Newfoundland & Labrador

2023/2024 Seasonal Respiratory Activity Report

Department of Health and Community Services

Contents

About this Report

The purpose of this report is to provide a summary of COVID-19, influenza, and other respiratory virus activity throughout the 2023-2024 season.

While the activity of most respiratory viruses peaks in the winter, the Public Health Division within the Department of Health and Community Services of Newfoundland and Labrador conducts continuous respiratory activity surveillance throughout the year. Epidemiological surveillance data are posted to the provincial respiratory activity dashboard for the current season.

This report will summarize the trends observed during Newfoundland and Labrador's 2023/2024 respiratory virus activity season.

Influenza Activity

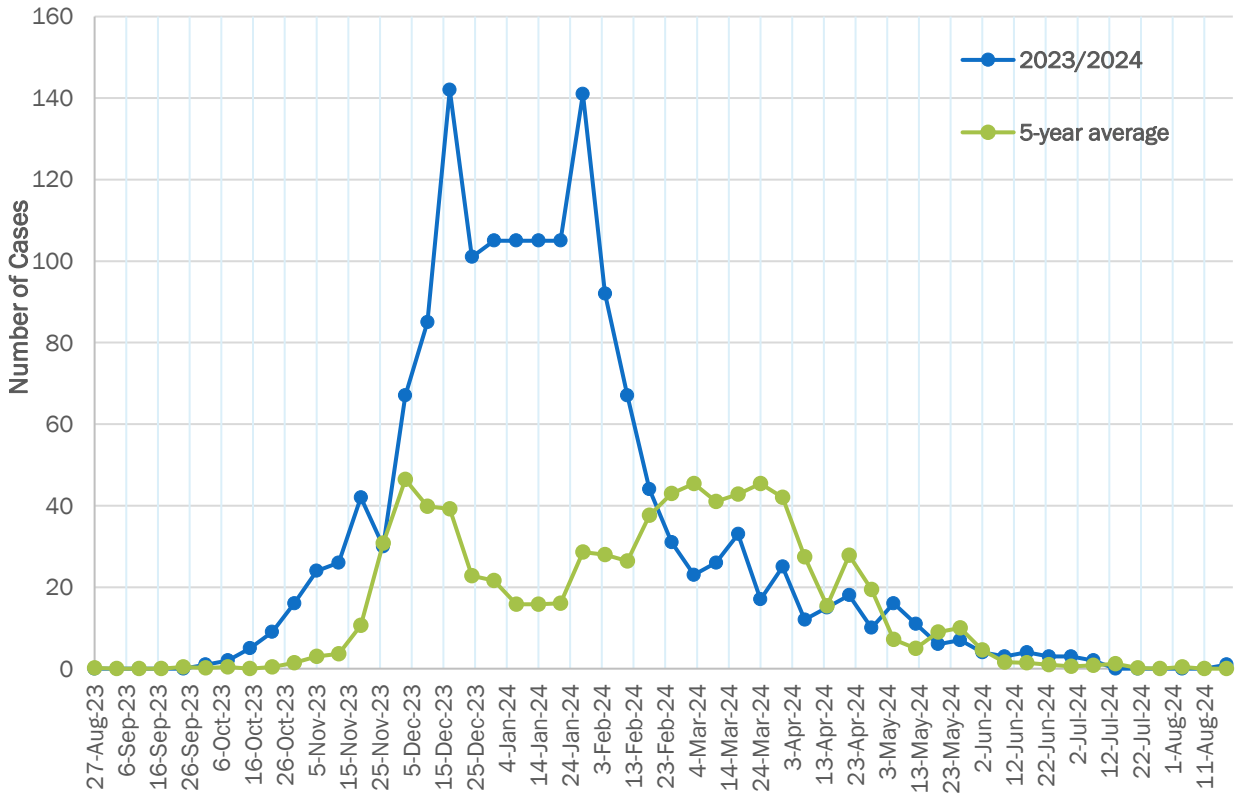
Overview

- There were 1584 laboratory-confirmed cases of influenza during the 2023/2024 season. Of these cases, there were 453 hospitalizations, 60 ICU admissions, and 41 influenza-related deaths (Figure 3).
- The season peaked in week 51 (week starting December 17, 2023), approximately 9 to 10 weeks earlier compared to the 5-year average (Figure 1).
- Influenza A was the predominant virus circulating across all health zones, accounting for 87.7% of all laboratory-confirmed cases (Figure 2).

