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Helping people. It's who we are and what we do.



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Influenza Surveillance Report – 2021-2022 Season Summary

Data from October 03, 2021 – May 21, 2022

Introduction

The purpose of this report is to provide an end of season assessment of influenza activity in Nevada. This report provides healthcare providers, facilities, public health professionals, policy makers, the media, and the general public with an understanding of the severity and burden of this past influenza season.

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 at mwegener@health.nv.gov.

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.gov/health/programs-and-services/ephp/statistics-surveillance-reports/influenza-surveillance/index.php>
- Carson City Health & Human Services: Western NV Regional Influenza Report: <http://gethealthycarsoncity.org/seasonalflu/>

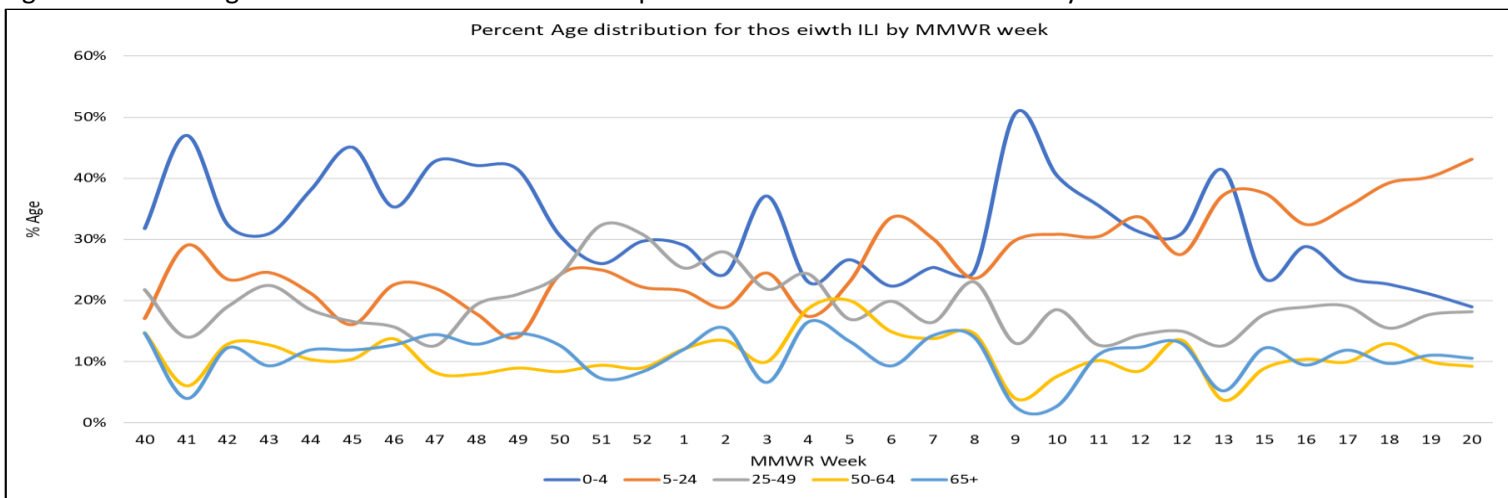
Sentinel Provider Program Description

The sentinel provider program is a partnership between clinicians, healthcare facilities, local health authorities (LHA), the Nevada Division of Public and Behavioral Health (DPBH), 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. There were 25 regularly reporting sentinel sites in Nevada during the 2021-2022 season.

An updated ILI definition was implemented in the 2021-2022 season and is defined as fever ($\geq 100^{\circ}\text{F}$, 37.8°C) in the presence of cough and/or sore throat. This updated definition omits the previous criteria of *without a known cause other than influenza* to increase the number of other respiratory illnesses captured by surveillance.

Sentinel Provider Influenza-Like Illness (ILI) Activity:

Figure 1: Percent age distribution for those with ILI reported from Nevada sentinel sites by MMWR Week



For the season, 325,145 patient visits were reported by sentinel providers in Nevada, of which 7,105 met criteria for ILI, representing 2.2% of the sample. Total ILI activity was above the Nevada baseline of 1.3%.

Figure 2: Percent of visits with ILI out of total patients seen by sentinel providers by week, 5-year comparison

