Influenza Activity in Indiana

2014-2015

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Objectives of Influenza Surveillance

- Monitor influenza-like illness (ILI) activity levels in the state
- Rapidly detect novel influenza events
- Describe the seasonal occurrence of influenza in the state
- Determine the types of circulating influenza viruses and non-influenza respiratory viruses
- Inform healthcare professionals and public health partners with weekly influenza surveillance data
- Support influenza vaccination with real-world influenza surveillance data
- Respond to community or institutional ILI outbreaks

Weekly Influenza Reports

- Published every Friday for the previous MMWR Week
- Published through MMWR Weeks 40 – 20
- Provide a general understanding of the burden of influenza-like illness to our partners in the state
  - Local health departments
  - Hospital administrators
  - Health professionals
  - Indiana residents
- NEW! Additions during the 2014-2015 season
  - Graph of influenza-associated deaths by MMWR week
  - Graphs of district-level ILI activity by MMWR week

Syndromic Surveillance

- 118 hospitals
- Emergency Department chief complaint data
- Respiratory Syndrome Alerts
  - Pneumonia
  - Cough
  - Difficulty Breathing or Shortness of Breath
  - Sore Throat
- Influenza-like Illness Subsyndrome
  - Influenza
  - Fever and Cough and/or Sore Throat
Syndromic Surveillance

Sentinel Surveillance

CDC - U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet)

- Fever (> 100°F, 37.8°C) and cough and/or sore throat (without a known cause other than influenza)
- Weekly reporting by outpatient clinics in Indiana
- Recruiting additional sentinel sites for the 2015-2016 influenza season program
  - ISDH provides influenza rapid test kits to sentinel sites
  - ISDH offers influenza specimen supplies and testing to sentinel sites
  - ILI data from sentinel sites is important for both the state and CDC's surveillance programs!

Syndromic Surveillance

Influenza-like Illness Geographic Spread in Indiana During the 2014-2015 Influenza Season*

- No Activity
- Sporadic
- Local
- Regional
- Widespread

*Data are preliminary. Influenza Season is currently ongoing
**Sentinel Surveillance**

*Data are preliminary. Influenza Season is currently ongoing.*

**Influenza-like Illness Activity Level Indicator in Indiana During the 2014-2015 Influenza Season**

- Minimal: 36%
- Low: 13%
- Moderate: 0%
- High: 72%

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**Reportable Condition: Influenza-Associated Deaths**

- All physicians, laboratories and hospitals are to report influenza-associated deaths to local health department within 72 hours of knowledge of death.
- An influenza-associated death is a human death in which an influenza diagnosis has been detected by:
  - Commercial rapid antigen testing
  - Viral culture
  - Direct Fluorescent Antibody (DFA)
  - Indirect Fluorescent Antibody (IFA)
  - Enzyme immunoassay
  - RT-PCR
  - Immunohistochemistry (IHC)
- A report is not necessary if the deceased has a diagnosis of influenza by clinical presentation without detection by the tests above listed.
  - This may change in the revised version of the Communicable Disease Reporting Rule
### Influenza-Associated Deaths

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### Complications
- Acute Respiratory Distress Syndrome
- Pneumonia

### Risk due to underlying medical conditions
- COPD
- Cardiac Disease
- Renal Disease
- Immunosuppressive conditions or treatments

### 2014-2015 Seasonal Influenza Vaccine
- **2014-2015 Trivalent Vaccine**
  - an A/California/7/2009 (H1N1)pdm09-like virus
  - an A/Texas/50/2012 (H3N2)-like virus
  - a B/Massachusetts/2/2012 (B/Yamagata lineage) virus
- **2014-2015 Quadrivalent Vaccine**
  - All of the trivalent viruses, plus
  - B/Brisbane/60/2008-like (B/Victoria lineage) virus

### 2014-2015 Seasonal Influenza Vaccine Effectiveness
- CDC published interim influenza vaccine effectiveness (VE) estimates
  - January 2015 – 23% overall VE estimate
  - February 2015 – 19% overall VE estimate
- Final VE estimates will be published by CDC at the end of the season
### 2014-2015 Seasonal Circulating Influenza Viruses

