ANNUAL MARYLAND INFLUENZA SEASON SUMMARY

2022-2023 Season

Infectious Disease
Epidemiology and
Outbreak Response Bureau

Maryland
DEPARTMENT OF HEALTH

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Section 1: Introduction

The Maryland Department of Health Infectious Disease Epidemiology and Outbreak Response Bureau conducts continuous statewide influenza surveillance, in coordination with local and federal partners. This report summarizes key influenza-related indicators and data (Table 1) collected and analyzed as part of this program for the 2022-2023 influenza season (October 2022-May 2023).

Table 1: Key Influenza-Related Indicators and Data, Maryland, 2022-2023

Influenza Activity

- Outpatient influenza-like illness (ILI) visits
- Emergency department (ED) and urgent care respiratory illness visits
- Community-based respiratory illness
- Clinical laboratories influenza tests
- MDH Laboratories Administration influenza tests
- Respiratory illness outbreaks

Severity

- Influenza-associated hospitalizations
- Influenza-associated adult deaths
- Influenza-associated pediatric deaths

Vaccination

- Influenza vaccination data

Section 2: Influenza Activity

Outpatient Influenza-Like Illness (ILI)

*The **U.S. Influenza-Like Illness Surveillance Network (ILINet)** collects information from a network of healthcare providers ("sentinel providers") on outpatient visits for respiratory illness. Sentinel providers include emergency departments (EDs), urgent care facilities, student health centers, family practice, internal medicine, OB/GYN and pediatricians. Sentinel providers report, on a weekly basis, the number of patient visits for ILI by age group and the total number of visits for any reason. For ILINet, ILI is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat. The Centers for Disease Control and Prevention (CDC) manage ILINet in collaboration with health departments.*

*ILINet data is used to determine a weekly **ILI activity** level for each U.S. jurisdiction, which is based on the percent of outpatient visits due to ILI in a jurisdiction compared to the average percent of ILI visits that occur during weeks with little or no influenza virus circulation (non-influenza weeks) in that jurisdiction.*

During the 2022-2023 influenza season, in Maryland:

- A total of 67 Maryland sentinel providers reported data to ILINet, with an average of 65 providers (97%) reporting weekly.
- 1,464,034 individuals visited Maryland sentinel providers and 49,504 (3.4%) of those patients reported ILI.

See Figures 1 and 2 for additional data on trends over time in outpatient visits to Maryland sentinel providers for ILI by season, as well as age group-specific data for this season.

Figure 1: Percent Outpatient Visits to Sentinel Providers for ILI by Season

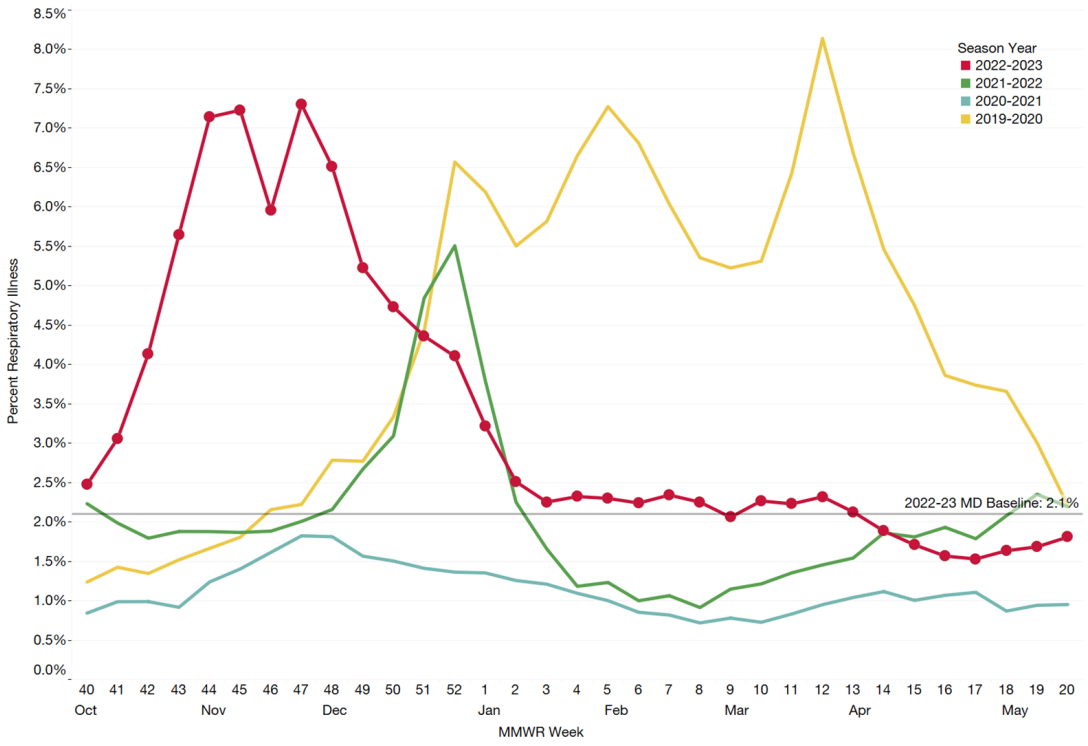
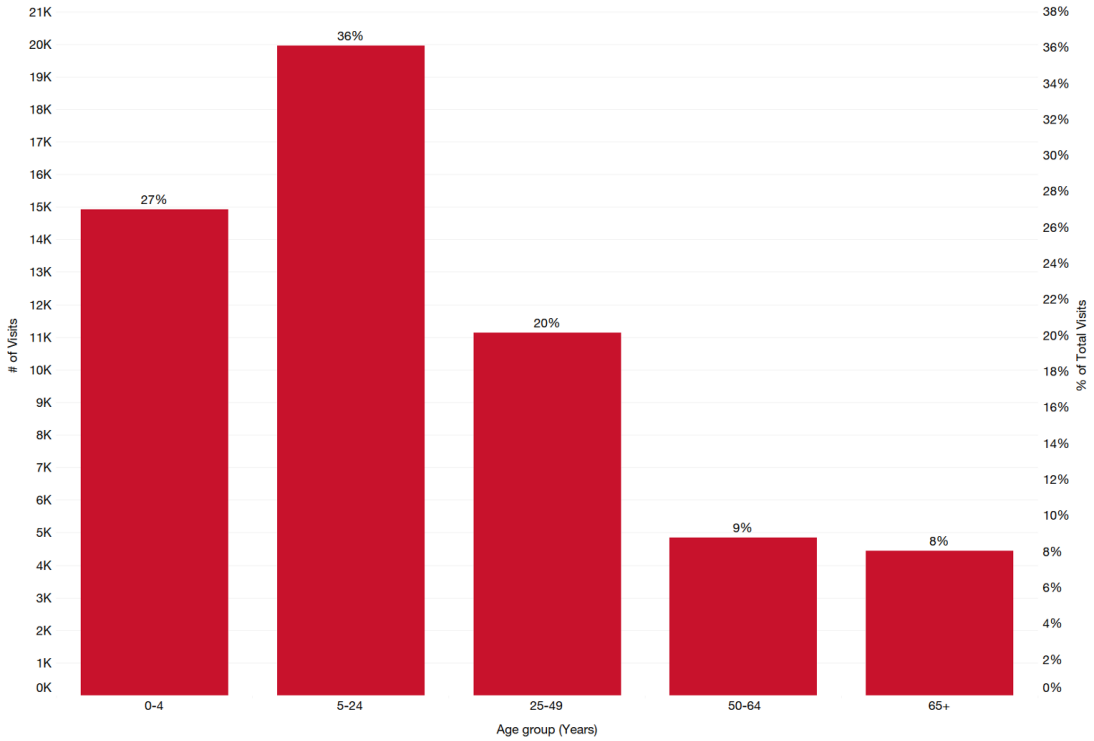


Figure 2: Number and Percent of ILI Visits to Sentinel Providers by Age, 2022-2023 Season



ED and Urgent Care Visits for ILI

Maryland's ***Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)*** *is a syndromic surveillance system that uses multiple data sources, including ED and urgent care visits, to quickly identify disease outbreaks and other suspicious patterns of illness.* For this system, a person with a chief complaint of fever and either a cough or a sore throat, or complaining of "influenza" is classified as an ILI case.

During the 2022-2023 influenza season, in Maryland:

- MDH ESSENCE data sources include 44 EDs and 24 urgent care facilities.
- A total of 1,930,461 individuals visited these ED and/or urgent care facilities, with 84,053 (4.4%) of those individuals reporting ILI.

See Figure 3 and 4 for additional data on trends over time in Maryland ED and urgent care visits for ILI by season, as well as age group-specific data for this season.

