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CD Summary

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INFLUENZA: WHAT YOU NEED TO KNOW FOR THE 2017–2018 SEASON

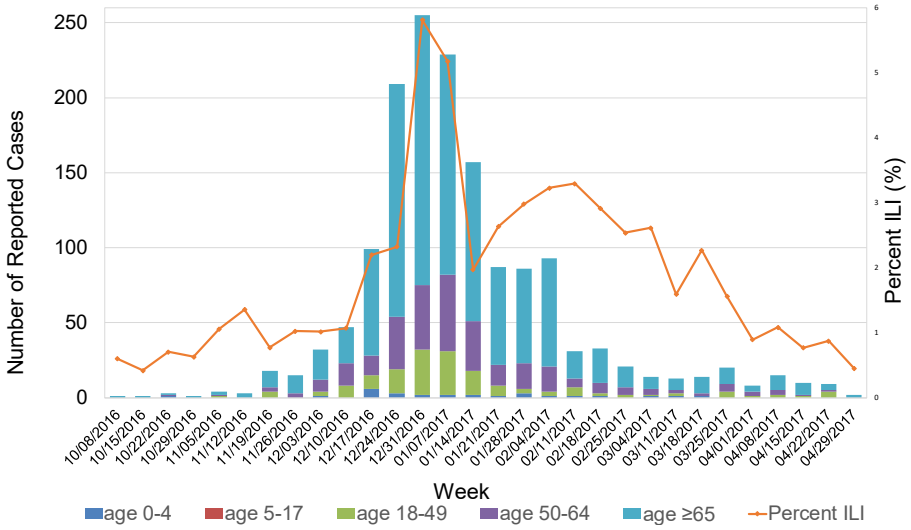
As kids returning to school this fall bring home runny noses and coughs, we are reminded of how many people suffered from influenza last year, and brace ourselves for the coming season. The 2016–2017 flu season was the worst on record in Oregon, nearly doubling the numbers of hospitalized flu cases and outbreaks from the last record-setting flu season, 2014–2015. In this issue of the *CD Summary* we will take a moment to recap just how bad the 2016–2017 flu season was, highlight changes in vaccine recommendations for the upcoming 2017–2018 season, and discuss flu outbreak control resources available from the Oregon Health Authority.

SURVEILLANCE SUMMARY

Flu surveillance in Oregon involves evaluation of multiple data sources, including: "ESSENCE," Oregon's syndromic surveillance system that monitors reasons for emergency department (ED) visits at every hospital in the state; influenza-like illnesses (ILI) reported by selected "ILINet" outpatient clinics in the state; hospitalized, laboratory-confirmed influenza cases in the Portland tri-county area; laboratory testing of respiratory specimens; and ILI outbreaks. We use all of these sources to paint a picture of influenza activity throughout the state. When the last flu season peaked the first week of January 2017, EDs and outpatient clinics across the state were consistently filled with patients suffering from influenza. According to ESSENCE, more than 4% of all ED visits were for flu-related illnesses, and ILINet data indicated that nearly 6% of outpatient visits were for patients with ILI (Figure).

In the Portland tri-county area 1,558 cases of hospitalized, laboratory-confirmed influenza were reported during the 2016–2017 flu season (Figure). This is more than seven times higher than the number of hospitalizations reported during the 2011–2012 flu season! Thankfully, no children were reported as having died of flu, no novel strains of flu cropped up in Oregon, and no antiviral resistance was seen among Oregon isolates tested. As bad as it was, it could have been worse.

Figure. Influenza-associated Hospitalizations in Portland-area, by Age Group and Percentage of Outpatient Visits Due to ILI in Oregon, 2016–2017



Of the 1,558 cases, 1,503 were in adults and 55 in children, corresponding to a crude rate of 87.0 cases per 100,000. Nearly 68% (n=1,056) of hospitalized flu cases were ≥65 years of age, followed by adults aged 50–64 years (n=293, 19%). Seasons in which an influenza A/H3N2 strain predominates often hit the elderly the hardest, so it is not surprising that H3N2 was circulating during our two most severe seasons in the past 12 years of hospitalized flu surveillance (2014–2015 and this past season). In Oregon last year, 92% of hospitalized lab-confirmed infections were caused by influenza A, and 8% were influenza B. Among 611 influenza A strains subtyped, 98.5% were H3N2, and 1.5% were H1N1.

Hospitalized flu surveillance also allows us to look at some of the underlying conditions and outcomes of cases through chart review. Among the 992 cases for whom chart reviews have been completed, the most common underlying conditions include cardiovascular disease (54%), obesity (36%), diabetes (34%), chronic obstructive pulmonary disease (26%), and renal disease (23%). Fifteen percent of hospitalized flu cases were admitted to the intensive care unit, and 6% required mechanical ventilation; nearly 4% died in the hospital. These percentages are comparable to those seen during the previous three respiratory seasons, 2013–2016: an average of 9% of cases required mechanical ventilation, 18% were admitted to the ICU, and 3% of cases died in hospital.

2017–2018 FLU VACCINE RECOMMENDATIONS

Last season was a bad one, so how do we keep so many people from getting ill this year? Vaccination,

although far from perfect, remains the best prevention. CDC estimates the 2016–2017 flu vaccine effectiveness was only 39%, but that was good enough to prevent approximately 5.4 million flu-related illnesses, 2.7 million flu-related doctor's visits and 86,000 hospitalizations due to influenza (Melissa AR Rolfes, Ph.D., M.P.H., CDC, personal communication, October 2017).

