

CD

## Summary

Contact: 971-673-1111 | [cd.summary@state.or.us](mailto:cd.summary@state.or.us) | [www.healthoregon.org/cdsummary](http://www.healthoregon.org/cdsummary)**'TIS THE SNEEZIN': A REVIEW OF FLU BEFORE IT COMES FOR YOU**

It is the season of turning leaves, decorative gourds, an overwhelming number of reminders advertising the merits of pumpkin spice lattes...and the start of flu season. Oregon is coming off two consecutive historically bad flu seasons, and with that in mind, here we will review last year's epidemic and look forward to the season ahead.

**2017–2018 FLU SEASON RE-CAP**

Influenza surveillance in Oregon comprises data from patients hospitalized with flu in the Portland tri-county area, from individuals with influenza-like illness (ILI) presenting to outpatient clinics and emergency departments (EDs) statewide, laboratory tests indicating flu and reported outbreaks of influenza. By all measures, the 2017–2018 flu season was severe. Influenza claimed the lives of three Oregon children during the season.

In the Portland tri-county area, 1,537 individuals were hospitalized with lab-confirmed influenza during the 2017–2018 season, the highest tally on record since this surveillance

began in the 2007–2008 season. Among the cases, 991 (64%) had influenza A, and 546 (36%) had influenza B. Fifty-two persons (3.4% of those hospitalized) died. This case-fatality rate is comparable to the rate of 3.6% seen during the 2016–2017 season and higher than the rate of 2.6% seen during the 2009–2010 pandemic season. The 1,537 hospitalizations during the 2017–2018 season and the 1,466 hospitalizations during the 2016–2017 season were each nearly double the previous record of 810 hospitalizations in the Portland tri-county area set during the 2014–2015 season.

Emergency departments statewide were also heavily taxed, and, at the peak of flu season in January, 5.3% of all ED visits in the state were for ILI. Moreover, this high level of activity persisted for an extended period, with ILI accounting for  $\geq 5\%$  of all ED visits for 6 straight weeks. Over the previous three seasons, peak ILI among EDs ranged from 2.8% to 4.1% and remained at its highest levels for only 2–3 weeks (Figure 1).

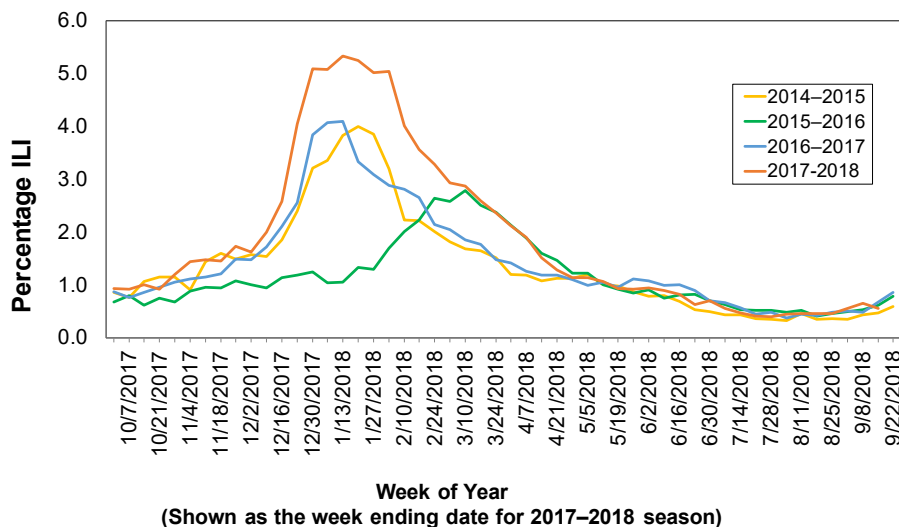
Influenza testing data, including the total number of tests conducted and the number of positives, are collected from 25 laboratories across the state. During the 2017–2018 season, 87,457 flu tests were run and reported. Of the 19,337 positive tests, 58% showed flu A and 42% indicated flu B. We calculate the percentage of tests that are positive and consider a figure of  $\geq 10\%$  to be indicative of "elevated flu activity." Over the course of the season, flu tests remained above 10% positive for 22 weeks, peaking at 36.5% positive. This represented a longer period of elevated flu activity than was seen in either of the two previous seasons. During the 2016–2017 season, flu test positivity exceeded 10% for 17 weeks, peaking at 40.1%, and during the 2015–2016 season exceeded 10% for 17 weeks, peaking at 21.5%.

