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Influenza Surveillance Report – 2019-2020 Season Summary

Data from September 29, 2019 to May 16, 2020

Introduction

The purpose of this report is to provide ongoing description and assessment of the activity and types of circulating influenza viruses, and to assess morbidity, hospitalization and mortality related to influenza. It is meant to provide healthcare providers and facilities, public health professionals, policy makers, the media and the public with a general understanding of the severity and burden of the current flu season on a weekly basis in Nevada and nationwide. Data from several surveillance programs analyzed in this report is provisional and may change as additional information becomes available.

If you have questions or comments about this report, are interested in having your medical facility join the sentinel provider program, or have any questions about your facility’s participation or reporting, please contact Max Wegener, MPH at mwegener@health.nv.gov.

Table 1 shows selected characteristics of the 2019-2020 flu season in Nevada.

Table 1:

2019-2020 Season Summary			
	Influenza -related Hospitalization	Influenza -related Mortality	Pneumonia and Influenza Mortality
Nevada	1,641 (54.7 per 100,000)	61/16,727 (0.36%)	1,273/16,727 (7.4%)
Region 9	Unavailable	1,127/253,931 (0.44%)	19,429/253,931 (7.7%)
National	69.2 per 100,000	8,994/1,939,478 (0.46%)	153,876/1,939,478 (7.9%)

*CDC data based on cause of death listed in vital records

Local Health Authority (LHA) reports

Weekly influenza reports from the three LHAs are available on the respective websites:

- Southern Nevada Health District: <https://www.southernnevadahealthdistrict.org/stats-reports/influenza-surveillance.php>
- Washoe County Health District: https://www.washoecounty.us/health/programs-and-services/communicable-diseases-and-epidemiology/statistics_surveillance_reports/influenza-surveillance/index.php
- Carson City Health & Human Services: Western NV Regional Influenza Report: <http://gethealthycarsoncity.org/seasonalflu/>

Sentinel Provider Program Description

The sentinel provider program is a partnership between clinicians, healthcare facilities, local health authorities (LHA), the Nevada Division of Public and Behavioral Health, and the Centers for Disease Control and Prevention (CDC). Sentinel providers voluntarily submit a weekly report to the CDC of the number of patients seen at their facility with influenza-like illness (ILI) by age group as well as the total number of patients seen for any reason. ILI is defined as fever ($\geq 100^{\circ}\text{F}$, 37.8°C) in the presence of cough and/or sore throat without a known cause other than influenza. Sentinel providers may also submit nasal, throat, and/or nasopharyngeal swabs for selected patients to the Nevada State Public Health Laboratory (NSPHL) for viral testing and subtyping at no cost to the patient or provider.

Sentinel Provider Influenza-Like Illness (ILI) Activity:

Figure 1 shows the percent of ILI patients by age group for the season. Those age 0-4 represented 32% of all reported ILI cases in Nevada. 30% of cases were ages 5-24, 20% ages 25-49, 9% ages 50-64, and 9% ages 65 and older.

For the season, 442,818 patient visits were reported by sentinel providers in Nevada, of which 7,917 met criteria for ILI, representing 1.79% of the sample. ILI activity was above the Nevada baseline of 1.4%.

Figure 2 shows the percent of reported visits statewide for which the patient met clinical criteria for ILI. The current influenza season (2019 week 40 – 2020 week 20), in bold, is overlaid with the prior four seasons.

Figure 3 displays a comparison of the percent of visits which met ILI criteria for Nevada, Region 9, and nationally.

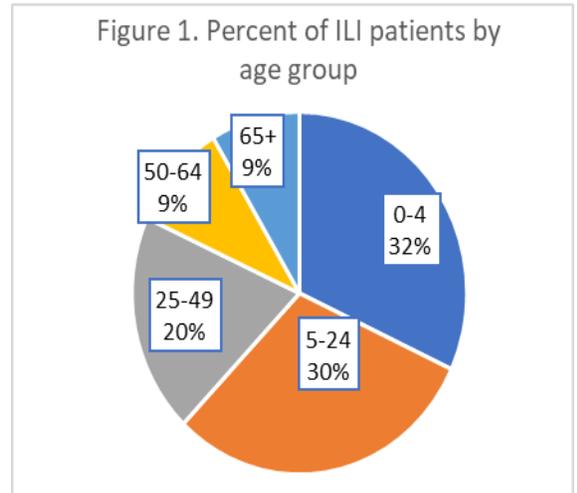


Figure 2.

