

## In This Issue:

- ◆ Highlights from the CDC Health Update:
- ◆ Request for Influenza-associated Parotitis Reports
- ◆ WCHD Influenza Surveillance Update

January 16, 2015

Vol. 35, No. 01

Telephone (775) 328-2447

Fax (775) 328-3764

[epicenter@washoecounty.us](mailto:epicenter@washoecounty.us)

WASHOE COUNTY HEALTH DISTRICT • P.O. BOX 11130 • RENO, NEVADA • 89520-0027 • (775) 328-2447

## Highlights from the CDC Health Update

### Summary<sup>1</sup>

Widespread influenza activity is being reported in most U.S. states, with influenza A (H3N2) viruses most common. H3N2-predominant flu seasons have been associated with more hospitalizations and deaths in older people and young children in the past. In addition, approximately two-thirds of H3N2 viruses that have been tested at CDC are antigenically or genetically different from the H3N2 vaccine virus. This difference suggests that vaccine effectiveness may be reduced this season. High hospitalization rates are being observed, similar to what was seen during the 2012-2013 influenza season. Hospitalization rates are especially high among people 65 years and older. In this context, the use of influenza antiviral drugs as an adjunct to vaccination becomes even more important than usual in protecting people from influenza. Antiviral medications are effective in treating influenza and reducing complications. Antivirals are available and recommended, but evidence from the current and previous influenza seasons suggests that they are severely underutilized.

### This CDC Health Update is being issued to:

- ◆ Remind clinicians that influenza should be high on their list of possible diagnoses for ill patients, because influenza activity is elevated nationwide, and
- ◆ Advise clinicians that all hospitalized patients and all high-risk patients (either hospitalized or outpatient) with suspected influenza should be treated as soon as possible with one of three available influenza antiviral medications. This should be done *without* waiting for confirmatory influenza testing. While antiviral drugs work best when given early, therapeutic benefit has been observed even when treatment is initiated later.

### CDC Antiviral Recommendations for the 2014-2015 Season

CDC recommends antiviral medications for treatment of influenza as an important adjunct to annual influenza vaccination. Treatment with neuraminidase inhibitors has been shown to have clinical and public health benefit in reducing illness and severe outcomes of influenza, as evidenced from randomized controlled trials, meta-analyses of randomized controlled trials, and observational studies of oral oseltamivir, inhaled zanamivir, or parenteral peramivir treatment during past influenza seasons and during the 2009 H1N1 pandemic.

### All Hospitalized, Severely Ill, and High Risk Patients with Suspected Influenza Should Be Treated with Antivirals

Any patient with suspected or confirmed influenza in the following categories should be treated with a neuraminidase inhibitor:

1. Is hospitalized – treatment is recommended for all hospitalized patients
2. Has severe, complicated, or progressive illness – this may include outpatients with severe or prolonged progressive symptoms or who develop complications such as pneumonia
3. Is at higher risk for influenza complications (hospitalized or outpatient) – patients in this group include:
  - ◆ Children younger than 2 years (although all children younger than 5 years are considered at higher risk for complications from influenza, the highest risk is for those younger than 2 years);
  - ◆ Adults aged 65 years and older;
  - ◆ Persons with chronic pulmonary (including asthma), cardiovascular (except hypertension alone), renal, hepatic, hematological (including sickle cell disease), and metabolic disorders (including diabetes mellitus), or neurologic and neurodevelopment conditions (including disorders of the brain, spinal cord, peripheral nerve, and muscle such as cerebral palsy, epilepsy [seizure disorders], stroke, intellectual disability [mental retardation], moderate to severe developmental delay, muscular dystrophy, or spinal cord injury);
  - ◆ Persons with immunosuppression, including that caused by medications or by HIV infection;
  - ◆ Women who are pregnant or postpartum (within 2 weeks after delivery);
  - ◆ Persons aged younger than 19 years who are receiving long-term aspirin therapy;
  - ◆ American Indians/Alaska Natives;
  - ◆ Persons who are morbidly obese (i.e., body-mass index is equal to or greater than 40); and
  - ◆ Residents of nursing homes and other chronic-care facilities.