Figure 3: Percent of ED and Urgent Care Visits for ILI by Season

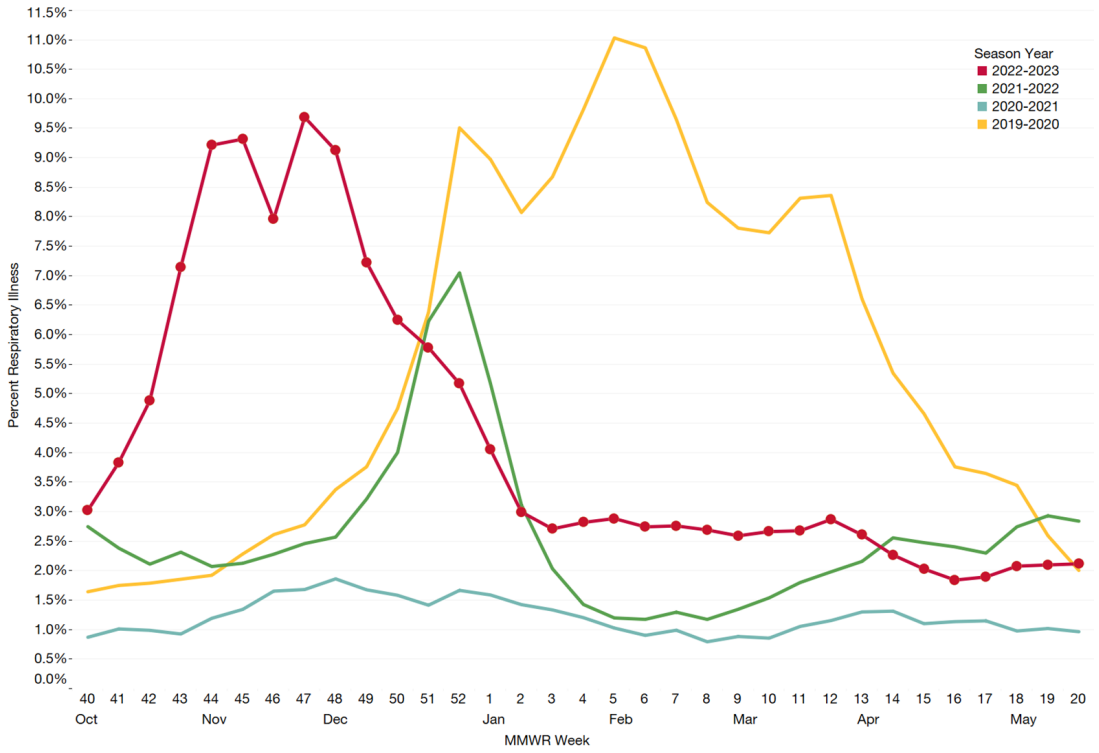
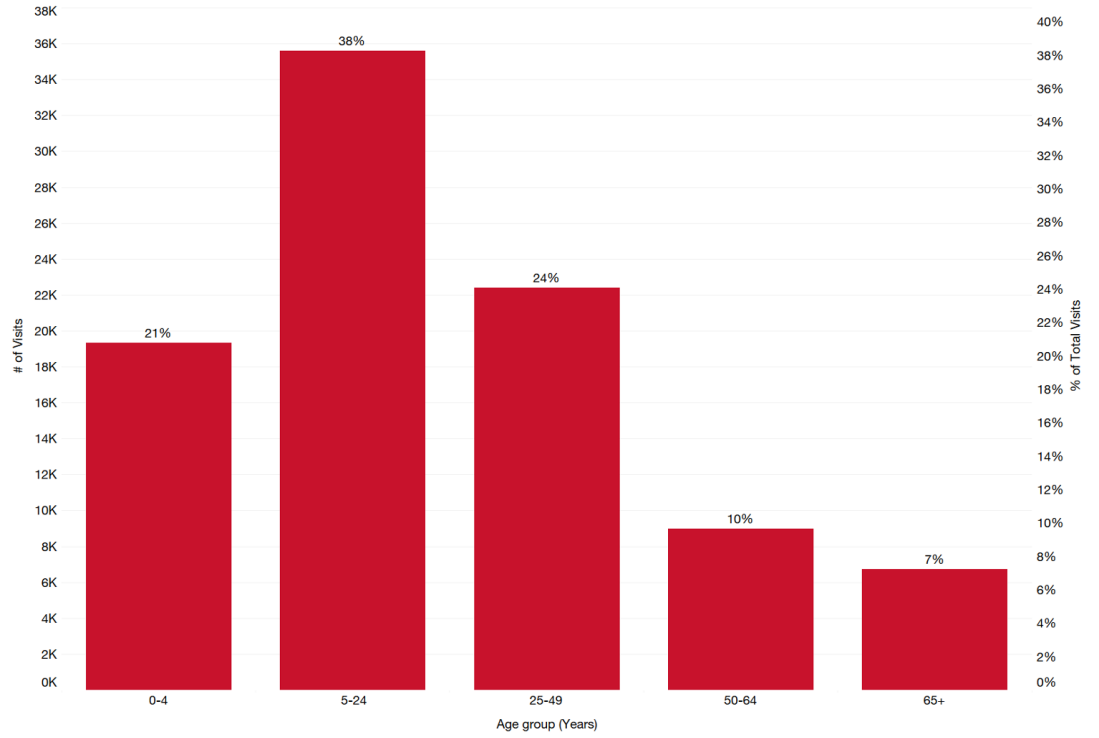


Figure 4: Number and Percent of ED and Urgent Care Visits for ILI, by Age Group, 2022-2023 Season



Community-Based Influenza Surveillance

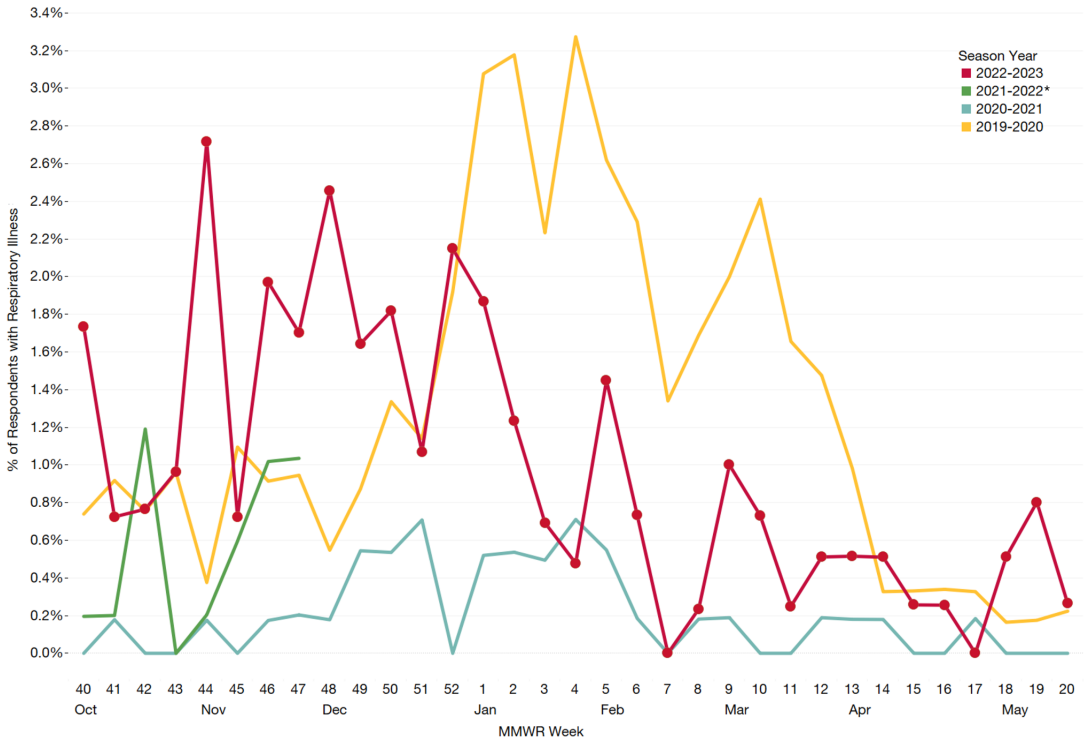
*The **Maryland Resident Influenza Tracking Survey (MRITS)** is an email-based surveillance system where participants are asked weekly if they experience any symptoms of respiratory illness. If they respond in the affirmative, they are asked if they sought any medical care for their symptoms, if they traveled in the week prior to the onset of their symptoms, and if they missed any regular activities. Participants are also asked about their influenza vaccination status and whether or not they work in a healthcare setting. MRITS captures a subset of the population with respiratory illness symptoms who might not be interacting with the healthcare system through outpatient provider visits, EDs, or urgent care facilities.*

For the 2022-2023 influenza season, in Maryland:

- 2,700 participants were surveyed about respiratory symptoms and, on average, 404 (15%) participants reported weekly.
- 134 individuals reported having ILI symptoms and, collectively, missing 289 days of regular activity.

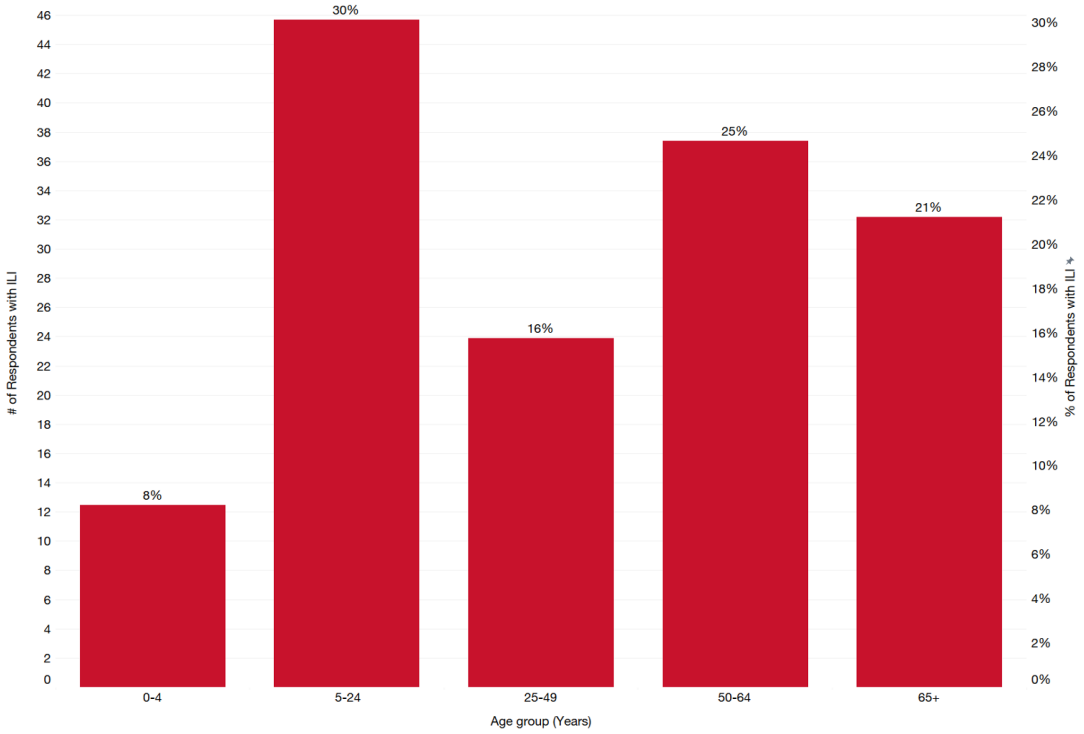
See Figure 5 and 6 for additional data on trends over time in community-based respiratory illness reported through MRITS, by season, as well as age group-specific data for this season.