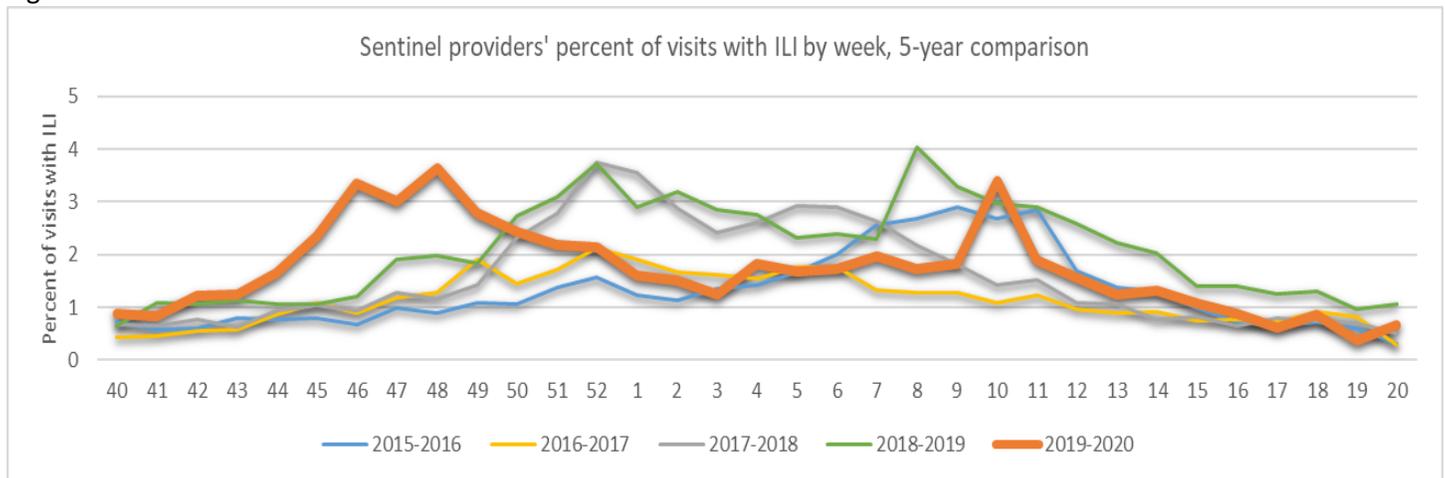
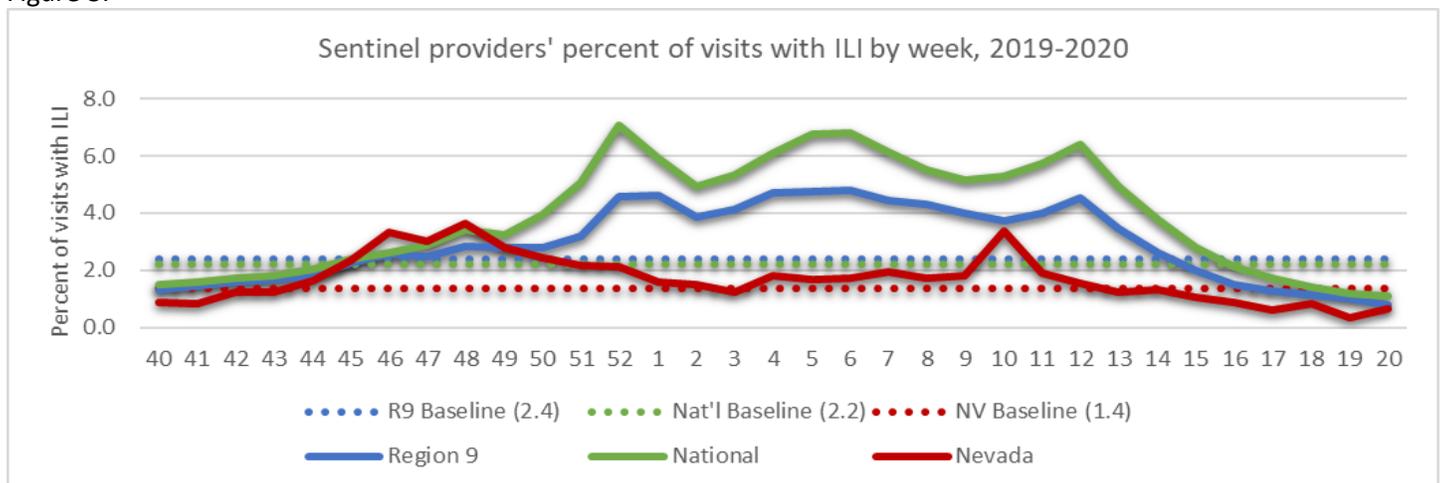