### Timing of Treatment and Implications for Patient Evaluation, Treatment and Testing:

- ◆ Ideally, treatment should be initiated within 48 hours of symptom onset. **However, antiviral treatment initiated later than 48 hours after illness onset can still be beneficial for some patients.** Because of the importance of early treatment, **decisions about starting antiviral treatment should not wait for laboratory confirmation of influenza.** Therefore, treatment should generally be initiated empirically.
- ◆ **Clinicians should realize that a negative Rapid Influenza Diagnostic Tests (RIDT) result does not**

<sup>1</sup> <http://emergency.cdc.gov/HAN/han00375.asp>

**exclude a diagnosis of influenza in a patient with suspected influenza because of its relatively low sensitivities at 50-70%.** Other factors such as the quality of the specimen and timing of specimen collection may also affect test results.

#### Antivirals in Non-High Risk Patients with Uncomplicated Influenza:

Neuraminidase inhibitors can benefit other individuals with influenza. While current guidance focuses treatment on those with severe illness or at high risk of complications from influenza, antiviral treatment may be prescribed on the basis of clinical judgment for any previously healthy (non-high risk) outpatient with suspected or confirmed influenza. Neuraminidase inhibitors reduce the duration of symptoms by ~1 day in healthy persons with uncomplicated influenza. For previously healthy, symptomatic outpatients, if treatment is given, it is recommended that treatment be initiated within 48 hours of illness onset, although it is possible that treatment started after 48 hours may offer some benefit.

#### Antiviral Medications:

Previously, the neuraminidase inhibitors oseltamivir and zanamivir were the only recommended influenza antiviral drugs. On December 19, 2014 the U.S. Food and Drug Administration (FDA) approved Rapivab® (peramivir) to treat influenza infection in adults. Three prescription neuraminidase inhibitor antiviral medications are

approved by the U.S. Food and Drug Administration (FDA) and are recommended for use in the United States during the 2014-2015 influenza season: oseltamivir (Tamiflu®), zanamivir (Relenza®), and peramivir (Rapivab®). See Table 1 for a summary of the recommendation. It is highly recommended to print this table as your desktop reference.

#### For More Information

- ◆ Summary of Influenza Antiviral Treatment Recommendations for Clinicians: <http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>
- ◆ Clinical Description and Lab Diagnosis of Influenza: <http://www.cdc.gov/flu/professionals/diagnosis/index.htm>
- ◆ Guidance for Clinicians on the Use of RT-PCR and Other Molecular Assays for Diagnosis of Influenza Virus Infection: <http://www.cdc.gov/flu/professionals/diagnosis/molecular-assays.htm>
- ◆ Interim Guidance for Influenza Outbreak Management in Long-Term Care Facilities: <http://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm>
- ◆ FDA Influenza (Flu) Antiviral Drugs and Related Information (including package inserts): <http://www.fda.gov/drugs/drugsafety/informationbydrugclass/ucm100228.htm>

## Important Notice: Request for Influenza-associated Parotitis Reports

Since December 2014, CDC has been notified of diagnosed parotitis in persons with lab-confirmed influenza in multiple states. Parotitis is an uncommon complication of influenza. In order to assist CDC in exploring the characteristics of these cases, the Washoe County Health District is requesting that health care providers report any cases meeting the following criteria, so that further investigation can be done.

- ◆ Lab-confirmed influenza AND

- ◆ clinical diagnosis of parotitis or clinical signs and symptoms compatible with parotitis (i.e., “swelling of parotid gland or salivary glands”, “blurring of mandibular margin”) AND
  - ◆ symptoms onset on or after October 1, 2014.
- Health care providers can simply write “parotitis” on the case reporting form when reporting positive influenza results, or call our 24/7 CD reporting line at 328-2447. Your retrospective reporting and assistance with this matter is greatly appreciated.