Epidemiology of Cases

- The 2023/2024 season peaked in week 51 (week starting December 17, 2023).
  - In past seasons, the peak usually occurred February through March. The influenza season also peaked earlier in 2022/2023.
- Overall, more laboratory-confirmed influenza cases were reported in 2023/2024 compared to the 2022/2023 season.
  - The 2023/2024 season lasted longer when compared to the previous season.

Figure 1: Number of Influenza Cases by Epidemiological Week (with 5-year average), NL, 2023/2024



- ➔ The average age of influenza cases was 50.9 years (Figure 2).
- ➔ Influenza A was the predominant strain during the 2023/2024 season.
    - Since the start of the COVID-19 pandemic in 2020, fewer influenza B detections have been reported compared to pre-pandemic years. In 2023/2024, the proportion of influenza B detections (12.2%) slightly decreased compared to all seasons since 2018/2019.
- ➔ The Western Zone of Newfoundland and Labrador Health Services (NLHS) reported the highest rate of influenza cases throughout the 2023/2024 season.

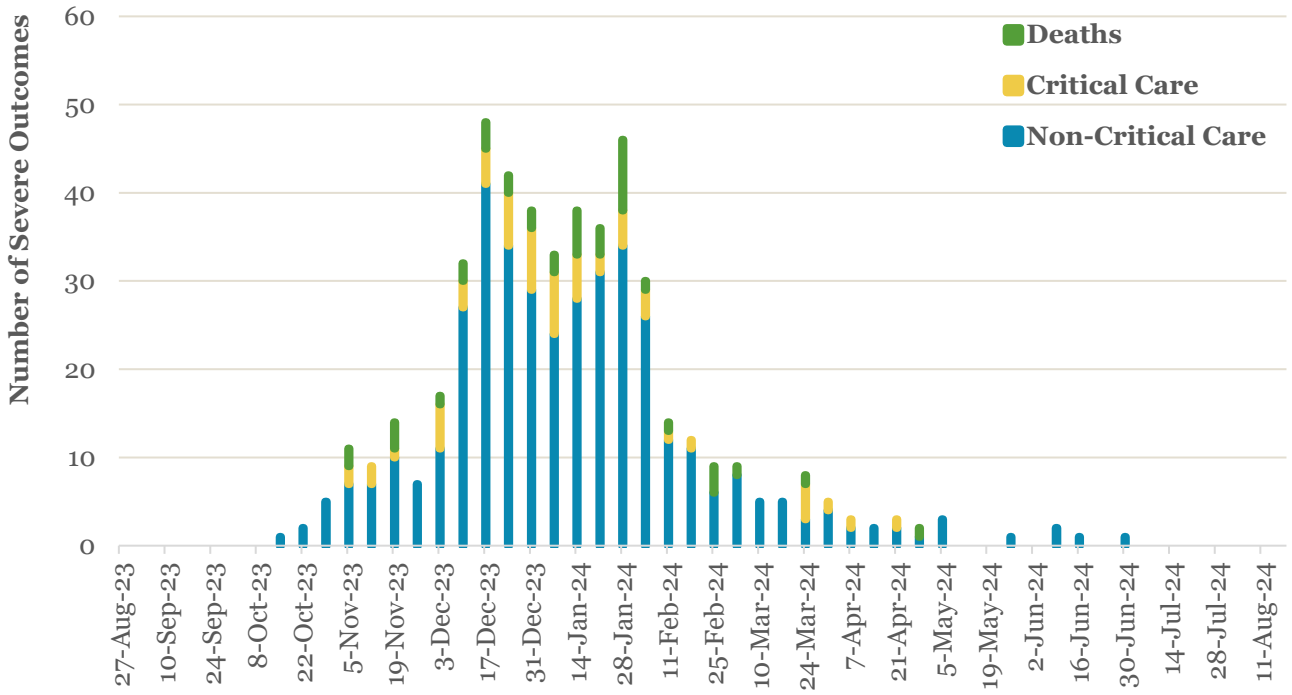
Figure 2. Demographic Information of Laboratory-Confirmed Influenza Cases, NL, 2023/2024