Figure 3.



Sentinel Providers Virologic Testing

The Nevada State Public Health Laboratory (NSPHL) and other laboratories provide influenza virus testing and subtyping for specimens submitted by sentinel providers. For the season, 881 specimens were positive of 2,059 submitted (43%). **Figure 4** shows the number of laboratory-confirmed influenza cases by subtype expressed as a percentage of all laboratory-confirmed specimens tested. Of the 881 positive specimens to date, 34 were typed as influenza A (H3N2), 263 as A (2009 H1N1), 224 as A (subtyping not performed), 131 as B (Victoria), and 229 as B (subtyping not performed). There were no positive specimens from week 13 to 20. **Table 2** shows the number of sentinel site specimens tested by laboratory this season and the number and percent positive for influenza of any type.

Figure 4:

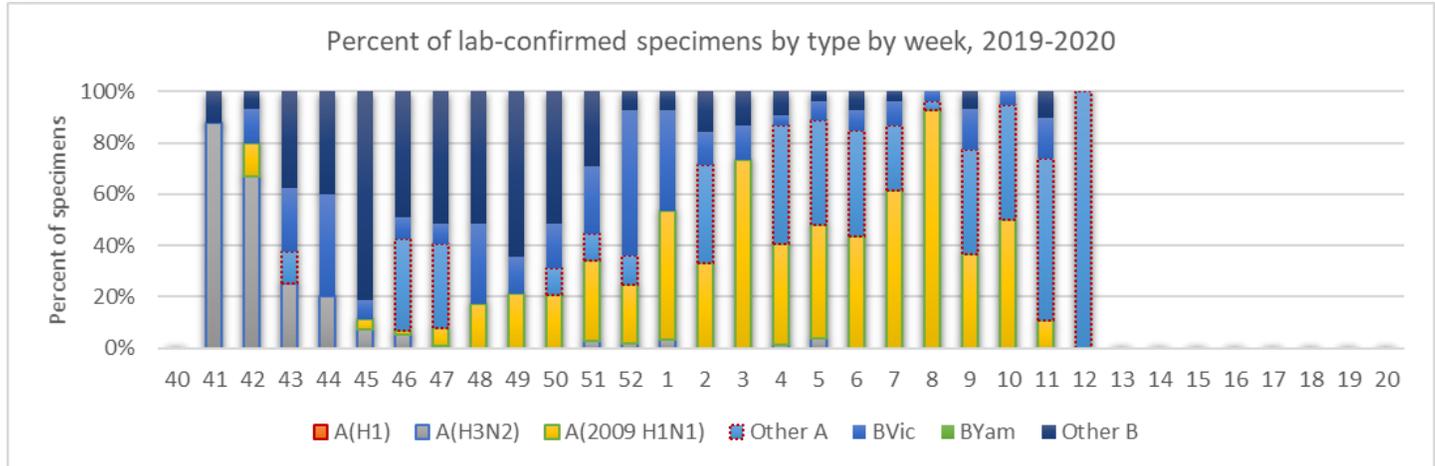


Table 2:

Lab	# of tests performed	# positive	% positive
Nevada State Public Health Lab (NSPHL)	431	259	60%
Southern Nevada Public Health Lab (SNPHL)	302	170	56%
All other labs	1,326	452	34%
Total	2,059	881	43%

Influenza Hospitalizations

LHAs investigate and report to DPBH Influenza-associated hospitalizations. **Figure 5** shows the number of patients hospitalized with influenza by jurisdiction. Washoe County Health District reports 219, Southern Nevada Health District reports 1,370, Carson City Health and Human Services reports 40, and Rural Health Services reports 12. 1,641 total hospitalizations were reported statewide. **Figure 6** shows the number of hospitalized patients by influenza type, if reported. For the season, 1,001 patients were type A with subtyping not performed, 449 patients were type B with subtyping not performed, 132 were A (2009 H1N1), 5 were A(H3N2), and type information was not available for the other 54.

