Influenza Season Wrap-Up Report
Season 2024 - 2025

Preliminary Report
Division of Disease Surveillance & Control
Office of Epidemiology
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Southern Nevada Health District Influenza Season Wrap-Up Report Season (2024–2025)

Overview

In the United States, Influenza activity often begins to increase during the fall season of each calendar year. While the virus can be transmitted and contracted throughout the year, flu activity typically peaks between December and February and may last as long as May of the following year. This annual time frame is commonly referred to as “flu season.”

During each flu season, the Southern Nevada Health District (SNHD) uses a variety of data sources to create a weekly snapshot which gives the community a timely view of influenza activity within Clark County, Nevada. For the 2024-2025 season, data were collected between October 5, 2024, and May 17, 2025. These dates equate to the Centers for Disease Control and Prevention (CDC) Morbidity and Mortality Weekly Report (MMWR) from Weeks 40 of 2024 through Week 20 of 2025. The goal of this report is to summarize weekly influenza (flu) surveillance data collected during the 2024-2025 flu season in Clark County, Nevada.

Key Influenza Statistics

In Clark County, Nevada, a total of 1,874 hospitalizations and 109 influenza deaths attributed to influenza were reported to SNHD during the 2024-2025 season. There were 2 deaths reported among children under 18 years of age (**Table 1**). A review of the Nevada statewide immunization information system (Nevada WebIZ) showed no documented influenza vaccination for either child. Compared to the 2023-2024 season, the 2024-2025 season saw an increase in the number of reported cases (+468), reported hospitalizations (+469), and reported deaths (+17). These increases coincided with a decline in vaccination rates across all age groups during the same time frame (**Table 2**). Among the hospitalized cases in the 2024-2025 season, it was found that most individuals (92.85%) were either unvaccinated or had an unknown vaccination status **(Table 3).** However, caution should be exercised when interpreting these findings due to limitations such as the lack of integration between the state immunization surveillance system, and local surveillance records.

During the 2024-2025 season, confirmed influenza cases began to rise during MMWR week 46 and peaked during MMWR week 52. This increased trend in cases occurred over a longer period than what was found in the previous season, which saw a noted increase between MMWR weeks 48 and 51. A comparative trend in confirmed influenza cases for the prior three seasons can be found in the figure below (**Figure 1**).

Table 1: Key Influenza statistics (2023-2024 vs 2024-2025 seasons), Clark County, Nevada

	2023-2024	2024-2025
Total Cases	1,436	1,904
Total Hospitalizations	1,405	1,874
Total Deaths	92	109
Pediatric Deaths	1	2
Dominant Strain	Influenza A (not sub-typed)	Influenza A (not sub-typed)

Source: ***SNHD EpiTrax Warehouse***

Table 2: Distribution of influenza vaccine percentage coverage in Clark County, NV by age group and season

Age Group	Population Percentage Vaccinated (Season: 2023 – 2024)	Population Percentage Vaccinated (Season: 2024 – 2025)	Annual Change
0-4	23.17%	19.89%	-3.28%
5-11	14.76%	13.14%	-1.62%
12-17	12.48%	11.40%	-1.08%
18-24	5.89%	5.66%	-0.23%
25-49	9.37%	8.83%	-0.54%
50-64	18.80%	16.50%	-2.30%
65 and above	41.84%	39.25%	-2.59%

