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Influenza Surveillance Report – 2018-2019 Season - Week 49

Data from December 2, 2018 to December 8, 2018

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 become 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 afaulstich@health.nv.gov or (775) 684-5292.

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 49 Summary					
	ILI Current Activity	ILI Activity Baseline	Influenza -related Hospitalization	Influenza - related Mortality	Pneumonia and Influenza Mortality
Nevada	1.76%	1.36%	17 (0.6 per 100,000)	0	19/419 (4.5%)
Region 9	2.23%	2.40%	pending	2/5,913 (0.03%)	390/5,913 (6.6%)
National	2.24%	2.20%	1.9 per 100,000	27/36,612 (0.07%)	2182/36,612 (6.0%)

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/

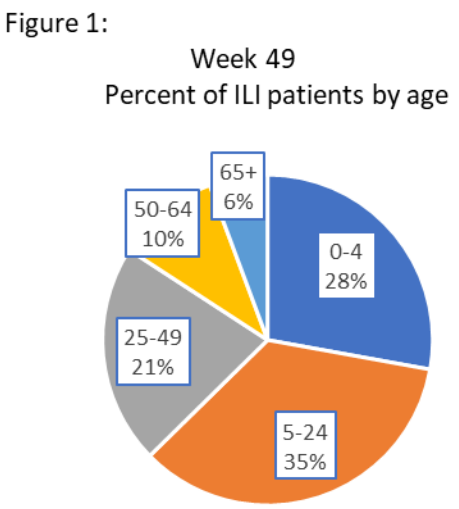
Sentinel Provider Program Description

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 (≥ 100°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 49. Those age 0-4 represented 28% of all reported ILI cases in Nevada. 35% of cases were ages 5-24, 21% ages 25-49, 10% ages 50-64, and 6% ages 65 and older.

Figure 1:



In week 49, 8,973 patient visits were reported by sentinel providers in Nevada, of which 158 met criteria for ILI, representing 1.76% of the sample. ILI activity was above the Nevada baseline of 1.36%. **Figure 2** shows the percent of reported visits statewide for which the patient met clinical criteria for ILI. The current influenza season (2018 week 40 – 2019 week 20), in bold, is overlaid with the prior four seasons.

For week 49, 2.23% of patients reported in Region 9 (AZ, CA, HI, NV, and US Pacific Islands) and 2.24% of patients reported nationally met criteria for ILI. The regional activity level is less than the regional baseline of 2.4%. 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.