The COVID-19 pandemic during the 2019-2020 influenza season lead to closures of non-essential businesses and a statewide stay-at-home order, causing a potential drop in influenza hospitalizations. Furthermore, due to workforce needs for COVID-19 response, influenza reporting may have been delayed or incomplete.

Figure 5:

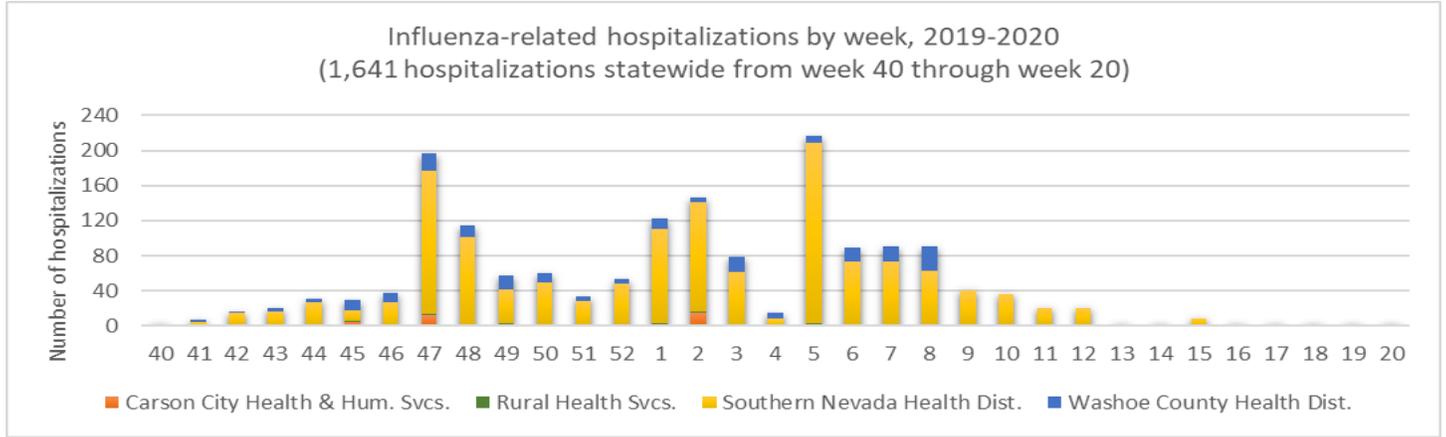
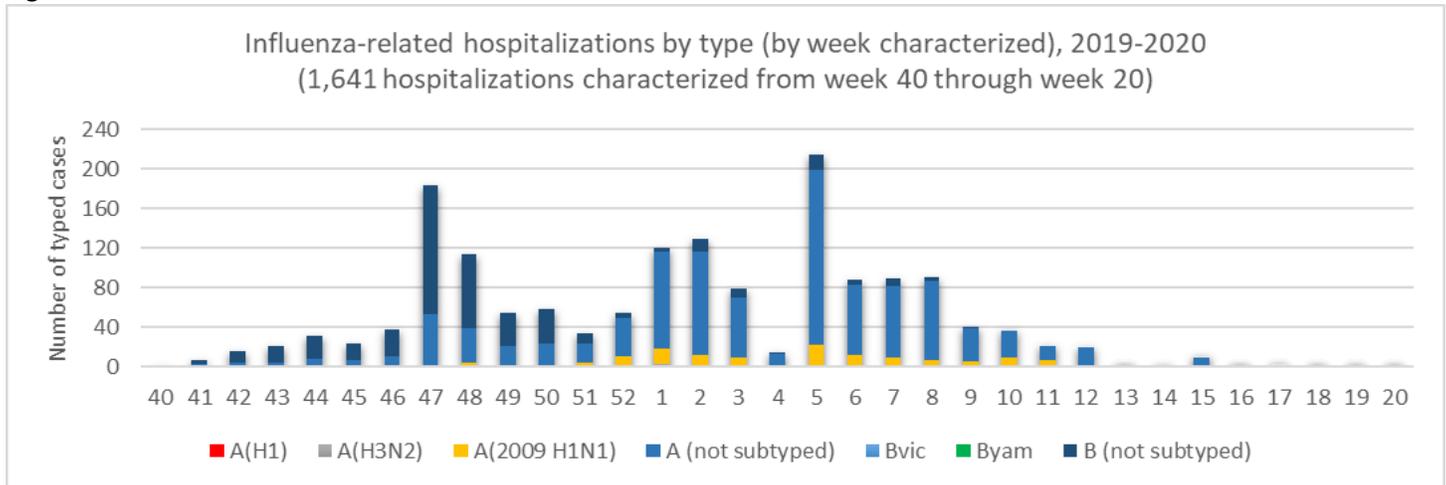