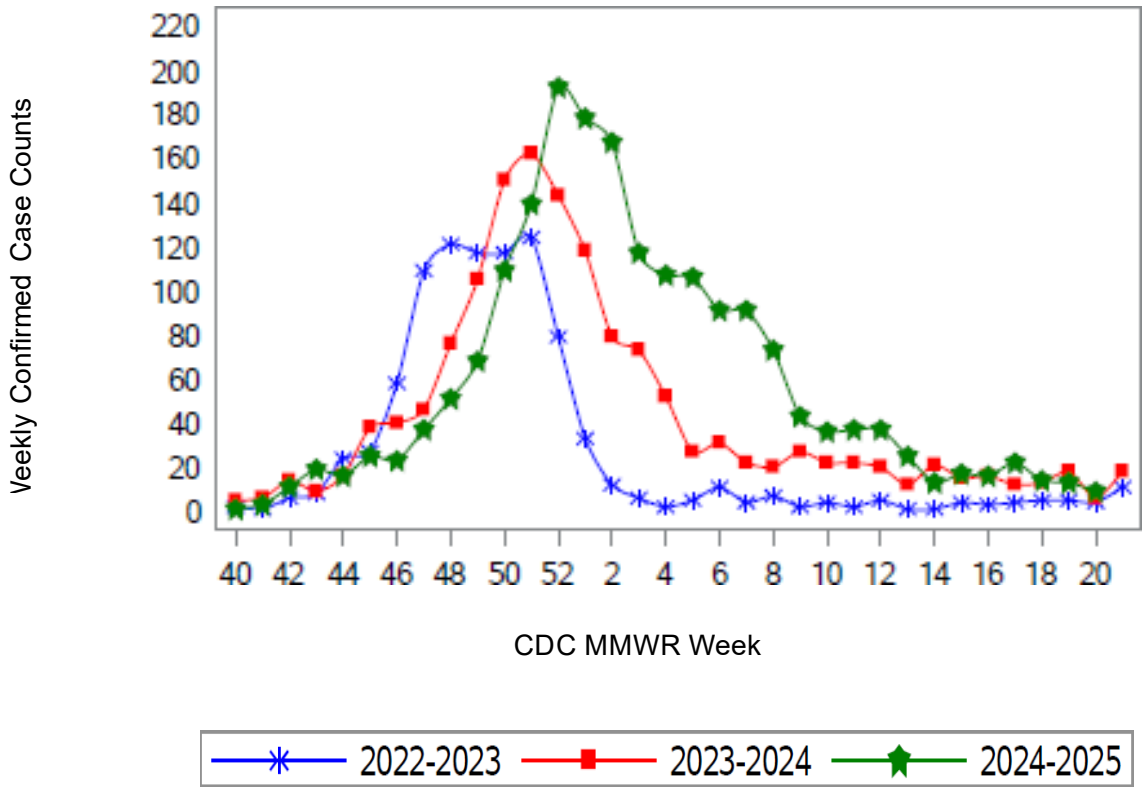
Please Note: **The percentage vaccinated encompasses the number of single doses administered to individuals between MMWR weeks 36 – 20 to allow for immunogenicity.**
Vaccine Data Source: ***NVWebIZ***
Population Data Source: ***NV Demographer Office, Vintage 2023, Projection Year 2024 and NV Demographer Office, Vintage 2023, Projection Year 2025***

Table 3: Vaccination status Among Hospitalized Influenza Cases within Clark County, Nevada - Season (2024–2025)

Vaccination Status	Number of Cases	Percent (%)
Previously Vaccinated, documented	134	7.15
Not Vaccinated	7	0.37
Unknown or Not Specified	1733	92.48
Total	1874	100.00

Source: ***SNHD EpiTrax Warehouse***

Figure 1: Seasonal Trend Comparison of Confirmed Influenza Cases by MWMR Week within Clark County, NV



Source: ***SNHD EpiTrax Warehouse***

SNHD Laboratory based Surveillance

Influenza associated Hospitalizations

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 with a hospitalization greater than 24 hours. The Southern Nevada Public Health Laboratory (SNPHL), commercial laboratories, and healthcare providers reported hospitalizations and deaths among patients who tested positive for influenza by one of the following methods, viral culture, immunofluorescence antibody testing, serology, Rapid Influenza Diagnostic Tests (RIDTs), as Reverse-Transcriptase Polymerase Chain Reaction (RT-PCR), or a positive unspecified influenza test noted in the medical chart.

In addition, to influenza type, reports also included subtype information for influenza A specimens. Table 4 presents testing data for the 2024-2025 season, including types and subtypes identified. The predominant circulating influenza virus type that was found was Influenza A, which accounted for 91.95% of all laboratory-confirmed cases. Among these, most of the specimens (75.67%) were not subtyped. Of the specimens that were subtyped, seasonal A (H3) was reported most often in the community at (10.94%), followed by A (H1N1) (5.34%).

Table 4: Influenza associated hospitalizations by viral type within Clark County, Nevada (Season: 2024-2025)

Influenza Virus		Test Type			
Type	**Subtype**	**RIDT**	**Non RIDT**	**Total**	**Percent (%)**
A	Seasonal H3	0	205	205	10.94
	H1N1 pdm09	0	100	100	5.34
	(not subtyped)	147	1,271	1,418	75.67
B		57	92	149	7.95
Unknown		2	0	2	0.11
Total		**206**	**1,668**	**1,874**	**100**

Source: ***SNHD EpiTrax Warehouse***
RIDT = Rapid Influenza Diagnostic Test

Among Influenza associated hospitalizations reported to SNHD during the 2024-2025 season, adults aged ≥65 years accounted for the highest proportion, comprising 52.19% of all hospitalized individuals. This was followed by those aged 50-64 years, who represented 18.62% of all hospitalized cases (**Table 5**).

Of all the hospitalized influenza cases, 302 individuals (16.02%) were admitted to intensive care units (ICU), and 1,461 (77.96%) received antiviral treatment during their illness. In addition, 111 patients (5.92%) required treatment via a ventilator, and 1,533 (81.80%) were found to have at least one underlying medical condition (**Table 6**). Figure 2 provides a breakdown of hospitalized cases based on select underlying health conditions.