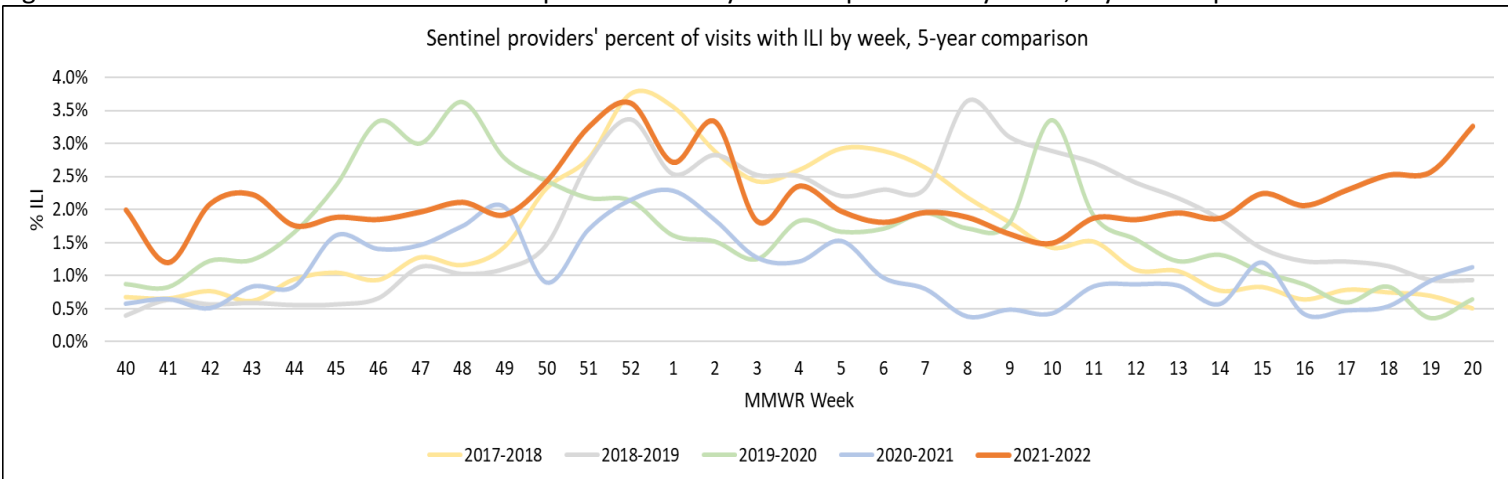
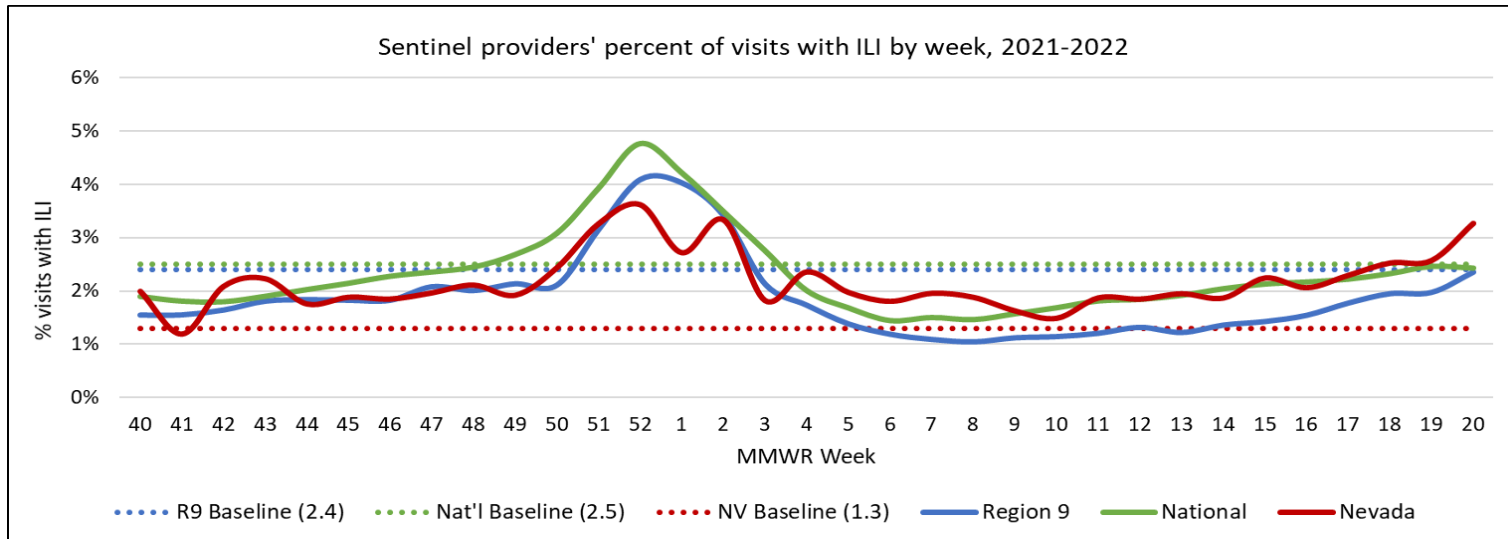


Figure 3: Percent of sentinel provider visits with ILI by week at the national, regional, and state levels: 2021-2022



State Level Virologic Surveillance

The Nevada State Public Health Laboratory (NSPHL) and the Southern Nevada Public Health Laboratory (SNPHL) provide influenza virus testing and subtyping for specimens submitted for Nevada residents. In the event a Nevada resident is tested in a different state, out of jurisdiction public health laboratories also report these test results to DPBH. For the season, 712 specimens were positive of 76,446 submitted (0.9%). **Figure 4** shows the number of positive influenza results by subtype. Of the 712 positive specimens to date, 6 were typed as influenza B (subtyping not performed) [<1%] and 394 were typed as influenza A (subtyping not performed) [55%], and 312 were typed as influenza A (H3N2)[44%].

Table 1 shows the number of specimens tested by laboratory type this season and the number and percent positive for influenza of any type.

Figure 4: Laboratory confirmed specimens showing subtype of the positives by MMWR week