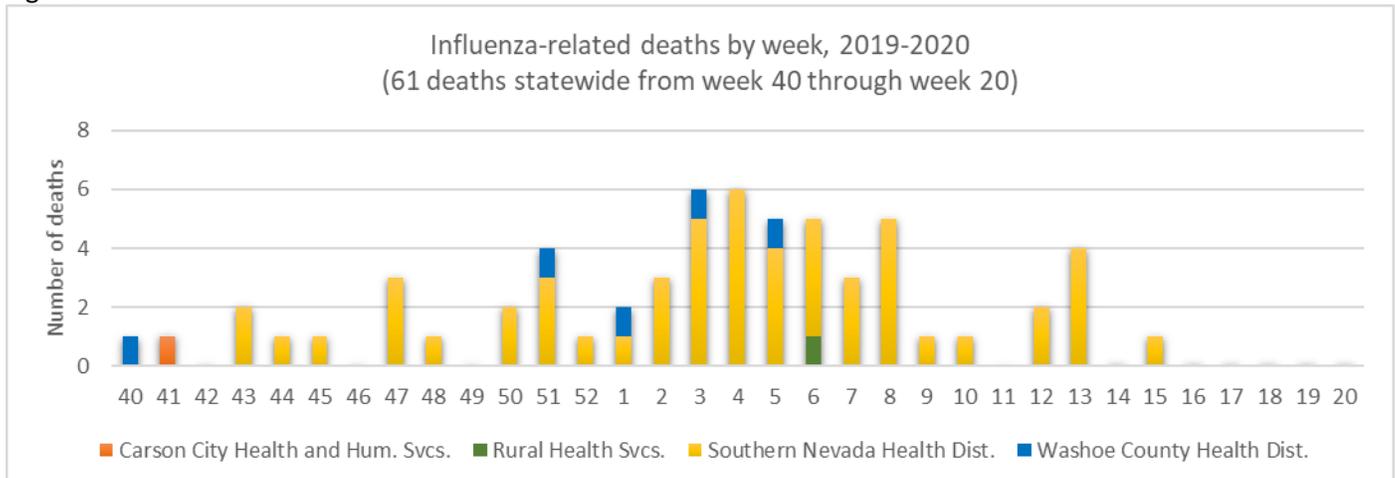
Figure 6:



Influenza Deaths

Influenza-associated deaths are deaths from a clinically-compatible illness that was confirmed to be influenza by an appropriate laboratory or rapid diagnostic test with no period of complete recovery between illness and death. LHAs investigate all influenza deaths and typically review medical records retroactively up to 30 days from the date of death for an influenza diagnosis. **Figure 7** shows the number of influenza deaths by region for this flu season. 61 deaths were reported statewide during the flu season.

Figure 7:



Syndromic Surveillance

Syndromic surveillance uses near real-time, pre-diagnostic health data to analyze disease incidence. It may support the identification and characterization of outbreaks as supplemental data or as an early indicator of a possible outbreak. DPBH uses the National Syndromic Surveillance System (NSSP) Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE), a CDC web application, to collect these data from hospitals and urgent care facilities within the state. Chief complaint is used for immediate analysis; discharge diagnosis is used as it becomes available.