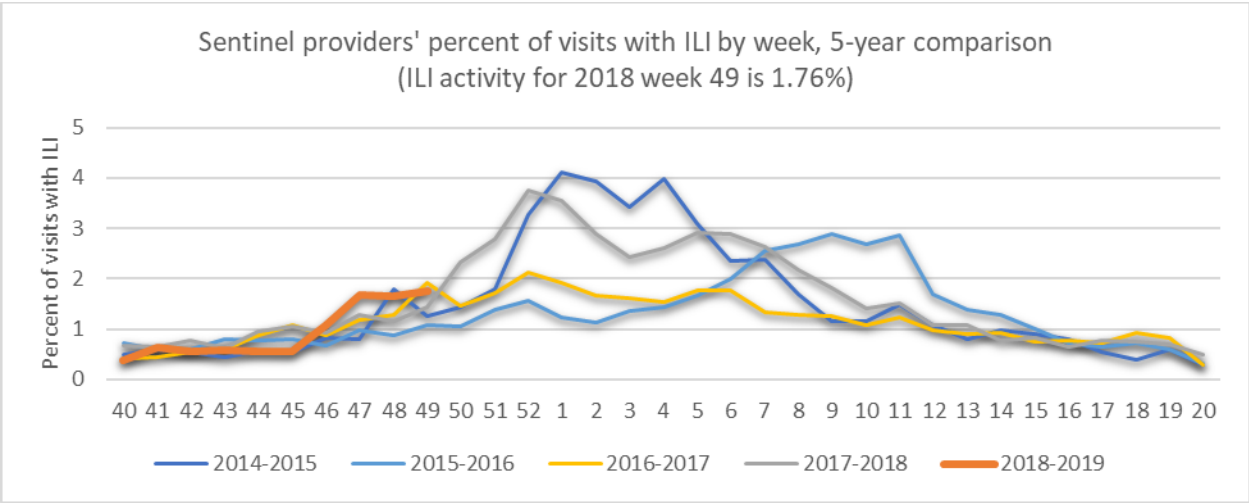
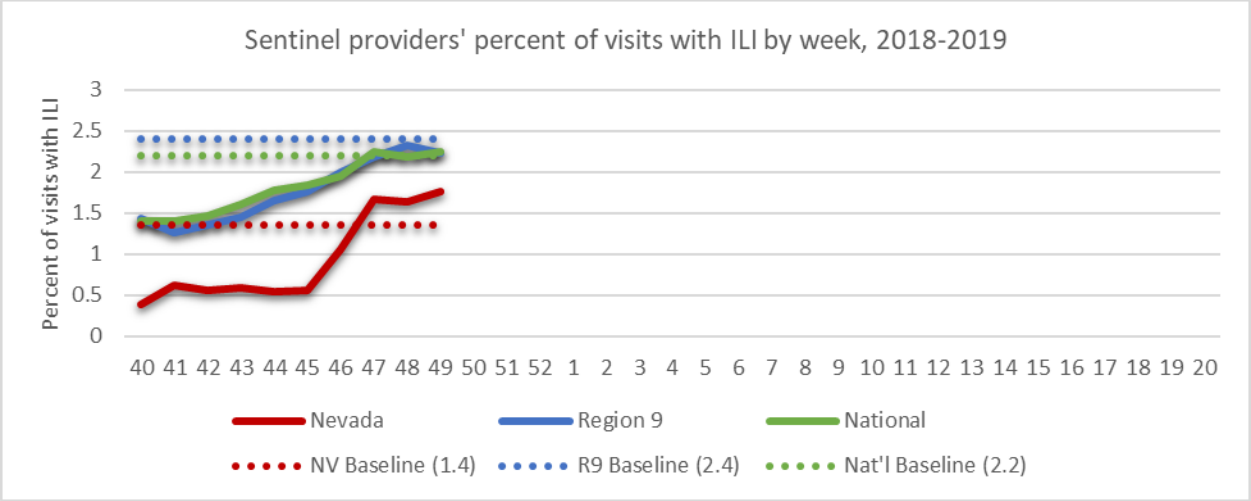


Figure 3.



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 49 three specimens were positive of seven submitted (42.9%). From week 40 to date, thirteen specimens were positive of 211 submitted (6.2%). **Figure 4** shows the number of laboratory-confirmed influenza cases by subtype expressed as a percentage of all laboratory-confirmed specimens tested. Of the 13 positive specimens to date, seven were typed as influenza A (2009 H1N1), four as A (subtyping not performed), and one each as A (H3N2), and B (Yamagata). **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:

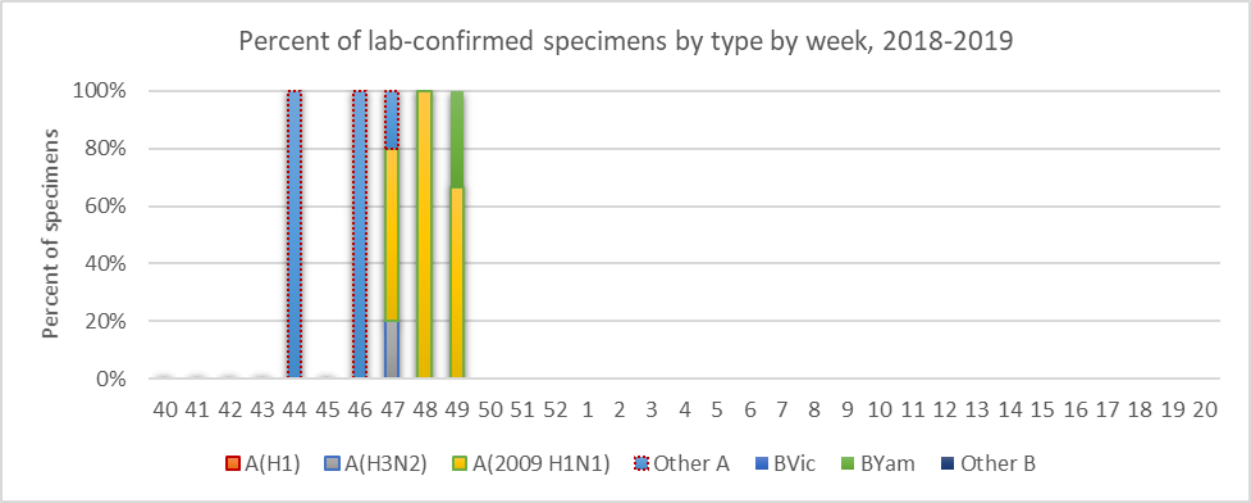


Table 2:

