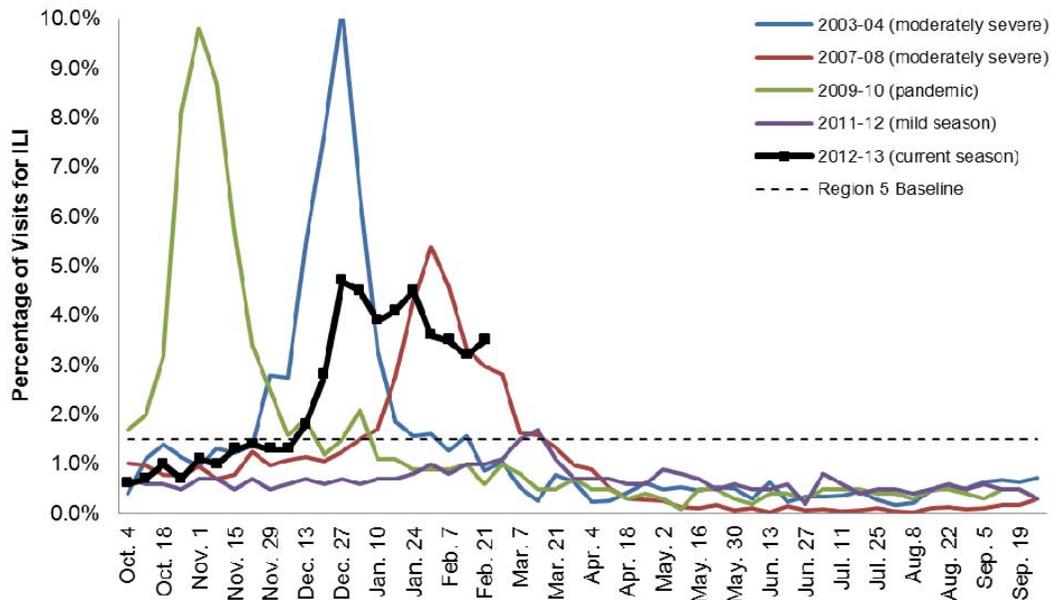
Emergency Department Surveillance (as of February 28): Compared to levels from the week prior, emergency department visits from both constitutional and respiratory complaints remained steady. Constitutional complaints are slightly higher than levels reported during the same time period last year, while respiratory complaints are slightly lower. In the past week, there were 4 constitutional alerts in the C(3) and N(1) Influenza Surveillance Regions and 4 respiratory alerts in the C(2) and N(2) Regions.

Sentinel Provider Surveillance (as of February 28): During the week ending February 23, 2013, the proportion of visits due to influenza-like illness (ILI) increased to 3.5% overall; this is above the regional baseline (1.5%). A total of 358 patient visits due to ILI were reported out of 10,168 office visits. Data were provided by thirty-six sentinel sites from the following regions: C (14), N (10), SE (10) and SW (2). ILI activity increased in three surveillance regions: Central (3.0%), North (8.0%) and Southwest (3.7%); activity decreased in the remaining surveillance region: Southeast (2.1%). Please Note: these rates may change as additional reports are received.

Percentage of Visits for Influenza-like Illness (ILI)
Reported by Sentinel Providers, Statewide and Regions
2011-2012 and 2012-13 Flu Seasons



**Percentage of Visits for Influenza-like Illness (ILI) Reported by the US
Outpatient Influenza-like Illness Surveillance Network (ILINet):
Michigan, Select Seasons**



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 for more information.

Hospital Surveillance (as of February 23): The CDC Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness through active surveillance and chart review of lab-confirmed cases, starting on October 1, 2012, in the Clinton, Eaton, Genesee, and Ingham counties. 11 new cases were identified during the past week. As of February 23rd, there have been 204 influenza hospitalizations (139 adult, 65 pediatric) within the catchment area. The incidence rate for adults is 20.4 hospitalizations per 100,000 population and for children is 31.1 hospitalizations per 100,000.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. 10 hospitals (SE, SW, C, N) reported for the week ending February 23, 2013. Results are listed in the table below.

