

OREGON PUBLIC HEALTH DIVISION • DEPARTMENT OF HUMAN SERVICES

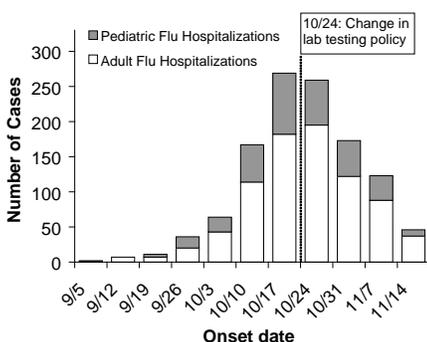
INFLUENZA: THE GIFT THAT KEEPS ON GIVING

Since the official start of the 2009–10 influenza season (September 1, 2009), the Oregon Public Health Division has been immersed in flu data. With 45 deaths, 1,161 hospitalizations, and 33,477 flu-related patient visits to the doctor, one might wonder what we do with all of these data. This edition of the *CD Summary* highlights Oregon’s influenza surveillance systems and what they’re telling us. For more details on influenza surveillance, visit www.oregon.gov/DHS/ph/acd/flu/surveil.shtml.

INFLUENZA-RELATED DEATHS AND HOSPITALIZATIONS

All influenza-related deaths and hospitalizations with confirmatory lab tests, inclusive of rapid tests, have been reportable to local public health authorities since September 1, 2009.* The median age of patients hospitalized with influenza is 36 years, and 45% of cases are male. The rate of hospitalization is highest for children 0–4 years old age (72 per 100,000); however, the death rate is highest among those >65 years of age (3 per 100,000). Weekly hospitalizations appear to have peaked at 269, the week ending October 17, and have since tapered off (Figure 1).

Figure 1 Adult and pediatric influenza hospitalizations by onset date, Oregon, 2009



* Oregon Administrative Rule Amendment, www.oregon.gov/DHS/ph/acd/oars/div18flu.shtml

Oregon is part of the multi-state Emerging Infections Program (EIP), sponsored by the Centers for Disease Control and Prevention (CDC), that performs enhanced surveillance for a variety of infectious diseases, including influenza-related hospitalizations, in the Portland metro area (Clackamas, Multnomah and Washington counties). As part of this program, nurses collect demographic and clinical information from hospitalized patients with influenza. Based on the first 187

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metro-area cases hospitalized since September 1, rates of hospitalization have been substantially higher among individuals with underlying conditions that put them in a vaccine priority group, including pregnancy, asthma, chronic cardiovascular or lung disease. Children with severe neurodevelopmental impairments are at a much higher risk for death (4 of 4 pediatric deaths since September 1). Children with special needs should be vaccinated against H1N1 as soon as possible, and parents should seek medical care for these children should they develop flu-like illness.

OUTPATIENT INFLUENZA-LIKE ILLNESS SURVEILLANCE

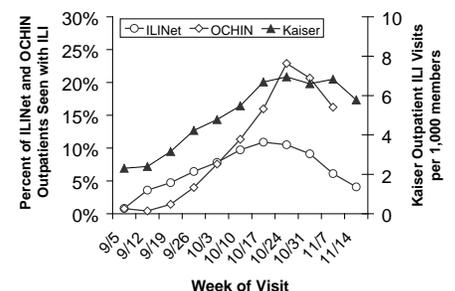
Oregon monitors three different surveillance systems for patient visits for influenza-like illness. The first, Oregon’s Outpatient Influenza-like Illness Surveillance Network (ILINet), consists of more than 30 healthcare providers from all across Oregon who report the total numbers of patients seen and the number of those patients with influenza-like illness (ILI) by age group. Typically, we say that “flu is here” when the percentage of ILI hits 2%–3%, which in recent years has occurred in January. We hit historical highs of 10% in October; rates have come down in the last few weeks but

are still breaking November records.

The second source of outpatient data is from OCHIN, Inc., a fast-growing collaborative comprising 28 federally qualified health centers (FQHC) and rural health centers throughout Oregon. This is our first year of publishing OCHIN data and they reported even higher levels of ILI than our ILINet providers.

Lastly, Kaiser Permanente Northwest, which provides health care for approximately 440,000 individuals mostly in the Portland metropolitan area, southwest Washington, and Marion county, provides us with weekly numbers of patients seeking care with ILI. Although their ILI rates have not topped Kaiser records from previous years, this could be explained by phone triage which prevented unnecessary patient visits. Still, the peak of ILI activity in Kaiser patients coincided with that in ILINet, suggesting that pandemic H1N1 was circulating in Kaiser patients at the same time period as in the rest of the state (Figure 2).

