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Alaska Influenza Surveillance Summary, 2018–19 Season

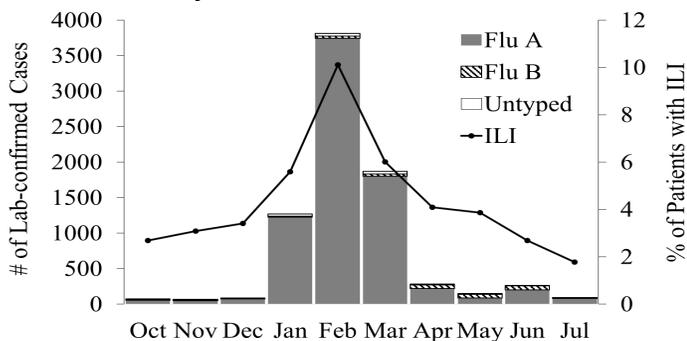
Background

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 where and when influenza activity is occurring, track influenza-related morbidity and mortality, determine which influenza viruses are circulating, and detect changes in influenza viruses. The Section of Epidemiology (SOE) conducts routine influenza surveillance throughout the year, with heightened surveillance during October through May. Weekly surveillance reports are posted online.¹ This *Bulletin* summarizes the 2018–19 flu season.

Laboratory-Confirmed Influenza Reports

During 2018–19, widespread reports of influenza were received later than usual in the season with peak activity in February, demonstrating a more compressed season than in prior years (Figure). Influenza A viruses predominated, with minimal influenza B virus activity. SOE received the highest number of reports for any season to date; however, this may reflect increased testing for influenza, increased reporting of “rapid flu” results, a real difference in illness burden, or a combination of those factors.

Figure. Positive Influenza Laboratory Tests (PCR and Rapid), Emergency Department Syndromic Surveillance — Alaska, October 2018–May 2019



Laboratory Characterization

To ensure confidence in detecting and characterizing influenza activity, national targets for specimen testing and positive results must be met based on jurisdiction population size.² A subset of the Alaska State Virology Laboratory (ASVL) respiratory samples were sent to CDC for genome sequencing and antigenic typing, per specific CDC criteria.³ Another subset of respiratory samples 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 2018–19 influenza vaccine (Table),⁴ with the exception of two genetic clades (A/H3 3C.3a and B/Victoria V1A-3del) 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.

Table. Characterization of Specimens Submitted from ASVL to CDC — Alaska, October 2018 through May 2019

# of Samples Tested	AK Results	National Comparison	Antigenic and Genetic Characterization	Northern Hemisphere 2018–19 Vaccine?	Northern Hemisphere 2019–20 Vaccine?
26 A (H3)	6 (23%)	7%	A/SINGAPORE/INFIMH-16-0019/2016-LIKE (H3N2), Clade 3C.2a	Yes	Yes
	5 (19%)	20%	A/SINGAPORE/INFIMH-16-0019/2016-LIKE (H3N2), Clade 3C.2a1	Yes	Yes
	15 (58%)	74%	A/SINGAPORE/INFIMH-16-0019/2016-LIKE (H3N2), Clade 3C.3a	Lower Affinity	Yes
22 A (H1N1)	22 (100%)	100%	A/MICHIGAN/45/2015-LIKE (H1N1)pdm09, Clade 6B.1A	Yes	Yes
2 B (Yamagata)	2 (100%)	100%	B/PHUKET/3073/2013-LIKE, Clade Y3	Yes (quadrivalent)	Yes (quadrivalent)
2 B (Victoria)	2 (100%)	100%	B/COLORADO/06/2017-LIKE, Clade V1A-3del	No	Yes

(Contributed by: Carrie Edmonson MPH, RN, Anna Frick, MPH, and Donna Fearey, ANP, MSN, Section of Epidemiology; and Jayme Parker, MSPH, MB, [ASCP], and Nisha Fowler, MT, [ASCP], Section of Laboratories.)

ASVL publishes a weekly report that contains PCR data (i.e., influenza A versus B and hemagglutinin type) as well as antigenic and genetic characterization data.⁵

Syndromic Surveillance

Data from participating emergency departments (n=17) are pooled to create a statewide estimate of the weekly percentage of healthcare visits due to ILI (classified as fever $\geq 100^{\circ}\text{F}$) and a cough and/or a sore throat in the absence of a known cause other than influenza). During 2018–19, the peak ILI percentage was higher than recent prior seasons. For more information on Alaska and national ILI data, see [FluView Interactive](#).

Influenza-Associated Mortality

During the 2018–19 season, 16 adult and 2 pediatric influenza-associated deaths were identified from health care provider reports and Alaska death certificate reviews.

Recommendations

- All eligible people aged ≥ 6 months should receive influenza vaccine annually by the end of October. Influenza vaccine is the most effective tool available to prevent influenza-associated morbidity and mortality.
- Clinicians may submit respiratory specimens from patients with ILI to ASVL for influenza testing; call 907-371-1000 to obtain testing supplies. For test request forms, go to: http://www.dhss.alaska.gov/dph/Labs/Documents/publications/Fbx_SupplyReq.pdf
- 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 positive results directly to CDC to help meet Alaska’s National Respiratory and Enteric Virus Surveillance System goals;⁶ call ASVL at 907-371-1000 for more information.
- 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

- Alaska SOE Influenza Surveillance Report. Available at: <http://dhss.alaska.gov/dph/Epi/id/Pages/influenza/fluinfo.aspx>
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- CDC Criteria for Selecting Influenza Specimens for Referral. See: http://www.aphl.org/programs/infectious_disease/influenza/Documents/ID_2013Jully_Laboratory-Testing-Implementation-Guidance.pdf
- CDC. Update: Influenza activity in the United States during the 2018–19 season and composition of the 2019–20 influenza vaccine. *MMWR* 2019;68(24):544–51. Available at: <https://www.cdc.gov/mmwr/volumes/68/wr/mm6824a3.htm>
- ASVL Weekly Report. Available at: <http://dhss.alaska.gov/dph/Labs/Pages/asvl.aspx>
- CDC. The National Respiratory and Enteric Virus Surveillance System. Available at: <https://www.cdc.gov/surveillance/nrevss/index.html>