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Alaska Influenza Surveillance Update, 2011–12 Season

Background

Every year, influenza causes substantial morbidity and mortality worldwide. Influenza viruses are constantly evolving and routine surveillance enables us to monitor influenza activity statewide and to detect new and emerging influenza strains. Influenza surveillance data have been collected by the Alaska Section of Epidemiology (SOE) for over 25 years. Alaska influenza surveillance data currently come from laboratory testing results; health care provider sentinel surveillance reports; reports of outbreaks in schools, nursing homes or other congregate settings; and reports of influenza-associated pediatric deaths. SOE reports the weekly geographic spread of influenza activity to the U.S. Centers for Disease Control and Prevention (CDC) from October through mid-May. Surveillance data are updated weekly throughout the season.¹

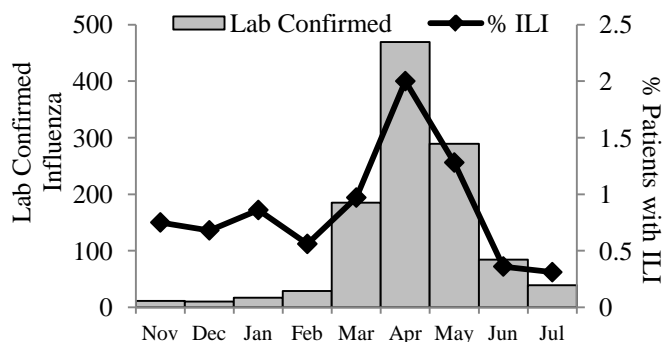
The purpose of this bulletin is to summarize the 2011–12 influenza season through July, describe the Alaska State Virology Laboratory (ASVL) influenza testing algorithm, and review recent Influenza A variant virus activity.

Alaska 2011–12 Influenza Activity

Sporadic influenza activity occurred throughout the early winter in Alaska, with increased activity in March, and was widespread from April through the last week of May, with sporadic activity occurring since then. Based on PCR-confirmed cases, Alaska essentially mirrored the national trend with influenza A (2009 H1N1 and H3) viruses predominating early in the season and influenza B activity increasing in the later part of the season.

During the 2011–12 season, eight health care providers from around the state participated in outpatient ILINet reporting. ILINet largely matched laboratory reporting trends, especially when influenza was prevalent (Figure).

Figure. Influenza Laboratory Reports (Culture, PCR, and Rapid Tests) and Outpatient ILI Surveillance Reports — Alaska, October 2011 – July 2012



During the 2011–12 season, SOE received zero reports of influenza-associated pediatric deaths; CDC received 34 reports of influenza-associated pediatric deaths for the entire United States. This was the lowest number of such deaths reported nationally during an influenza season since record keeping began in the 2004–05 season (the range for previous years was 46–348 deaths).²

Alaska State Virology Laboratory Testing

Influenza PCR is performed on all upper respiratory infection (URI) specimens submitted to ASVL. Specimens that test positive by PCR are subtyped and reported out; specimens that test negative by PCR are placed into culture. Selected specimens are sent to CDC contract laboratories for further antigenic characterization. Of interest, a specimen collected in

April was identified as positive for both influenza A/H3 and influenza A/2009 H1N1. Another sample collected in May was identified as positive for both influenza A/H3 and influenza B.

A subset (23) of the respiratory samples that were sent to CDC or a CDC contract laboratory between October 1, 2011 and April 30, 2012 were selected for susceptibility testing and were found to be susceptible to the antiviral medications oseltamivir and zanamivir. Sixty samples submitted between Sept. 1, 2011 and Sept. 20, 2012 for vaccine strain matching were well matched with the influenza A and B components of the 2011–12 vaccine. Twelve of the influenza B samples collected at the end of the season were compatible with the influenza B component of the 2012–13 influenza vaccine.

Influenza A Variant Viruses

Occasionally, sporadic human infections occur with influenza viruses that normally circulate in swine and not people. When this happens, these viruses are called “variant viruses.” From July 12 through September 13, 2012, a total of 305 infections with H3N2 variant viruses (H3N2v) have been reported from 10 states. The vast majority of cases occurred after prolonged exposure to pigs, though instances of likely human-to-human transmission have also been identified. At this time, no ongoing human-to-human transmission has been identified. Swine influenza has not been shown to be transmissible to people through eating properly handled and prepared pork (pig meat) or other products derived from pigs. ASVL tests every respiratory specimen for influenza A H3N2v. Specimens that cannot be identified at ASVL are sent to CDC for further testing. There have been no Influenza A H3N2v viruses detected in Alaska.

As a result of enhanced surveillance activities for H3N2v, one infection with an H1N1 variant (H1N1v) virus has been detected in Missouri in a patient who became ill after contact with swine. The patient recovered uneventfully. Cases of H1N1v have been detected previously.

Recommendations

1. Health care providers should submit viral cultures from patients with influenza-like illness to the Alaska State Virology Laboratory (ASVL); viral culture supplies can be obtained free of charge by calling 907-474-7017. Laboratory request forms are also available at: <http://www.hss.alaska.gov/dph/labs/publications/>
2. Laboratories must report all positive influenza test results (including rapid test results) to the Section of Epidemiology (7 AAC 27.007).
3. Health care providers must report suspected and confirmed influenza-associated pediatric deaths and clusters of respiratory illness by calling 907-269-8000 during business hours, or 1-800-470-0084 after hours.
4. Health care providers interested in participating in outpatient influenza surveillance should contact the Section of Epidemiology at 907-269-8000.

References

1. Section of Epidemiology. Alaska Influenza Surveillance Report. Available at: <http://www.epi.alaska.gov/id/influenza/influenza.jsp>
2. Centers for Disease Control and Prevention: FluView September 8, 24, 2012. Available at: <http://www.cdc.gov/flu/weekly/>
3. Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases: Influenza A (H3N2) Variant Virus Outbreaks (updated September 14, 2012). Available at: <http://www.cdc.gov/flu/swineflu/h3n2v-outbreak.htm>