Figure 5: Percent of MRITS Respondents Reporting ILI



*Due to a network security incident, data for 2021-2022 season is only available until MMWR week 47.

Figure 6: Number and Percent of MRITS Respondents Reporting ILI by Age Group, 2022-2023 Season



Clinical Laboratory Influenza Testing

Many clinical laboratories in Maryland voluntarily report to MDH the total number of influenza tests performed each week and the test results. The majority of these labs perform rapid influenza diagnostic tests (RIDTs). These tests identify influenza cases, but they cannot characterize the different types of influenza lineage and subtypes. Additionally, these tests are less sensitive during low influenza activity.

For the 2022-2023 influenza season, in Maryland:

- 77 clinical laboratories reported data during the season, and, on average, 70 clinical laboratories (91%) reported weekly.
- These laboratories reported 490,476 tests completed during the season, of which 56,496 (11.5%) were positive for influenza. Of the positive tests, 45,916 (81.3%) were Type A and 10,580 (18.7%) were Type B.

See Figure 7-9 for additional data on trends over time in percent positive influenza testing reported by clinical laboratories in Maryland, as well as type for this season.

Figure 7: Influenza Testing Reported by Maryland Clinical Laboratories

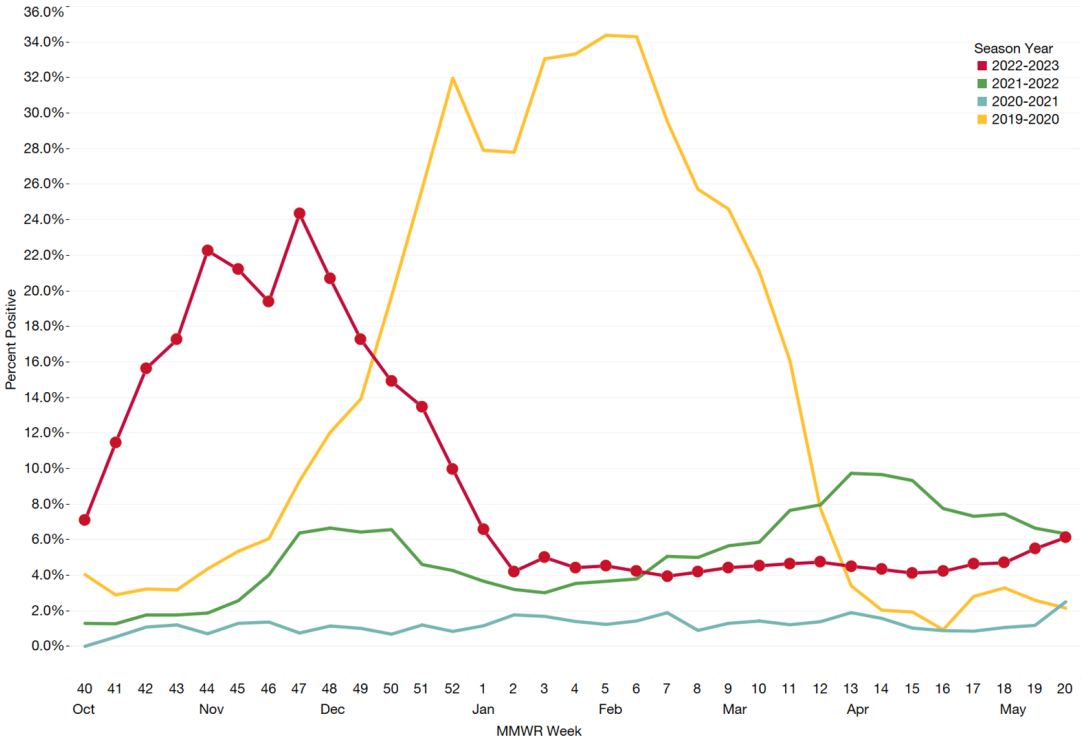


Figure 8: Count of Positive Influenza Tests Reported by Maryland Clinical Laboratories by Influenza Type, 2022-2023 Season

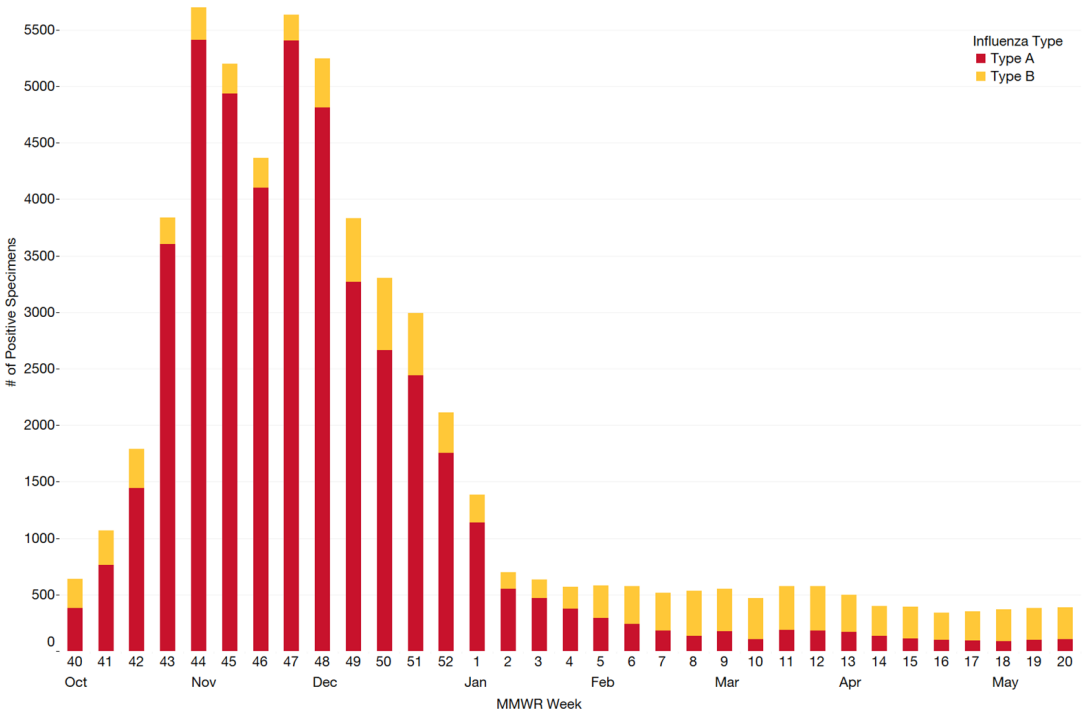
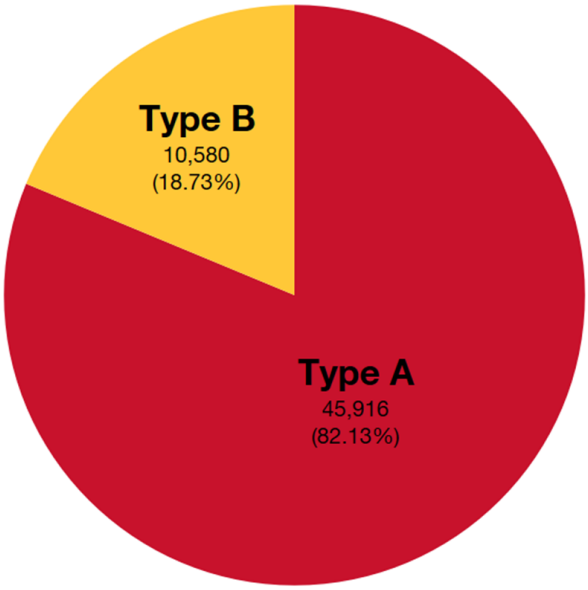


Figure 9: Total Count and Percent of Positive Influenza Tests Reported by Maryland Clinical Laboratories by Influenza Type, 2022-2023 Season



MDH Laboratories Administration Influenza Testing

The MDH Laboratories Administration performs influenza Polymerase Chain Reaction (PCR) tests. These tests are more reliable than RIDTs and can also identify the different types and subtypes of the influenza virus that are known to circulate during the influenza season (e.g. A(H1N1), B/Victoria).

For the 2022-2023 influenza season, in Maryland:

- The MDH Laboratories Administration tested a total of 3,170 specimens with 2,165 (68.3%) testing positive.
- The most common type was Type A H3 with 1,893 (87.4%), followed by Type A H1 with 238 (11.0%) and Type B Victoria with 13 (0.6%).

See Figure 10 and 11 for additional data on trends over time in positive influenza PCR results at MDH Laboratory by season, as well as influenza type and lineage data for this season.