Syndromic Surveillance ILI Activity

Figure 8 shows the number of visits with ILI for emergency, inpatient, and outpatient settings. For the season there were 28,525 emergency visits, 971 hospital admissions, and 6,948 outpatient visits reported. **Figure 9** shows the percent of all visits with ILI by age group. For the season, 24% of visits were for ages 0-4, 30% for ages 5-24, 29% for ages 25-49, 10% for ages 50-64, and 7% for ages 65 and up.

figure 8:

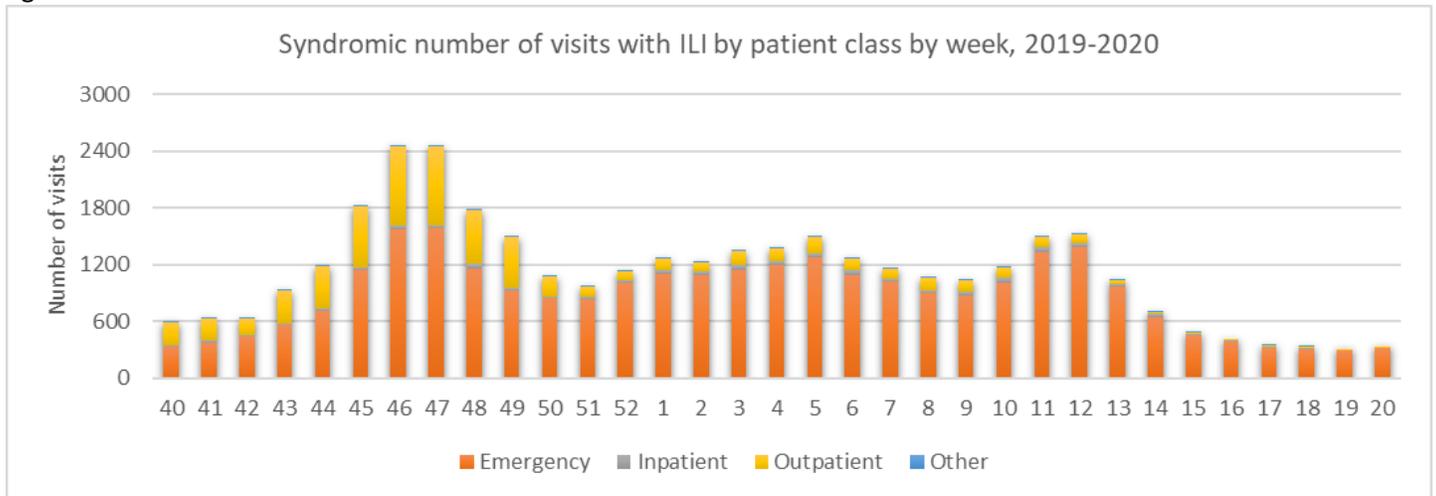
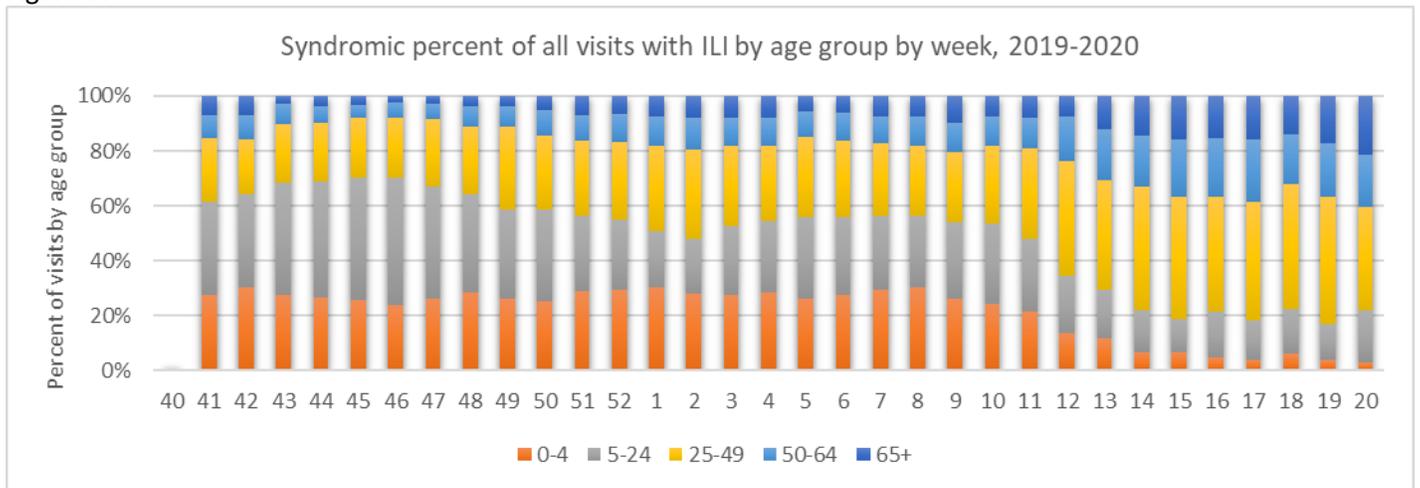