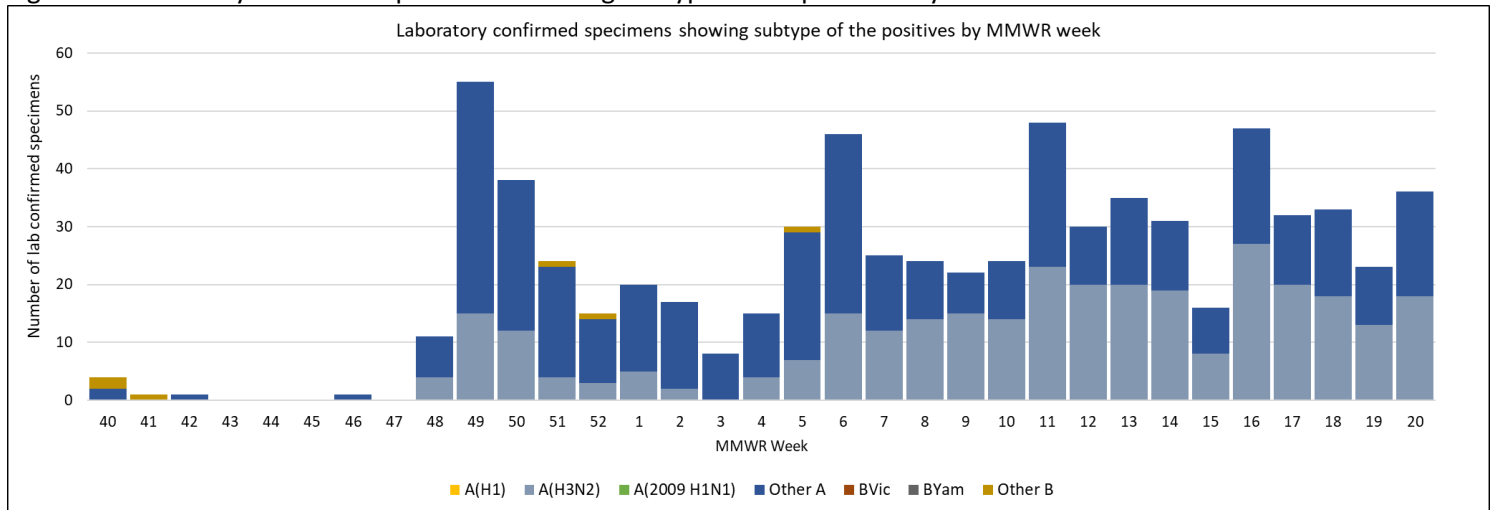


Table 1: Number of specimens tested along with the number positive and the positivity rate (weeks 40-20)

Lab	# of tests performed	# positive	% positive
Nevada State Public Health Lab (NSPHL) ¹	76,026	602	0.8%
Southern Nevada Public Health Lab (SNPHL)	376	105	27.9%
Out of jurisdiction public health labs ²	44	5	11.4%
Total	76,446	712	0.9%

1. Includes specimens submitted using multiplex testing for COVID and influenza – could include asymptomatic patients

2. Includes 11 out of jurisdiction public health laboratories submitting for Nevada residents

Influenza Hospitalizations

LHAs investigate and report Influenza-associated hospitalizations to DPBH via OPHIE. An influenza-associated hospitalization is defined as a hospital admission date 14 days or less *after* a positive influenza test, **OR** a hospital admission date three days or less *before* a positive influenza test. LHAs include the Southern Nevada Health District (SNHD), the Washoe County Health District (WCHD), Carson City Health and Human Services (CCHHS), and Rural Health Services (RHS). **Figure 5** shows the number of patients hospitalized with influenza by jurisdiction. For the 2021-2022 season, SNHD reported 376 (67.1%), WCHD reported 146 (26.1%), CCHHS 32 (5.7%), and RHS reported 6 (1.1%). In total, there were 560 hospitalizations reported statewide for the 2021-2022 season. **Figure 6** shows the number of hospitalized patients by influenza type. During the season, there were 461 Influenza A (not subtyped) [82.3%], 75 influenza A (H3N2) [13.4%], 1 influenza A (H1N1) [0.2%], 17 Influenza B (not subtyped) [3.0%], and 6 that were not typed at all [1.1%].

Figure 5: Influenza-associated hospitalizations by MMWR week for each LHA, 2021-2022

