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WASHOE COUNTY INFLUENZA SURVEILLANCE UPDATE
INTRODUCTION

The 2016-2017 influenza season began on October 2, 2016 and will end on May 20, 2017. While the specifics of each flu season are unpredictable, historically influenza peaks between the months of December and February. This edition of Epi-News will present data from the Washoe County Health District’s (WCHD) influenza surveillance program for the time period between Morbidity and Mortality Weekly Report (MMWR) Weeks 40 and 52 (October 2, 2016 – December 31, 2016). An introduction to influenza surveillance in Washoe County was published in an Epi-News at the start of this season’s influenza surveillance (<http://tinyurl.com/WashoeEpiNews> published on October 24, 2016).

WCHD publishes weekly influenza surveillance reports. These reports are available at <http://tinyurl.com/WashoeFlu> and can be freely shared with your colleagues, staff, friends, families, students, or others.

HIGHLIGHTS OF FINDINGS IN THE SEASON UP TO DATE

Confirmed Cases

WCHD has seen a dramatic increase in the number of confirmed cases reported. As of December 31, 2016 (Week 52), 1,449 confirmed cases were reported. In comparison, a total of 42 confirmed cases were reported over same time frame in 2015.

The vast majority of reported cases are due to Influenza A (1,331 cases, 91.9%), followed by unknown type (93 cases, 6.4%) and influenza B (25 cases, 1.7%) (Figure 1). Among subtyped strains, influenza A (H3) predominates (84 cases, 90.3%) followed by 2009 H1N1 (9 cases, 9.7%). Influenza A (H3) has also been the predominant strain nationally.

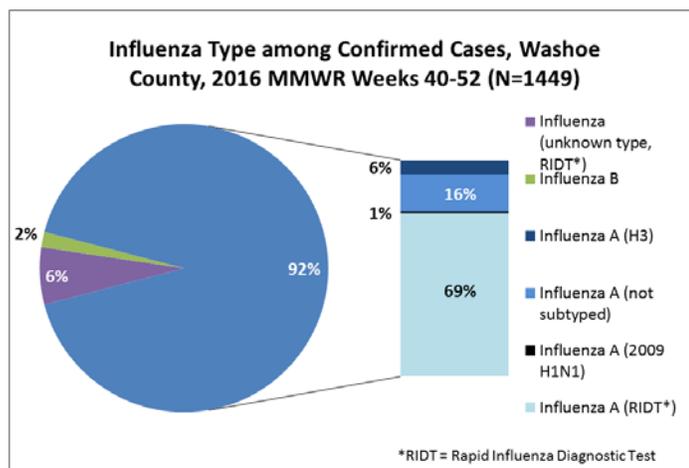


Figure 1. Influenza type among confirmed cases in Washoe County during 2016, MMWR Weeks 40-52 (October 2 - December 31, 2016)

steadily, surpassing the national baseline (2.2%) in Week 45 and regional baseline (2.5%) in Week 48 (Figure 2). Nationally ILI has been increasing as well, surpassing the national baseline in Week 50. As of Week 52 ILI was 4.1% in Washoe County. Nationally at Week 52 ILI was at 3.4%.

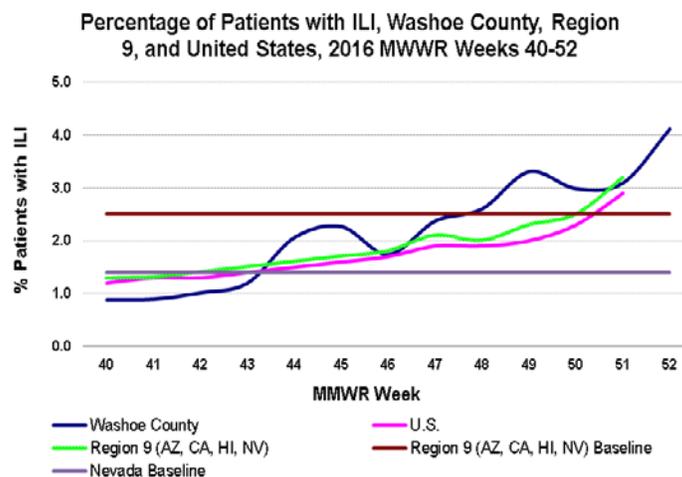


Figure 2. Percentage of patients with ILI, Washoe County, Region 9, and US, 2016 MMWR Weeks 40-52 (October 2 -December 31, 2016)

Children and young adults account for 60.8% of ILI visits to sentinel providers (ages 5-24 at 30.7% and children <5 years at 30.1%). Persons aged 25-49 make up 16.7% of ILI visits. Persons aged 50-64 account for 11.1% of visits and ages >64 years are 11.5% of visits.

Hospitalized patients

WCHD is making a concerted effort to identify hospitalized patients that test positive for flu. This effort has led to improved case finding and contributes to a better picture of influenza activity in Washoe County.