Table 5: Influenza associated Hospitalizations by Age Group within Clark County, Nevada (Season: 2024-2025)

Age Group	Number of Hospitalizations	Percent (%)
0-4	127	6.78
5-17	118	6.30
18-24	43	2.29
25-49	259	13.82
50-64	349	18.62
65+	978	52.19
Overall	1,874	100.00

Source: ***SNHD EpiTrax Warehouse***

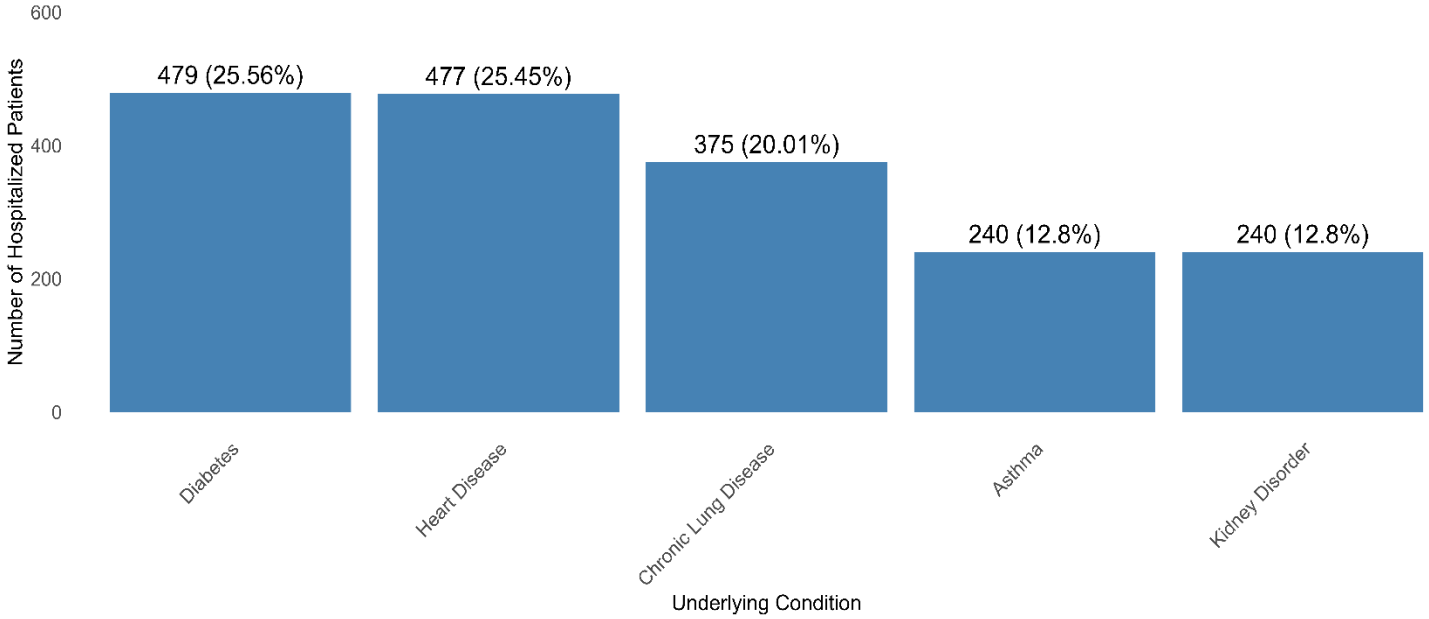
Table 6. Influenza Severity Indicators, Clark County, Nevada (Season: 2024-2025)

Severity Indicators	Number of Patients	Percent (%)
Hospitalized for more than 24 hours	1874	100.00
Ventilator Use	111	5.92
Admitted to Intensive Care Units (ICU)	302	16.12
Antivirals administered during illness	1461	77.96
Underlying medical conditions	1533	81.80

Source: ***SNHD EpiTrax Warehouse***

Figure 2: Frequency of Select Underlying Conditions among Hospitalized Patients with Influenza (Season 2024 -2025)

Clark County, NV



Please note that individuals may have more than one underlying condition
Data Source: Epitrax

Influenza associated mortality

Influenza-associated mortality includes all deaths resulting from a clinically compatible illness that was confirmed to be influenza by an appropriate laboratory or rapid diagnostic test, with no complete recovery between illness onset and death. SNHD conducts retrospective reviews of medical as well as vital records for up to 30 days following the date of death to identify influenza diagnoses, after notification by laboratories or partner agencies.