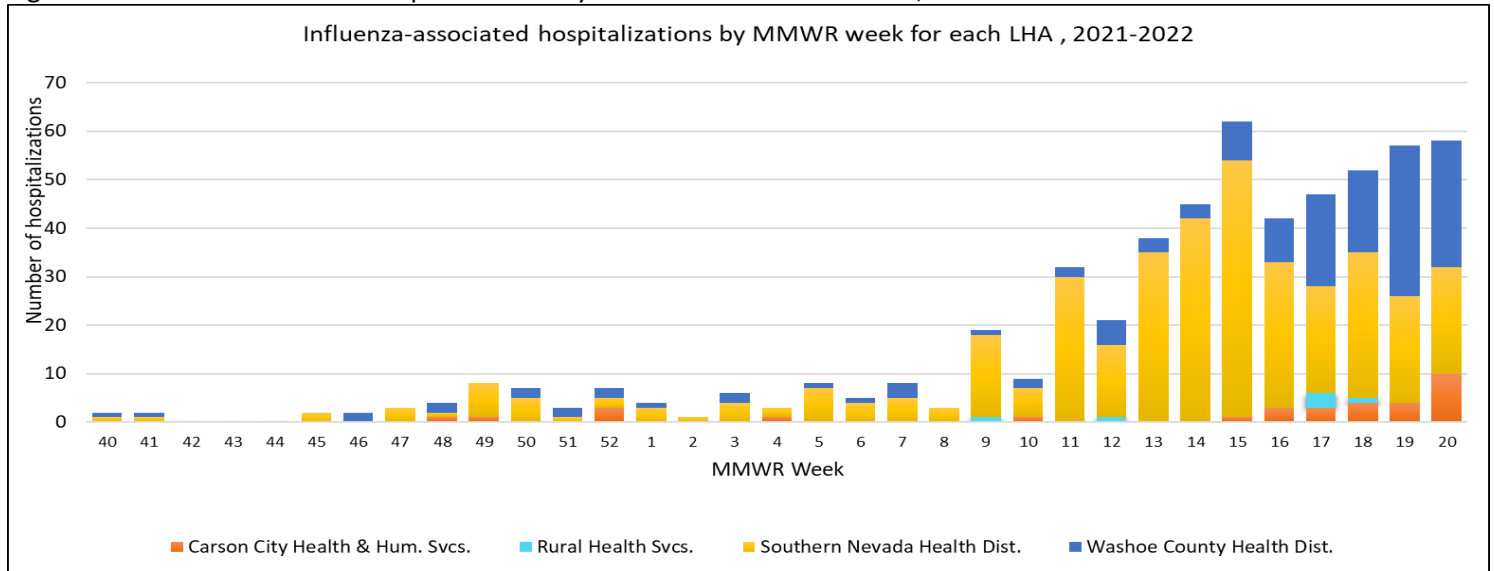
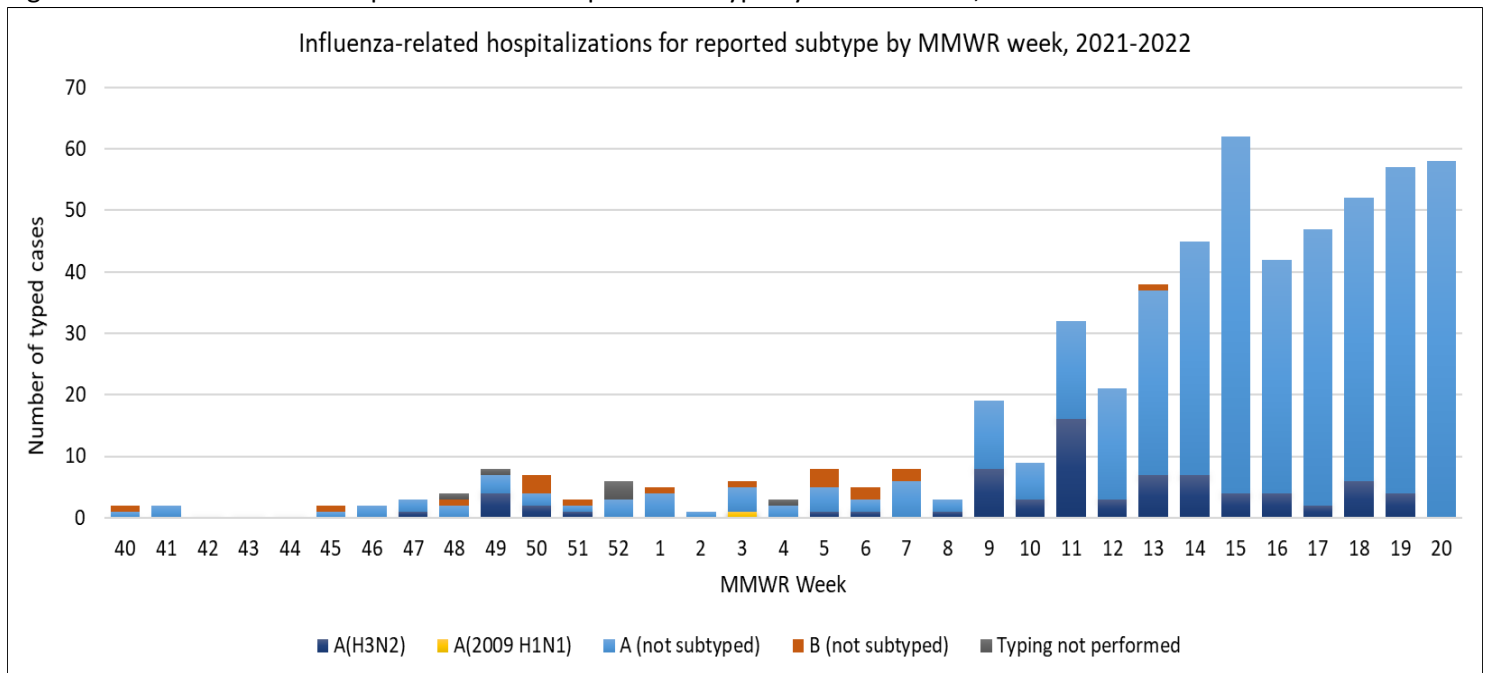


