



Influenza Surveillance Report – 2019-2020 Season – Week 16

Data from April 12 – April 18, 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.

Influenza activity in the State of Nevada is presently Regional: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.

Table 1:

Week 16 Summary					
	ILI Current Activity	ILI Activity Baseline	Influenza -related Hospitalization	Influenza -related Mortality	Pneumonia and Influenza Mortality
Nevada	1.5%	1.4%	0 (0 per 100,000)	1/411 (0.2%)	31/411 (7.5%)*
Region 9	1.7%	2.4%	pending	7/6384 (0.1%)*	621/6384 (9.7%)*
National	2.2%	2.2%	0.1 per 100,000	197/52521 (0.4%)*	6917/52521 (13.2%)*

*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 week 16. Those age 0-4 represented 9% of all reported ILI cases in Nevada. 22% of cases were ages 5-24, 38% ages 25-49, 14% ages 50-64, and 17% ages 65 and older.

In week 16, 5,508 patient visits were reported by sentinel providers in Nevada, of which 81 met criteria for ILI, representing 1.5% 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.

For week 16, 1.7% of patients reported in Region 9 (AZ, CA, HI, NV, and US Pacific Islands) and 2.2% of patients reported nationally met criteria for ILI. The regional activity level is less than the regional baseline of 2.4% and the national activity level is equal to the national baseline of 2.2%.

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

Figure 1:

2020 Week 16
Percent of ILI patients by age

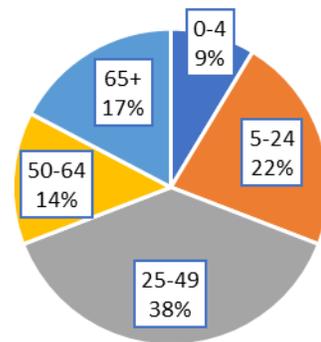


Figure 2:

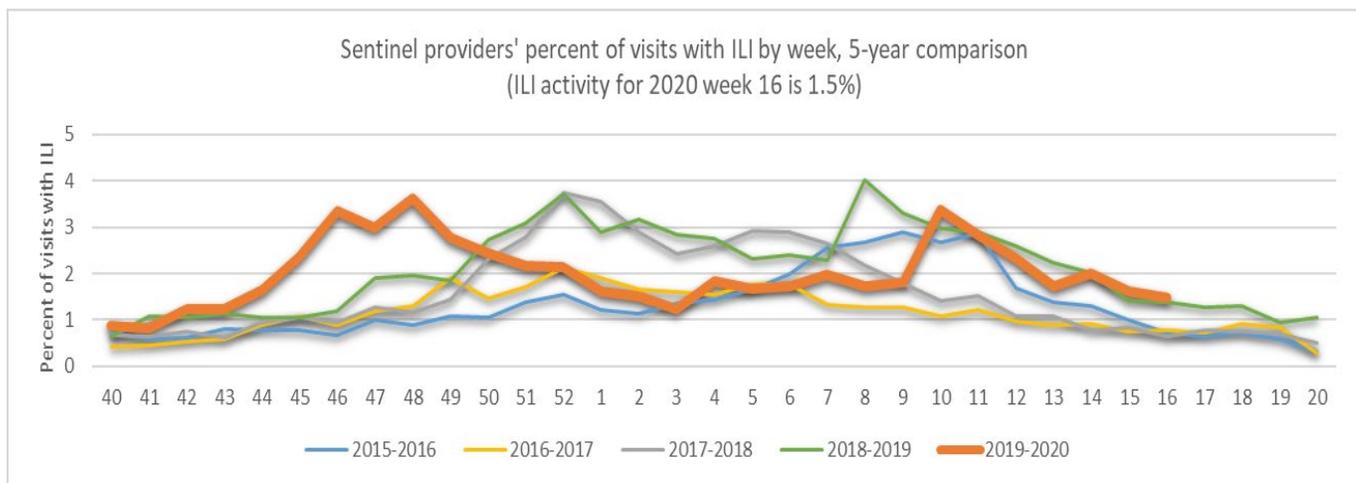
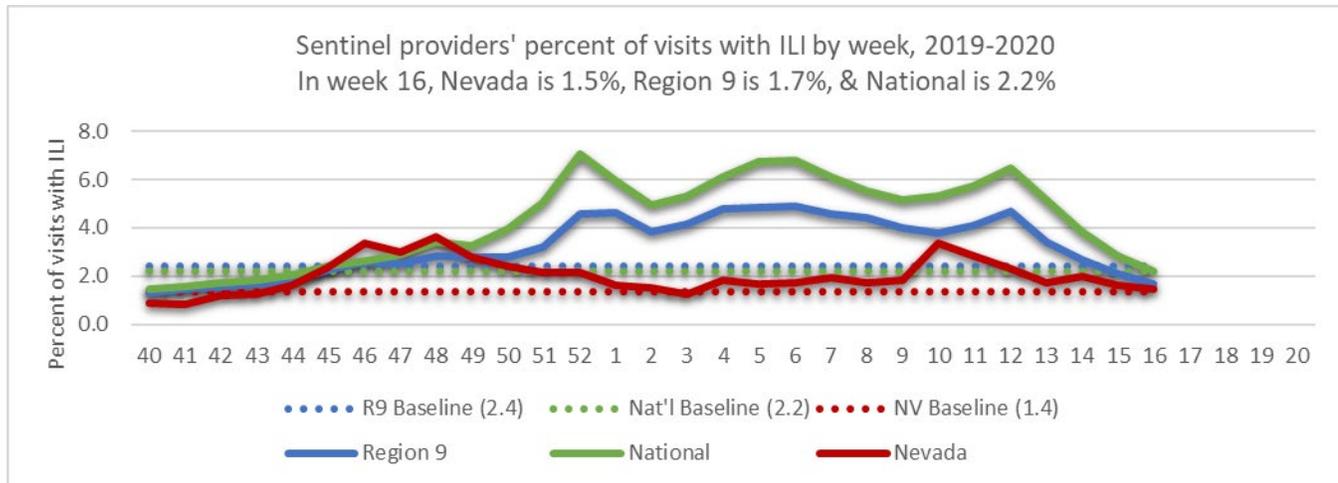


Figure 3:



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 week 16, 0 specimens were positive of 7 submitted (0%). From week 40 to date, 881 specimens were positive of 2,035 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). **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:

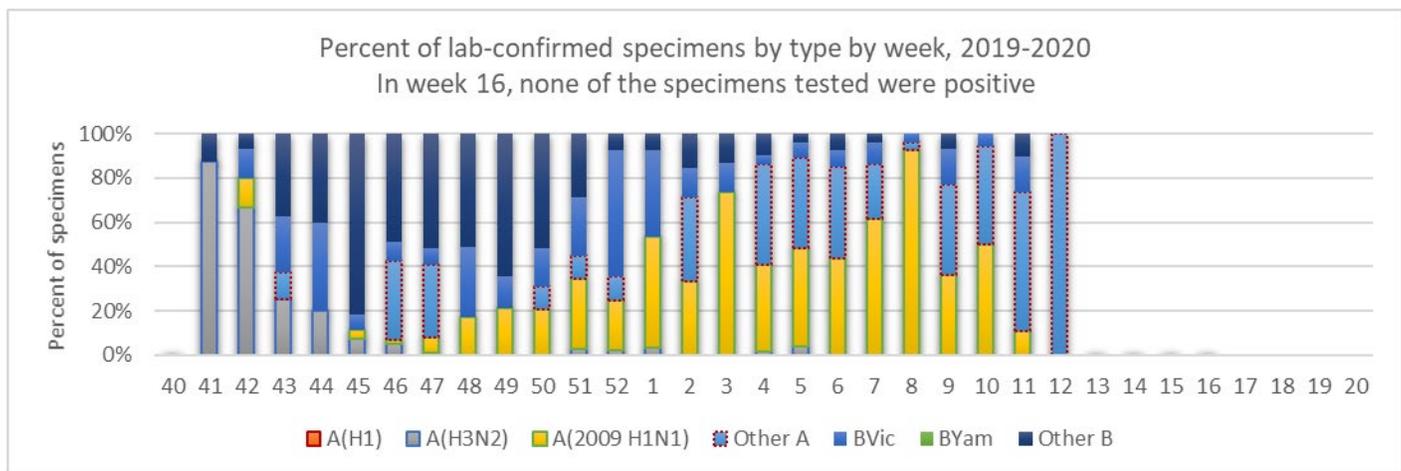


Table 2:

Lab	# of tests performed	# positive	% positive
Nevada State Public Health Lab (NSPHL)	430	259	60%
Southern Nevada Public Health Lab (SNPHL)	282	170	60%
All other labs	1,323	452	34%
Total	2,035	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. In week 16, Southern Nevada Health District, Washoe County Health District, Carson City Health and Human Services, and Rural Health Services each report no hospitalizations. **Due to the closures of non-essential businesses and the statewide stay-at-home order, a substantial drop in influenza hospitalizations was anticipated. Furthermore, due to workforce needs for COVID-19 response, influenza reporting may be delayed or incomplete.** From week 40 to date, 1,638 total hospitalizations have been reported statewide. **Figure 6** shows the number of hospitalized patients by influenza type, if reported. For week 16, none of the jurisdictions reported any hospitalizations due to influenza.

Figure 5:

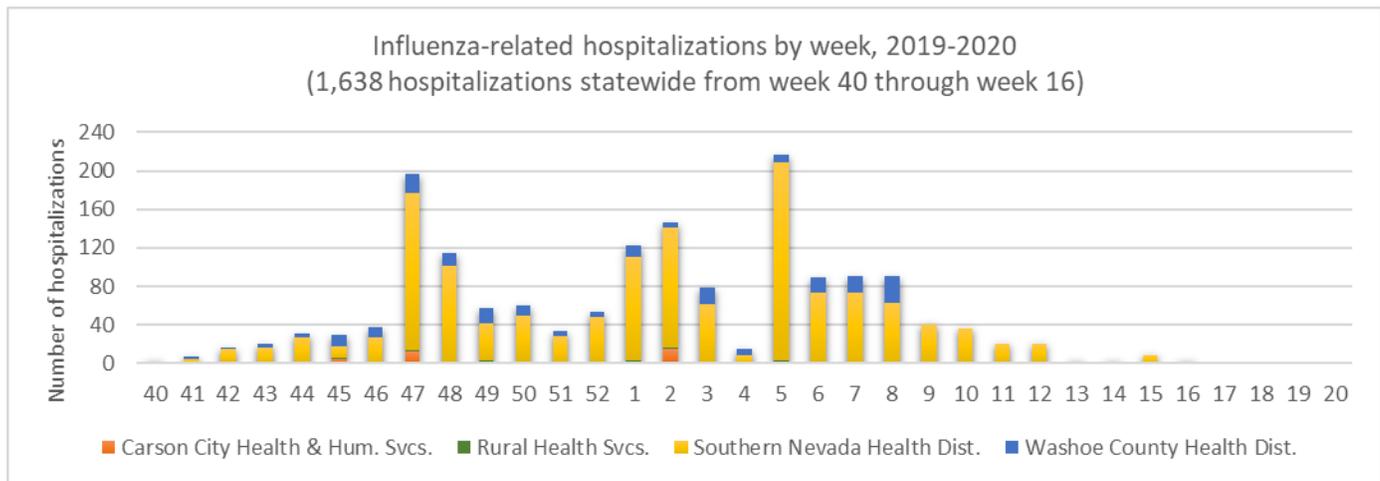
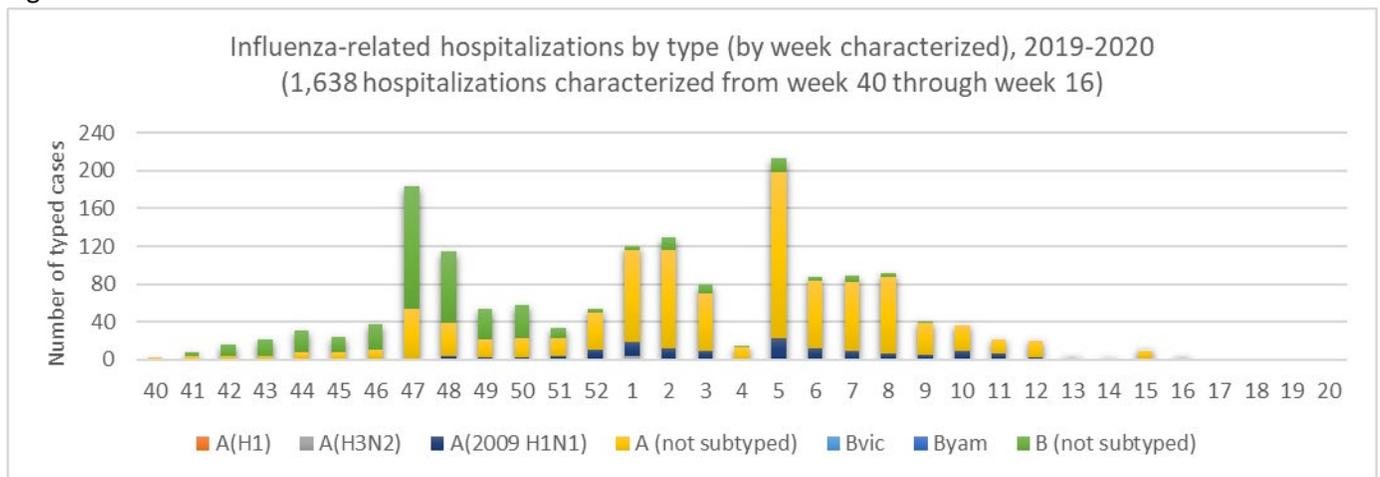


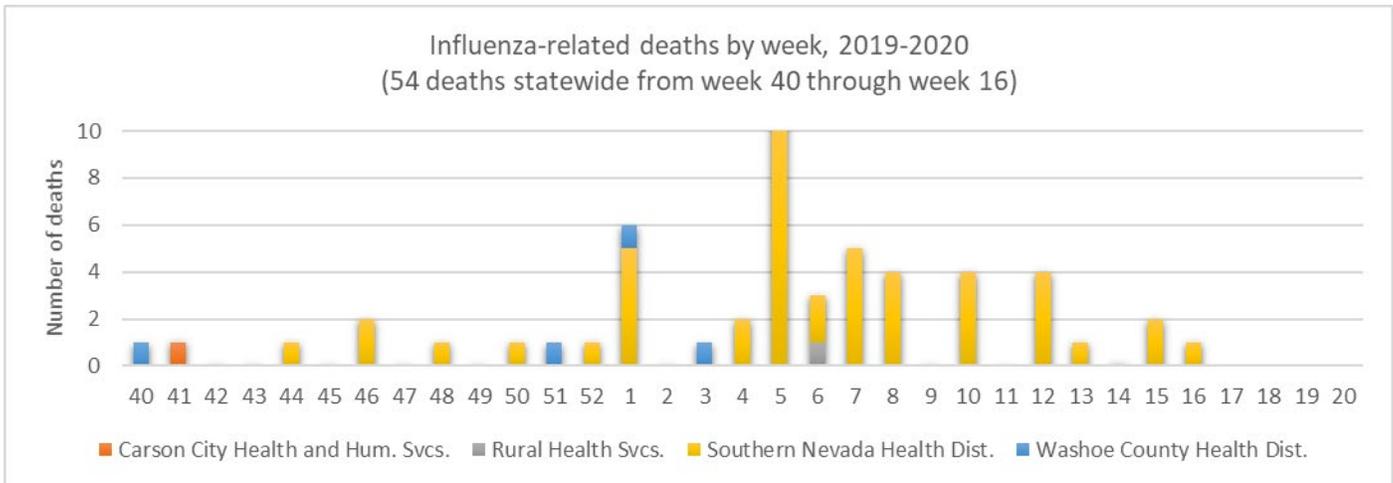
Figure 6:



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. One death was reported in week 16. There have been 54 influenza-associated deaths reported statewide since week 40.

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. While ILI syndrome is typically indicative of influenza activity, COVID-19 disease would typically meet criteria to be classified as ILI, so it is anticipated that ILI activity will continue to remain elevated while COVID-19 is circulating. For week 16 there were 384 emergency visits, 13 hospital admissions, and 10 outpatient visits reported. Emergency department visits decreased by 14% from 447 the previous week. **Figure 9** shows the number of emergency visits with ILI by week over five years; **figure 10** shows the number of inpatient visits with ILI by week over five years. **Figure 11** shows the percent of all visits with ILI by age group. For week 16, 5% of visits were for ages 0-4, 17% for ages 5-24, 42% for ages 25-49, 21% for ages 50-64, and 15% for ages 65 and up.

Figure 8:

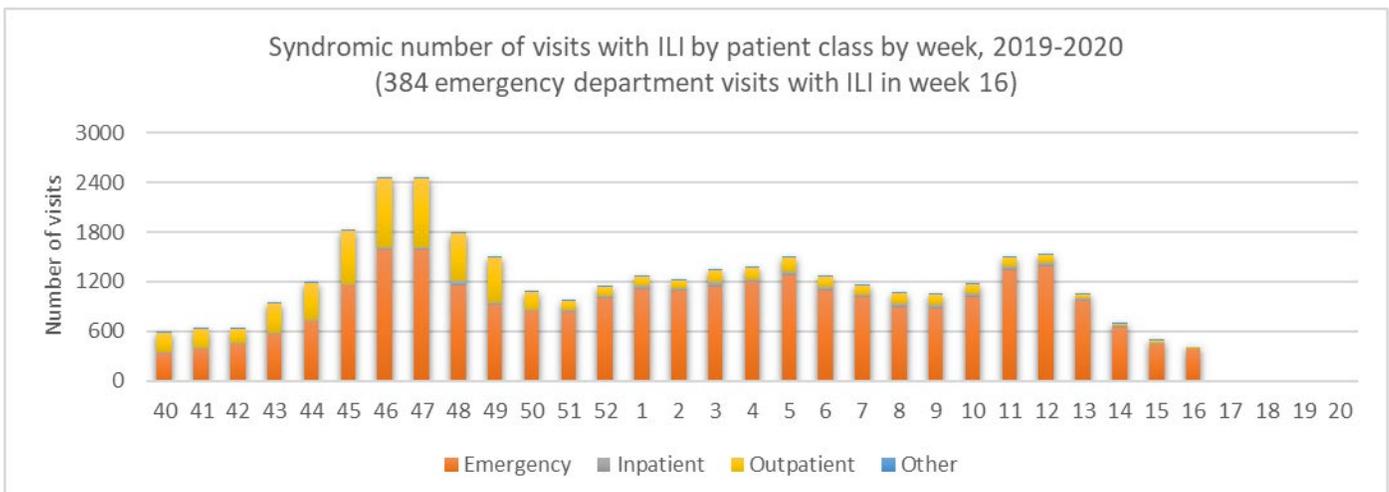


Figure 9:

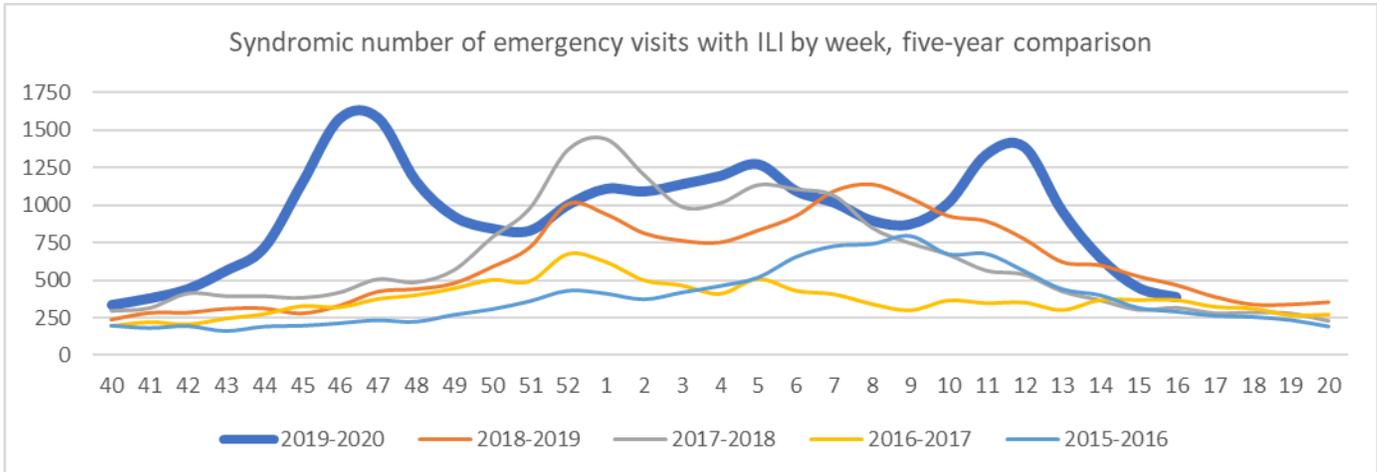


Figure 10:

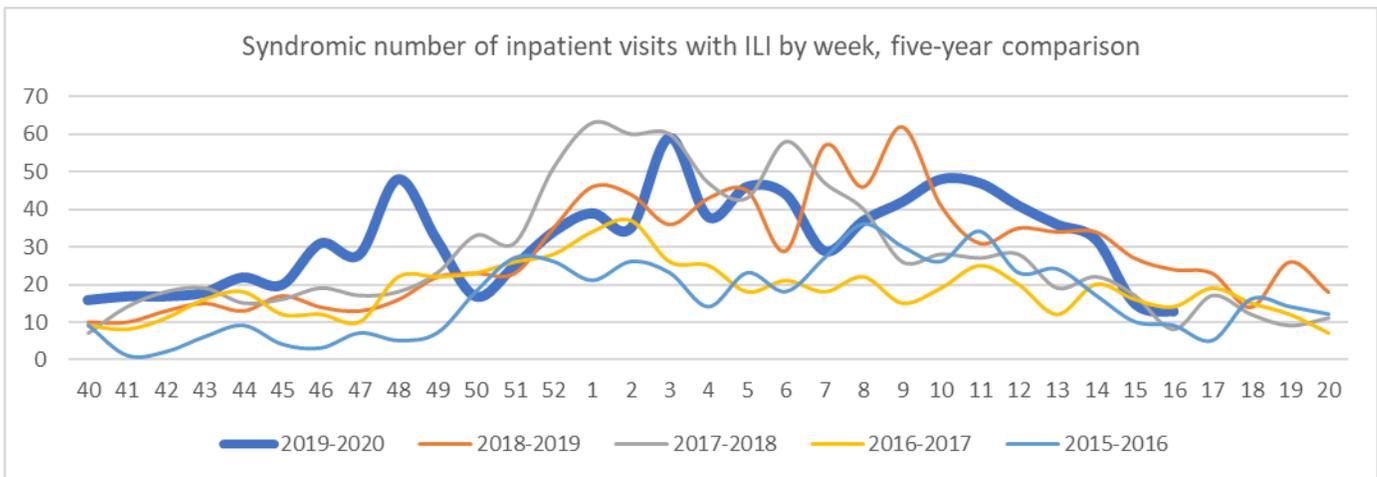
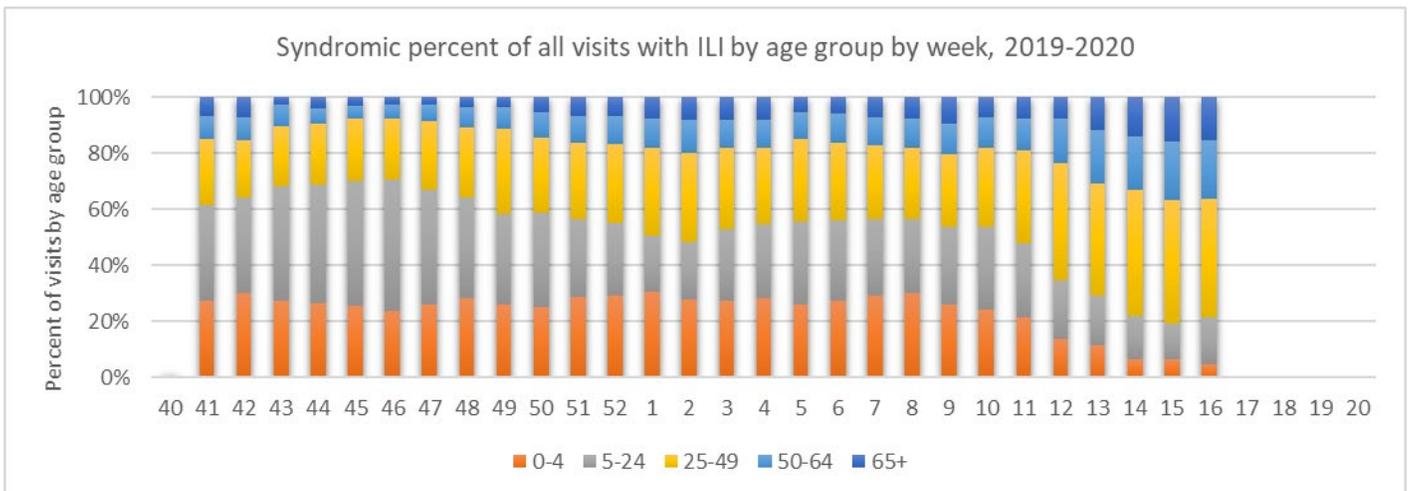


Figure 11:



Pneumonia and Influenza (P&I) Mortality Surveillance

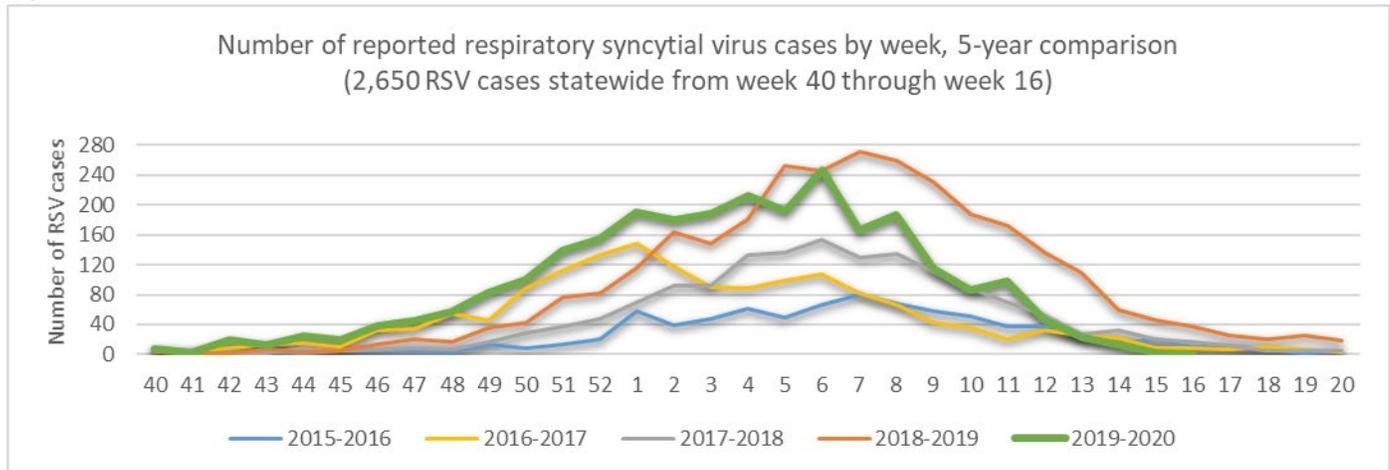
Death certificate data are used to calculate pneumonia and influenza deaths. The Division of Public and Behavioral Health is presently evaluating its data extraction methodology and will report P&I deaths in the future from internal data.

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 7.5% of all deaths reported (31 out of 411) for the most recent week. Region 9's P&I mortality is 9.7% of all deaths reported, which is above the baseline of 7.3%; nationally 13.2% of all deaths are due to P&I, which is above the baseline of 6.9%. Region 9's influenza-related mortality is 0.11% (7 out of 6,384) and nationally 0.38% of all deaths are influenza-related (197 out of 52,521).

Respiratory syncytial virus (RSV)

From week 40 through week 16, 2,650 Respiratory Syncytial Virus (RSV) cases have been reported. **Figure 12** shows the number of reported RSV cases for the current season compared with the number reported in the past four seasons. Due to a lag in reporting the case count for recent weeks is expected to increase.

Figure 12:



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, and 7 are compiled from data collected by local health authorities and abstracted from medical records.

Figures 8, 9, 10, and 11 are populated from the National Syndromic Surveillance System (NSSP) Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE).

Figure 12 is generated from data submitted to Nevada's NBS/NETSS reporting systems.