The Oregon Health Authority and local health departments investigate reported outbreaks of influenza-like illness and provide recommendations for prevention and control of transmission. The 2017–2018 season brought with it 142 reported ILI outbreaks, with 84% occurring in long-term care facilities and 10% in schools. This was the second year in a row of high ILI outbreak numbers, with 162 reported during the 2016–2017 season, up from only 30 reported in the 2015–2016 season.

**2018-2019 FLU VACCINE & RECOMMENDATIONS**

With the memory of last year's flu season still fresh in our minds, we turn then to immunization, the best tool we have for broad-based influenza prevention. The Advisory Committee on Immunization Practices (ACIP) and the Centers for Disease Control and Prevention (CDC) publish their recommendations regarding the all-important flu vaccine and its use every year. This

**Figure 1. Percentage of ED visits for ILI, Oregon syndromic surveillance, 2014–2018 seasons**



season's northern-hemisphere flu vaccine features updates to the A/H3N2 A and B/Victoria lineage flu strains, which were the under-performing components of last year's vaccine.

The 2018–2019 flu vaccine contains:

- A/Michigan/45/2015 (H1N1) pdm09-like virus
- A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus
- B/Colorado/06/2017-like virus (Victoria lineage)
- Quadrivalent vaccines will include an additional B/Phuket/3073/2013-like virus (Yamagata lineage)

Annual influenza immunization with any approved, age-appropriate vaccine is recommended for everyone  $\geq 6$  months of age who does not have any contraindications.<sup>1</sup> Where multiple vaccines are available and appropriate for a given age, no product is preferred by CDC or ACIP over any other. Clinicians should seize the opportunity to offer vaccine without delay.

The list of contraindications for the inactivated influenza vaccines (IIVs) has shrunk over recent years to essentially just one: a history of a previous *severe* reaction to the flu vaccine. (See below for additional considerations concerning live attenuated influenza vaccine [LAIV].)<sup>1</sup> Persons with egg allergy may receive a flu vaccine, although those who have had an allergic reaction to eggs more severe than hives may be observed in an outpatient setting following the administration of the vaccine.

While vaccination for flu is widely recommended, those considered at particularly high risk for the worst complications of the flu should be vigorously targeted for vaccination: children 6 months to 5 years of age; adults  $\geq 50$  years of age; immunocompromised persons; pregnant women; persons with chronic health conditions; residents of long-term care facilities; and American Indians/Alaskan Natives. Moreover, people who provide care for or who are close contacts of persons in these higher-risk groups are also priority targets for vaccination.

Kids now have more vaccine options than ever, as two products now have expanded age ranges. Afluria® Quadrivalent is now approved for use in individuals  $\geq 5$  years of age (previously only  $\geq 18$  years of age), and Fluarix® Quadrivalent may now be used for kids  $\geq 6$  months of age (previously only  $\geq 3$  years of age). Children 6 months to 8 years of age who have

received 2 or more lifetime doses of influenza vaccine prior to July 1, 2018, require only a single dose of vaccine, as do children  $\geq 9$  years of age. Children 6 months to 8 years of age who either have never received a flu shot or have received only 1 dose prior to July 1, 2018, should receive 2 doses of flu vaccine this year, spaced at least 4 weeks apart.<sup>2</sup> Make haste, then, to complete vaccinating these little ones before the end of October!