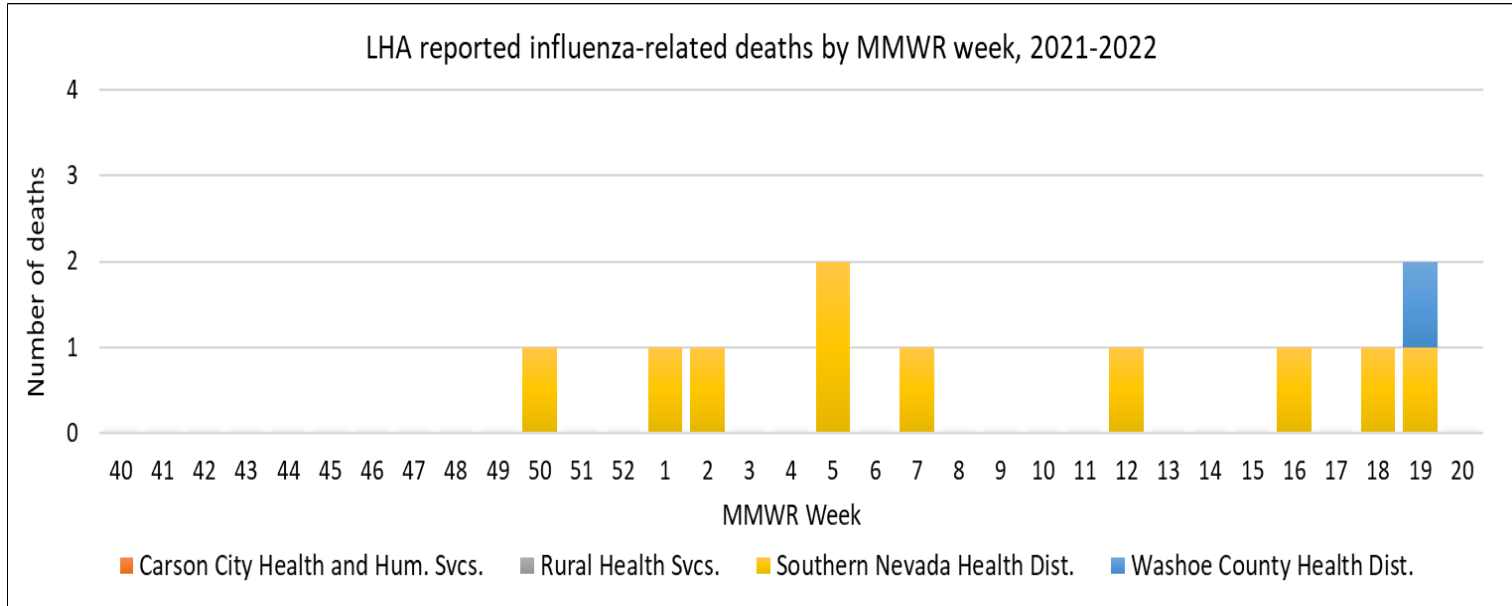
Figure 6: Influenza-related hospitalizations for reported subtype by MMWR week, 2021-2022



Influenza Mortality Reporting

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 influenza season. There were 11 deaths reported statewide during the 2021-2022 season.

Figure 7: LHA reported influenza-related deaths by MMWR week, 2021-2022



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 Platform (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

Figures 8-10 show the number of visits with ILI for emergency, inpatient, and outpatient settings over the past five years. During the season there were 21,010 emergency visits, 808 hospital admissions, and 8,284 outpatient visits reported. **Figure 11** shows the percent of all visits with ILI by age group for the entire 2021-2022 season. For the season 27.3% of visits were for ages 0-4; 30.8% for ages 5-24; 25.0% for ages 25-49; 9.9% for ages 50-64; and 7.0% for ages 65 and older.

Figure 8: Syndromic surveillance - number of emergency visits with ILI by week, five-year comparison

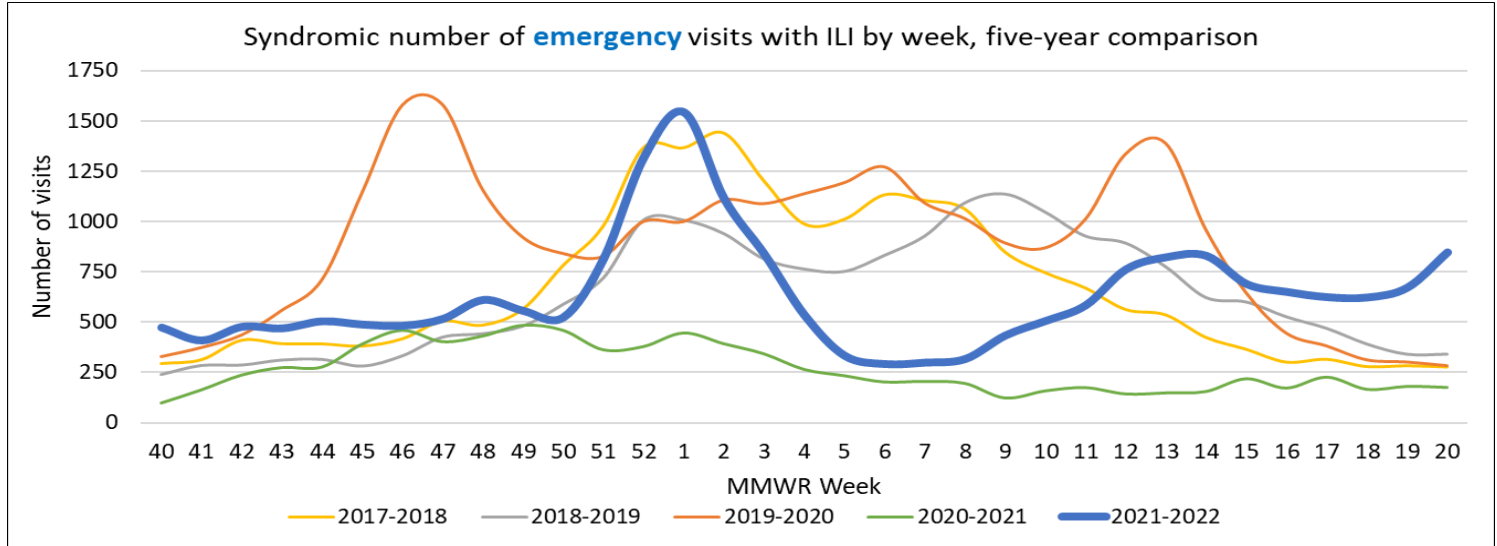


Figure 9: Syndromic surveillance - number of inpatient visits with ILI by week, five-year comparison