Figure 10: Influenza PCR Testing Reported by MDH Laboratories Administration

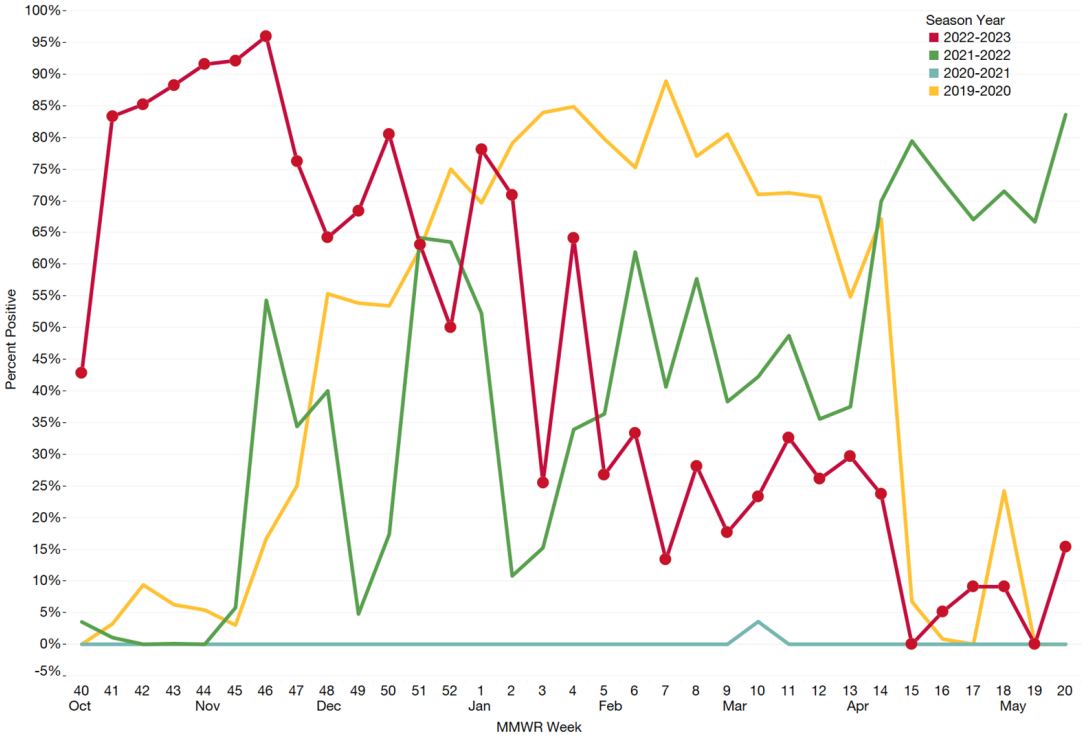
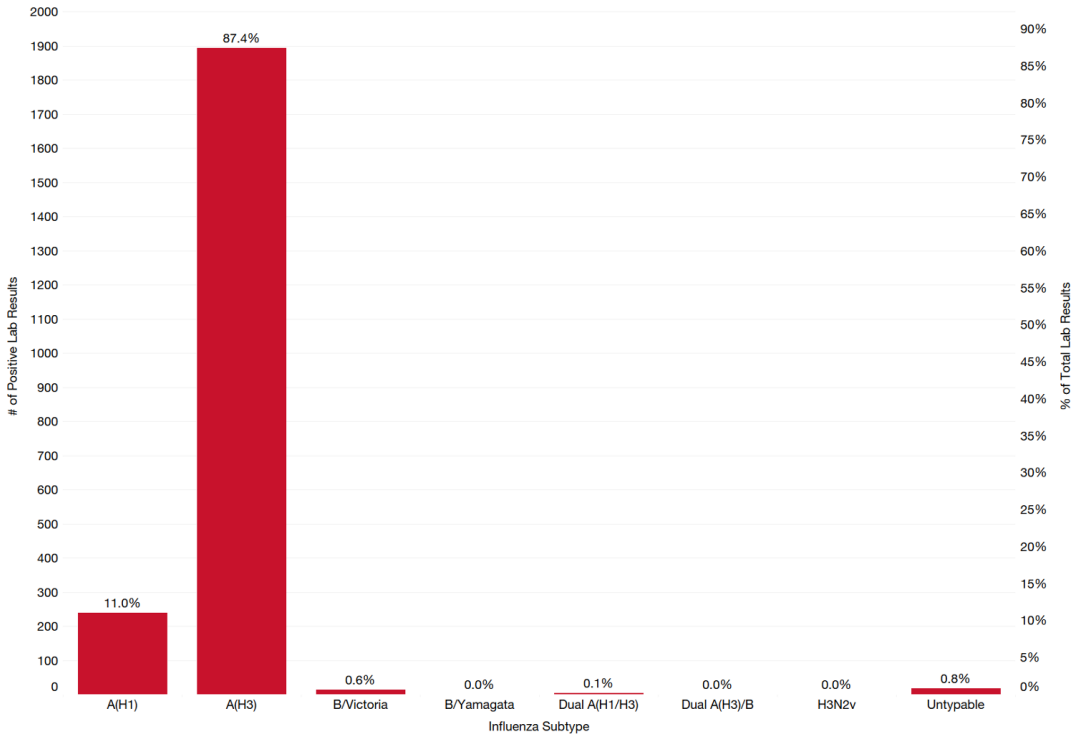


Figure 11: Influenza PCR Testing Reported by MDH Laboratories Administration by Sub-Type, 2022-2023 Season



Non-COVID Respiratory Outbreaks

In Maryland, respiratory illness outbreaks are routinely reported to local health departments and MDH, and then investigated and responded to by public health authorities. Such outbreaks can occur in many different settings, including nursing homes, hospitals, schools and child care facilities.

For the 2022-2023 influenza season, in Maryland:

- 255 non-COVID-19 respiratory outbreaks were reported.
- The most commonly reported outbreak was influenza with 161 (63.1%), followed by influenza-like illness with 20 (7.8%) and pneumonia with 7 (2.7%) outbreaks. There were 67 (26.3%) outbreaks that did not fall into the three categories.

See Figure 12 and 13 for additional data on trends over time for non-COVID respiratory outbreaks in Maryland by season, as well as type of outbreaks.

Figure 12: Non-COVID Respiratory Illness Outbreaks Reported in Maryland

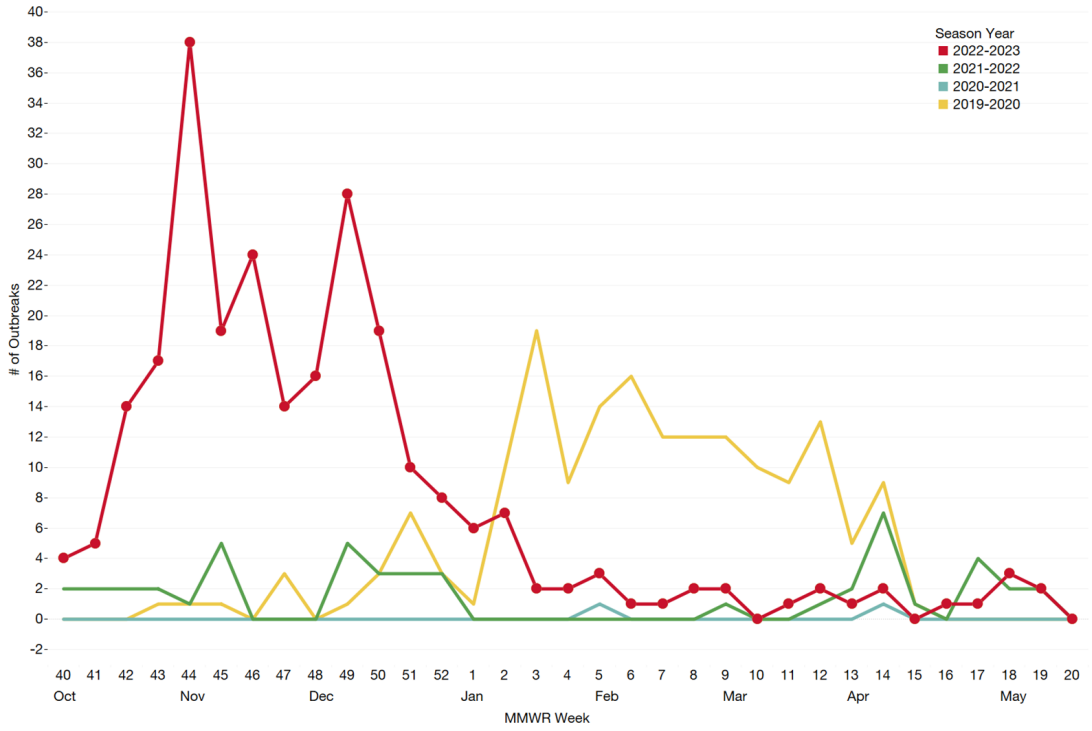
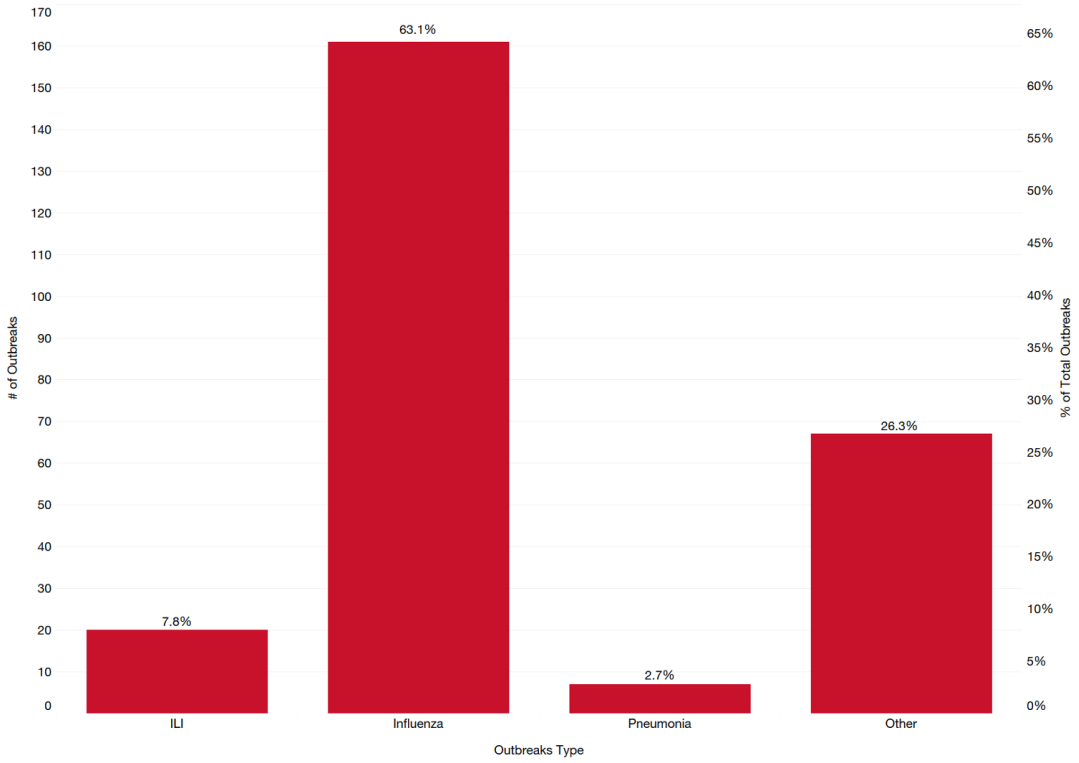