Age Group	Hospitalizations Reported During Current Week	Total Hospitalizations 2012-13 Season
0-4 years	2 (2C)	29 (6SE, 19C, 4N)
5-17 years	1 (1C)	12 (3SE, 7C, 2N)
18-49 years	1 (1SW)	37 (22SE, 1SW, 10C, 4N)
50-64 years	6 (5SE, 1N)	64 (44SE, 3SW, 7C, 10N)
≥65 years	10 (10SE)	199 (132SE, 13SW, 14C, 40N)
Total	10 (15SE, 1SW, 3C, 1N)	321 (207SE, 17SW, 57C, 60N)

Laboratory Surveillance (as of February 23): During February 17-23, 4 influenza B (C Region) results were reported by MDCH. For the 2012-13 season (starting Sept. 30, 2012), MDCH has identified 606 influenza results:

- Influenza A(H3): 483 (123SE, 168SW, 155C, 37N)
- Influenza A(H1N1)pdm09: 13 (1SE, 2SW, 2C, 2N)
- Influenza B: 110 (25SE, 19SW, 54C, 12N)
- Parainfluenza: 8 (3SW, 1C, 4N)
- RSV: 1 (1N)

16 sentinel labs (SE, SW, C, N) reported for the week ending February 23, 2013. 13 labs (SE, SW, C, N) reported steady or decreasing flu A activity. 16 labs (SE, SW, C, N) reported flu B activity, with the highest activity occurring in the SE. 3 labs (SE, SW) had sporadic parainfluenza activity. 15 labs (SE, SW, C, N) reported steady or declining RSV activity. 4 labs (SE, SW, C) reported sporadic adenovirus activity. 3 labs (SE, SW) had low HMPV activity. Testing volumes are moderate but falling, with the highest in the SE.

Michigan Influenza Antigenic Characterization (as of February 28): For the 2012-13 season, 83 Michigan influenza B specimens have been characterized at MDCH BOL. 65 specimens are

B/Wisconsin/01/2010-like, matching the B component of the 2012-13 influenza vaccine. 18 influenza B specimens were characterized as B/Brisbane/60/2008-like, which is not included in the 2012-13 vaccine.

Michigan Influenza Antiviral Resistance Data (as of February 28): For the 2012-13 season, 30 influenza A/H3 specimens and 8 influenza A(H1N1)pdm09 specimens have been tested at the MDCH BOL for antiviral resistance. None of the influenza isolates tested have been resistant.

CDC has made recommendations regarding the use of antivirals for treatment and prophylaxis of influenza, which are available at <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.

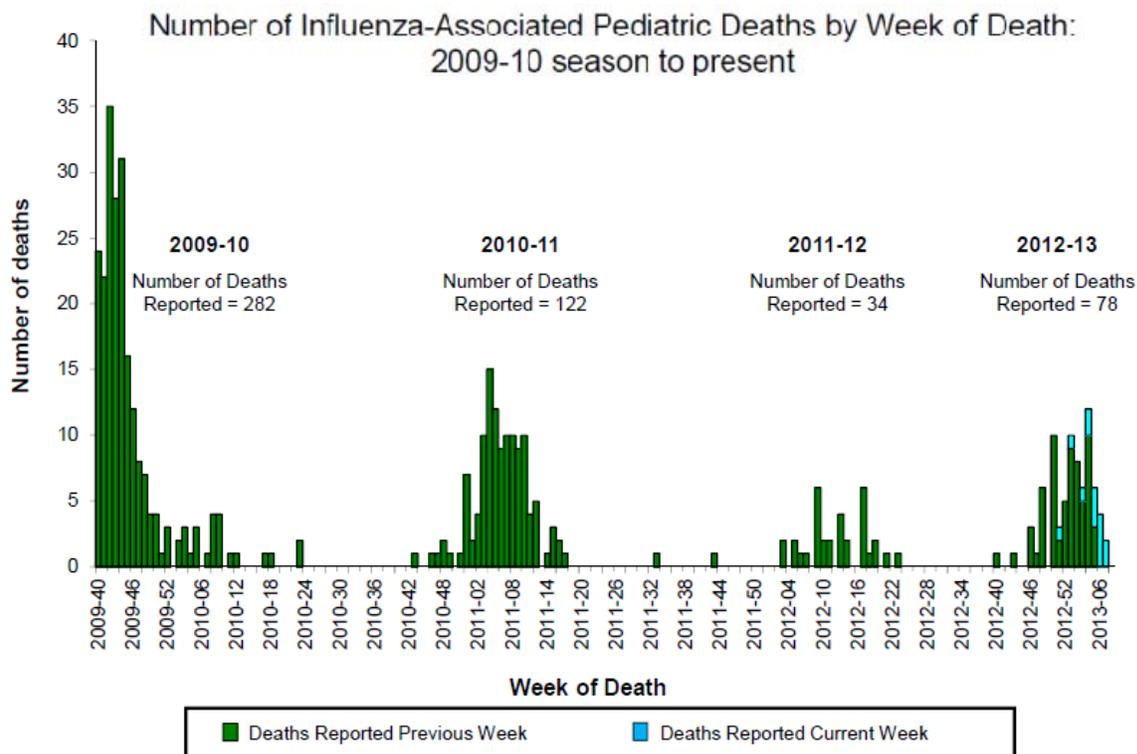
Influenza-associated Pediatric Mortality (as of February 28): 5 pediatric influenza-associated influenza mortalities (2 A/H3, 3B) have been reported for the 2012-13 season.