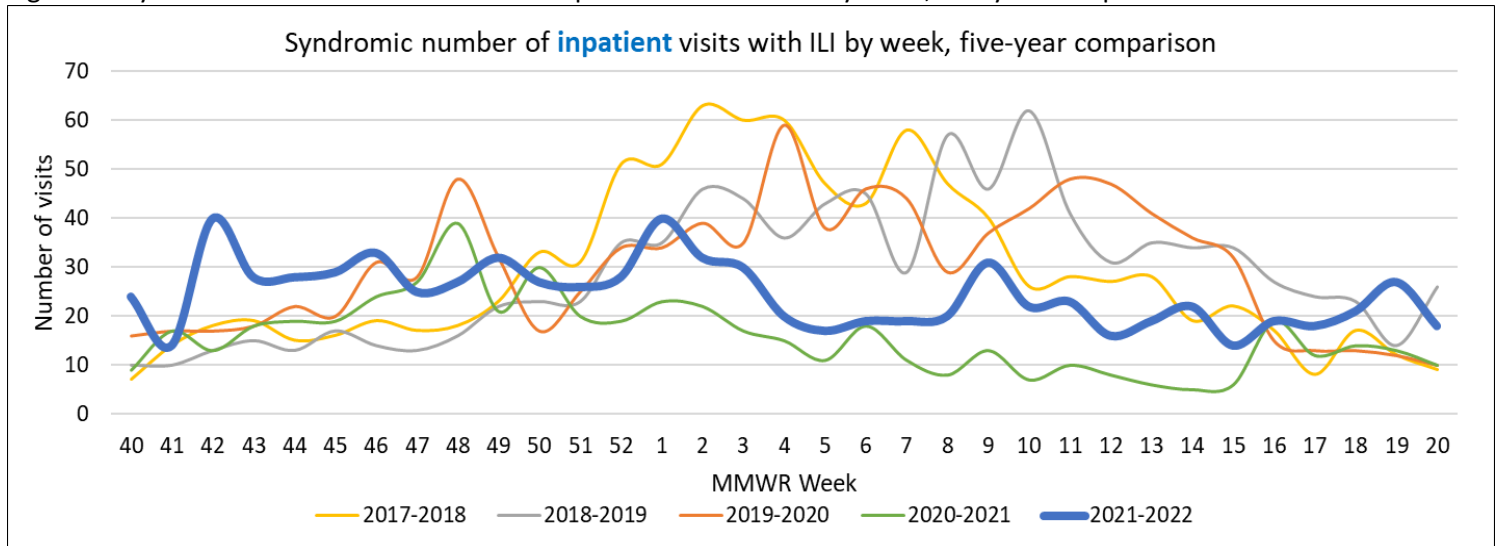


Figure 10: Syndromic surveillance - number of outpatient visits with ILI by week, five-year comparison

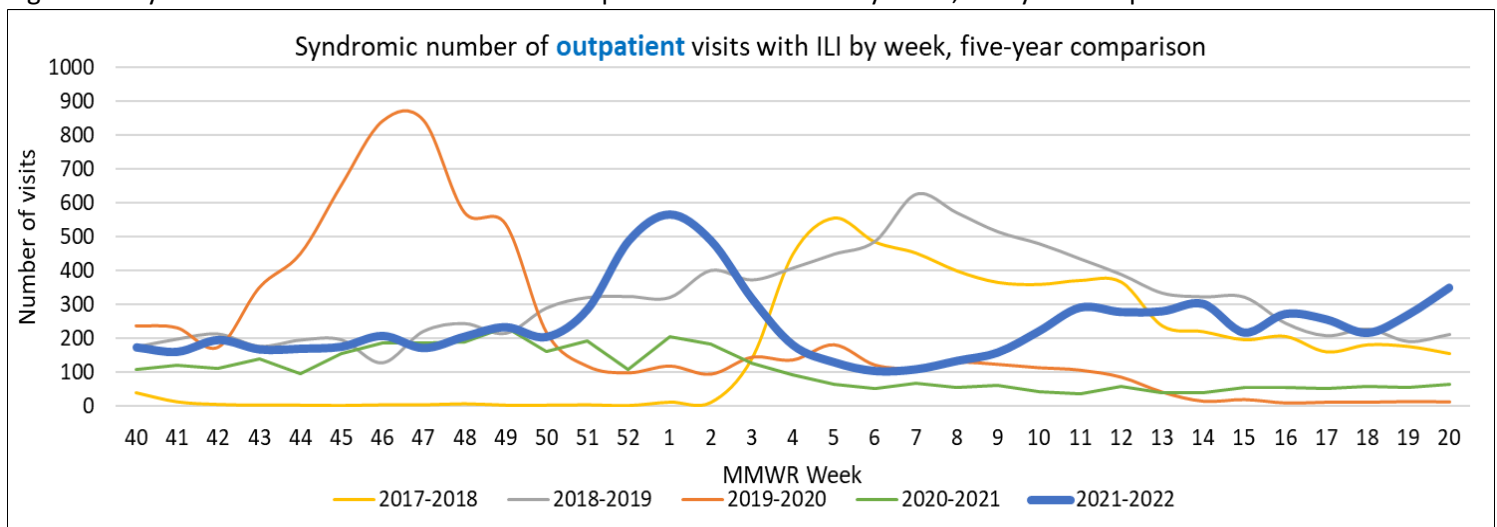
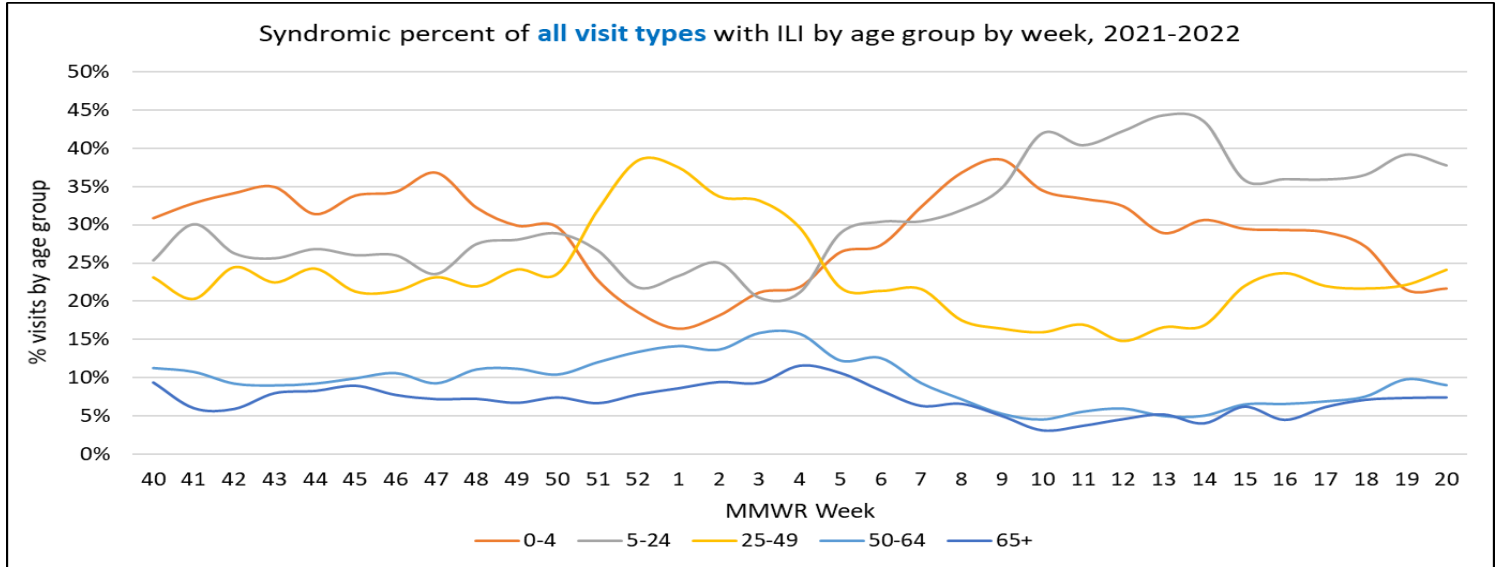