Figure 13: Non-COVID Respiratory Illness Outbreaks Reported in Maryland by type, 2022-2023 Season



Section 3: Influenza Severity

Influenza-Associated Hospitalization

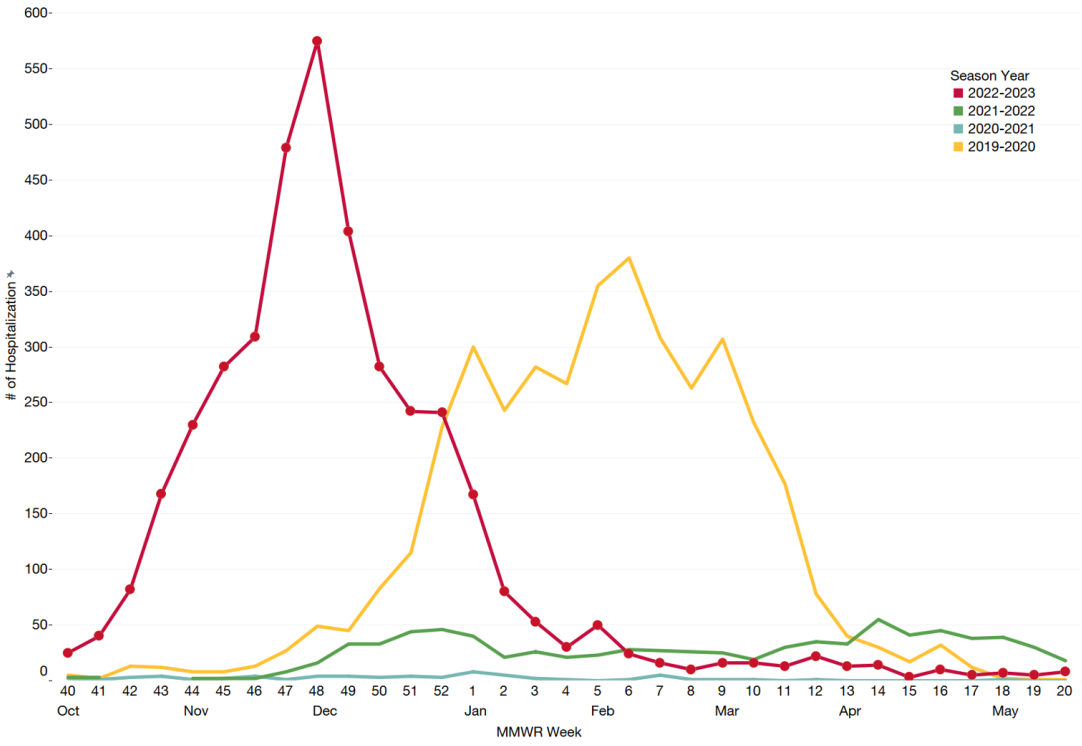
The Maryland Emerging Infectious Program (EIP) conducts active surveillance for laboratory-confirmed influenza-associated hospitalizations in Maryland. A person with an overnight hospital stay along with a positive influenza test of any kind (e.g. RIDT or PCR) is considered an "influenza-associated hospitalization" for purposes of influenza surveillance in Maryland.

For the 2022-2023 influenza season, in Maryland:

- A total of 3,921 individuals were hospitalized due to influenza-associated illness, or 63.5 hospitalizations per 100,000 population*.

See Figure 14-17 for additional data on trends over time in influenza-associated hospitalizations in Maryland by season, and per 100,000 population* by age, race, ethnicity, and gender for this season.

Figure 14: Influenza-Associated Hospitalizations in Maryland



*Population data was obtained from the Maryland Department of Planning.

Figure 15: Influenza-Associated Hospitalizations per 100,000 Population* in Maryland by Age Group, 2022-2023 Season

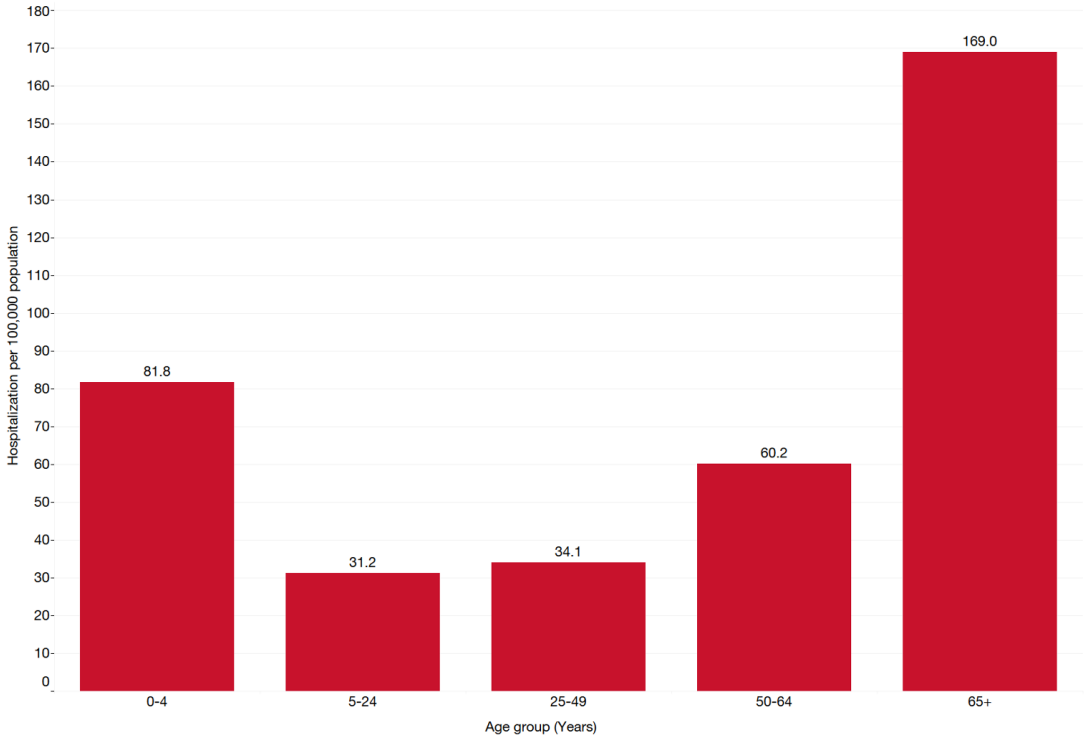
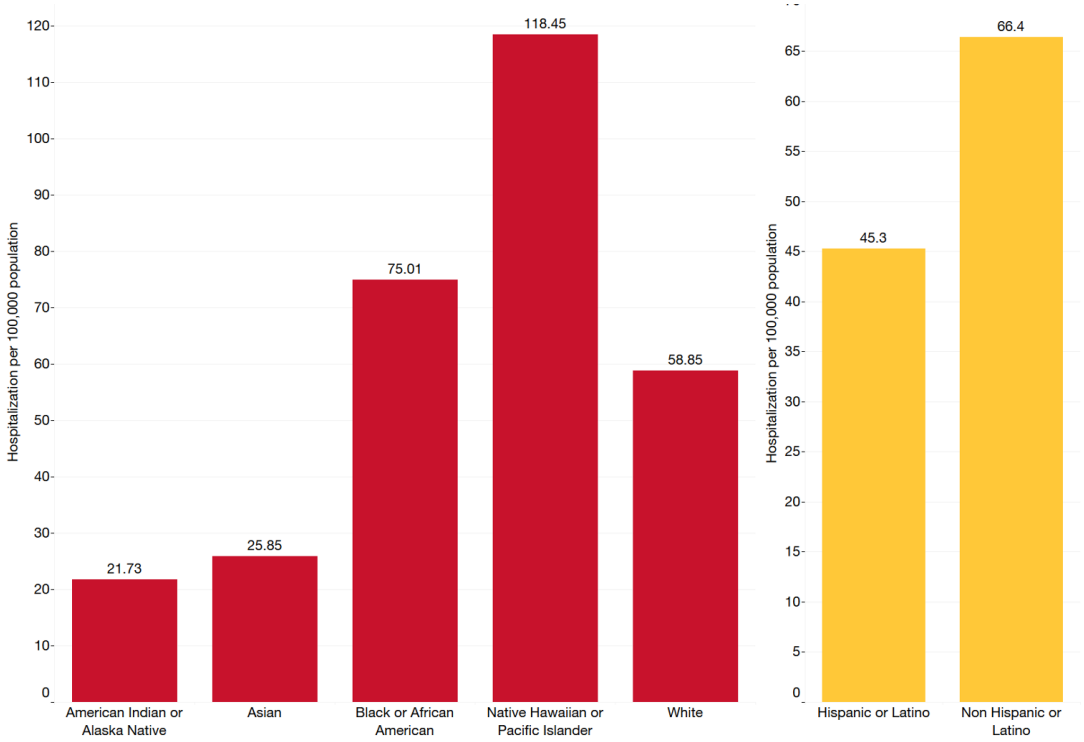
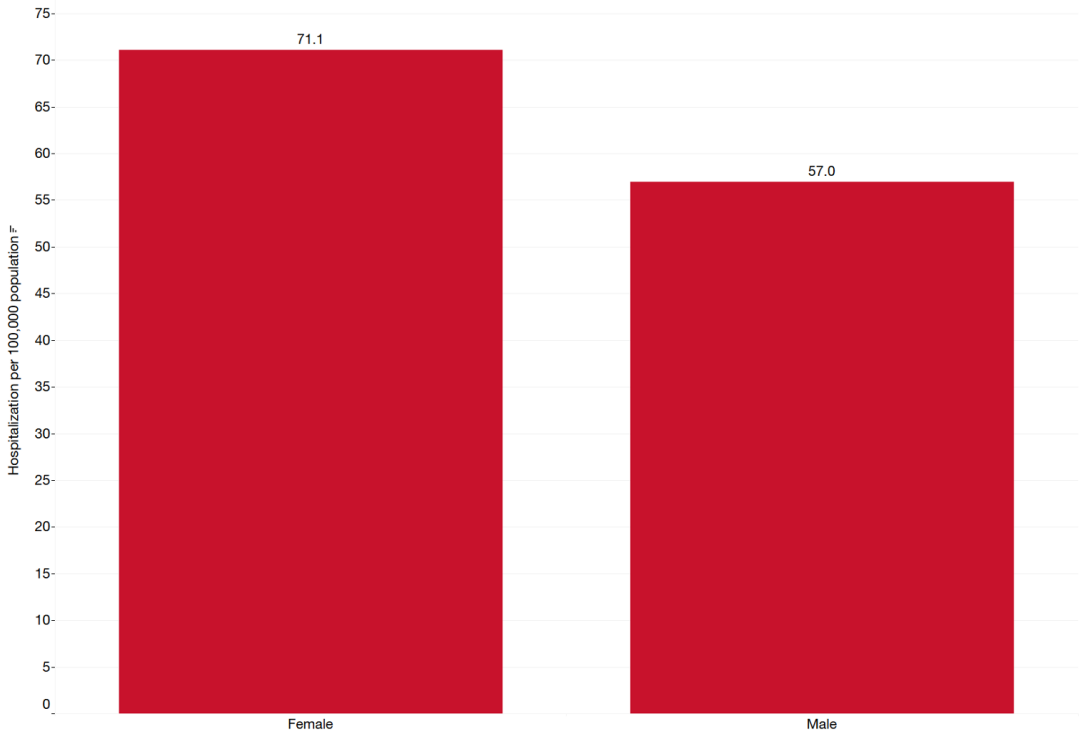