Lab	# of tests performed	# positive	% positive
Nevada State Public Health Lab (NSPHL)	21	9	42.9%
Southern Nevada Public Health Lab (SNPHL)	24	0	0%
All other labs	166	4	2.4%
Total	211	13	6.2%

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 49, Washoe County Health District reports ten, Southern Nevada Health District reports six, Rural Health Services reports one hospitalization, and data is pending for Carson City Health and Human Services. From week 40 to date, 73 total hospitalizations have been reported statewide. **Figure 6** shows the number of hospitalized patients by influenza type, if reported. For week 49, ten patients were type A with subtyping not performed. One patient had type A (2009 H1N1). Type information was not yet available from SNHD.

Table 3 shows reported characteristics of hospitalized patients. Data will continue to be entered as it becomes available through chart review. The "percent meet criteria" fields show the number of patients with each condition or risk factor expressed as a percentage of all hospitalized patients reported for that time period. For example, since week 40, 12 patients have been admitted to the ICU of 73 hospitalized patients.

Figure 5:

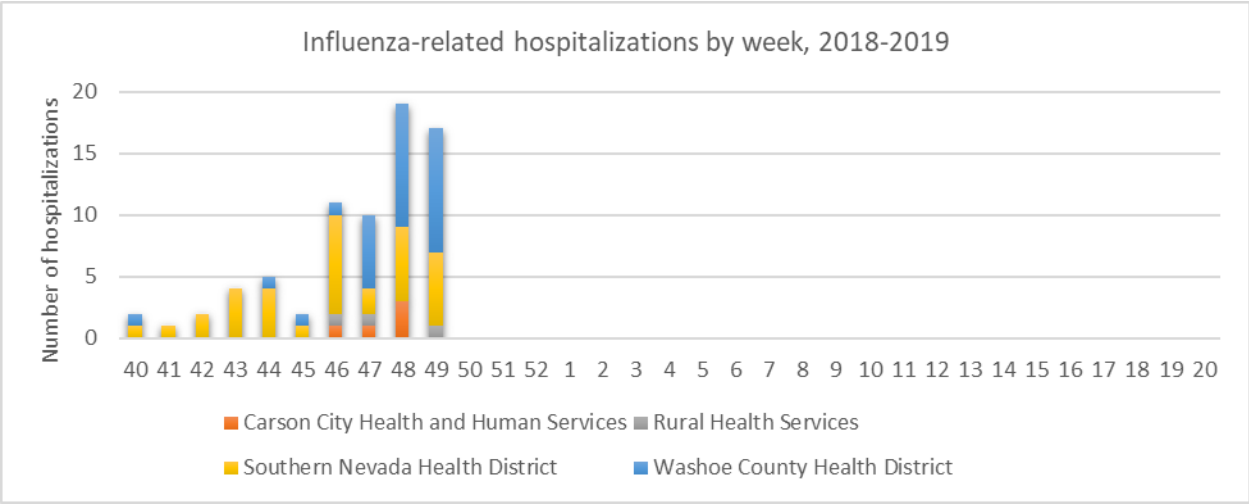


Figure 6:

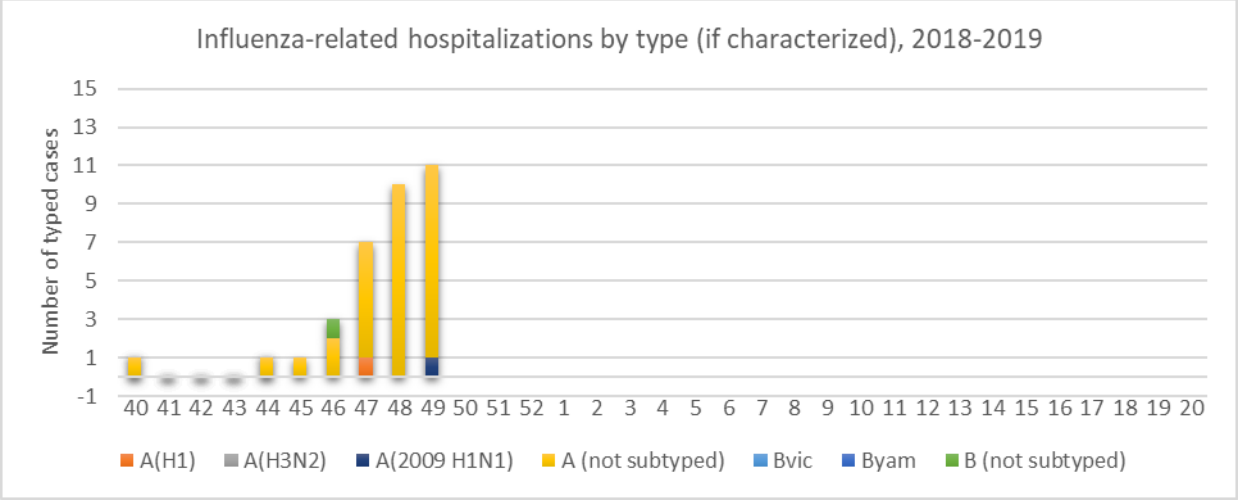


Table 3:

Selected characteristics of hospitalized patients

	Week 49 (17 hospitalizations)		Season-to-date (73 hosp.)	
criteria	# of Hospitalized who Met Criteria (of all those hospitalized that week)	% of Hospitalized who Met Criteria of all those hospitalized that week	# of Hospitalized who Met Criteria	% of Hospitalized who Met Criteria
on ventilator	1	6%	7	10%
admitted to ICU	2	12%	12	16%
vaccinated	6	35%	17	23%
antiviral within 48h	3	18%	8	11%
antiviral at any time	14	82%	64	88%
pregnant*	1	6%	3	4%
resident of SNF/LTC*	0	0%	1	1%
Am-Indian/AK-Nat.*	0	0%	0	0%
asthma*	5	29%	7	10%
neurological cond.*	0	0%	9	12%
chronic lung disease*	6	35%	19	26%
heart disease*	4	24%	28	38%
blood disease*	0	0%	4	5%
endocrine disease*	2	12%	11	15%
kidney disease*	1	6%	9	12%
liver disease*	0	0%	1	1%
metabolic disorder*	2	12%	8	11%
immune disease*	4	24%	10	14%
under 19 on aspirin*	0	0%	0	0%
BMI >40*	2	12%	4	5%

Average number of days in hospital

	average
Week 49	3.5
season-to-date	4.6

Number of hospitalized patients in each age group**

	0-4	5-24	25-49	50-64	65+
Week 49	3	3	4	5	2
season-to-date	7	6	18	20	22

Number of patients by disposition**

	home/ self care discharge	transferred to other hospital	transferred to SNF	home/ skilled care	left AMA	died
Week 49	7	0	0	0	0	0
season-to-date	39	2	3	2	0	0

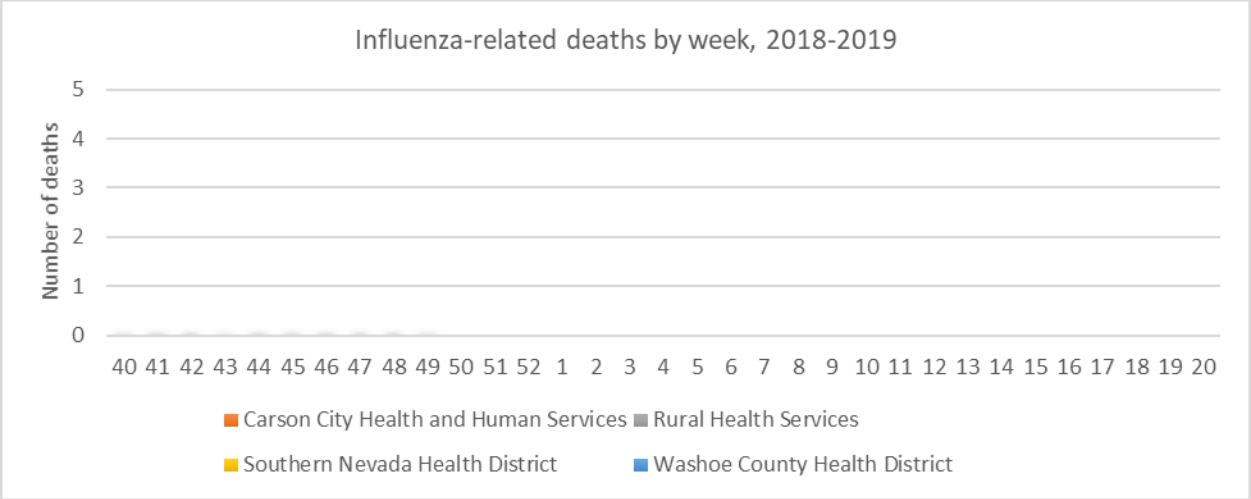
* CDC has identified these factors as associated with greater severity of influenza illness.