CDC requires reporting of flu-associated pediatric deaths (<18 yrs), including pediatric deaths due to an influenza-like illness with lab confirmation of influenza or any unexplained pediatric death with evidence of an infectious process. Contact MDCH immediately for proper specimen collection. The MDCH protocol is at www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf.

Influenza Congregate Settings Outbreaks (as of February 28): During the past week, 2 respiratory outbreaks (1SE, 1SW) were reported to MDCH. 1 outbreak was due to influenza A in a SW long-term care facility and 1 was in a SE school with no testing. 101 respiratory outbreaks (19SE, 28SW, 37C, 17N) have been reported to MDCH during the 2012-13 season; testing results are listed below.

- Influenza A/H3: 16 (7SW, 9C)
- Influenza A: 52 (9SE, 13SW, 18C, 12N)
- Influenza B: 6 (1SE, 3SW, 1C, 1N)
- Influenza A and B: 2 (1SE, 1SW)
- Influenza positive: 4 (1SE, 1SW, 2C)
- Influenza and RSV positive: 1 (1C)
- Negative/no testing: 10 (7SE, 3SW, 6C, 4N)

National (CDC [edited], February 22): During week 7 (February 10 - 16, 2013), influenza activity remained elevated in the U.S., but decreased in most areas. Of 8,144 specimens tested and reported by collaborating labs, 1,371 (16.8%) were positive for influenza. The proportion of deaths attributed to pneumonia and influenza (P&I) was above the epidemic threshold. 14 pediatric deaths were reported. A cumulative rate for the season of 34.2 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. Of reported hospitalizations, more than 50% were among adults 65 years and older. The proportion of outpatient visits for influenza-like illness (ILI) was 2.8%. This is above the national baseline of 2.2%. All 10 regions reported ILI at or above region-specific baseline levels. Three states experienced high ILI activity; 13 states and New York City experienced moderate activity; 11 states experienced low activity; 23 states experienced minimal activity, and the District of Columbia had insufficient data. 22 states reported widespread influenza activity; Puerto Rico and 21 states reported regional influenza activity; the District of Columbia and 6 states reported local influenza activity; 1 state reported sporadic activity; Guam reported no influenza activity, and the U.S. Virgin Islands did not report.



* It is recommended that A/Texas/50/2012 is used as the A(H3N2) vaccine component because of antigenic changes in earlier A/Victoria/361/2011-like vaccine viruses (such as IVR-165) resulting from adaptation to propagation in eggs.

The recommendations are available online at http://www.who.int/influenza/vaccines/virus/recommendations/2013_14_north/en/index.html.

International (WHO [edited], February 15): Influenza activity in North America, though high with A(H3N2) virus predominant, started decreasing. In the United States, the number of pneumonia and influenza-related hospitalizations among adults aged 65+ years continued to increase. In Europe influenza activity continued to increase in the majority of countries, with A(H1N1)pdm09 virus predominant. Most countries reported medium-intensity transmission, wide geographic spread and increasing trends. Influenza activity throughout the temperate region of Asia is ongoing. In the Caribbean, Central America and tropical South America, activity remained at low levels. Most countries in Africa experienced decreasing activity. Influenza in the southern hemisphere remained at inter-seasonal levels.

The entire WHO report is available online at www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html.

MDCH reported WIDESPREAD FLU ACTIVITY to CDC for the week ending February 23, 2013.

For additional flu vaccination and education information, the MDCH *FluBytes* newsletter is available at http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html.

Novel Influenza Activity and Other News

WHO Pandemic Phase: Post-pandemic – Influenza disease activity has returned to levels normally seen for seasonal influenza. It is expected that the pandemic virus will behave as a seasonal influenza A virus. It is important to maintain surveillance and update pandemic preparedness/response plans accordingly.