As noted in Table 7, there was a total of 109 deaths reported during the 2024-2025 flu season. Of these deaths, (*n*=76, 69.72%) were among individuals aged 65 years and above, with those between 50-64 years (*n*=24, 22.02%) following next. Also, there were a total of 2 pediatric fatalities (1.84%) reported among individuals under 18 years of age. A further evaluation found that the majority (94.50%) of all reported deaths were caused by Influenza A as noted in Table 8.

Table 7: Influenza-associated mortality by Age Group within Clark County, Nevada (Season: 2024-2025)

Age Group	Number of Deaths	Percent (%)
0-4	1	0.92
5-17	1	0.92
18-24	0	0.00
25-49	7	6.42
50-64	24	22.02
65+	76	69.72
Total	109	100.00

Source: ***SNHD EpiTrax Warehouse***

Table 8: Influenza associated mortality by viral type within Clark County, Nevada (Season: 2024-2025)

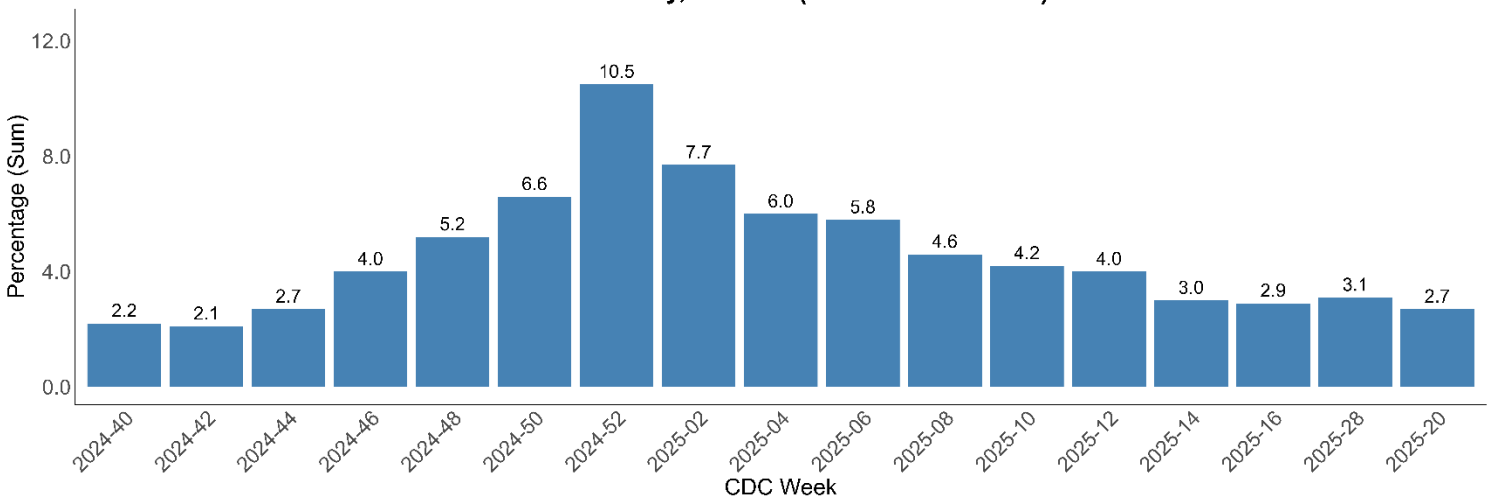
Influenza Type	Number of Deaths	Percent (%)
Influenza A (2009 H1N1)	13	11.93
Influenza A (seasonal H3)	28	25.69
Influenza A (not sub-typed)	57	52.29
Influenza A (RIDT)	5	4.59
Influenza B (non-RIDT)	1	0.92
Influenza B (RIDT)	5	4.59
Influenza (unknown type, RIDT)	0	0.00
Total	109	100.00

Source***: SNHD EpiTrax Warehouse***

SNHD Syndromic Surveillance

SNHD also uses the CDC's Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) to conduct syndromic surveillance in Clark County, NV. When observing the bi-weekly percentage of Emergency Department Visits for Influenza-Like Illness (ILI) for the 2024 – 2025 season within Clark County, Nevada (**Figure 3)**, an increase in the percent of ED visits for ILI was observed starting in week 44 at 2.70% until it peaked at 10.50% during week 52, before declining for the remainder of the season.