Cases 	**Average Age**	50.9 years
	% Female	53.8%
	% Influenza A	87.7%
	Rate (per 100,000 population) by Health Zone	Eastern Rural & Urban Zone: 210.35 per 100,000 Central Zone: 316.3 per 100,000 Western Zone: 587.5 per 100,000 Labrador-Grenfell Zone: 401.8 per 100,000

Epidemiology of Severe Outcomes

➔ Throughout the 2023/2024 season, there were 453 hospitalizations, 60 ICU admissions, and 41 influenza-related deaths (Figure 3). These numbers represent the highest number of influenza-related severe outcomes reported in NL during the last ten seasons.

Figure 3. Influenza Hospitalizations, ICU Admissions, and Deaths by Epidemiological Week, NL, 2023/2024



- ➔ The average age of hospitalized cases was higher compared to non-hospitalized cases (62.3 years vs. 46.3 years) (Figure 4).
    - Of all hospitalizations, 60% were among those 65+. Those in the 0 to 19-year-old age group accounted for less than 10% of all hospitalizations.
- ➔ Most influenza-related deaths did not receive the influenza vaccine.
- ➔ There were more influenza-related deaths in males compared to females.
- ➔ Across all severe outcomes, 70%+ of individuals did not receive a flu shot prior to their infection. The proportion of those who experienced a severe outcome and had not received the flu shot increased since last season.

Figure 4. Demographic Information of Severe Outcomes, NL, 2023/2024

		Hospitalization	**Death**
Severe Outcomes 	Average Age	62.3	74.8
	% Female	48.7%	31.7%
	% Vaccinated*	Yes: 13.0% No: 74.6% U: 11.9%	Yes: 9.7% No: 73.2% U: 17.1%

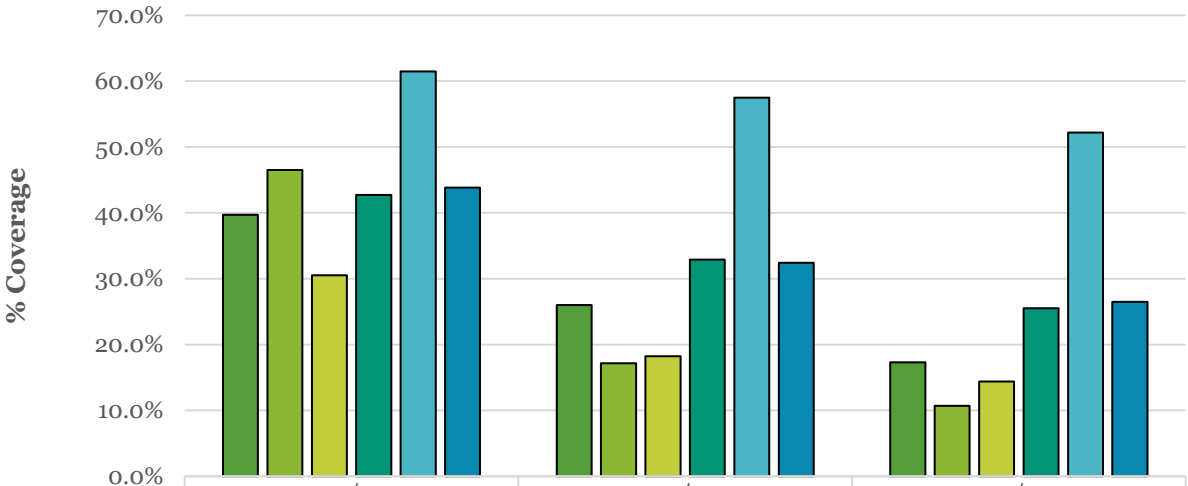
*Yes = Received flu shot, No = Did not receive flu shot, U = Unknown vaccination status.

