INFLUENZA: PREPARING FOR THE ONSLAUGHT

Fall is coming! So as you dig out your sweaters and scarves, remember that on the chilly fall breeze comes the flu virus.

Several data sources contribute to our understanding of flu activity throughout Oregon. These include: 1) active monitoring of hospitalized, laboratory-confirmed cases the Portland tri-county area; 2) influenza-like illness (ILI) in the chief complaints as reported by Oregon’s 60 hospital emergency departments; 3) ILI reported by 23 sentinel providers in 14 counties; 4) reported respiratory outbreaks; and 5) sightings of novel strains of influenza. During each October–April flu season we publish a weekly Flu Bites report (http://bit.ly/flubites) describing local trends in flu and ILI. In this issue of the CD Summary we’ll review last year’s epic flu season and plan for the inevitable next one.

LAST YEAR’S FLU

During the 2014–2015 flu season, hospitals in the Portland area (43% of Oregon’s population) reported 810 hospitalizations due to flu — more than in any previous season. This represents a crude rate of 49 persons hospitalized per 100,000 residents. Cases peaked the week of January 4–10, 2015 (figure 1). Flu hospitalizations in adults ≥65 years old jumped from 89 per 100,000 in 2013–2014 to 294 per 100,000 in 2014–2015 (figure 2).

Figure 2. Oregon EIP surveillance area influenza hospitalizations by age; 2008–2009 through 2014–2015 influenza seasons

![Graph showing influenza hospitalizations by age](image)

Why such morbidity last year? First, H3N2-predominant seasons always cause relatively high rates of hospitalization, especially in folks ≥65 years of age, who accounted for 67% of hospitalized cases in Oregon. Second, the predominant H3N2 virus in circulation (A/Switzerland/9715293/2013) had drifted antigenically from the influenza A (H3N2) component in the seasonal vaccine, so that the vaccine was only 19% effective in preventing flu-related medical visits.¹

MONITORING ILI

Influenza-like Illness (ILI) is defined as fever ≥100°F, plus cough or sore throat. Because many cases of influenza are never confirmed by lab testing, ILI is a more sensitive indicator of flu activity than hospitalizations. Last season, emergency department visits for ILI peaked at 4.1% of visits during the week of January 18–24, 2015. Data from “ILINet” — a network of voluntarily reporting “sentinel” providers — showed that outpatient visits for ILI peaked at 2.2% of visits during the week of January 11–17. However, only 17 Oregon providers reported regularly to ILINet. To strengthen ILINet reporting we are seeking outpatient providers to report aggregate data on flu visits. The reward for participation is free testing of two respiratory specimens per week at the Oregon State Public Health Laboratory. Email the flu team for details: Flu.Oregon@state.or.us

OUTBREAKS IN LTCFs

Last season 80 outbreaks of ILI were reported in Oregon — 65 (80%) of them in long-term care (LTCFs) or assisted-living facilities. Since the residents in LTCFs are generally elderly and often participate in communal activities, they are at increased risk for respiratory illness, and can have more severe outcomes if infected. Flu vaccinations are one way to prevent disease in this population. Many LTCFs offer flu vaccination to all residents, but ILI outbreak investigations have found that LTCF employees, who may bring the virus into their workplace, are often unvaccinated. We surveyed LTCFs and found that during 2011–2014 the LTCF employee vaccination was an inadequate 51%–58%." All LTCF and assisted-living facility employees should be strongly urged to get immunized annually against influenza, because they work in a communal environment where respiratory illness can spread quickly to a population at high risk for flu complications.

CDC has developed extensive influenza guidance specific for LTCFs: [www.cdc.gov/flu/professionals/infectioncontrol/Ltc-facility-guidance.htm](http://www.cdc.gov/flu/professionals/infectioncontrol/Ltc-facility-guidance.htm). To control an influenza outbreak:

- Promote handwashing and “cover your cough”
- Implement Standard and Droplet Precautions (i.e., use gowns and gloves) for residents with confirmed or suspected influenza
- Limit communal activities, communal meals, and new resident admission

* [https://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/Influenza/Pages/Hospital_Surveillance.aspx](https://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/Influenza/Pages/Hospital_Surveillance.aspx)

Figure 1. Portland-area influenza hospitalizations and ILINet percent of ILI outpatient visits

![Graph showing influenza hospitalizations and ILINet percent](image)
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VACCINATION

Vaccination is still our best weapon against the flu. The U.S. Advisory Committee on Immunization Practices recommends annual influenza vaccination for everyone ≥6 months of age, with either live, attenuated influenza vaccine (LAIV) or inactivated influenza vaccine (IIV); no preference is expressed when either one is otherwise appropriate. The astute clinician may notice that this is a departure from last year’s preferred recommendation for LAIV instead of IIV in healthy children 2–8 years of age.

Remind patients and staff that vaccination can protect both those vaccinated and their loved ones, including babies <6 months of age, who are too young to get immunized themselves and elderly grandparents whose immune response to vaccine may be weaker. The flu vaccine is far from perfect, but persons who contract influenza despite vaccination are less likely than the vaccine-naïve to be hospitalized or to die from it. In a recent study CDC found that flu vaccine reduced children’s risk of flu-related pediatric intensive care unit (PICU) admission by 74%. Next season’s flu vaccine will contain the following:

- A/California/7/2009 (H1N1)-like virus
- A/Switzerland/9715293/2013 (H3N2)-like virus (last year’s drifted strain)
- B/Phuket/3073/2013-like virus (also a new strain this year)
- The quadrivalent vaccine will additionally contain a B/Brussels/60/2008-like virus (the same strain contained in the 2014–2015 quadrivalent vaccine).

ANTIVIRALS

CDC recommends antiviral treatment as early as possible for patients with confirmed or suspected flu who are hospitalized, have severe disease, or are at high risk for complications. High-risk groups include people ≥65 years of age, young children, pregnant women, and people with underlying medical conditions. There is negligible viral resistance to the neuraminidase inhibitors oseltamivir and zanamivir, and these drugs can shorten the duration of fever and other symptoms, and probably reduce the risk of complications from flu. Forget about adamantanes—they are not active at all against influenza B viruses, and there almost all influenza A viruses isolated in recent years have been resistant.

REFERENCES