- **A/California/7/2009 (H1N1)pdm09**
- **A/Texas/50/2012 (H3N2)**
- **B/Massachusetts/2/2012 (B/Yamagata lineage)**
- **B/Brisbane/60/2008 (B/Victoria lineage)**
- **A/Switzerland/9715293/2013**
  - NOT included in the 2014-2015 Northern Hemisphere vaccine
  - First detected in U.S. in March 2014 (AFTER vaccine recommendations and production)

### Implications of this Season’s Flu Vaccine

- **Still need to emphasize influenza vaccination**
  - Protects against influenza A H3N2 and H1N1pdm09 viruses
  - Protects against influenza B viruses
  - Influenza season may range from October through May

- **Recommend the use of antiviral medications**
  - For chemoprophylaxis and treatment
  - As soon as possible, but optimal within 48 hours of symptom onset
  - Helps shorten duration of fever and illness
  - Helps reduce the risk of complications from influenza, including death and duration of hospitalization stay

### 2015-2016 Seasonal Influenza Vaccine

- **Northern Hemisphere Vaccine Recommendations**
  - World Health Organization (WHO)
  - U.S. Food and Drug Administration

- **2015-2016 Trivalent Influenza Vaccine**
  - A/California/7/2009 (H1N1)pdm09-like virus
  - A/Switzerland/9215283/2013 (H3N2)-like virus
  - B/Phuket/3073/2013-like (B/Yamagata lineage) virus

- **2015-2016 Quadrivalent Influenza Vaccine**
  - All of the Trivalent viruses, plus
  - B/Brisbane/60/2008-like (B/Victoria lineage) virus

### 2014-2015 Seasonal Circulating Influenza Viruses

2014-2015 Seasonal Circulating Influenza Viruses

- Percent of positive specimens by type, Week 52
  - Influenza A: 39% (75% of positive specimens)
  - Influenza B: 2% (97% of positive specimens)

- Percent of positive specimens by type, Week 11
  - Influenza A: 15%
  - Influenza B: 85%

*Source: http://www.cdc.gov/flu/weekly/

Infection Prevention in Healthcare Settings

- Starts with influenza vaccination for staff and patients!
- Good respiratory hygiene and cough etiquette
- Signage and education for patients and visitors to minimize exposure and transmission
- Adherence to standard and droplet precautions
- Train and educate healthcare personnel
- Monitor influenza activity – use local and state resources!
- Consider antiviral chemoprophylaxis and treatment when necessary

Infection Prevention in Healthcare Settings

- Overall, 72% of healthcare personnel reported having had an influenza vaccination during the 2012-2013 influenza season
  - 92.3% coverage among physicians; 84.8% coverage among nurses
  - 83.3% coverage in hospital-based healthcare personnel (highest)
  - 58.9% coverage in healthcare personnel in long-term care facilities (lowest)

*Source: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6238a2.htm?s_cid=mm6238a2_w

Infection Prevention in Healthcare Settings

Infection Prevention in Healthcare Settings


Parotitis, inflammation of the parotid gland, is a rare complication of influenza.

Parotitis is more commonly associated with mumps infection.

Starting December 2014, several cases of influenza-associated parotitis were reported to ISDH.

Indiana was the first to notify CDC.

Currently assisting CDC on a multistate investigation:
- Describe the occurrence of influenza-associated parotitis
- Identify the risk factors for developing influenza-associated parotitis

2014-2015 Influenza Season at a Glance:
- >100 reported influenza-associated deaths among all ages
- 1 pediatric death reported in the state
- Circulating H3N2 viruses mismatched to the H3N2 vaccine virus
- Several Indiana hospitals reported visitor restrictions
- Multiple influenza-like illness outbreaks among long-term care facilities
- Investigation of influenza-associated parotitis cases
- No reported statewide or national antiviral shortages; sporadic shortages may have been specific to pharmacy or facility locations

Resources:
- Prevention Strategies for Seasonal Influenza in Healthcare Settings: http://www.cdc.gov/flu/professionals/infectioncontrol/
- Interim Guidance for Influenza Outbreak Management in Long-Term Care Facilities: http://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm
- Influenza Vaccination Information for Health Care Workers: http://www.cdc.gov/flu/healthcareworkers.htm
Questions?

Contact Information

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