## Washoe County Influenza Surveillance Update

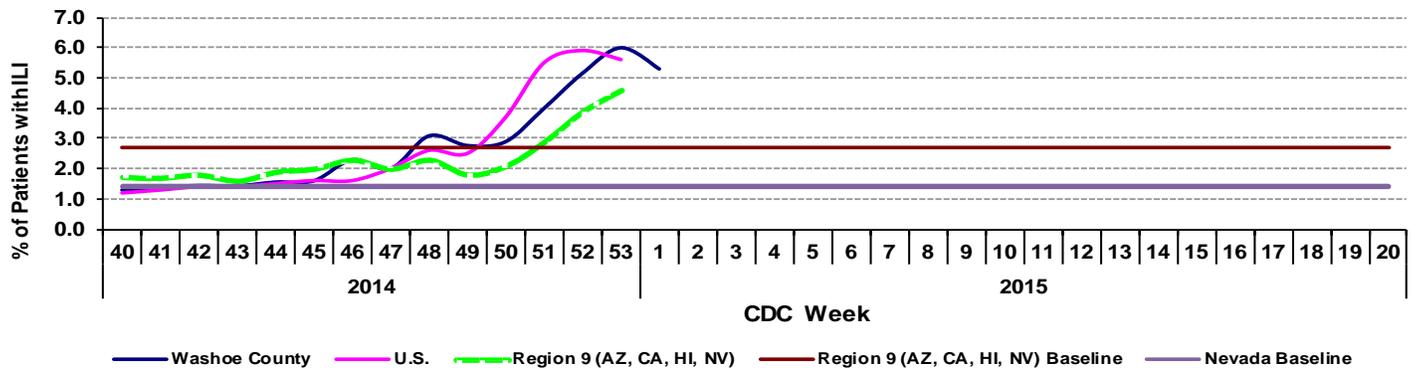
Influenza activity is high in Washoe County, as well as, across the nation. During the week ending January 10, 2015 (week 1), the reported percentage of influenza-like illness (ILI) by the 12 sentinel providers in Washoe County was 5.3% (359/6784) in comparison with the national level at 5.6% in week 53 (Figure 1.) The severity of illness is also elevated this season in terms of the percentage of hospitalized cases. On a national level the overall hospitalization rate as of week 53 was 20.1 laboratory-confirmed influenza-associated hospitalizations per 100,000 population. In Washoe County, 16.5% (102/617 lab-confirmed cases) were hospitalized, which would correspond to a cumulative rate at 24 lab-confirmed influenza associated hospitalizations per 100,000 population.

The WCHD has received 617 positive influenza results since the season began on September 28, 2014. Of the 617 positive laboratory results, 90% are positive for influenza A (557/617). Of the 557 influenza A positive results, 49 (8%) are PCR confirmed as influenza A H3, 118 (21%) are PCR confirmed as influenza A, but were not subtyped, and 390 (70%) were positive by rapid testing. Every year the Nevada State Public Health Laboratory (NSPHL) submits a pool sample of positive influenza specimens to the CDC for antigenic characterization. This helps to determine whether or not the vaccine is a good match to the current circulating influenza viruses and also contributes towards influenza vaccine recommendations made each year by the World Health Organization (WHO). To date, CDC has provided the antigenic characterization results on three of our

local specimens. Two influenza A (H3) have been characterized as A/TEXAS/50/2012-LIKE GP, which is a component of the 2014-15 influenza vaccine strain. One influenza B specimen has been characterized as B/BRISBANE/60/2008-LIKE, which is also a component

of the 2014-15 influenza vaccine. Although no drifted strain H3N2 (A/Switzerland/9715293/2013 virus) was identified among two characterized isolates in Washoe County, it is most likely circulating locally as well.

**Figure 1: Proportion of Patients Seen with ILI by Sentinel Physicians, Washoe County Influenza Surveillance, 2014-2015.**



Both ILI surveillance data and lab-confirmed influenza show that the youngest children (0-4 years) and the elderly (>64) have been disproportionately affected by influenza in this season. Both groups have the highest ratio of proportion of cases to proportion of the population at 2.6 and 2.5, respectively.

A total of 102 cases were hospitalized. The median age for hospitalized cases is 68 years, in contrast, the median age for non-hospitalized cases is 21 years.

The WCHD requests and reviews medical records on all hospitalized cases in order to obtain further information on severity of illness, antiviral treatment, influenza vaccination status, and underlying medical conditions. (Table 2) The following table represents the data that we have obtained thus far. It is important to note that there is some data the WCHD is still working on obtaining, such as; 9 cases with unknown hospitalization status and 11 with unknown ages.

The elderly group has the highest ratio of proportion of hospitalized cases to the proportion of the population at 5.2 (58% vs. 11.3%). Of 102 hospitalized cases, 88 (86%) belong to high risk groups.