Figure 9:



Pneumonia and Influenza (P&I) Mortality Surveillance

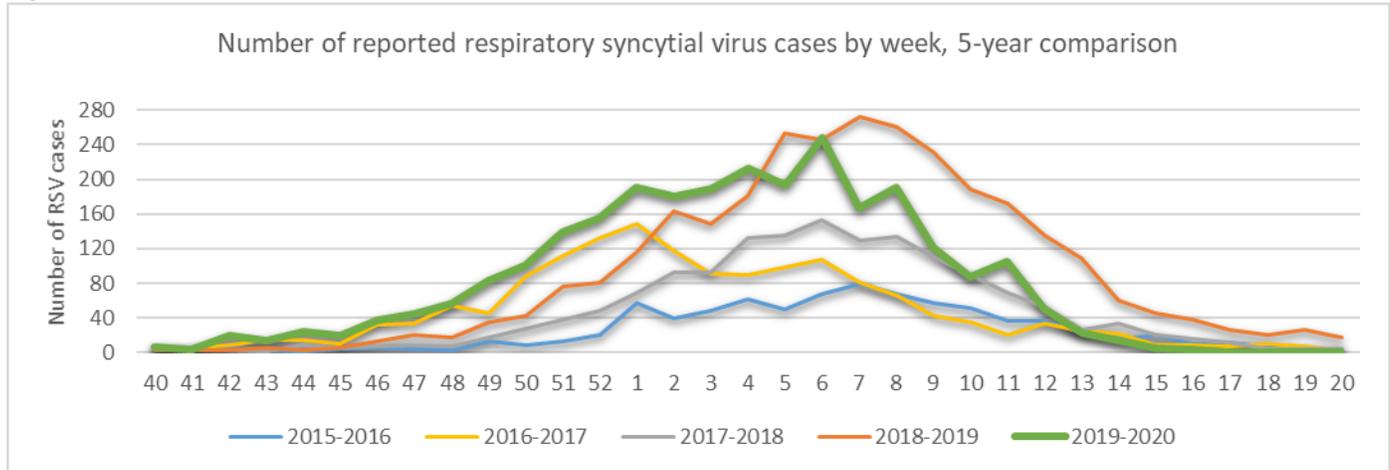
Death certificate data are used to calculate pneumonia and influenza deaths. The Division of Public and Behavioral Health is presently evaluating its data extraction methodology and will report P&I deaths in the future from internal data.

The CDC makes P&I death information available in its FluView Interactive GIS application. According to data from the CDC, Nevada's P&I mortality is 7.4% of all deaths reported (1,273 out of 16,727) for the season. Region 9's P&I mortality is 7.7% of all deaths reported (19,429 out of 253,931); nationally 7.9% of all deaths are due to P&I (153,876 out of 1,939,478). Nevada's influenza-related mortality is 0.36% (61 out of 16,727). Region 9's influenza-related mortality is 0.44% (1,127 out of 253,931) and nationally 0.46% of all deaths are influenza-related (8,994 out of 1,939,478).

Respiratory syncytial virus (RSV)

For the 2019-2020 season, 2,685 Respiratory Syncytial Virus (RSV) cases have been reported. **Figure 10** shows the number of reported RSV cases for the current season compared with the number reported in the past four seasons.

Figure 10:



References

Figures 1, 2, and 3, and Table 1 are derived from ILINet sentinel surveillance data submitted by sentinel providers directly to the CDC.

Table 1 also uses data from CDC's FluView Interactive GIS application.

Figure 4 and Table 2 use ILINet laboratory surveillance data.

Figures 5, 6, 7, and Table 3 are compiled from data collected by local health authorities and abstracted from medical records.

Figures 8 and 9 are populated from the National Syndromic Surveillance System (NSSP) Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE).