

Steve Sisolak
Governor

Richard Whitley, MS
Director



DEPARTMENT OF
HEALTH AND HUMAN SERVICES
Division of Public and Behavioral Health
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Lisa Sherych
Administrator

Ihsan Azzam, Ph.D., M.D.
Chief Medical Officer

Influenza Surveillance Report – 2019-2020 Season – Week 52

Data from December 22 - 28, 2019

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 Ashleigh Faulstich, MPH at aaulstich@health.nv.gov or (775) 684-5292.

Influenza activity in the State of Nevada is presently widespread: outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

Table 1.

Week 52 Summary					
	ILI Current Activity	ILI Activity Baseline	Influenza -related Hospitalization	Influenza -related Mortality	Pneumonia and Influenza Mortality
Nevada	2.15%	1.36%	6 (0.2 per 100,000)	0/263 (0%)	10/263 (3.8%)*
Region 9	4.03%	2.40%	pending	8/5633 (0.14%)*	344/5633 (6.11%)*
National	6.88%	2.20%	pending	45/26885 (0.17%)*	1446/26885 (5.38%)*

*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 52. Those age 0-4 represented 43% of all reported ILI cases in Nevada. 27% of cases were ages 5-24, 17% ages 25-49, 7% ages 50-64, and 6% ages 65 and older.

In week 52, 9,262 patient visits were reported by sentinel providers in Nevada, of which 199 met criteria for ILI, representing 2.1% 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 52, 4.0% of patients reported in Region 9 (AZ, CA, HI, NV, and US Pacific Islands) and 6.9% of patients reported nationally met criteria for ILI. The regional activity level is greater than the regional baseline of 2.4% and the national activity level is greater than 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 2.

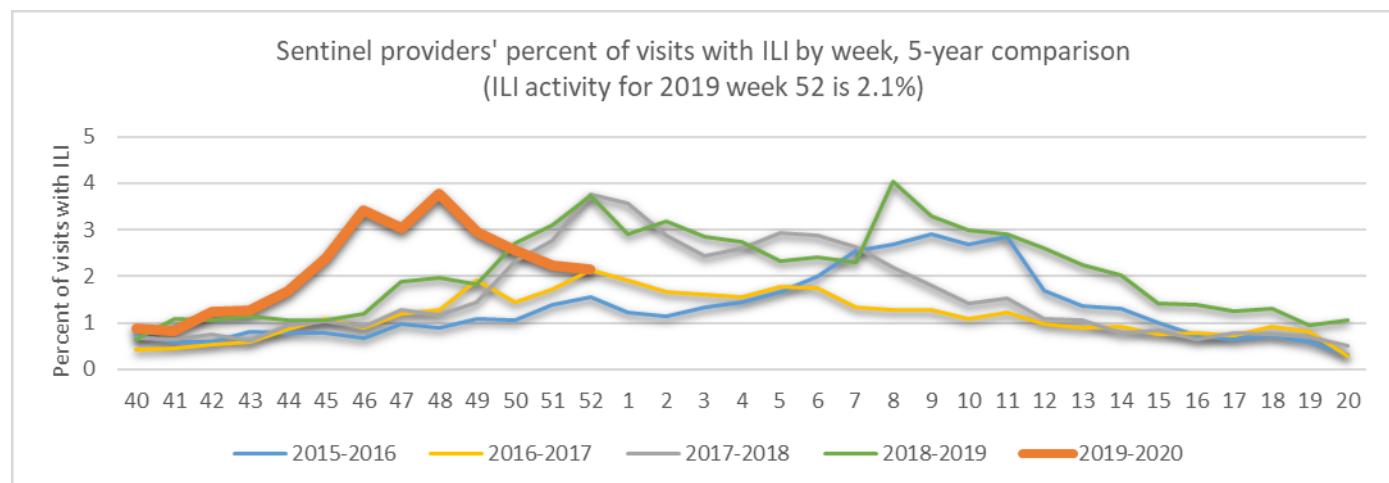


Figure 1:
2019 Week 52
Percent of ILI patients by age

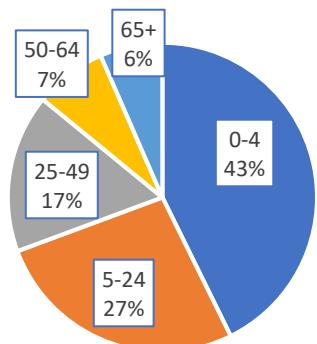
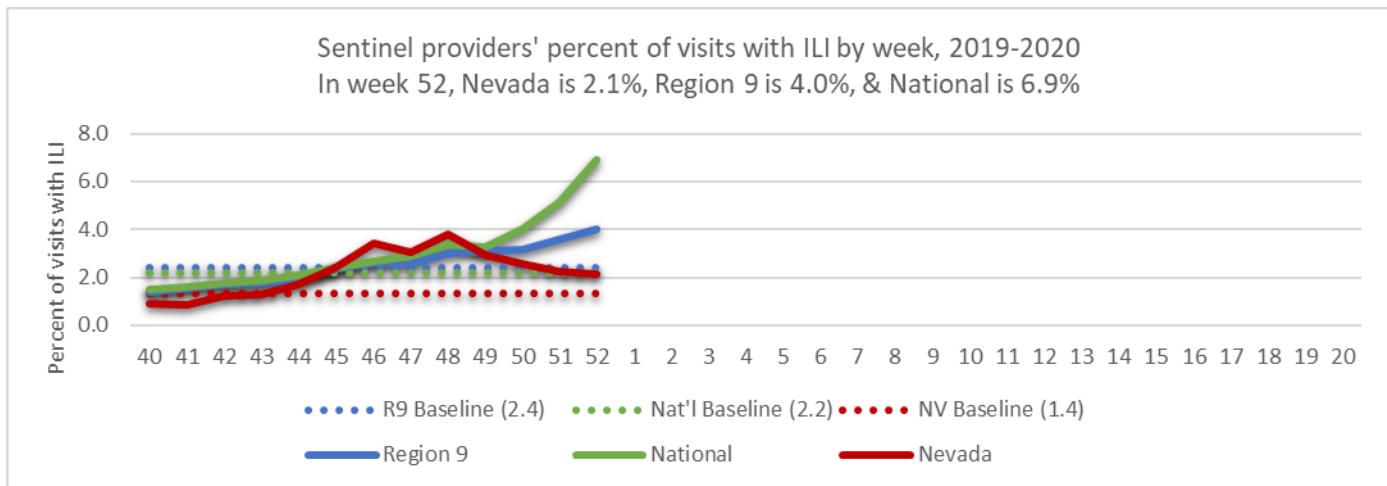


Figure 3.



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 52, 49 specimens were positive of 77 submitted (64%). From week 40 to date, 413 specimens were positive of 885 submitted (47%). **Figure 4** shows the number of laboratory-confirmed influenza cases by subtype expressed as a percentage of all laboratory-confirmed specimens tested. Of the 413 positive specimens to date, 30 were typed as influenza A (H3N2), 48 as A (2009 H1N1), 68 as A (subtyping not performed), 82 as B (Victoria), and 185 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:

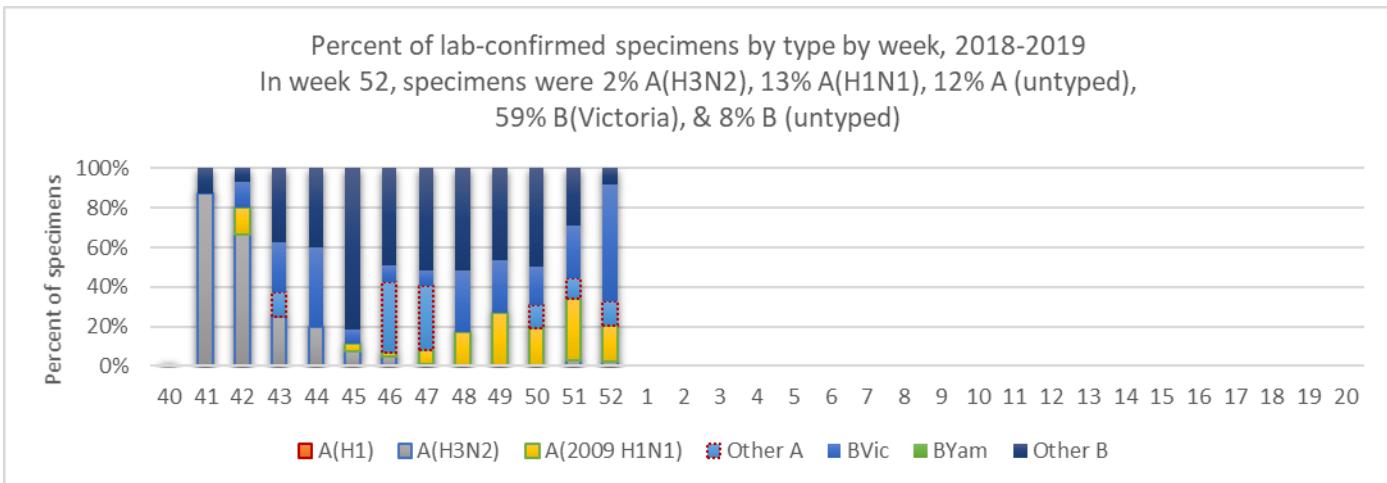


Table 2:

Lab	# of tests performed	# positive	% positive
Nevada State Public Health Lab (NSPHL)	170	119	70%
Southern Nevada Public Health Lab (SNPHL)	103	69	67%
All other labs	612	225	37%
Total	885	413	47%

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 52, Washoe County Health District reports six and Rural Health Services reports none; Southern Nevada Health District and Carson City Health and Human Services are both pending. From week 40 to date, 591 total hospitalizations have been reported statewide. **Figure 6** shows the number of hospitalized patients by influenza type, if reported. For week 52, four patients had type A with subtyping not performed and two patients had type B with subtyping not performed.

Figure 5:

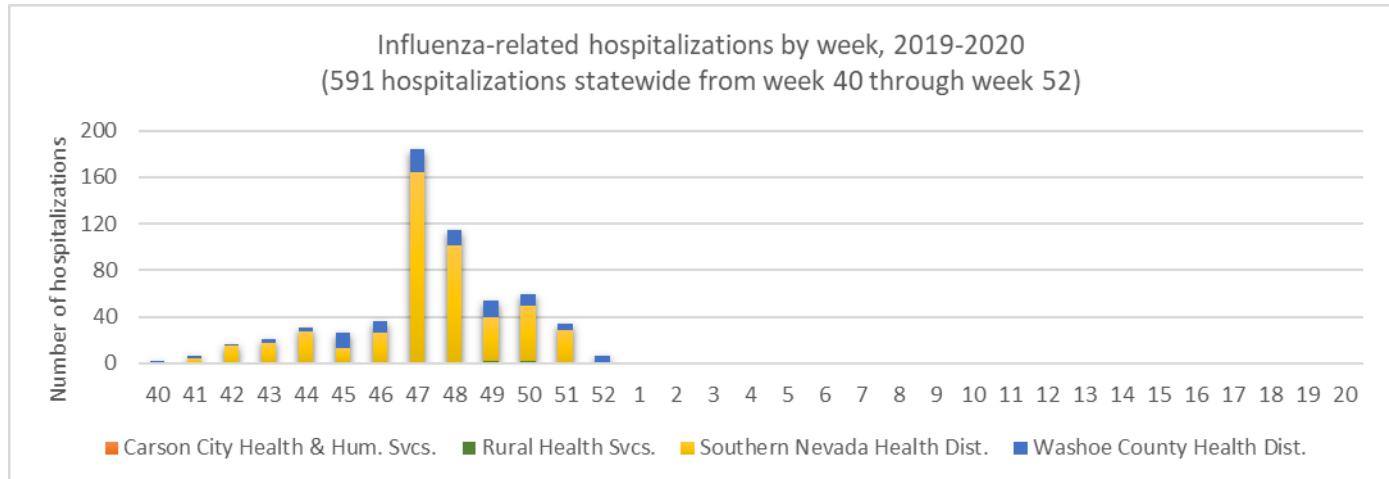
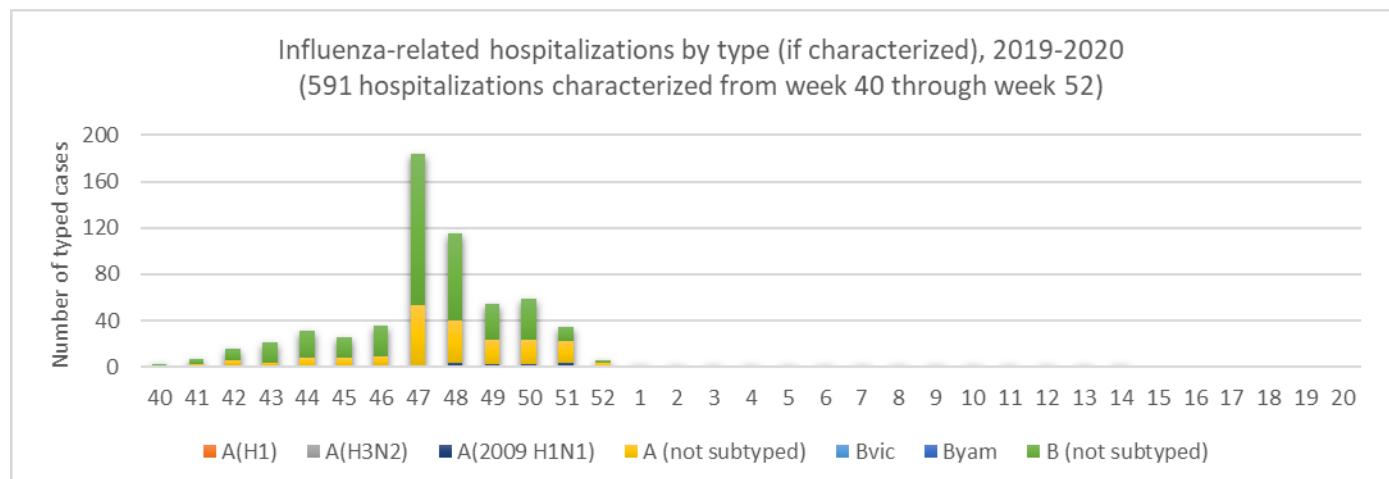