Figure 16: Influenza-Associated Hospitalizations per 100,000 Population* in Maryland by Race and Ethnicity, 2022-2023 Season



*Population data was obtained from the Maryland Department of Planning.

Figure 17: Influenza-Associated Hospitalizations per 100,000 Population* in Maryland by Gender, 2022-2023 Season



*Population data was obtained from the Maryland Department of Planning.

Influenza-Associated Adult Death

MDH's influenza-associated death data is obtained through the Maryland Electronic Death Registration System (MD-EDRS), a web-based application that Medical Certifiers and Funeral Directors use to report deaths electronically to the MDH. An influenza-associated adult death is an individual whose death certificate includes influenza in the underlying cause. Additionally, surveillance for mortality in hospitalized patients is conducted as a component of Maryland EIP.

69

Influenza-associated adult deaths
(2022-2023 influenza season)

For the 2022-2023 influenza season, in Maryland:

- 69 influenza-associated adult deaths were reported.

Influenza-Associated Pediatric Death

Maryland participates in national tracking of deaths of persons under 18 years of age who had a positive influenza test during their course of illness leading to death. An influenza-associated pediatric death is one with a clinically compatible illness and a positive influenza test of any kind.

3

Influenza-associated pediatric deaths
(2022-2023 influenza season)

For the 2022-2023 influenza season, in Maryland:

- 3 influenza-associated pediatric deaths were reported.

See Figure 18-21 for additional data on trends over time in influenza-associated deaths in Maryland, and by Race, Ethnicity, and Gender.