International, Human (WHO [edited], February 21): The Ministry of Health in Saudi Arabia has informed WHO of another confirmed case of infection with the novel coronavirus (NCoV). The patient was hospitalized on 29 January 2013 and died on 10 February 2013. The case was laboratory-confirmed on 18 February 2013. Further investigation into this case is ongoing.

In the United Kingdom, the Health Protection Agency continues to investigate the family cluster where three members of the family tested positive for NCoV infection. One member of this family, who had an underlying health condition, has died.

To date, WHO has been informed of a total of 13 confirmed cases of human infection with NCoV, including seven deaths.

Based on the current situation and available information, WHO encourages all Member States (MS) to continue their surveillance for severe acute respiratory infections (SARI) and to carefully review any unusual patterns. Testing for the NCoV should be considered in patients with unexplained pneumonias, or in patients with unexplained, severe, progressive or complicated respiratory illness not responding to treatment, particularly in persons traveling from or resident in areas of the world known to be affected.

Any clusters of SARI or SARI in healthcare workers should be thoroughly investigated, regardless of where in the world they occur. All MS are reminded to promptly assess and notify WHO of any new case or clusters of cases with NCoV infection.

WHO does not advise special screening at points of entry with regard to this event nor does it recommend that any travel or trade restrictions be applied. WHO continues to closely monitor the situation.

The article is available online at http://www.who.int/csr/don/2013_02_21/en/index.html.

International, Human (WHO, February 21): The Ministry of Health (MoH) of the Kingdom of Cambodia wishes to advise members of the public that one more new human case of avian influenza has been confirmed positive for the H5N1 virus.

The eighth case, a 20-month-old boy from Ang Romduol village, Angkor Chey commune, Angkor Chey district in Kampong Cham province, was found positive for influenza H5N1 on 19th February 2013 by Institut Pasteur du Cambodge. He developed fever and runny nose on 6th February 2013 and was initially treated by local private practitioners. His condition worsened and he was admitted to Kantha Bopha Hospital on 18th February 2013 with fever, cough and dyspnea and died on 19th February 2013. There is evidence of recent deaths among poultry in the village.

The boy is the eighth person this year and twenty-ninth person to become infected with H5N1 virus, and the twenty-sixth person to die from complications of the disease in Cambodia. Of the twenty-nine confirmed cases, 20 were children under 14, and nineteen of the twenty-nine were female.

"Avian influenza H5N1 remains a serious threat to the health of Cambodians, especially children. This is the eighth case of H5N1 infection in humans this year, and children still seem to be most vulnerable. Children are at high risk because they may play where poultry are found and I urge parents and guardians to keep children away from sick or dead poultry and prevent them from playing with chickens and ducks. Parents and guardians must also make sure children wash their hands with soap and water after any contact with poultry. If they have fast or difficult breathing, they should seek medical attention at the nearest health facility and attending physicians must be made aware of any exposure to sick or dead poultry. The greatest risk of exposure to the virus is through the handling and slaughter of infected poultry. Home slaughtering and preparation of sick or dead poultry for food is hazardous: this practice must be stopped", said HE Dr. Mam Bunheng, Minister of Health.

The Ministry of Health's Rapid Response Teams (RRT) have gone to the hospital and the field to identify the boy's close contacts, any epidemiological linkage among the eight cases and initiate preventive treatment as required. In addition, a public health education campaign is being conducted in the village to inform families on how to protect themselves from contracting avian influenza. The government's message is - wash hands often; keep children away from poultry; keep poultry away from living areas; do not eat sick poultry; and all poultry eaten should be well cooked.

H5N1 influenza is a flu that normally spreads between sick poultry, but it can sometimes spread from poultry to humans. Human H5N1 Avian Influenza is a very serious disease that requires hospitalization. Although the virus currently does not easily spread among humans, if the virus changes it could easily be spread like seasonal influenza. Hence, early recognition of cases is important.

The Ministry of Health will continue to keep the public informed of developments via the MoH website www.cdcmoh.gov.kh where relevant health education materials can also be downloaded.

The press release is available at www.wpro.who.int/mediacentre/releases/2013/20130222/en/index.html.

International, Human (WHO [edited], February 28): The Ministry of Health (MoH) of the Kingdom of Cambodia wishes to advise members of the public that one more new human case of avian influenza has been confirmed positive for the H5N1 virus.