Figure 11: Syndromic surveillance - percent of all visit types with ILI by age group by week, 2021-2022



Pneumonia, Influenza, and COVID-19 (PIC) Mortality Surveillance

Death certificate data are used to calculate pneumonia, influenza, and COVID-19 (PIC) deaths. The Division of Public and Behavioral Health is presently evaluating its data extraction methodology and will report PIC deaths in the future from internal data. The CDC makes PIC death information available in its FluView Interactive GIS application which was used to populate influenza and PIC deaths for the national and regional level and PIC for Nevada in **Figure 12**. Percentages for PIC and influenza mortality are calculated using each location’s total PIC and influenza deaths for the season as the numerator and total deaths for the season as the denominator. Influenza associated death data for Nevada presented in **Figure 12** and **Table 2** were provide by LHAs which investigate all influenza deaths and typically review medical records retroactively up to 30 days from the date of death for an influenza diagnosis.

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. PIC includes all deaths with pneumonia, influenza, and/or COVID-19 listed on the death certificate.

Figure 12: National, Regional, and Nevada Influenza and PIC mortality % by MMWR week

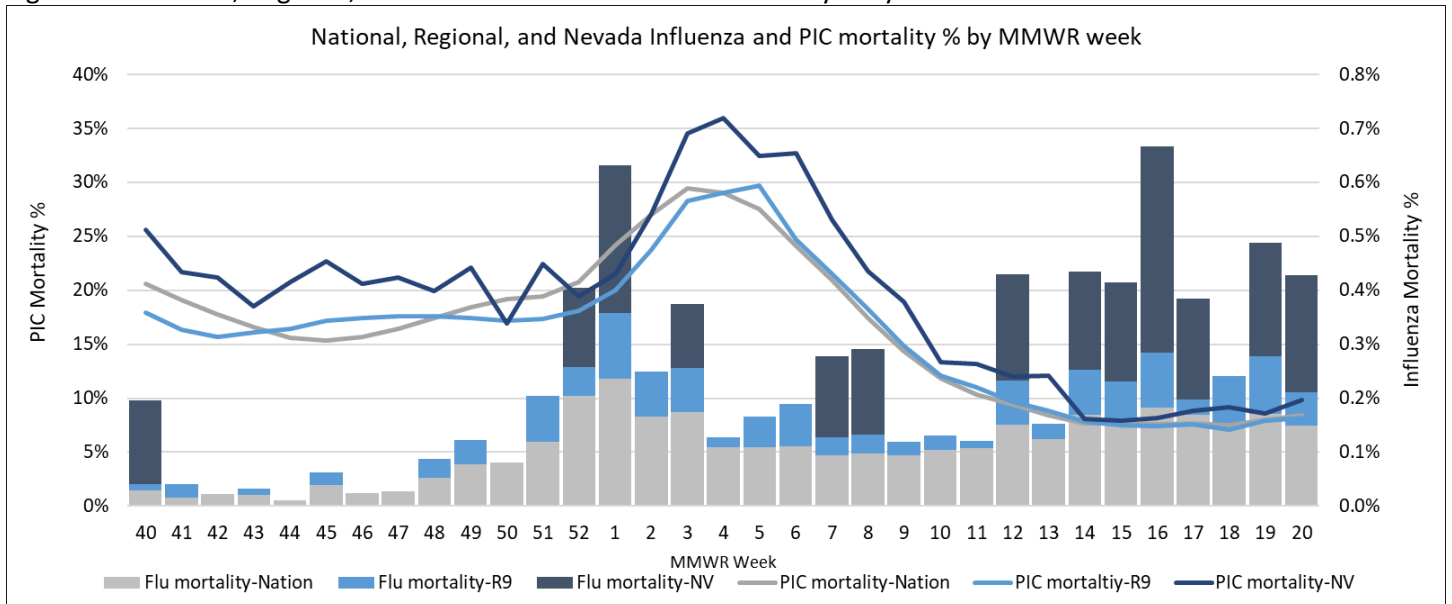


Table 2: Percent influenza and PIC mortality reported for the current week

2021-2022 Season Summary			