Figure 3. Bi-Weekly percentage of Emergency Department Visists for Influenza-Like Illness Clark County, Nevada (Season 2024-2025)



Source: ***Centers for Disease Control and Prevention. National Syndromic Surveillance Program.***

Wastewater Surveillance for Influenza Virus

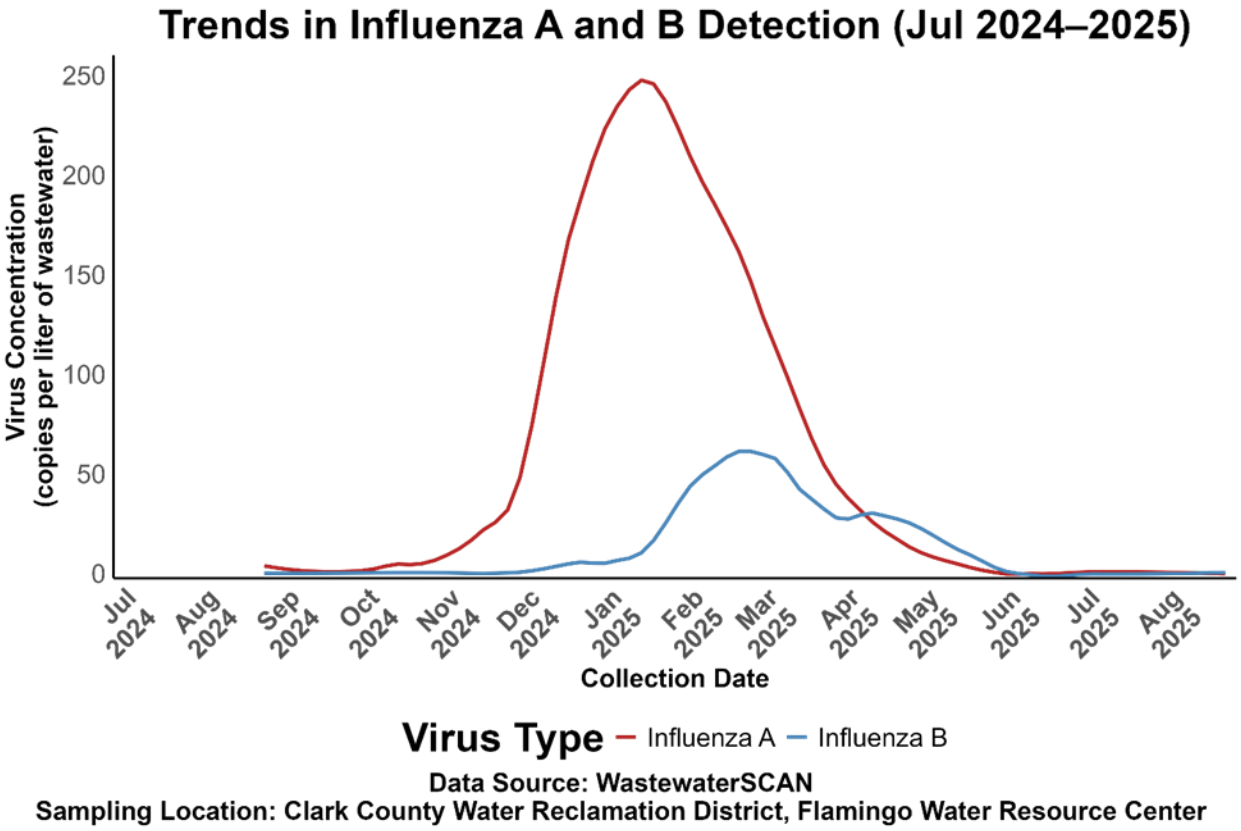
The Southern Nevada Health District (SNHD) conducts wastewater surveillance at the Flamingo Water Resource Center in Clark County, Nevada, serving approximately 2.4 million residents. Samples are collected twice a week and analyzed by two separate programs: WastewaterSCAN, which tests solid samples, and Verily Laboratories, which tests liquid influent.[1] Due to differences in sample matrices and analytical methods, variations in virus concentrations between the two vendor laboratories are expected.[2-4] Solid samples retain and integrate viral signals over time, enabling earlier detection and higher recovery efficiency. Approximately 95% of influenza virus particles adsorb to solids, whereas only about 5% remain in the liquid fraction. Liquids flow more quickly through the wastewater system, leading to a lower recovery rate, greater dilution during stormwater events, and shorter detection periods.[1-6].

During the 2024–2025 influenza season, Influenza A **(Figure 4: A and B)**, emerged as the predominant virus, regardless of the data source. WastewaterSCAN detected Influenza A activity beginning in mid-October 2024, peaking sharply in mid-January 2025 at about 250 viral copies per liter, and continuing through June 2025. Verily also showed activity starting in late- October 2024, peaking in February 2025, but ending earlier in late May 2025, with a much lower maximum concentration of about 1.25 viral copies per liter. These trends align with the trends observed in the syndromic surveillance data for emergency department visits noted above **(Figure 3).**