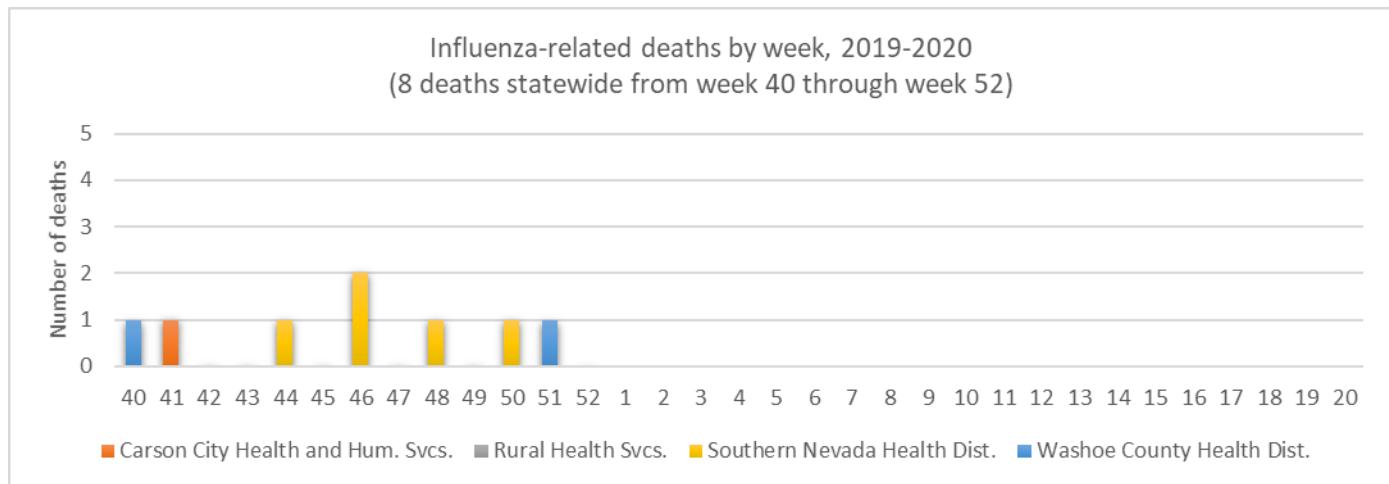
Figure 6:



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. No deaths were reported in week 52. There have been eight 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. For week 52 there were 1,144 emergency visits, 38 hospital admissions, and 107 outpatient visits reported. Emergency department visits increased by 29% from 863 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 50, 29% of visits were for ages 0-4, 26% for ages 5-24, 28% for ages 25-49, 10% for ages 50-64, and 7% for ages 65 and up.