Figure 18: Influenza-Associated Deaths, 2022-2023 Season

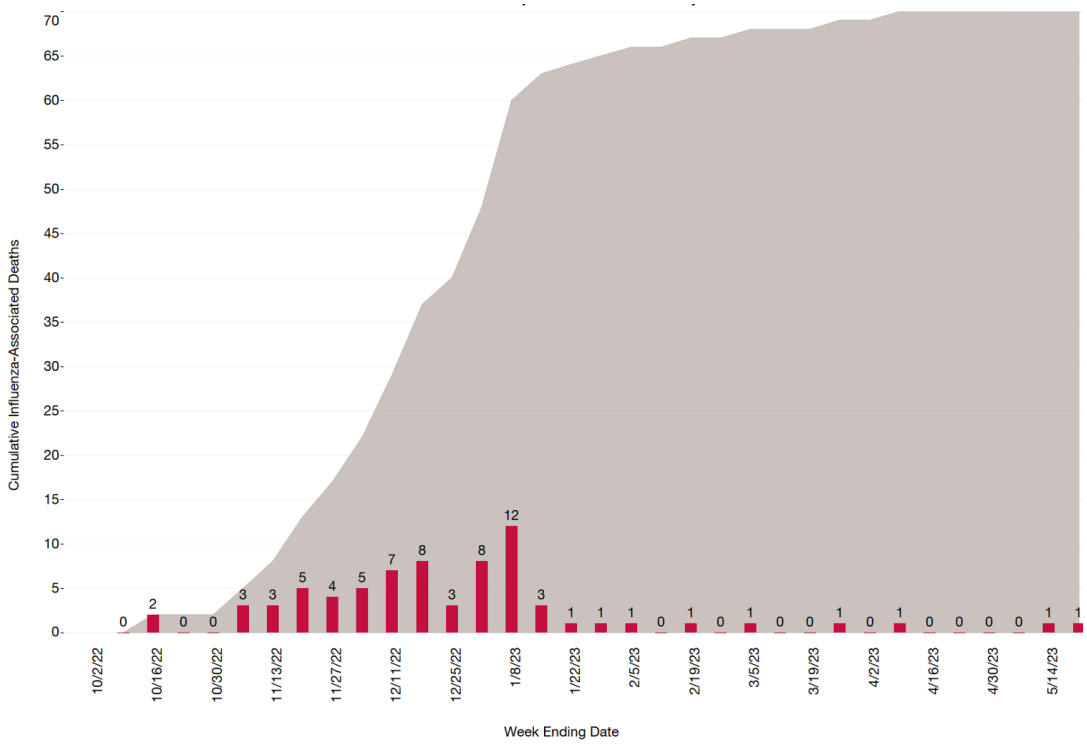


Figure 19: Influenza-Associated Deaths by Race and Ethnicity, 2022-2023 Season

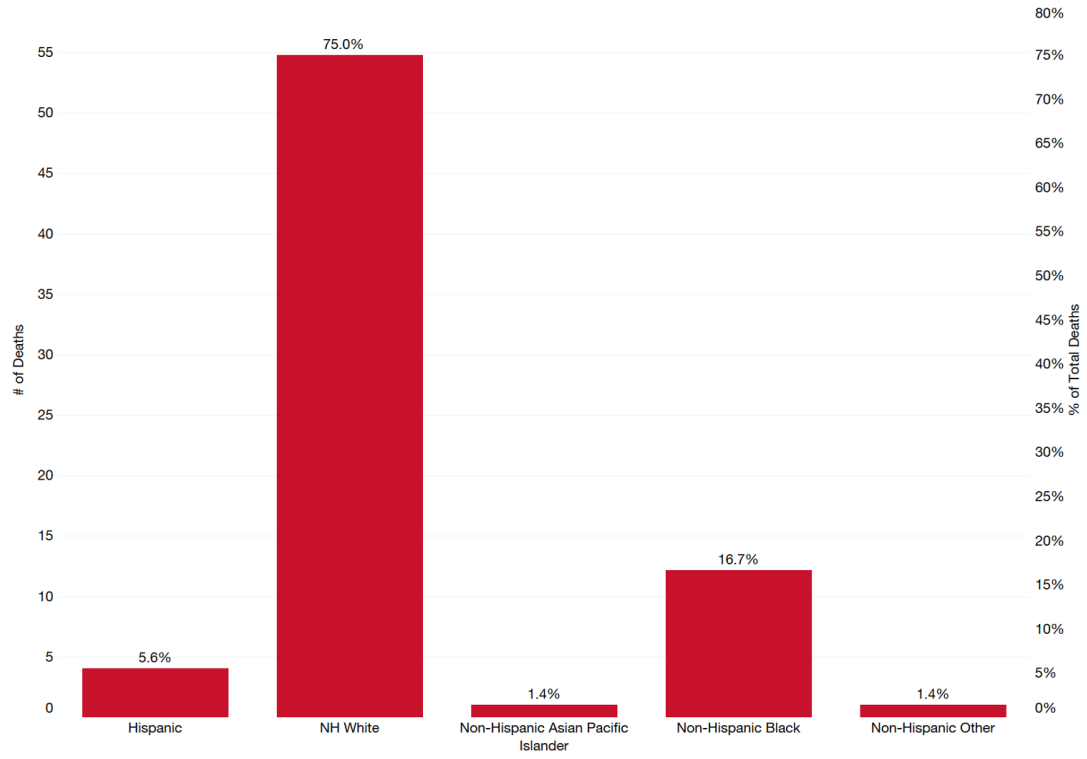


Figure 20: Influenza-Associated Deaths by Age Group, 2022-2023 Season

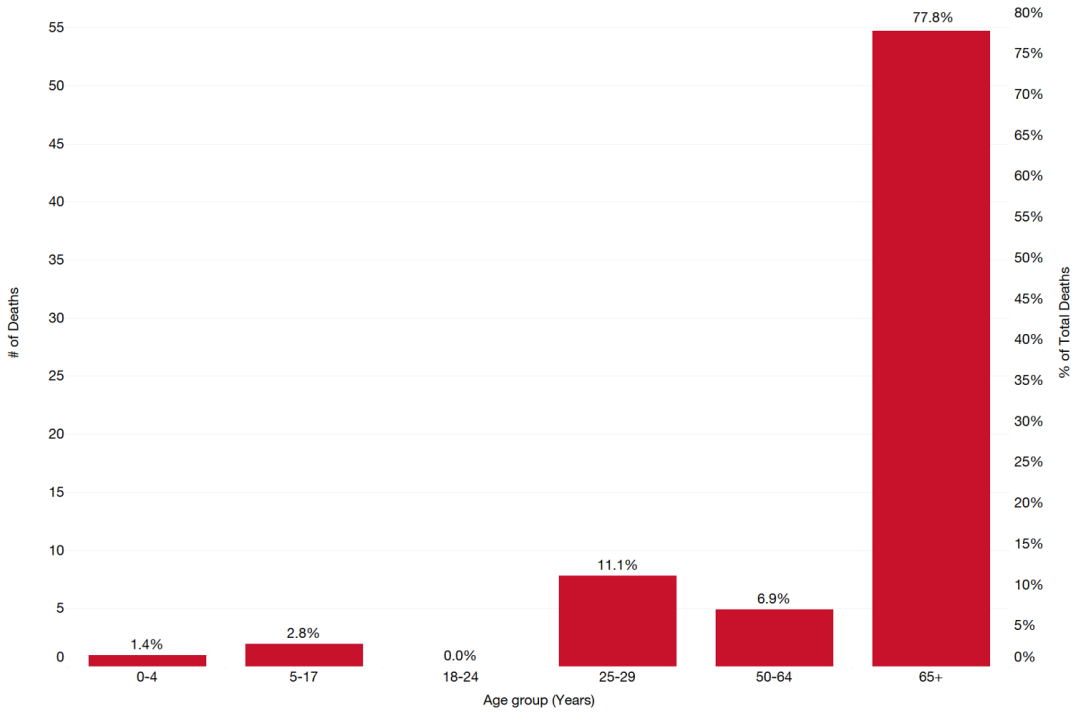
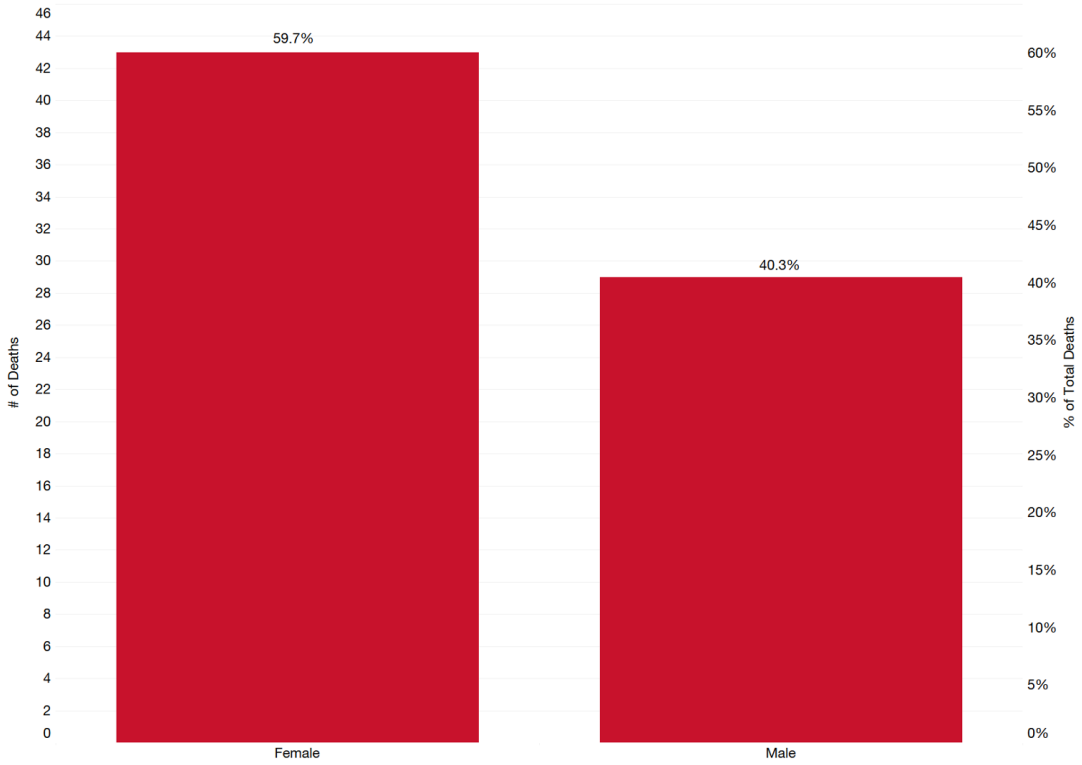


Figure 21: Influenza-Associated Deaths by Gender, 2022-2023 Season



Section 4: Influenza Vaccination

Influenza Vaccination Data Reported to ImmuNet

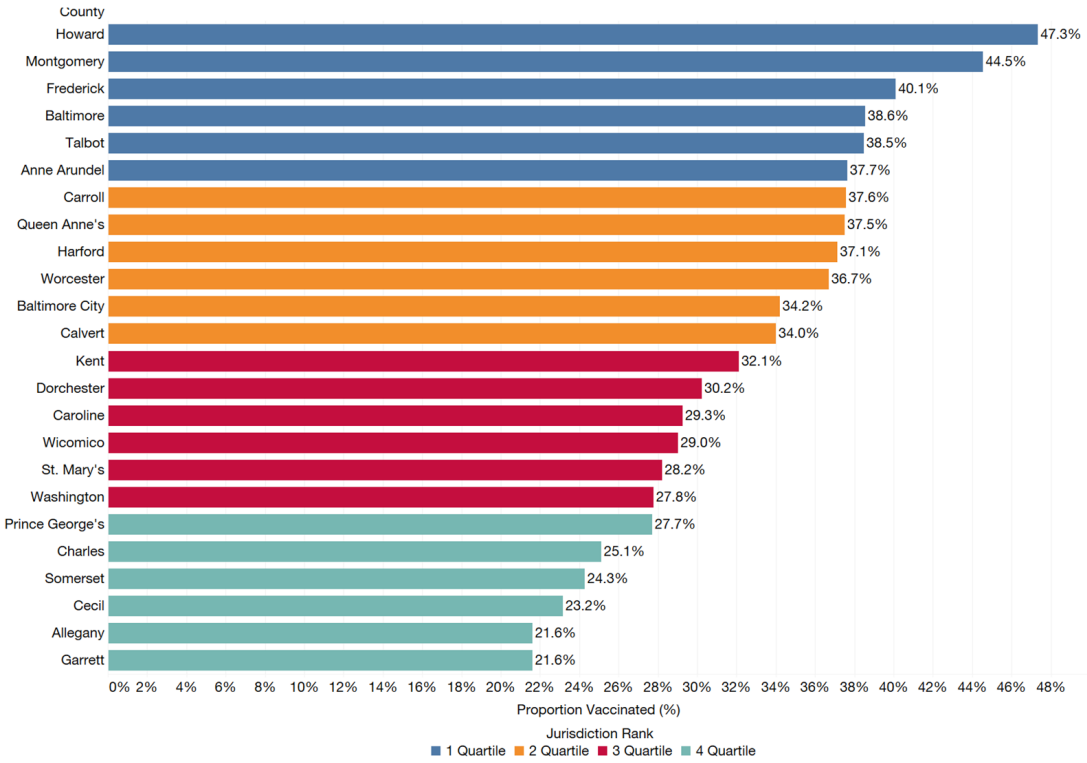
ImmuNet is the data source for influenza vaccination in Maryland. ImmuNet is Maryland's Immunization Information System, a confidential and secure database that stores an individual's vaccination records. Maryland statute requires that all vaccinations be recorded in ImmuNet; however, it is possible that not all influenza vaccinations were reported.

For the 2022-2023 influenza season, in Maryland:

- A total of 2,161,076 (35%) individuals had influenza vaccinations recorded in ImmuNet.
- Based on CDC National Immunization Survey and the Behavioral Risk Factor Surveillance System telephone surveys involving 16,186 Maryland residents, CDC estimates 59.8% of Maryland residents >6 months old received an influenza vaccination during the 2022-2023 influenza season.

See Figures 22-25 for data on Maryland influenza vaccination by county, race, ethnicity, age, and gender.

Figure 22: Proportion of Maryland Population* Vaccinated for Influenza and Reported to ImmuNet, by County, 2022-2023 Season



*Population data was obtained from the Maryland Department of Planning.

