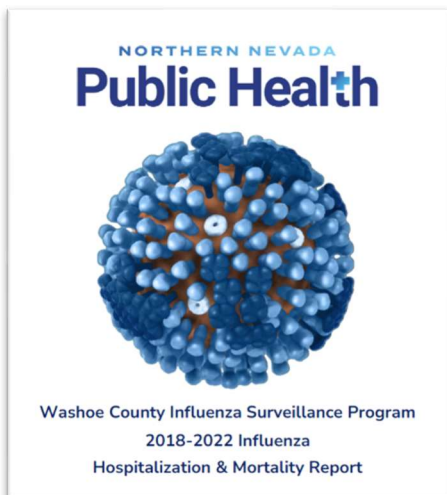


IN THIS ISSUE: 2018-2022 INFLUENZA HOSPITALIZATION & MORTALITY REPORT**2018-2022 Washoe County Influenza Hospitalization & Mortality Report****Introduction**

Prior to the 2018-2019 influenza season, influenza hospitalizations and deaths were analyzed and published annually to aid in these surveillance purposes, as well as review more in-depth the severity and trends of influenza in the prior influenza season. However, due to the COVID-19 pandemic, this publication was suspended. A five-year cumulative report for the 2018-2022 influenza seasons (September 30, 2018-May 20, 2023) has been published to allow a review of local data directly before, during, and after the introduction of COVID-19 at a more granular level.



This publication, as well as past influenza publications, can be found at Northern Nevada Public Health's (NNPH) Influenza Surveillance Program website here:

<https://tinyurl.com/WCFluSurv>

Data

Data were reported to and collected by the NNPH Epidemiology Program through laboratory reporting from local hospitals, private laboratories, and the Nevada State Public Health Laboratory (NSPHL), as well as medical record reviews from hospitals, Nevada state immunization registries, Office of Vital Records, and the Washoe County Medical Examiner.

Influenza-Associated Hospitalizations

During the 2018-2022 influenza seasons, a total of 1,093 Washoe County residents were hospitalized with influenza.

- ◆ Post-COVID-19 seasons were the outliers to what “normal flu seasons” historically were.
 - ◆ 2020-2021 had nearly no influenza detected.
 - ◆ 2021-2022 peaked later in the spring.
 - ◆ 2022-2023 had significantly higher and sharp increases and decreases in reported cases.
- ◆ Of the hospitalized, 19% were admitted to the intensive care unit (ICU), 7% were intubated, and 5% died.
- ◆ Most were 65 years or older (43.4%), males (53.4%), white, non-Hispanic (69.4%), had at least one underlying medical condition (UMC) (76.9%), and were unvaccinated (65.8%).
- ◆ Most frequently reported UMCs/risk factors were obesity, chronic pulmonary diseases, diabetes, a former smoking status, and cardiac disease.
- ◆ 46.3% had a current or former smoking status.
- ◆ The average length of hospital stay was 5.6 days.
- ◆ The average length of hospital stay was nearly twice as long for those with UMCs (6.1 days compared to 3.5 days for those without UMCs).
- ◆ Patients with co-infections (18%) had larger proportions of UMCs, ICU admits, intubation, and died.
- ◆ Most co-infections were bacterial.
- ◆ Of viral co-infections, COVID-19 typically had the highest proportion of patients with severe outcomes, except for ICU admittance in which RSV had the highest proportion.
- ◆ Patients who were intubated were on average 57 years old.
- ◆ Most were positive for influenza type A.

- ◆ A higher proportion of influenza B cases were admitted into the ICU while a higher proportion of influenza A cases died.

Influenza-Associated Deaths

During the 2018-2022 influenza seasons, a total of 71 Washoe County residents were classified as having an influenza-associated death.

- ◆ 54% of deaths occurred in the months of December and January.
- ◆ The average age was 69 years old (*older than hospitalizations*).
- ◆ Most were 65 years or older (66.2%), males (52.1%), white, non-Hispanic (77.5%), had at least one UMC (85.3%), and unvaccinated (62.0%) (*mirrored hospitalizations*).
- ◆ A higher proportion of deaths had an UMC compared to the hospitalizations (*85% compared to 77%*).
- ◆ The most reported UMCs/risk factors were chronic pulmonary diseases, cardiac disease or a former smoking status, diabetes, and neurologic/neuromuscular disorder.
- ◆ 53.5% had a current or former smoking status.
- ◆ Cardiac and smoking UMCs/risk factors were higher in proportion in those who expired *compared to hospitalizations*.
- ◆ Among the 91% of expired cases who reported symptoms, the most common symptoms were cough and shortness of breath.
- ◆ The average time between symptom onset and death was 12 days.
- ◆ Flu type trends among expired cases *mirrored those in hospitalized cases*, dominated by influenza A.
- ◆ 35% had a recorded co-infection (*a higher percentage than among hospitalized cases*). Most co-infections were bacterial, followed by viral then fungal.
- ◆ Cases with co-infection had larger proportions of ICU admits, intubation, and complications compared to those without a co-infection.

Key Findings & Recommendations

1. **Population Vulnerability**- The ≥ 65 age group made up most hospitalizations and deaths; they typically had underlying medical conditions. Future messaging should focus on high-risk populations and their vulnerability to influenza.
2. **Vaccination and Health Outcomes**- Unvaccinated individuals had more severe outcomes. Increased vaccination coverage is needed.
3. **Influenza Strain Dynamics and Laboratory Testing**- Influenza A dominated after the introduction of COVID-19. B Yamagata has not been detected since March 2020. There is continued importance for laboratory testing to monitor flu types and detect changes.
4. **Underlying Medical Conditions and Severity of Illness**- Chronic conditions were more common among those with severe outcomes. Patients with underlying medical conditions experienced longer hospital stays and more severe illness. Messaging should highlight the increased risk for these individuals.
5. **Symptom Variation**- Symptom profiles varied slightly. Future emphasis on symptom awareness, considering cross-over symptoms with RSV and COVID-19 to encourage early detection and treatment as appropriate.
6. **Co-Infections and Outcomes**- People with co-infections had more severe outcomes. Focus on the importance of monitoring and managing co-infections in medical treatment.

Acknowledgements

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