** Due to unavailable data, row totals do not match total numbers of hospitalized patients.

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. There have been no influenza deaths reported 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 49 there were 479 emergency visits, 22 hospital admissions, and 216 outpatient visits reported. **Figure 9** shows the percent of all visits with ILI by age group. For week 49, 24% of visits were for ages 0-4, 37% for ages 5-24, 26% for ages 25-49, 9% for ages 50-64, and 4% for ages 65 and up.

Figure 8:

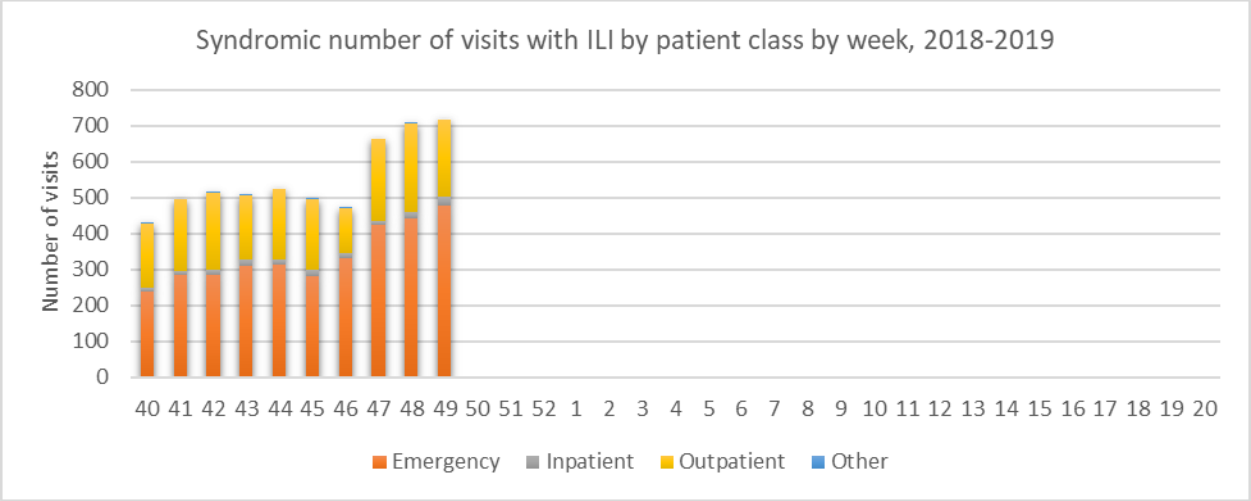
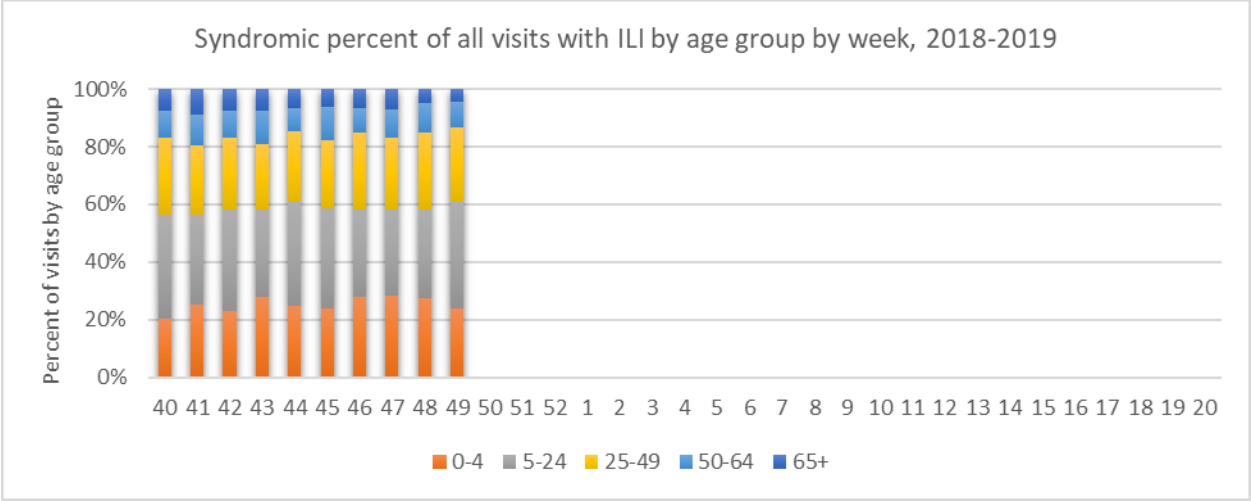


