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Alaska Influenza Activity, 2006–07 Season

Background

Annual influenza activity data have been collected by the Alaska Section of Epidemiology (SOE) and reported to the U.S. Centers for Disease Control (CDC) for over 20 years. Reporting to CDC spans the traditional influenza season from October to mid-May; however, because influenza activity often continues (to a lesser extent) during the summer months in Alaska, the Alaska State Virology Laboratory conducts culture tests year round. Influenza activity reports are updated weekly throughout the season at: <http://www.epi.alaska.gov/id/influenza/influenza.jsp>.

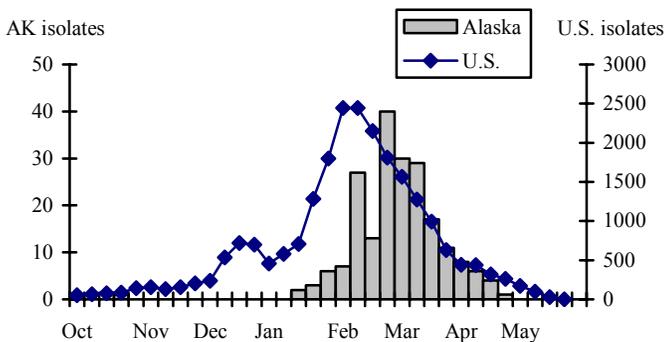
Nationally, influenza surveillance is based on reporting of:

- Positive influenza antigen “rapid” tests by health care providers and laboratories;
- Positive influenza cultures and polymerase chain reaction (PCR) tests by laboratories;
- Outbreaks of influenza-like illness in schools, nursing homes, or other group settings;
- Influenza-like illness cases from designated provider sites in Alaska; and
- Since 2003, pediatric influenza deaths.

Influenza Activity

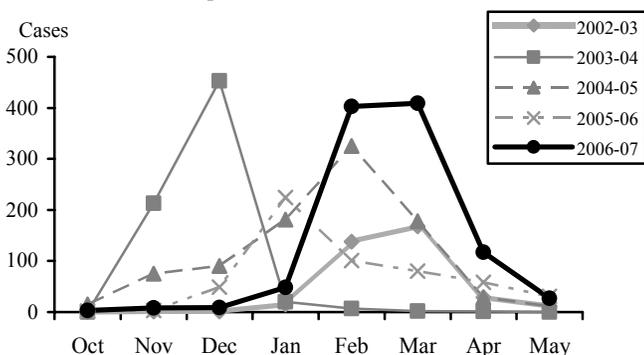
Based on culture-confirmed cases, during the 2006–07 season Alaska followed the national trend with influenza A (H1) viruses predominating overall. Beginning early March 2007, influenza A (H3) viruses were reported more frequently than influenza A (H1). Influenza activity in Alaska peaked during March, slightly later than the United States as a whole² (Figure 1).

Figure 1. Culture-confirmed Influenza Reported in Alaska and the United States, October 2006 to May 2007



Seasonal influenza incidence trends vary in Alaska, with peak activity occurring as early as November and as late as March (Figure 2).

Figure 2. Seasonal Influenza Trends Based on Rapid Test and Culture-confirmed Influenza Reports — Alaska, 2002–03 to 2006–07



Alaska State Virology Laboratory Surveillance

The Alaska State Virology Laboratory performs virus isolation, typing, and subtyping on specimens submitted by health care providers. This service is done at no cost to the patient. Selected isolates are sent to CDC for further antigenic characterization. During the 2006–07 season, all regions of the state provided viral specimens. Of 1468 specimens that were submitted to the Alaska State Virology Laboratory, 166 (11%) were culture-positive for influenza A and 27 (2%) were culture-positive for influenza B.

Thirteen isolates were sent to CDC for further antigenic characterization. Four isolates were influenza B; three were influenza A (H1N1); and six were influenza A (H3N2). The viral isolates submitted to CDC matched well with the influenza A and B components of the 2006–07 season vaccine.

Influenza Antigen Testing in Alaska

In addition to viral cultures, many clinics and hospitals in Alaska perform rapid influenza antigen testing. During the 2006–07 season, 822 positive rapid tests were reported. Of these, 683 (83%) identified influenza A, 16 (2%) influenza B, and 123 (15%) influenza A or B. Due to low sensitivity and specificity of rapid tests, false-positive and false-negative tests may occur, particularly during times when the influenza prevalence is low in the community.³

Influenza-like Illness (ILI) Surveillance

ILI surveillance information may be useful as an early indicator of seasonal influenza activity. Alaska has participated in this activity for the past 8 years. Volunteer sentinel providers report the proportion of patients who present with fever and cough or sore throat on a weekly basis, stratified into four age groups. During the 2006–07 season, six providers from around the state participated. Alaska reported influenza-like illness activity above the national baseline of 2.1% between February 9 and March 30, 2007. The increase in ILI activity coincided with, but did not precede, the increase in laboratory-confirmed influenza reporting.

Influenza-related Pediatric Mortality Surveillance

During the 2006–07 influenza season, two pediatric deaths were reported. One case occurred in the interior and one case occurred in southwest Alaska. Both were reported by the Alaska State Medical Examiner’s Office. CDC received 60 reports of influenza-associated pediatric deaths during the 2006-07 season.

Recommendations

1. Laboratories should report all positive influenza test results (including rapid test results) to the Section of Epidemiology. Viral culture transport media can be obtained free of charge from the State Virology Laboratory at 907-474-7017.
2. Providers should report suspected or confirmed influenza-associated pediatric deaths and clusters of ILI in group settings to the Section of Epidemiology at 907-269-8000.
3. Health care providers interested in participating in influenza-like illness sentinel surveillance can contact the Section of Epidemiology at 907-269-8000.

References:

1. CDC Update: Influenza-Associated Deaths Reported Among Children Aged <13 years – United States, 2003-04 Influenza Season. *MMWR* 2003; 52 (Dispatch); 1-2. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm52d1219a1.htm>
2. CDC Weekly Report: Influenza Summary Update week ending May 19, 2007-Week 20. Available at: <http://www.cdc.gov/flu/weekly/>
3. Alaska Section of Epidemiology. Interpretation of Rapid Diagnostic Tests for Influenza. *Bulletin* No. 25, September 14, 2007. Available at: http://www.epi.alaska.gov/bulletins/docs/b2007_26.pdf.