In case you missed it, CDC and its Advisory Committee on Immunization Practices (ACIP) recently released its flu vaccine recommendations for the 2017–2018 season.[1] ACIP states, "Routine annual influenza vaccination is recommended for all persons aged ≥6 months who do not have contraindications." It is always good to remind patients that vaccination is especially important for the contacts and caregivers of people at increased risk for flu (vulnerable and too young to be vaccinated), including babies <6 months old and individuals with contraindications to vaccination.

NEW THIS SEASON

For the first time since the 2009 pandemic, the vaccine contains a new H1N1 component. This season the flu vaccine contains:

- A/Michigan/45/2015 (H1N1)pdm09–like virus (new!)
- A/Hong Kong/4801/2014 (H3N2)-like virus
- B/Brisbane/60/2008–like virus (Victoria lineage)
- Quadrivalent influenza vaccines will contain these three viruses and an additional influenza B vaccine virus, a B/Phuket/3073/2013–like virus (Yamagata lineage).

Also new this season: pregnant women may now receive adjuvanted, cell-culture-based, and recombinant vaccines, in addition to the standard inactivated influenza vaccines (IIV) made for decades with virus grown in embryonated chicken eggs. In other words, pregnant women may receive any licensed, non-live, age-appropriate vaccine.

Not new, but still important: FluMist®, the nasal spray vaccine, should again not be used during the 2017–2018 influenza season due to persistent concerns about its lack of effectiveness. Also, egg-allergic persons can receive any licensed, age-appropriate vaccine and do not need to be monitored for 30 minutes afterward. However, they should be vaccinated in a medical setting by personnel who can recognize and treat a severe allergic reaction.

CDC maintains a comprehensive list of flu vaccines on its website and listed in the ACIP recommendations.[1] Changes this year include:

- Afluria® (IIV4) and Flublok® (RIV4) are new quadrivalent vaccines for people ≥18 years of age.
- Afluria® also has a trivalent vaccine for people ≥5 years old.
- FluLaval® is a quadrivalent vaccine now licensed for people 6 months and older (previously ≥3 years).
- Children 6 months through 8 years of age who have previously received only 1 dose of influenza vaccine, or who have never received influenza vaccine previously, need two doses of vaccine (given at least 4 weeks apart) to be fully protected for the 2016–2017 season. Children who have received 2 or more total previous doses of flu vaccine need only one vaccination this season.

OUTBREAK UPDATE

Last season, 157 ILI outbreaks were reported in the state of Oregon, and 95% of these occurred in long-term care facilities (LTCFs). These facilities are at increased risk for flu outbreaks because of the group living situation, and residents often have waning immune systems and underlying conditions that put them at increased risk for developing severe disease.

Preventing transmission of flu and other respiratory viruses in the LTCF setting typically involves a multi-faceted approach that includes:

- Vaccination of all residents and staff
- Testing residents who develop fever accompanied by either cough or sore throat
- Infection control – including handwashing, covering coughs, and restricting group activities
- Antiviral treatment of ill individuals, the sooner the better!
- Antiviral chemoprophylaxis of all residents when a flu outbreak is detected in the facility
- Oregon's local and state public health officials will assist LTCF providers and others in combatting ILI outbreaks. A number of resources are available on our website; just click on the "Respiratory Conditions" section here: http://bit.ly/2w6gITg. In conjunction with our friends at the Oregon Patient Safety Commission, we also produced a new video to assist LTCF facilities in flu outbreak detection, reporting, and control (type "flu" into the search bar): http://bit.ly/2wctBxC

FOR MORE INFORMATION

- Keep up with current flu activity in Oregon's weekly Flu Bites report: http://bit.ly/flubites.
- CDC has revamped its flu immunizations website: www.cdc.gov/flu/. Highlights include:
  - o A digital toolkit is available for providers, local health departments, schools, etc.
  - o A guide for health professionals on vaccination dosage and administration.

REFERENCES:

1. Grohskopf LA, Sokolow LZ, Broder KR, et al. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2017–18 Influenza Season. MMWR Recomm Rep 2017;66(No. RR-2):1–20. DOI: http://dx.doi.org/10.15585/mmwr.rr6602a1

Hepatitis A breaking out

Since November 2016, >500 cases of hepatitis A have been reported in California; 69% of cases have been hospitalized, and 19 (3.7%) have died. The epicenter has been in San Diego, but 13 cases have been reported in Los Angeles and 74 in Santa Cruz. Michigan (397 cases) and Utah (50 cases) have also reported similar outbreaks.[1]

Most victims in these outbreaks have been homeless or use illicit drugs, and many had antecedent chronic hepatitis B and C. Transmission has been facilitated by lack of access to clean bathrooms and handwashing facilities in homeless populations.

In Oregon, only 20 cases of hepatitis A have been reported to date this year. Two had visited San Diego, but none have been homeless or injected drugs.

In addition to routine childhood vaccination, our current strategies for preventing a wave of hepatitis A in Oregon include prompt investigation of new cases, provision of vaccine to exposed persons, and encouragement of Oregon clinicians to vaccinate their patients at high risk—including travelers to regions where hepatitis A is common (most of the world except North America, Western Europe, Australia, New Zealand and Japan); men who have sex with men; persons who inject drugs; persons with clotting-factor disorders; and persons with chronic liver disease.

REFERENCE

1. Links to all 5 outbreaks can be found on CDC's website: www.cdc.gov/hepatitis/outbreaks/2017March-HepatitisA.htm

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