Vaccination

Since the start of the vaccination campaign on October 10, 2023, 26.5% of the NL population (age 6 months+) received a dose of influenza vaccine. Vaccination rates have consistently been highest in the 65+ age group (Figure 5). Vaccine coverage rates have declined over the last three seasons (Figure 5).

Vaccination significantly reduced the risk of experiencing influenza-related severe outcomes. In the 2023/2024 season, likelihood of hospitalization was reduced by 47% for those who received a dose of the influenza vaccine, after accounting for other factors including age and sex. These findings highlight the importance of getting immunized each fall.

Figure 5. Influenza Vaccination Rates in NL, 2020/2021 to 2023/2024 Season, By Age Group

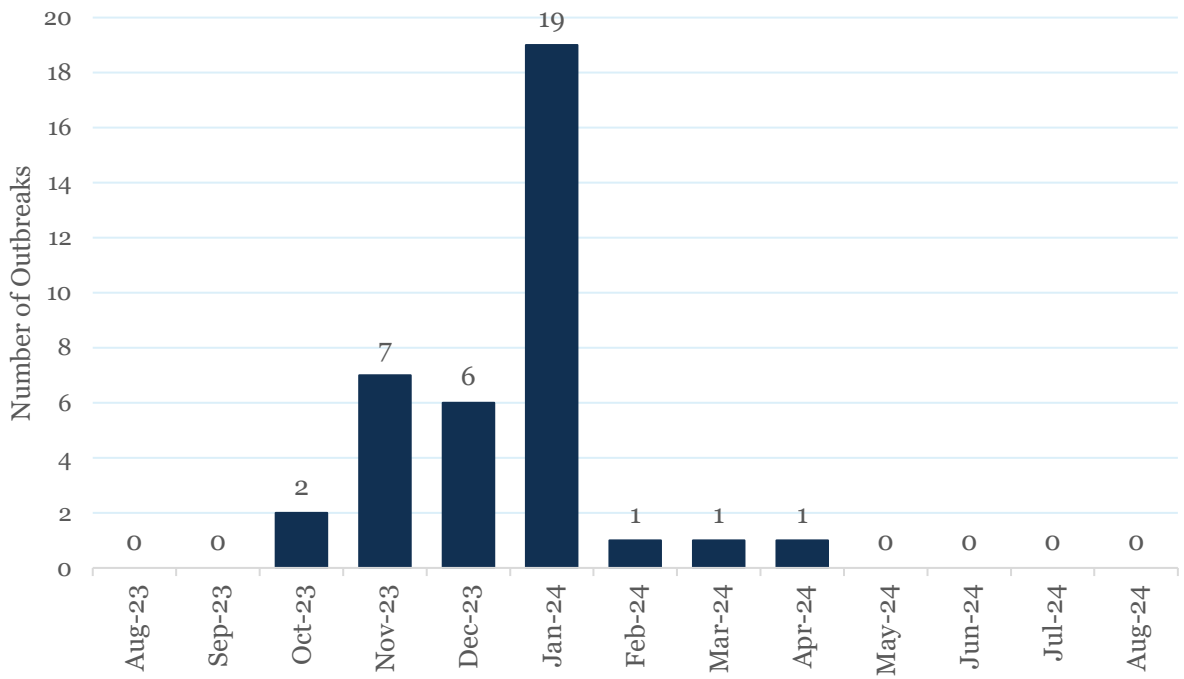


	2020/2021	2022/2023	2023/2024
6mos - 4yrs	39.7%	26.0%	17.3%
5yrs - 19yrs	46.5%	17.1%	10.7%
20yrs - 44yrs	30.5%	18.2%	14.4%
45yrs - 64yrs	42.7%	32.9%	25.5%
65+	61.5%	57.5%	52.2%
Total	43.9%	32.4%	26.5%

Influenza Outbreaks

- ➔ Influenza outbreaks in acute care and institutional settings were highest in January 2024.
- ➔ The last influenza outbreak of the 2023/2024 season occurred in April 2024.