Figure 23: Proportion of Maryland Population* Vaccinated for Influenza and Reported to ImmuNet by Race and Ethnicity, 2022-2023 Season

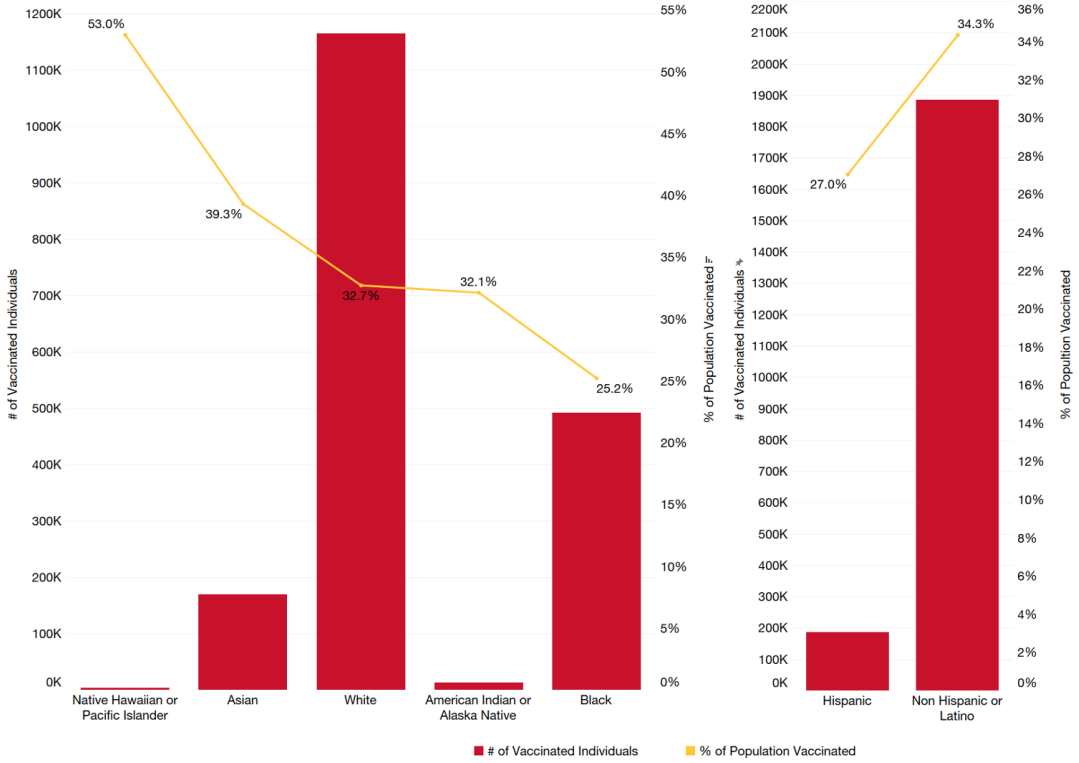
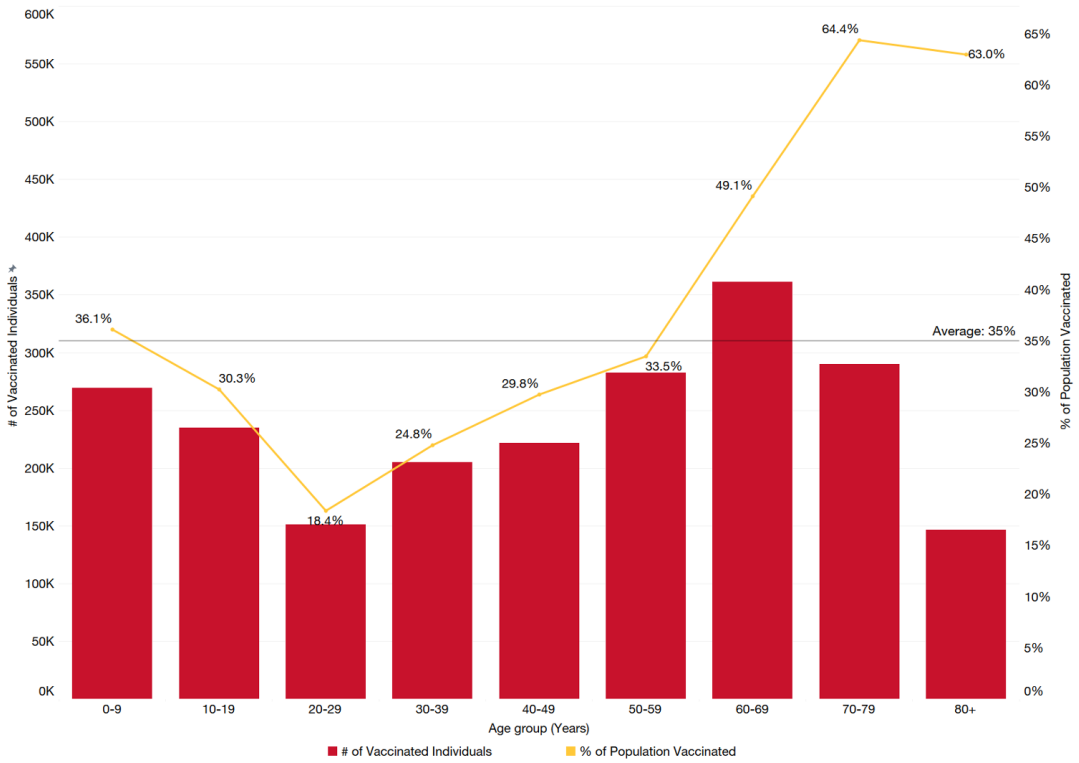
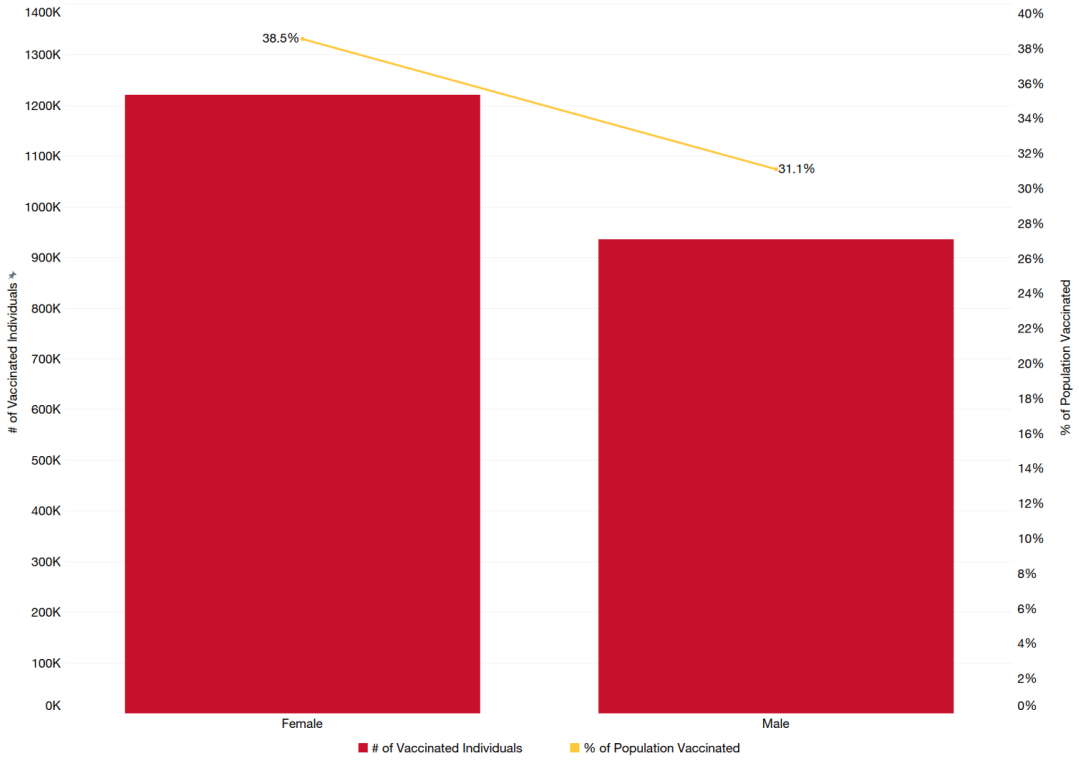


Figure 24: Proportion of Maryland Population* Vaccinated for Influenza and Reported to ImmuNet by Age Group, 2022-2023 Season



*Population data was obtained from the Maryland Department of Planning.

Figure 25: Proportion of Maryland Population* Vaccinated for Influenza and Reported to ImmuNet by Gender, 2022-2023 Season



*Population data was obtained from the Maryland Department of Planning.

Section 5: Summary

This report summarizes key Maryland influenza-related indicators and data during the 2022-2023 influenza season, including indicators of ILI activity and influenza severity, as well influenza vaccination. Influenza activity has returned to pre-COVID-19 pandemic level, as demonstrated by data on outpatient ILI visits, ED and urgent care ILI visits, community-based respiratory illness surveys, and clinical laboratory and health department laboratory testing. Furthermore, influenza activity peaked in mid-November for the 2022-2023 season, which is earlier than most prior seasons. While a large number of Maryland residents received the 2022-2023 influenza vaccine, a substantial proportion of Maryland residents remained not vaccinated. Influenza vaccination remains the single most important measure to prevent influenza infection as well as influenza-associated hospitalizations and deaths.

Resources

CDC Influenza
https://www.cdc.gov/flu/index.htm

MDH Emerging Infections Program
https://health.maryland.gov/phpa/OIDEOR/EIP/pages/Home.aspx

MDH Flu Dashboard
https://health.maryland.gov/phpa/influenza/Pages/flu-dashboard.aspx

MDH Flu Watch
https://health.maryland.gov/phpa/INFLUENZA/FLUWATCH/PAGES/INDEX.ASPX

MDH Immunet
https://health.maryland.gov/phpa/oideor/immun/pages/immunet.aspx