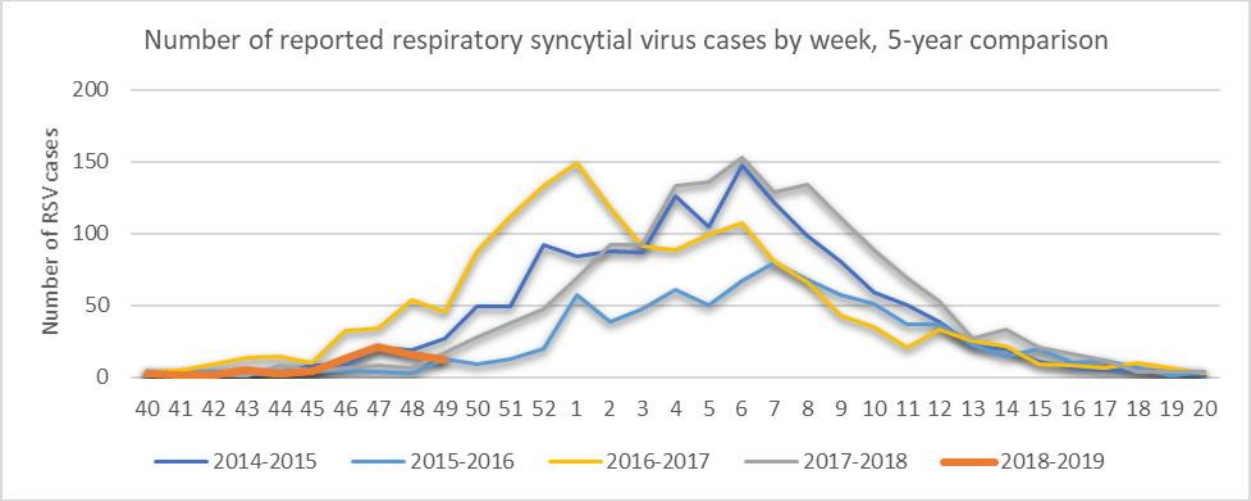
Figure 9:



Respiratory syncytial virus

For week 49, 12 respiratory syncytial virus (RSV) cases were reported. Since week 40, 81 RSV cases have been reported. **Figure 9** shows the number of reported RSV cases for the current season compared with the number reported in the past four seasons.

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 coming weeks 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 4.5% of all deaths reported (19 out of 419) for the most recent week. Region 9's P&I mortality is 6.6% of all deaths reported (390 out of 5,913), which is below the baseline of 7.0%; nationally 6.0% of all deaths are due to P&I (2,182 out of 36,612), which is below the baseline of 6.2%. Region 9's influenza-related mortality is 0.03% (2 out of 5,913) and nationally 0.07% of all deaths are influenza-related (27 out of 36,612).

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.

Figures 4, 5, 6, and Table 2 are compiled from data collected by local health authorities and abstracted from medical records.

Figures 7 and 8 are populated from the National Syndromic Surveillance System (NSSP) Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE).

Figure 9 is generated from data submitted to Nevada's NBS/NETSS reporting systems.

Figure 10 is compiled from death certificate data.