Location	Influenza Hospitalizations	Influenza Mortality	PIC Mortality
Nevada	560 (18.68 per 100,000)	11/21,392 (0.05%)	4,317/21,392 (20.2%)*
Region 9	Not available	130/284,411 (0.05%)*	47,372/284,411 (16.7%)*
National	Not Available	2,368/2,220,557 (0.11%)*	379,634/2,220,557 (17.1%)*

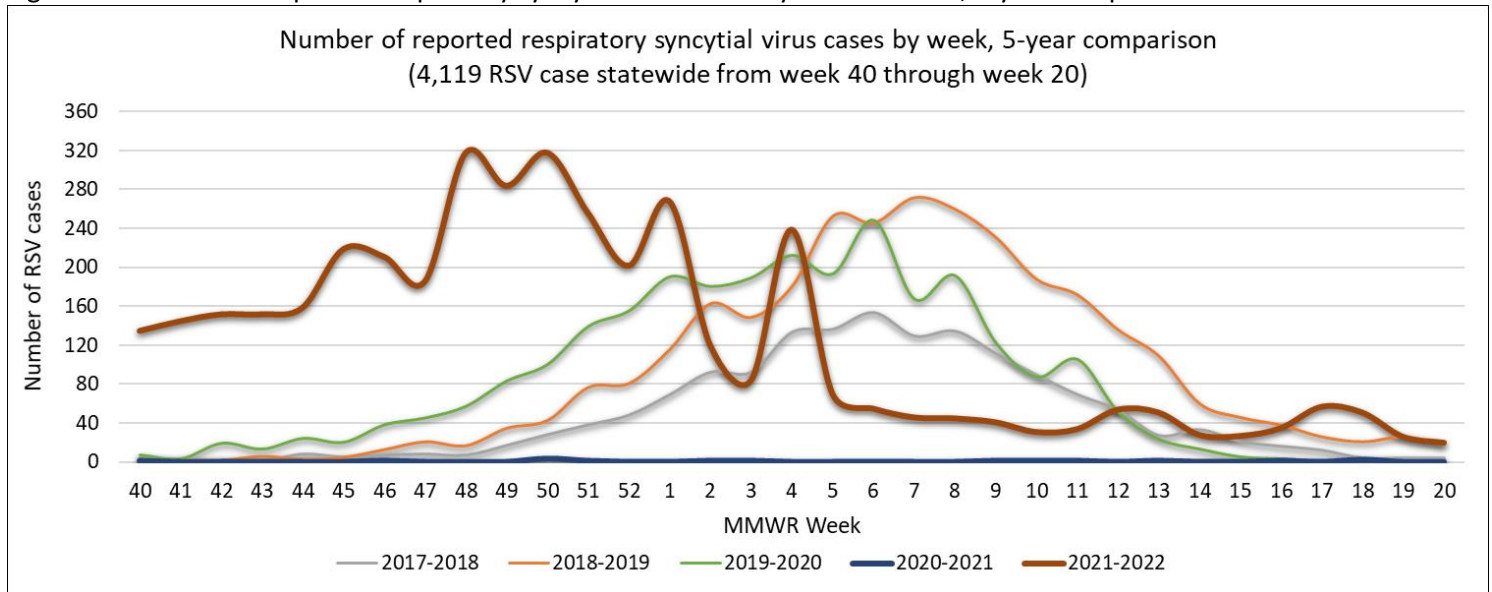
*CDC data based on cause of death listed in vital records

Respiratory syncytial virus (RSV)

Respiratory Syncytial Virus (RSV) activity data are provided by the DPBH’s Office of Analytics who collect the data from Nevada’s National Notifiable Disease Surveillance System (NNDSS)-the National Electronic Disease Surveillance System Base System (NBS).

For the 2021-2022 season, 4,119 Respiratory Syncytial Virus (RSV) cases have been reported. **Figure 13** shows the number of reported RSV cases for the current season compared with the number reported in the past four seasons.

Figure 13: Number of reported respiratory syncytial virus cases by MMWR week, 5-year comparison



References

- Figures 1, 2, and 3 are derived from ILINet sentinel surveillance data submitted by sentinel providers directly to the CDC.
- Figure 4 and Table 1 use ILINet laboratory surveillance data.
- Figures 5, 6, and 7 are compiled from data collected by local health authorities (LHAs) 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 and Table 2 use data from CDC’s FluView Interactive GIS application and LHAs
- Figure 13 is generated from data submitted to Nevada’s NBS/NETSS reporting systems.