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Alaska Influenza Surveillance Summary, 2019–20 Season

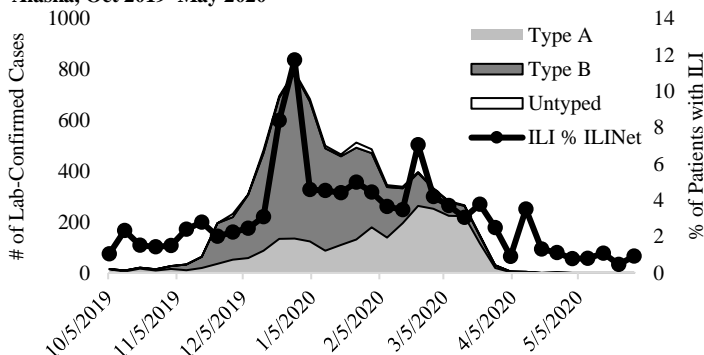
Background

The U.S. influenza surveillance system is a collaborative effort between the Centers for Disease Control and Prevention (CDC), state and local health departments, and clinicians to determine timing of influenza activity, strains of viruses circulating, and to track influenza-related morbidity and mortality. The Section of Epidemiology (SOE) conducts routine influenza surveillance throughout the year, with heightened surveillance from October through May. Weekly surveillance reports are posted online.¹ This *Bulletin* summarizes the 2019–20 flu season.

Alaska 2019–20 Influenza Activity

During the 2019–20 season in Alaska, widespread influenza activity started earlier in the season and continued to gradually increase, with peak activity occurring during December through mid-January (Figure). Influenza B viruses predominated with less influenza A activity (Figure). The flu season was truncated abruptly in April due to COVID-19 which impacted public activity and healthcare seeking behavior.

Figure. Positive Influenza Laboratory Tests (PCR and Rapid), Emergency Department Syndromic Surveillance, and Outpatient ILI Reports — Alaska, Oct 2019–May 2020



*Proportion of patients seen in by participating outpatient providers with ILI (syndromic surveillance)

Laboratory Characterization

A subset of the Alaska State Virology Laboratory (ASVL) respiratory samples (n=49) were sent to CDC for genome sequencing and antigenic typing.² Another subset of respiratory samples (n=24) were sent to New York-Wadsworth for pyrosequencing and antiviral resistance testing. Nationally and in Alaska, the majority of influenza isolates were well matched to the 2019–20 influenza vaccine (Table),³ with the exception of 1 B/Victoria strain (B/COLORADO/06-2017 LOW) that demonstrated lower affinity to antibodies produced by the vaccine in laboratory experiments. All specimens selected for antiviral resistance testing demonstrated susceptibility to

neuraminidase inhibitors. ASVL publishes a weekly report that contains PCR data (i.e., A vs. B and hemagglutinin type) as well as antigenic and genetic characterization data.

Syndromic Surveillance

Data from participating outpatient providers (n=18) in Alaska are pooled to create a statewide estimate for the weekly percent of healthcare visits due to influenza-like illness (ILI). Patients presenting with a fever of 100°F or greater and a cough and/or sore throat are considered to have ILI. For more information on state and national ILINet data, see [FluView Interactive](#).

Influenza-Associated Mortality

During the 2019–20 season, 8 adult (age range: 23-98 years, median 73.5 years) and 3 pediatric (age range: 1-6 years, median 2 years) influenza-associated deaths were identified from health care provider reports and death certificate reviews.

Recommendations

1. Health care providers should strongly urge all eligible patients aged ≥ 6 months to receive influenza vaccine every year annually by the end of October. Influenza vaccine is the most effective tool available to prevent influenza-associated morbidity and mortality.
2. Health care providers can submit respiratory specimens from patients with ILI to ASVL for influenza testing; call 907-371-1000 to obtain testing supplies. Request forms are available at: <http://www.dhss.alaska.gov/dph/Labs/Documents/publications/FbxSupplyReq.pdf>
3. Laboratories must report all positive influenza test results (including rapid test results) to SOE per 7 AAC 27.007. Laboratories are also encouraged to report the total number of tests performed and the number of positives directly to CDC to help meet Alaska's National Respiratory and Enteric Virus Surveillance System goals; call ASVL at 907-371-1000 for more information.
4. Health care providers must report suspected and confirmed influenza-associated deaths and unusual clusters of respiratory illness to SOE (call 907-269-8000 during business hours, or 1-800-478-0084 after hours).

References

1. Alaska SOE Influenza Surveillance Report. Available at: <http://dhss.alaska.gov/dph/Epi/id/Pages/influenza/fluinfo.aspx>
2. CDC Criteria for Selecting Influenza Specimens for Referral. See: http://www.aphl.org/programs/infectious_disease/influenza/Documents/ID_2013July_Laboratory-Testing-Implementation-Guidance.pdf
3. CDC. Interim estimates of 2019–20 seasonal influenza vaccine effectiveness — United States, February 2020. *MMWR* 2020;69(7):177-82. Available at: <https://www.cdc.gov/mmwr/volumes/69/wr/mm6907a1.htm>

Table. Characterization of Specimens Submitted from ASVL to CDC — Alaska, October 2019 through May 2020

| 2019-2020 Northern Hemisphere Vaccine Strain (by virus) | Antigenic Characterization | | Genetic Characterization | | Antiviral Resistance | |
|---|----------------------------|--------------------------------------|--------------------------|--------|----------------------|-----------------------|
| | # Tested | Strain | # Tested | Clades | # Tested | Resistant/Susceptible |
| Influenza A/H3N2 viruses | | | | | | |
| A/KANSAS/14/2017 (H3N2)-LIKE | 10 | A/SINGAPORE/INFIMH-16-0019/2016-LIKE | 23 | 3c.2a1 | 7 | Susceptible |
| | 4 | A/KANSAS/14/2017-LIKE (H3N2) | | | | |
| Influenza A/H1N1 viruses | | | | | | |
| A/BRISBANE/02/2018 (H1N1)pdm09-LIKE | 2 | A/MICHIGAN/45/2015-LIKE (H1N1)pdm09 | 10 | 6B.1A | 3 | Susceptible |
| | 3 | A/BRISBANE/02/2018-LIKE (H1N1)pdm09 | | | | |
| Influenza B (Victoria lineage) viruses | | | | | | |
| B/COLORADO/06/2017-LIKE | 1 | B/COLORADO/06/2017-LIKE | 14 | V1A.3 | 5 | Susceptible |
| | 2 | B/COLORADO/06/2017-LIKE LOW* | | | | |
| Influenza B (Yamagata lineage) viruses | | | | | | |
| B/PHUKET/3073/2013-LIKE | 2 | B/PHUKET/3073/2013-LIKE | 2 | Y3 | 1 | Susceptible |

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