Influenza Surveillance Report for the Week Ending October 17, 2015

Michigan Disease Surveillance System
MDSS influenza data indicated that compared to levels from the previous week, aggregate and individual reports had both decreased. Aggregate reports were lower than levels seen during the same time period last year, while individual reports were similar.

Emergency Department Surveillance
Compared to levels from the week prior, emergency department visits from constitutional complaints were similar, while respiratory complaints increased. Levels of constitutional and respiratory complaints were both lower than levels seen during the same time period last year.
- 6 constitutional alerts (2SW, 3C, 1N)
- 8 respiratory alerts (2SE, 1SW, 4C, 1N)

Sentinel Provider Surveillance
The proportion of visits due to influenza-like illness (ILI) decreased to 0.4% overall; this is below the regional baseline (1.9%). A total of 46 patient visits due to ILI were reported out of 11,507 office visits. Please note: These rates may change as additional reports are received.

Number of Reports by Region (29 total):
- C (14)
- N (3)
- SE (8)
- SW (4)

Become a Sentinel Provider!
As part of pandemic influenza surveillance, CDC and MDHHS highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Stefanie Cole (ColeS4@michigan.gov) for more information.

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Hospital Surveillance
The CDC Influenza Hospitalization Surveillance Project provides population-based rates of hospitalization due to severe influenza illness through active surveillance and chart review of lab-confirmed cases beginning on Oct. 1, 2015, for Clinton, Eaton, Genesee, and Ingham counties. Since Oct. 1, there has been 1 adult hospitalization reported within the catchment area.

The MDHHS Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide, and 14 hospitals (N, C, SE & SW) reported. Results for the 2015-16 flu season are listed in the table below. Additional hospitals are welcome to join; please contact Seth Eckel at eckels1@michigan.gov.

### Age Group
<table>
<thead>
<tr>
<th>New Flu Hospitalizations Reported</th>
<th>Total 2015-16 Flu Hospitalizations Reported to Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 years</td>
<td>0</td>
</tr>
<tr>
<td>5-17 years</td>
<td>0</td>
</tr>
<tr>
<td>18-49 years</td>
<td>0</td>
</tr>
<tr>
<td>50-64 years</td>
<td>0</td>
</tr>
<tr>
<td>65 years &amp; older</td>
<td>1 (SE)</td>
</tr>
<tr>
<td>Total</td>
<td>1 (SE)</td>
</tr>
</tbody>
</table>

Laboratory Surveillance
MDHHS Bureau of Laboratories reported 2 new positive influenza results: 2 A/H3. A total of 6 positive influenza results have been reported for the 2015-16 season. Influenza results for the 2015-16 season are in the table below.

### Respiratory Virus

<table>
<thead>
<tr>
<th>Respiratory Virus</th>
<th># Positive Respiratory Virus Results by Region</th>
<th>Total</th>
<th># Specimens Antigenically Characterized</th>
<th># Tested for Antiviral Resistance</th>
<th># Resistant / Total # Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>N</td>
<td>SE</td>
<td>SW</td>
<td></td>
</tr>
<tr>
<td>2009 A/H1N1pdm</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Influenza A/H3</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

In addition, 10 sentinel clinical labs (3SE, 2SW, 5C) reported influenza results. One lab (SE) reported sporadic influenza A activity. No labs reported influenza B activity. Four labs (SE,SW,C) reported sporadic or low Parainfluenza activity. One lab (C) reported sporadic RSV activity. Two labs (SE,C) reported sporadic or low Adenovirus activity. One lab (SE) reported sporadic hMPV activity. Most testing volumes were nearing or in the moderate range.

Influenza Congregate Settings Outbreaks
There have been no respiratory facility outbreaks reported to MDHHS yet for the 2015-16 season. Respiratory facility outbreaks will be listed in the table below by facility type and surveillance region.