The ninth case, a 35-year-old man from Kbal Ou village, Me Sar Chrey commune, Stueng Trang district in Kampong Cham province, was confirmed positive for influenza H5N1 on 23rd February 2013 by Institut Pasteur du Cambodge. He developed fever on 8th February 2013 and his condition worsened on 10th February 2013 with fever, frequent cough, and dyspnea. Local private practitioners initially treated him but his condition further deteriorated. On 13th February he was admitted to the Kampong Cham Hospital with fever, severe cough and dyspnea and was immediately treated with Tamiflu. He developed pneumonia on 21st February and was transferred to Calmette Hospital in Phnom Penh. Unfortunately, despite intensive medical care he died on 25th February. There is evidence of recent deaths among poultry in the village and the man had history of coming into contact with sick poultry prior to becoming sick. The man is the ninth person this year and the thirtieth person to become infected with the H5N1 virus, and the twenty-seventh person to die from complications of the disease in Cambodia. Of the 30 confirmed cases, 20 were children under 14, and 19 of the 30 were female.

"Avian influenza H5N1 remains a serious threat to the health of all Cambodians. This is the ninth case of H5N1 infection in humans this year. The greatest risk of exposure to the virus is through the handling and

slaughter of infected poultry. Home slaughtering and preparation of sick or dead poultry for food is hazardous: this practice must stop. Children also seem to be most vulnerable and are at high risk because they like to play where poultry are found. I urge parents and guardians to keep children away from sick or dead poultry and prevent them from playing with chickens and ducks. Parents and guardians must also make sure children wash their hands with soap and water after any contact with poultry. If they have fast or difficult breathing, they should seek medical attention at the nearest health facility and attending physicians must be made aware of any exposure to sick or dead poultry," said HE Dr. Mam Bunheng, Minister of Health.

The Ministry of Health's Rapid Response Teams (RRT) have gone to the hospitals and the field to identify the man's close contacts, any epidemiological linkage among the nine cases and initiate preventive treatment as required. In addition, a public health education campaign is being conducted in the village to inform families on how to protect themselves from contracting avian influenza. The government's message is - wash hands often; keep children away from poultry; keep poultry away from living areas; do not eat sick poultry; and all poultry eaten should be well cooked.

The press release is available at www.wpro.who.int/mediacentre/releases/2013/20130227/en/index.html.

International, Poultry (OIE [edited], February 22): Highly pathogenic avian influenza H5N1; Cambodia
Outbreak 1 (130/13 NaVRI): Kbal Au, Mesorchrey, Steung Strang, KG. CHAM
Date of start of the outbreak: 18/02/2013; Outbreak status: Resolved; Epidemiological unit: Village
Species: Birds; Susceptible: 550; Cases: 227; Deaths: 227; Destroyed: 323
Affected population: Backyard poultry

Outbreak 2 (127/13 NaVRI): Talay, Kor, Prey Chhor, KG. CHAM
Date of start of the outbreak: 18/02/2013; Outbreak status: Resolved; Epidemiological unit: Village
Species: Birds; Susceptible: 1006; Cases: 185; Deaths: 185; Destroyed: 821
Affected population: Backyard poultry

Outbreak 3 (132/13 NaVRI): Sro Ngae, Beung Nimol, Chhuk, KAMPOT
Date of start of the outbreak: 19/02/2013; Outbreak status: Resolved; Epidemiological unit: Village
Species: Birds; Susceptible: 1076; Cases: 442; Deaths: 442; Destroyed: 634
Affected population: Backyard poultry

International, Poultry (OIE [edited], February 28): Highly pathogenic avian influenza H7N3; Mexico
Outbreak 1: Dolores Hidalgo 2, Dolores Hidalgo, GUANAJUATO
Date of start of the outbreak: 16/02/2013; Outbreak status: Continuing; Epidemiological unit: Farm
Species: Birds; Susceptible: 26171; Cases: 187; Deaths: 187; Destroyed: 0

Outbreak 2: Dolores Hidalgo 1, Dolores Hidalgo, GUANAJUATO
Date of start of the outbreak: 16/02/2013; Outbreak status: Continuing; Epidemiological unit: Farm
Species: Birds; Susceptible: 35000; Cases: 2000; Deaths: 1000; Destroyed: 0

Outbreak 3: Dolores Hidalgo, Dolores Hidalgo, GUANAJUATO
Date of start of the outbreak: 17/02/2013; Outbreak status: Continuing; Epidemiological unit: Farm
Species: Birds; Susceptible: 71292; Cases: 522; Deaths: 347; Destroyed: 0

Outbreak 4: San Miguel de Allende, San Miguel de Allende, GUANAJUATO
Date of start of the outbreak: 18/02/2013; Outbreak status: Continuing; Epidemiological unit: Farm
Species: Birds; Susceptible: 40000; Cases: 26665; Deaths: 21700; Destroyed: 0