Figure 8:

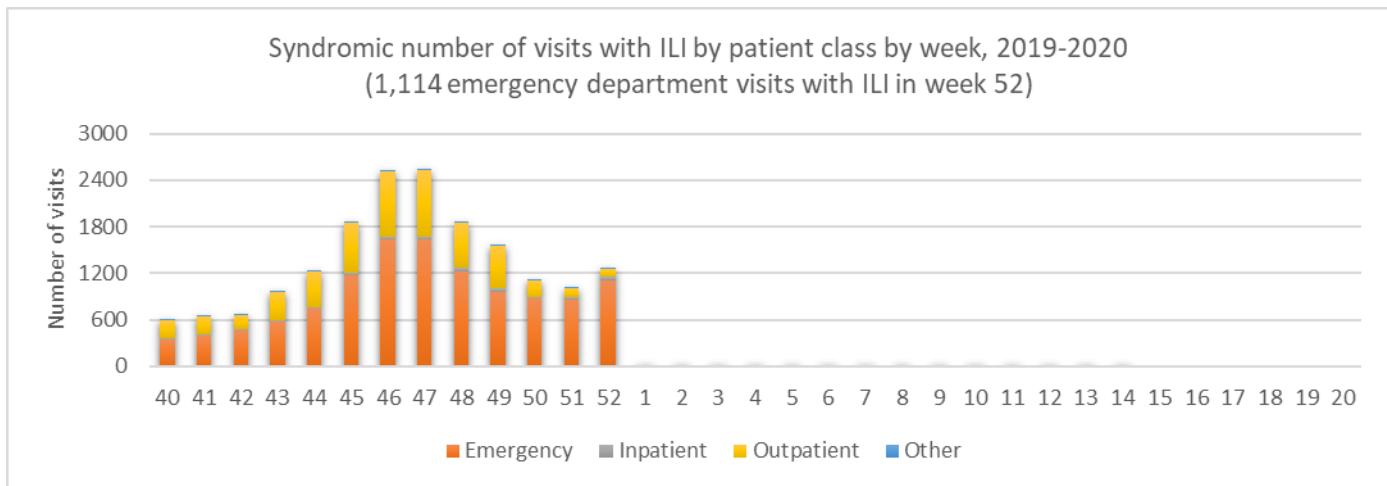


Figure 9:

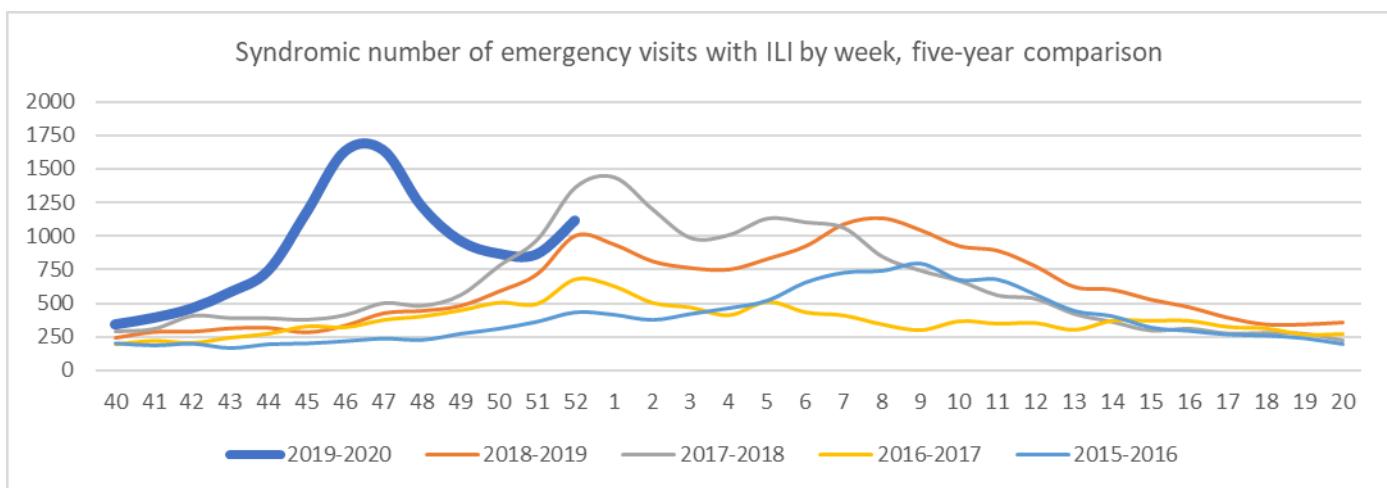


Figure 10:

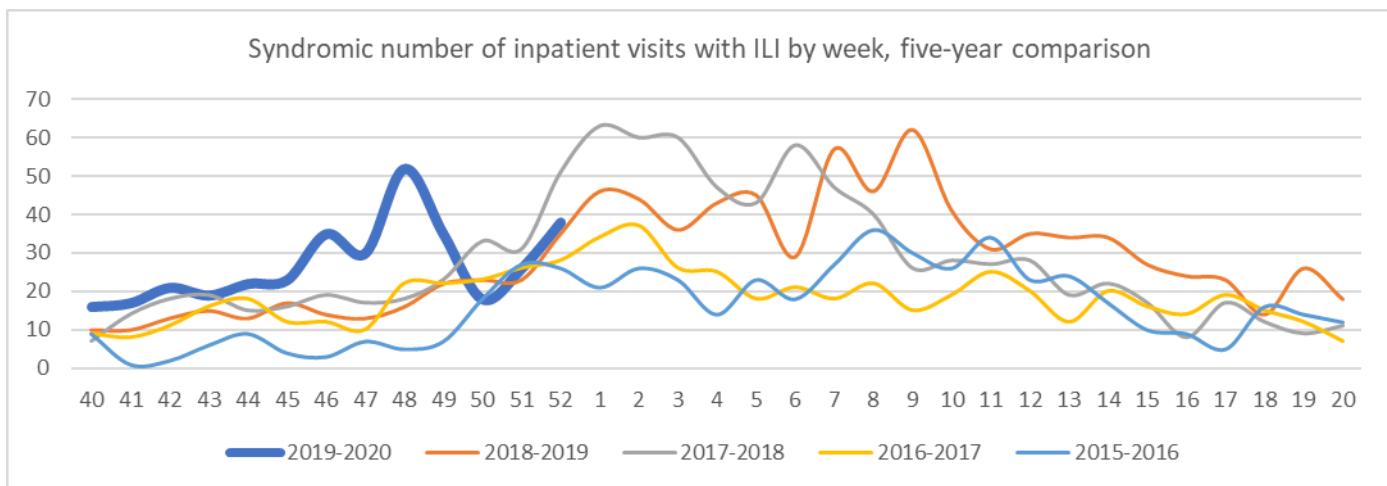
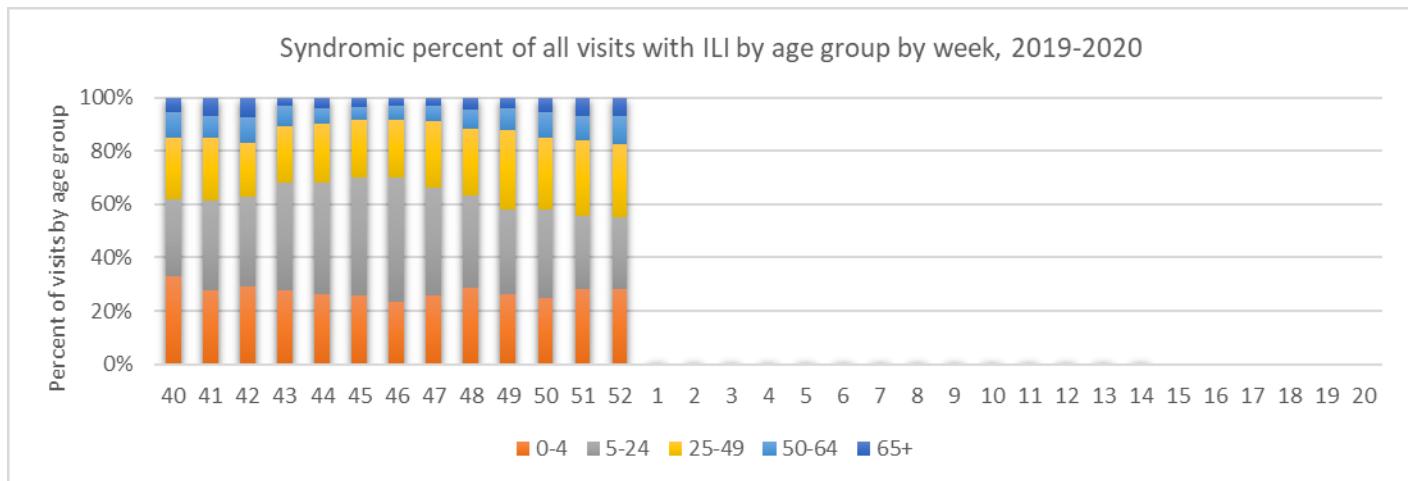