Figure 2 Oregon outpatient ILI: ILINET, OCHIN and Kaiser, 2009



LABORATORY SURVEILLANCE

The Oregon State Public Health Laboratory (OSPHL) is NOT accepting specimens for ‘rule out influenza’ from outpatients for the 2009–10 influenza season. Rather, OSPHL performs subtype-specific influenza testing for the ILINet sentinel providers, hospitalization surveillance among individuals with a previous positive influenza test



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(viral culture, DFA, PCR or any commercially available rapid test), death surveillance, and outbreak investigations or other special studies. Some of the recent decline in hospitalizations may be explained by a change in our testing policy announced October 24, when we began limiting our testing of hospitalized patients on those who had already tested positive for influenza locally. This change was necessitated by the overwhelming number of specimens being received by OSPHL, nearly half of which proved to be negative for influenza.[†] The trade-off is that we must now be underestimating hospitalizations, since some hospitalized patients with negative rapid tests had had specimens submitted to OSPHL confirmed as positive by PCR. Nevertheless, the downturn in ILI among outpatients suggests that the decline in hospitalizations is real. We pledge not to change our testing policy again this flu season, so we can accurately track trends from here on out.

So far this season, 99.6% of influenza subtyped at our lab have been H1N1. If seasonal influenza decides to make an appearance this winter, lab surveillance will play an important role in guiding vaccine and antiviral recommendations.

TECHNICAL GUIDANCE UPDATES

Pneumococcal polysaccharide vaccine (PPSV): As with past influenza pandemics, secondary bacterial pneumonia has become a frequent cause of illness and death, and *Strep-*

tococcus pneumoniae has been reported as the most common etiology.² Here in Oregon, another EIP project tracks invasive cases of pneumococcus in the tricounty area, and we saw two-fold increases in cases above historical levels both last May and again in October.[‡] PPSV is available for prevention of pneumococcal disease among adults and children 2 years of age and older who are at increased risk for pneumococcal disease.³ PCV7, a 7-valent pneumococcal conjugate vaccine, is recommended for all children <5 years of age.⁴

Peramivir: As part of the federal government's response to the 2009 H1N1 public health emergency, the Commissioner of the Food and Drug Administration (FDA) has issued an Emergency Use Authorization (EUA)⁵ for the unapproved drug, Peramivir IV, an intravenous neuraminidase inhibitor that has a mechanism of action similar to the two approved neuraminidase inhibitors, oseltamivir and zanamivir.

Peramivir IV is authorized only for the following categories of hospitalized patients:

- those not responding to either oral or inhaled antiviral therapy, or
- drug delivery by a route other than IV is not feasible, or
- the clinician judges IV therapy is appropriate due to other circumstances (adult patients only).

Peramivir IV can be requested via CDC's Peramivir IV Electronic Request System found at: <http://emergency.cdc.gov/h1n1antivirals/>.

It may take up to 24 hours for the product to reach the hospital pharmacy.

REFERENCES:

1. CDC. Prevention of Pneumococcal Infections Secondary to Seasonal and 2009 H1N1 Influenza Virus Infections. Nov. 10, 2009; www.cdc.gov/h1n1flu/vaccination/provider/provider_pneumococcal.htm (Accessed 11/13/09).
2. CDC. Bacterial coinfections in lung tissue specimens from fatal cases of 2009 pandemic influenza A (H1N1)—US, May-August 2009. *MMWR* 2009;58:1071–74.
3. CDC. Prevention of Pneumococcal Disease: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 1997; 46.
4. CDC. Preventing Pneumococcal Disease Among Infants and Youth: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 2000; 49.
5. FDA. Emergency Use Authorization: Peramivir. Oct. 23, 2009. www.cdc.gov/h1n1flu/eua%20Peramivir%20Letter%20-%20Frieden.pdf; (Accessed 11/13/09).

FLU HOTLINE

Oregonians now have phone access to nurses to talk about flu symptoms. DHS established an Influenza Hotline (800-978-3040) for vaccine information and referral in September, and added a triage call line last week. The call is free, and multiple languages are available.

A caller transferred to the triage line can speak with a nurse about symptoms or exposure. The possible outcomes of the call include home care advice or outpatient referral to a healthcare provider for further evaluation.

[†] Also, CDC's cost of reagents for subtyping is approximately \$200 per test.

[‡] www.oregon.gov/DHS/ph/acd/ABC_monthly.pdf