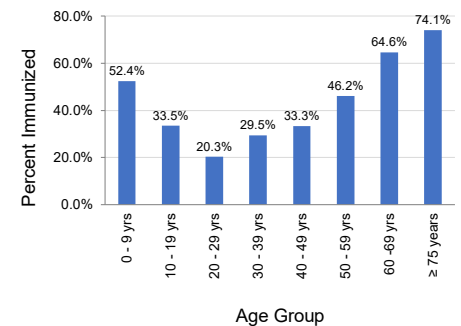
### FLUMIST®: DON'T CALL IT A COMEBACK

Following two seasons of disfavor, the 2018–2019 flu season marks the return of the nasally inhaled LAIV (FluMist®). Although it retained its Food and Drug Administration approval, ACIP and CDC recommended against using LAIV during the 2016–2017 and 2017–2018 seasons. Informing these decisions was evidence showing that LAIV lacked effectiveness against circulating A/H1N1 viruses and that other available vaccines (IIVs) were more effective against these viruses. LAIV did protect against flu B viruses and was as effective as IIV in preventing flu A/H3N2 illness. Since then, the flu A/H1N1 component in LAIV has been updated, and, although no estimates of vaccine effectiveness are available, the manufacturer presented data to the ACIP earlier this year data that convinced the committee to approve the use of LAIV for the upcoming season. The study found that children receiving the updated H1N1pdm09-like strain in this year's vaccine were more likely than children receiving vaccine containing the previous H1N1 component to shed vaccine virus at days 4–7. The new strain also induced higher antibody titers.<sup>3</sup>

Given these findings, ACIP and CDC now have added LAIV to the list of acceptable vaccines for persons 2–49 years of age without contraindications, although the American Academy of Pediatrics still expresses a preference for inactivated vaccine unless the child is unlikely to receive influenza vaccine otherwise.<sup>2</sup> LAIV is not recommended for children 2–4 years of age with asthma or who have experienced a documented asthma-like wheezing episode in the previous year; for pregnant women; for immunocompromised persons, their caregivers and close contacts; or for those who have received antiviral medications for the flu in the preceding 24 hours.<sup>1</sup>

Flu vaccine coverage in Oregon varies by age group (Figure 2). While the youngest and oldest Oregonians, who are the most vulnerable age groups, are more likely to be vaccinated for flu, all age groups are undervaccinated. The flu season is upon us, and the memory of the severity of last year should serve as a reminder of the importance of flu vaccination for all. In short, get thee to a flu vaccine!

Figure 2. Oregon estimated seasonal influenza immunization rates by age, 2017–2018 season



Source: Oregon ALERT IIS

### FOR MORE INFORMATION

- Review FluBites, our weekly report summarizing all the Oregon flu data your heart desires: <http://bit.ly/flubites>
- CDC has updated its weekly Flu-View report with a nifty, interactive dashboard: <https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html>
- Introducing the new influenza risk-communication toolkit for local public health authorities and tribes: <https://bit.ly/2NfPEiV>
- A perennial favorite, our summary of flu outbreak management in LTCFs: <https://bit.ly/2Nc2gkp>
- The flu outbreak toolkit for schools and daycare centers is another new offering on the influenza buffet: <https://bit.ly/2MP9fn7>

### REFERENCES

1. Grohskopf LA, Sokolow LZ, Broder KR, Walter EB, Fry AM, Jernigan DB. Prevention and control of seasonal influenza with vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2018–19 influenza season. *MMWR Recomm*
2. Committee on Infectious Diseases AAO. Recommendations for prevention and control of influenza in children, 2018–2019. *Pediatrics*. 2018:e20182367.
3. ACIP. 2018-19 ACIP background document: Immunogenicity, efficacy, and effectiveness of influenza vaccine. 2018. [www.cdc.gov/flu/professionals/acip/2018-2019/background/immunogenicity.htm](http://www.cdc.gov/flu/professionals/acip/2018-2019/background/immunogenicity.htm). Accessed 27 September 2018.



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