Influenza Report

2014-2015

Disease Control and Prevention Division

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This report is available at www.gethealthycarsoncity.org.
Over the course of five months, the region experienced the largest spread of flu in the last five years. 2014-2015 flu numbers occurred twice as frequently with 1,019 diagnosed flu cases experienced from MMRW week 48 to week 12. During this time period, it can be seen that flu numbers steadily increased from week 53 and peaked the last week of January (week 4 of the graph), and drastically dropped the following week.
Data collected off of FluView: CDC website

2015 Influenza Data Region 9

As of week 4 (January 25th-31st), Influenza was at its peak for the season in the jurisdiction, but not for the region or throughout the country. The CDC indicates Nevada is part of Region 9 in the United States. This region accounts for Arizona, California, Hawaii, and Nevada. The country experienced the most positive influenza cases during week 52, or the week ending December 19th.

Provided above is the CDC’s Fluview from MMRW week 4. This map gives a view of the entire United States’ positive reported influenza tests during any given week in time. During the week ending January 30, 2015 it can be seen that the majority of the nation was experiencing relatively high levels of influenza. Higher levels of reported influenza can be attributed to many factors such as densely populated areas, occupational risks, low numbers receiving preventative flu vaccinations, and chronic diseases. These risk factors can increase the likelihood of individuals contracting and spreading influenza at a faster rate as well.
Carson City Data

Below is the breakdown of Carson City flu cases that have occurred over the last five years. As it can be seen, there was a drastic spike in cases over the last year that had not been experienced any other year. Numbers almost quadrupled from the 2013-2014 peak week versus the 2014-2015 peak week.

*Data collected in NBS system and CCHHS Spreadsheet*
Douglas County Data

Below is the breakdown for Douglas County reported Influenza cases over the last five years. The spike experienced in this county during 2014-2015 peak week was not as drastic as Carson City’s, however, there were about 10 more cases that were reported in the county than the previous year’s peak week.

Data collected in NBS system and CCHHS Spreadsheet
Lyon County Data

Below are Lyon County’s reported influenza cases over the last five years. It can be seen that the county also experienced a drastic spike in cases during the 2014-2015 season peak week compared to the previous years. Cases almost doubled during peak week of the 2014-2015 season compared to those reported in 2013-2014.

Data collected in NBS system and CCHHS Spreadsheet
Influenza by Strain Type

There are several different strains of flu that are documented throughout our jurisdiction. Below is a graph detailing types of influenza that were experienced in the region during the 2014-2015 flu season. Rapid tests accounted for 98% of the reported cases this year. It can be seen that the majority of the positive tests were Rapid Influenza A. This collection of reported types of flu experienced region-wide allows public health officials to determine which strain of flu caused the most illness and how to better prevent cases in the next season.

Influzena by type 2014-2015

- Influenza A, 2009 H1N1
- Influenza A, Seasonal H3
- Influenza A, rapid test only
- Influenza B, rapid test only
- Influenza A, Seasonal H1
- Influenza A, unable to subtype
- Influenza B, PCR
- Influenza, Type Unk

Data collected in NBS system and CCHHS Spreadsheet
Cases experienced by County

When examining cases by county, Carson City experienced half of the Influenza cases within the region. Douglas County and Lyon County were almost equally split among reported cases, with Douglas County reporting 26% and Lyon County reporting 24%. Since Carson City has a larger population of the three counties, it is possible that this is why they experienced the most reported cases this season.

Data collected in NBS system and CCHHS Spreadsheet
Breakdown of Influenza by Age Group

The 2014-2015 age breakdowns by region were able to identify which age group experienced the highest number of cases within the jurisdiction. It can be seen from the graph given below that 5-18 year olds experienced the highest number of reported cases. Carson City experienced a higher number of reported cases for 25 to 49 year olds than other counties as well.

Data collected in NBS system and CCHHS Spreadsheet
Summary on Vaccine Formulation

During the routine FDA Vaccine and Related Biological Products Advisory Committee (VRBPAC) meeting, the committee recommended that the trivalent formulation influenza vaccines for the U.S. 2014-2015 influenza season containing:

- an A/California/7/2009 (H1N1)-like virus;
- an (H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011;
- a B/Massachusetts/2/2012-like virus.

The committee also recommended that quadrivalent influenza vaccines contain the above three strains and the following additional B strain:

- a B/Brisbane/60/2008-like virus²

These formulas did not seem to be effective in preventing flu outbreaks within the region considering that Carson City experienced 108 cases in MMRW week 2 and a total of 416 cases documented from week 52 to 6. It is a possibility that this spike in identified influenza cases could be a result of better provider reporting illness to the health department.

Of the tests conducted to determine if a person was positive for influenza, 98% were rapid tests. Rapid tests are screening tests for influenza virus infection. They can provide results within 15 minutes. Tests conducted in the area can identify influenza A and B viruses and distinguish between them. Polymerase chain reaction (PCR) is a biochemical technology in molecular biology used to amplify a single or a few copies of a piece of DNA across several orders of magnitude, generating thousands to millions of copies of a particular DNA sequence. If a PCR test is used to obtain influenza results, this could better determine what strain of influenza is prominent in the region. Due to the lack of PCRs conducted, there is no way to know what strain was causing the rapid flu spikes in the area. Providers can conduct PCR testing for free if enrolled as a Sentinel provider through the state of Nevada. It is recommended that providers continue to conduct PCR testing for the 2015-2016 flu season. If you are interested in enrolling as a Sentinel member, please contact Carson City Health & Human Services for further instruction.

² PCR
References

1. National and Regional Level Outpatient Illness and Viral Surveillance. Fluview: Centers for Disease and Control website. 

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For more information about Influenza Rates in Nevada, visit:
Carson City Health and Human Services
www.GetHealthyCarsonCity.org

Department of Public and Behavioral Health Weekly Influenza Report:
http://dpbh.nv.gov/Programs/OPHIE/dta/Publications/Public_Home_Informatics_and_Epidemiology_(OPHIE)_-_Publications/