The influenza information collected is reported weekly and can be accessed at the following website: <http://www.washoecounty.us/health/cdpp/is.html>. For additional information, please contact CD Program at (775) 328-2447 or [EpiCenter@washoecounty.us](mailto:EpiCenter@washoecounty.us). Multiple, ready-to-print influenza patient education materials are available on the following website: <http://www.cdc.gov/flu/freeresources/index.htm>.

**Table 2: Comparison of Characteristics between Hospitalized Cases and Non-Hospitalized Cases, Washoe County, 2014-2015 (As of Week# 1 Ending on 1/10/15)**

Characteristics	Total	Hospitalized Cases		Non-Hospitalized Cases*		
		#	%	#	%	
<b>Age Group</b>						
0-4 Years	109	18	12	12	85	17
5-24 Years	196	33	6	6	184	37
25-49 Years	128	21	7	7	114	23
50-64 Years	97	16	17	17	63	13
>64 Year	168	28	59	58	51	10
<b>Gender</b>						
Male	333	48	45	45	243	49
Female	361	52	55	55	251	51
<b>Influenza Type</b>						
A	640	90	93	91	456	90
B	52	7	9	9	34	7
Unknown	16	2	0	0	16	3
<b>Influenza Vaccine*</b>						
Yes	53	8	27	26	0	0
No	2	0	1	1	0	0
Unknown	654	92	74	73	507	100
<b>Antiviral Medication Given*</b>						
Yes	77	11	39	38	0	0
No	24	3	12	12	0	0
Unknown	608	86	51	50	507	100

\*Data for non-hospitalized cases are not collected.

**Table 1. Antiviral Medications Recommended for Treatment and Chemoprophylaxis of Influenza<sup>1</sup>**

Antiviral Agent	Activity Against	Use	Recommended For	<u>Not</u> Recommended For	Adverse Events
Oseltamivir (Tamiflu®)	Influenza A and B	Treatment	Any age <sup>1</sup>	N/A	<b>Adverse events:</b> nausea, vomiting. Post-marketing reports of serious skin reactions and sporadic, transient neuropsychiatric events (self-injury or delirium; mainly reported among Japanese adolescents and adults).
		Chemo-prophylaxis	3 months and older <sup>1</sup>	N/A	
Zanamivir (Relenza®)	Influenza A and B	Treatment	7 yrs and older	people with underlying respiratory disease (e.g., asthma, COPD) <sup>2</sup>	<b>Allergic reactions:</b> oropharyngeal or facial edema. <b>Adverse events:</b> diarrhea, nausea, sinusitis, nasal signs and symptoms, bronchitis, cough, headache, dizziness, and ear, nose and throat infections.
		Chemo-prophylaxis	5 yrs and older	people with underlying respiratory disease (e.g., asthma, COPD) <sup>2</sup>	
Peramivir (Rapivab®)	Influenza A and B <sup>3</sup>	Treatment	18 yrs and older	N/A	<b>Adverse events:</b> diarrhea. Postmarketing reports of serious skin reactions and sporadic, transient neuropsychiatric events (self-injury or delirium; mainly reported among Japanese adolescents and adults).
		Chemo-prophylaxis	N/A	N/A	

Abbreviations: N/A = not applicable, COPD = chronic obstructive pulmonary disease.

<sup>1</sup> Oral oseltamivir is approved by the FDA for treatment of acute uncomplicated influenza in persons 14 days and older, and for chemoprophylaxis in persons 1 year and older. Although not part of the FDA-approved indications, use of oral oseltamivir for treatment of influenza in infants less than 14 days old, and for chemoprophylaxis in infants 3 months to 1 year of age, is recommended by the CDC and the American Academy of Pediatrics. If a child is younger than 3 months old, use of oseltamivir for chemoprophylaxis is not recommended unless the situation is judged critical due to limited data in this age group.

<sup>2</sup> Relenza is contraindicated in patients with history of allergy to milk protein.

<sup>3</sup> Peramivir efficacy is based on clinical trials in which the predominant influenza virus type was influenza A; a limited number of subjects infected with influenza B virus were enrolled.

<sup>1</sup> <http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>