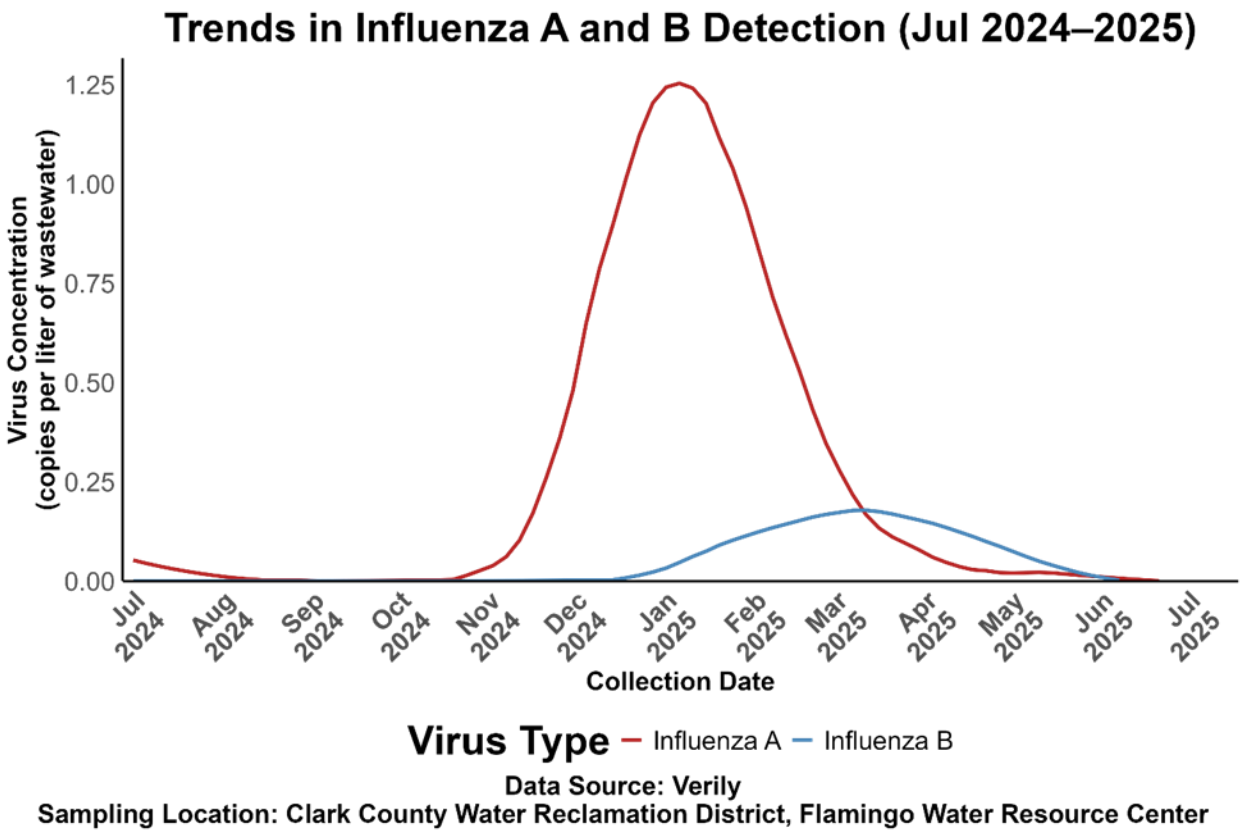
In contrast, Influenza B emerged later in the season and showed a more gradual progression (Figure 4: A and B). WastewaterSCAN observed rising viral copies per liter beginning in December 2024, peaking in mid-February 2025 at roughly 50 copies per liter, before declining through June. Verily laboratories, by comparison, reported onset in late December, a peak in mid-March 2025 at approximately 0.24 copies per liter, and a similar decline by June. For both viruses, solids data generally indicated an earlier onset and peak activity compared with the corresponding liquid samples.

Figure 4. Weekly Trends of Wastewater Viral Concentrations of Influenza A and B at Flamingo Water Resource Center, Clark County, Nevada (Season 2024-2025)