Figure 11:



Pneumonia and Influenza (P&I) Mortality Surveillance

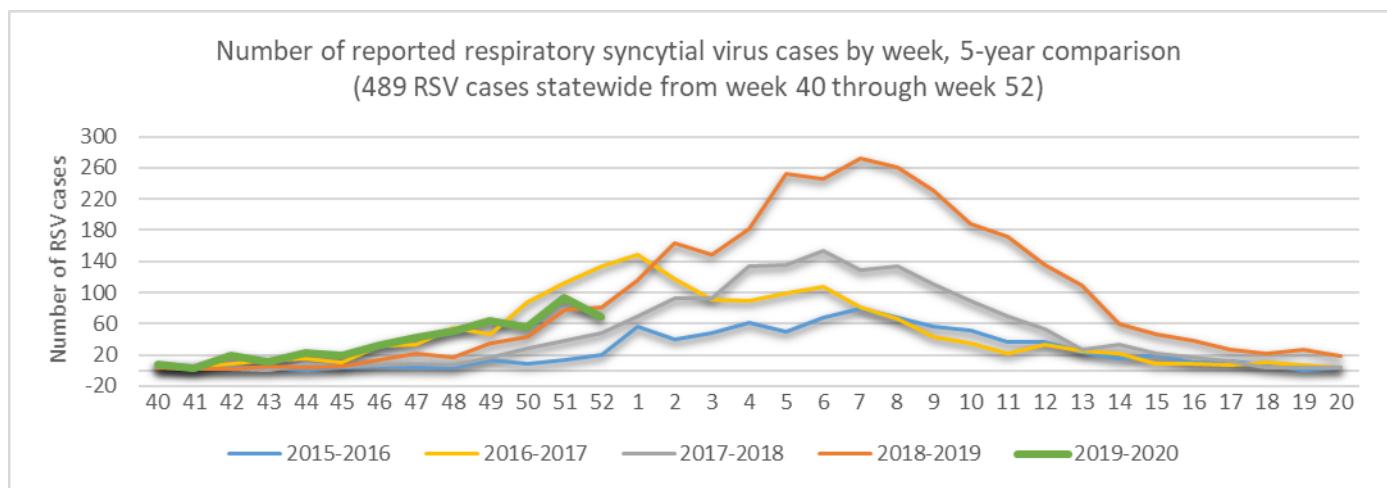
Death certificate data are used to calculate pneumonia and influenza deaths. The Division of Public and Behavioral Health is presently evaluating its data extraction methodology and will report P&I deaths in the future from internal data.

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 3.80% of all deaths reported (10 out of 263) for the most recent week. Region 9's P&I mortality is 6.11% of all deaths reported, which is below the baseline of 6.8%; nationally 5.38% of all deaths are due to P&I, which is below the baseline of 6.5%. Region 9's influenza-related mortality is 0.14% (8 out of 5,633) and nationally 0.17% of all deaths are influenza-related (45 out of 26,885).

Respiratory syncytial virus (RSV)

From week 40 through week 52, 489 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.