Influenza-like Illness (ILI) Surveillance

WCHD has twelve sentinel providers who report ILI weekly. In Washoe County ILI has been increasing

As of December 31, 2016, 176 flu cases (12.2% of all reported cases) were hospitalized for ≥ 24 hours. Of these hospitalized patients, 28 (15.9%) were admitted to the ICU and 9 (5.1%) required a ventilator. While persons ≥ 65 years make up only 15.1% of Washoe County's population*, they accounted for over half (53.1%) of hospitalized patients. This mirrors a national trend; the highest rate of hospitalization in the US is among persons 65 years and older.**

Deceased patients

Three flu-associated deaths have been reported in Washoe County as of December 31, 2016. All three deaths occurred early in the influenza season; two deaths were reported in Week 42 and one death in Week 44. All three were infected with influenza A: one 2009 H1N1, one A (H3), and one A not subtyped. None of the deceased patients were vaccinated with the seasonal flu vaccine. One patient was ≥ 65 years of age. The other two patients were adults under the age 65.

As of December 31, 2016, no flu-associated pediatric deaths have been reported in the US.

Vaccination

At this time WCHD is unable to provide estimates of seasonal flu vaccination coverage among Washoe County residents for the 2016-17 season. However, the WCHD influenza surveillance program does capture vaccination status for hospitalized flu cases. Of 176 hospitalized cases, 67 (38.1%) were vaccinated. It takes approximately two weeks after vaccination for antibodies to develop; however, for surveillance purposes hospitalized persons are considered vaccinated if they received a flu vaccine ≥ 1 week prior to illness onset. During the prior 2015-16 flu season, CDC estimated vaccine coverage at 36.8% among Nevada residents – the lowest state vaccination coverage in the country.

CDC performs specialized testing to evaluate whether the circulating strains of influenza are similar to the strains included in the seasonal vaccine. Antigenic and/or genetic characterization to date shows that the majority of the tested viruses remain similar to the seasonal vaccine components. CDC also performs resistance testing to antivirals (oseltamivir, zanamivir, and peramivir). To date none of the tested viruses were resistant to these antivirals.

RECOMMENDATIONS FOR HEALTHCARE PROVIDERS

- **Influenza Prevention - If your patients have not yet received their flu vaccine, it is not too late.** The Advisory Committee on Immunization Practices (ACIP) recommends vaccination of all persons aged ≥ 6 months who do not have contraindications. CDC recommends use of the flu shot (inactivated influenza vaccine or IIV) and the recombinant influenza vaccine (RIV). Other important prevention techniques include hand washing, cough etiquette, and social distancing to prevent the spread of the disease.
- **Treatment** - Influenza antiviral prescription drugs can be used to treat influenza or to prevent influenza. Three antivirals are recommended for use this flu season: oseltamivir, zanamivir, and peramivir. **Antiviral treatment is recommended as early as possible for any patient with confirmed or suspected influenza who:**
 - is hospitalized;
 - has severe, complicated, or progressive illness; or
 - is at higher risk for influenza complications.

Antivirals work best if given within 48 hours of illness onset. For more information see <https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>.

- **Influenza and Parotitis** – WCHD recently received the first report of flu-associated parotitis in a patient with influenza A (H3) infection. Several hundred cases of flu-associated parotitis were reported to

CDC during the 2014-15 flu season, often among persons with A (H3N2) infections. This season influenza A (H3) appears to be predominating. During this flu season CDC recommends that clinicians evaluating a patient with acute parotitis that is not associated with a laboratory-confirmed mumps outbreak should include influenza in the differential diagnosis and consider testing the patient for influenza even in the absence of respiratory symptoms. For more information see <https://www.cdc.gov/flu/about/season/health-care-providers-parotitis.htm>.

- **Reporting** - Per Nevada law NAC441A, influenza is a reportable disease. A suspected outbreak of influenza is also reportable. Any laboratory confirmed case or suspected outbreaks should be reported to WCHD by fax at 775-328-3764 or call at 775-328-2447.

Thank you for your continued support and engagement. WCHD would not have such a robust influenza surveillance program without your time, care, and commitment. Your communication and collaboration is sincerely appreciated.

ACKNOWLEDGEMENT

The Washoe County Health District would like to thank Northern Nevada Medical Center, Renown Health System, Saint Mary's Regional Medical Center, and UNR Student Health Center for their participation and contribution to the sentinel influenza surveillance.

*"Persons 65 years and over, percent, July 1, 2015." Washoe county. *US Census Bureau*. <http://www.census.gov/>. Accessed 5 Jan 2017.

***Situation Update: Summary of Weekly FluView Report." Centers for Disease Control and Prevention. <https://www.cdc.gov/flu/weekly/summary.htm>. Accessed 5 Jan 2017.