A) Source of Data: WastewaterSCAN



B) Source of Data: Verily Laboratories



Influenza H5N1

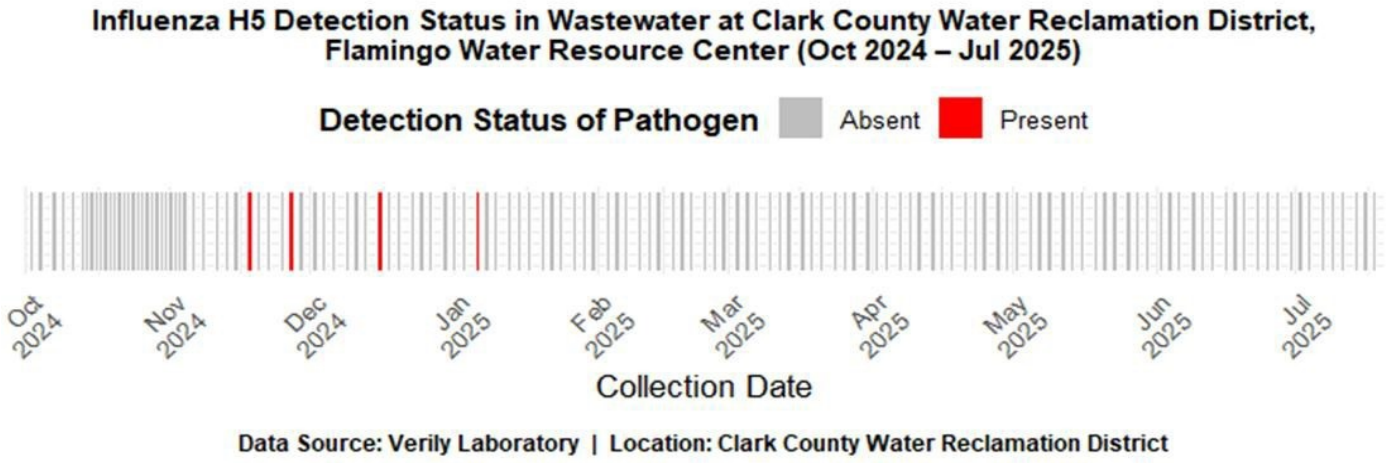
Influenza A virus subtype H5N1, is an enzootic virus that infects many species of birds and can also infect humans and other mammals. It is more commonly referred to as “avian influenza” or “bird flu”. While not a novel subtype of the influenza A virus, H5N1 was the subject of increased surveillance over the last few years due to its ability to infect multiple animal species including humans. During this last influenza season, H5N1 was discovered in multiple dairy cattle within the state as well as one dairy farm worker.[8 –11] Along with these detections, Influenza H5 was also detected in wastewater samples from Clark County, Nevada. When looking at the Verily data, the presence of H5 was detected multiple times during the 2024-2025 season, while this subtype was only detected once using the WastewaterSCAN data, due to differences in sample matrices (solids vs. liquids) tested by Verily and WastewaterSCAN, as well as variations in analytical methods, discrepancies in virus concentrations may occur. Several studies support the observation that higher levels of analytical interference occur in wastewater solids compared to liquids, often due to complex matrices and the presence of particulate matter (**Figure 5: A and B)**. [5-7] Through a multi-agency investigation, it was determined there was a milk processing facility within the sampling boundaries of the Clark County Water Reclamation District that was receiving milk from an infected farm in Nye County, suggesting a potential source of exposure.[12-13]

Once detected, state agencies proceeded to both monitor farm workers for clinical symptoms while also distributing personal protective equipment and informational materials to farms about virus and disease prevention.

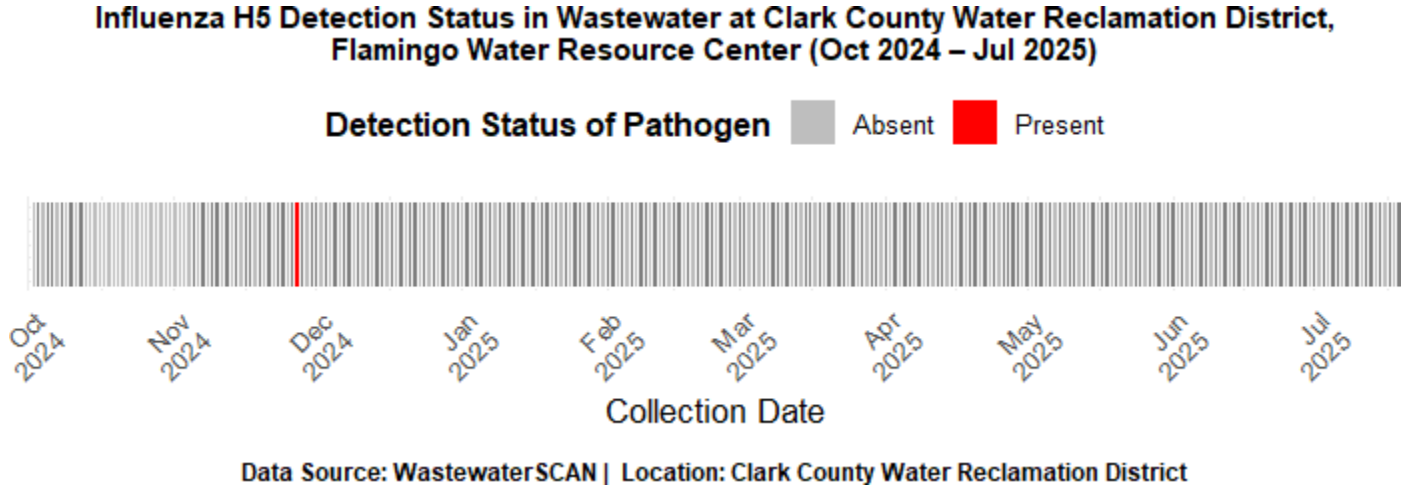
Due to various detections of Influenza H5N1 within the state, SNHD will continue to monitor both future wastewater detections and potential human cases while working with state and local stakeholders.

Figure 5: Heat Map of Influenza A, H5 Subtype Detection Status During the 2024–2025 Season

A) Source of Data: Verily Laboratories



B) Source of Data: WastewaterSCAN.org



Recommendations Moving Forward

The data presented in this report highlight trends and challenges observed during the 2024-2025 influenza season in Clark County, Nevada. As the public health landscape continues to change due to factors such as evolving respiratory viruses, shifting health behaviors, and emerging surveillance technologies, it is increasingly important for local health jurisdictions to adapt prevention and response strategies.

As such, the following recommendations aim to strengthen influenza control efforts, improve early detection, and reduce community-level transmission in future seasons.

1) Continue to encourage annual influenza vaccination among eligible individuals

The decreased rate of influenza vaccination across all age groups during this last season may indicate a shift in public perception in both vaccination and the perceived severity of respiratory diseases. A recent survey by the National Foundation for Infectious Disease (NFID),[8] found that fewer adults in the United States intended to get vaccinated against different respiratory pathogens (such as COVID-19 and influenza) at the onset of the 2024–2025 season when compared to the previous season. Of note, only 17% of adults were found to be concerned about themselves or another family member contracting influenza.

However, the survey also revealed that personal experience with influenza influenced attitudes toward vaccination. Among adults diagnosed with flu in the prior two years, 72% reported they were likely to get vaccinated during the upcoming season. This disparity highlights the importance of targeted outreach and localized insights.

To strengthen influenza vaccine uptake, SNHD could consider exploring two key strategies:

A) **Evaluate local viewpoints towards respiratory diseases and their vaccines**

While national data may provide valuable context, the decision to vaccinate is nuanced and shaped by local beliefs and experiences. As such caution should be taken when trying to apply national viewpoints on a localized scale. Conducting localized surveys could help SNHD understand specific concerns or misconceptions which could help guide the development of future interventions within the community.

B) **Existing data should be leveraged to guide future vaccine education and events**

SNHD should use existing data sources (both internal and external) to help guide future vaccine educational campaigns and events within Clark County. By leveraging systems such as the state Immunization Information System (NV WebIZ), the SNHD disease surveillance system (EpiTrax), and demographic and geographical population data SNHD could identify areas where there is a need for increased vaccination. When combined with survey data regarding local viewpoints towards vaccines, campaigns and outreach events can be planned for different vaccinations.

2) Promote preventative strategies to limit community transmission

While vaccination remains the bedrock of influenza prevention, it must be paired with other non-pharmaceutical interventions to effectively reduce transmission and by extension hospitalizations and mortality during influenza seasons. Continued promotion of everyday preventative behaviors can help limit the spread of the disease and protect vulnerable populations. Strategies to emphasize include:

A) **Staying home when symptomatic or ill**

B) **Practicing proper respiratory hygiene (e.g., covering coughs and sneezes)**

C) **Frequent handwashing or use of hand sanitizers**

D) **Use of face masks**, particularly in crowded or high-risk settings (e.g., healthcare

facilities, long-term care homes, public transit)

Public messaging from local health jurisdictions should normalize and reinforce these behaviors, especially in the context of overlapping respiratory virus seasons (e.g., flu, RSV, COVID-19). Embedding these habits into workplace, school, and community settings can reduce both influenza and respiratory pathogen morbidity and mortality.

3) Expand and Enhance Influenza Surveillance System

Innovations such as wastewater surveillance offer promising opportunities to detect and monitor respiratory pathogens, including influenza, at the community level. For jurisdictions like SNHD, this represents a novel layer of early warning that complements traditional clinical and syndromic data.

However, due to the relative novelty of these tools, two key avenues should be prioritized:

A) **Strengthening Epidemiological Correlations:**
Due to various testing techniques and normalizations methods, additional work is needed to validate potential correlations with different morbidity measurements such as diagnosed cases and hospitalizations. Such validation would support the integration of wastewater data into routine influenza surveillance and assessments both from a scientific and stakeholder perspective.

B) **Enhancing both Public and Stakeholder Communication:**
As wastewater data becomes more visible to general audiences, it is important to develop effective communication strategies that explain what surveillance signals mean and what preventative actions they should trigger. Such strategies will be essential to build trust and ensure the sustainability of these novel data sources.

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