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>C</th>
<th>N</th>
<th>SE</th>
<th>SW</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>None Reported</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Influenza-associated Pediatric Mortality
No influenza-associated pediatric deaths have been reported to MDHHS for the 2015-16 season.

National: In the United States, flu activity was low with 1.4% of outpatient visits due to influenza-like illness, which is below the national baseline of 2.1%. No influenza-associated pediatric deaths have been reported during the 2015-16 season. Additional information is in the weekly FluView reports available at: www.cdc.gov/flu/weekly/.

International: Globally, influenza activity generally decreased or remained low, with only a few countries reporting elevated respiratory illness levels. In New Zealand, flu activity was just above the seasonal threshold. In South Africa, there were sporadic detections of influenza B viruses in recent weeks. More information is available at: www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/.
2015-16 SEASONAL FLU ACTIVITY

- Hundreds get vaccinated for influenza at Arkansas drive-through clinic
- Delaware confirms first influenza case
- South Dakota’s first flu detection of season
- First two confirmed influenza cases in Kentucky

MDHHS FALL IMMUNIZATION CONFERENCES
Register now for the MDHHS Fall Regional Immunization Conferences! The following conferences still have open spots available:
- Nov. 6: Flint
- Nov. 17: Kalamazoo
- Nov. 20: Troy

INFLUENZA-RELATED JOURNAL ARTICLES

- *Vaccine*: Risk factors for severe outcomes among members of the United States military hospitalized with pneumonia and influenza, 2000-2012
  - Flu vaccination lowered the risk of severe disease, while occupational factors and comorbidities may increase severe disease risk
- *Journal of Hospital Infection*: Transmission of SARS and MERS coronaviruses and influenza virus in healthcare settings: the possible role of dry surface contamination
- *mBio*: Inactivated influenza vaccine that provides rapid, innate-immune-system-mediated protection and subsequent long-term adaptive immunity
- *mBio*: Nonreplicating influenza A virus vaccines confer broad protection against lethal challenge
- *Vaccine*: Pathogenicity evaluation of neuraminidase-negative H5 and H7 viruses in day-old chicks and adult chicken

AVIAN INFLUENZA INTERNATIONAL NEWS

- H5N1 outbreak in Nigeria, H5N6 in Vietnam
- Avian flu outbreaks reported in Ghana, South Korea, Taiwan, and Vietnam
- Nigeria reports 3 H5N1 outbreaks affecting 6,000 poultry
- WHO: Human infection with avian influenza A(H7N9) virus - China
- *Virology Journal*: Lung ultrasonography for the diagnosis of 11 patients with acute respiratory distress syndrome due to H7N9 infection

AVIAN INFLUENZA NEWS IN NORTH AMERICA

- MDARD: Threat of avian influenza returns with wild bird migration (Oct. 19 press release)
- Any reports of sick or dead birds should be forwarded immediately to the proper agency:
  - For domestic poultry, contact MDARD:
    - M-F 8AM-5PM, 1-800-292-3939
    - After hours/weekends, 517-373-0440
  - For wildlife (die-off of waterfowl, gulls, or shorebirds), contact DNR:
    - M-F 8AM-5PM, 517-336-5030
    - After hours/weekends, 1-800-292-7800

OTHER INFLUENZA-RELATED NEWS

- CDC: 113 million doses of flu vaccine distributed in U.S.
- APhA: How to counsel patients who are reluctant to receive the influenza vaccine
- New website features Flublok® influenza vaccine
- UNISEC consortium launches clinical trial for universal influenza vaccine
- Horse at Oregon State University vet hospital diagnosed with equine influenza
- Deploying new molecular influenza tests in the fight against antimicrobial resistance

FLU WEBSITES
www.michigan.gov/flu
www.cdc.gov/flu
www.flu.gov
http://vaccine.healthmap.org/

For questions or to be added to the distribution list, please contact Stefanie Cole at ColeS4@michigan.gov.

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