Outbreak 5: Juventino Rosas 1, Juventino Rosas, GUANAJUATO
Date of start of the outbreak: 19/02/2013; Outbreak status: Continuing; Epidemiological unit: Farm
Species: Birds; Susceptible: 107212; Cases: 1000; Deaths: 800; Destroyed: 0

Outbreak 6: Juventino Rosas 2, Juventino Rosas, GUANAJUATO
Date of start of the outbreak: 19/02/2013; Outbreak status: Continuing; Epidemiological unit: Farm
Species: Birds; Susceptible: 100326; Cases: 1000; Deaths: 800; Destroyed: 0

Outbreak 7: León, León, GUANAJUATO
Date of start of the outbreak: 20/02/2013; Outbreak status: Continuing; Epidemiological unit: Farm
Species: Birds; Susceptible: 112501; Cases: 25000; Deaths: 20335; Destroyed: 0

Outbreak 8: San Luis de La Paz, San Luis de La Paz, GUANAJUATO

Date of start of the outbreak: 20/02/2013; Outbreak status: Continuing; Epidemiological unit: Farm
 Species: Birds; Susceptible: 189000; Cases: 1000; Deaths: 571; Destroyed: 0

Outbreak 9: San Miguel de Allende, San Miguel de Allende, GUANAJUATO

Date of start of the outbreak: 21/02/2013; Outbreak status: Continuing; Epidemiological unit: Farm
 Species: Birds; Susceptible: 182354; Cases: 2500; Deaths: 2168; Destroyed: 0

Outbreak 10: Celaya, Celaya, GUANAJUATO

Date of start of the outbreak: 23/02/2013; Outbreak status: Continuing; Epidemiological unit: Farm
 Species: Birds; Susceptible: 110162; Cases: 84; Deaths; 84 Destroyed: 0

Outbreak 11: Dolores Hidalgo, Dolores Hidalgo, GUANAJUATO

Date of start of the outbreak: 23/02/2013; Outbreak status: Continuing; Epidemiological unit: Farm
 Species: Birds; Susceptible: 40000; Cases: 2200; Deaths: 1673; Destroyed: 0

Michigan Wild Bird Surveillance (USDA, as of February 28): For the 2012 season (April 1, 2012-March 31, 2013), highly pathogenic avian influenza H5N1 has not been recovered from the 68 samples tested nationwide. For more information, visit <http://www.nwhc.usgs.gov/ai/>. To learn about avian influenza surveillance in wild birds or to report dead waterfowl, go to the Emerging Disease website at <http://www.michigan.gov/emergingdiseases>.

International Poultry and Wild Bird Surveillance (OIE): Reports of avian influenza activity, including summary graphs of avian influenza H5N1 outbreaks in poultry, can be found at the following website: http://www.oie.int/download/AVIAN%20INFLUENZA/A_Al-Asia.htm.

For questions or to be added to the distribution list, please contact Susan Peters at peterss1@michigan.gov

Contributors

MDCH Bureau of Epidemiology – S. Bidol, MPH; C. Carlton, MPH; R. Sharangpani, MD, MPH

MDCH Bureau of Laboratories – A. Muyombwe, PhD; V. Vavricka, MS

Table. H5N1 Influenza in Humans – As of February 15, 2013. http://www.who.int/influenza/human_animal_interface/EN_GIP_20130215_CumulativeNumberH5N1cases.pdf. Downloaded 2/15/2013. Cumulative lab-confirmed cases reported to WHO. Total cases include deaths.

Country	2003-2006		2007		2008		2009		2010		2011		2012		2013		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Azerbaijan	8	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	1	0	0	0	0	0	2	0	3	0	0	0	6	0
Cambodia	6	6	1	1	1	0	1	0	1	1	8	8	3	3	7	6	28	25
China	22	14	5	3	4	4	7	4	2	1	1	1	2	1	2	0	45	28
Djibouti	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Egypt	18	10	25	9	8	4	39	4	29	13	39	15	11	5	1	1	170	61
Indonesia	75	58	42	37	24	20	21	19	9	7	12	10	9	9	0	0	192	160
Iraq	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2
Lao PDR	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Myanmar	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Nigeria	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Pakistan	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	1
Thailand	25	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	17
Turkey	12	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	4
Vietnam	93	42	8	5	6	5	5	5	7	2	0	0	4	2	0	0	123	61
Total	263	158	88	59	44	33	73	32	48	24	62	34	32	20	10	7	620	367