Figure 6. Number of Influenza Outbreaks in Acute Care and Institutional Settings by Month, NL, 2023/2024



COVID-19 Activity

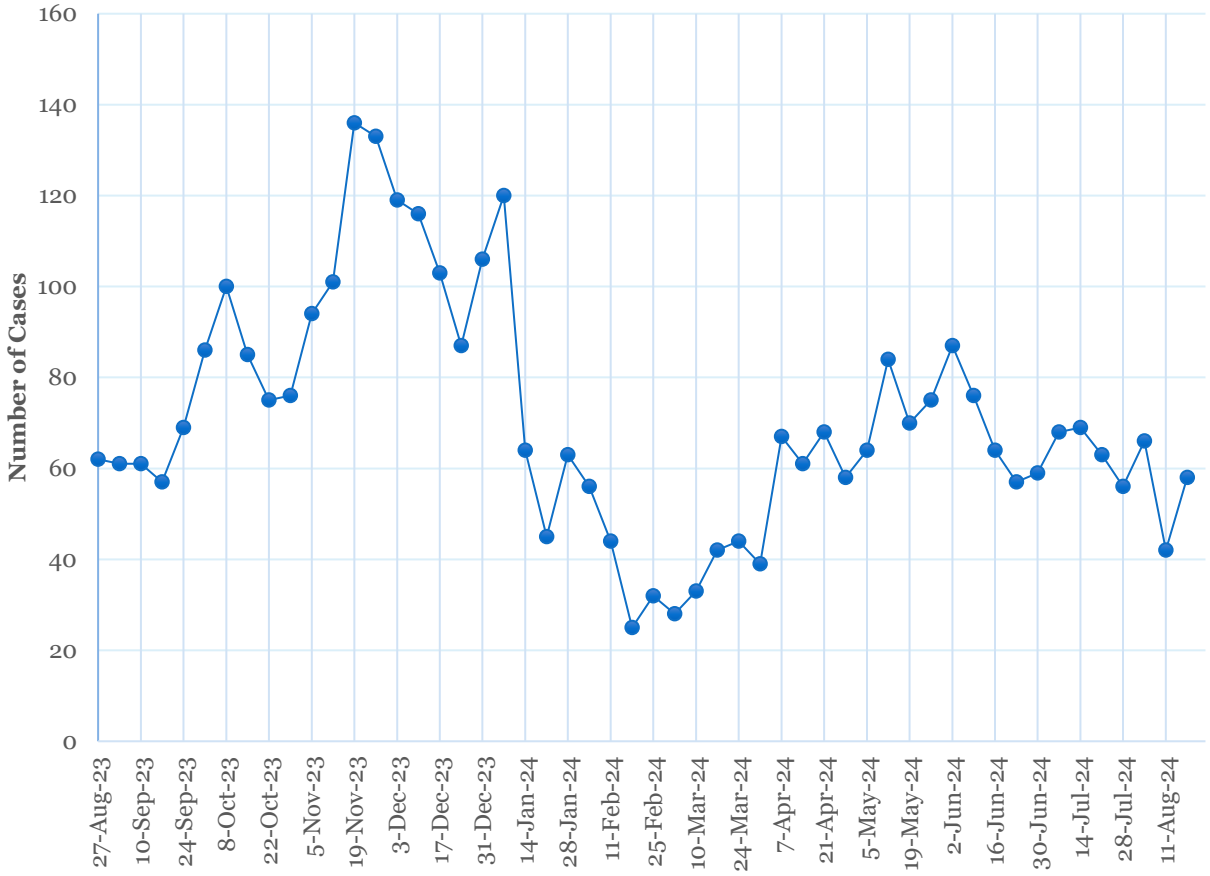
Overview

- There were 3679 laboratory-confirmed cases of COVID-19 during the 2023/2024 season. Of these cases, there were 568 hospitalizations, 68 ICU admissions, and 68 COVID-19 related deaths.

Epidemiology of Cases

- Unlike influenza, COVID-19 has not demonstrated clear seasonal patterns. As a result, comparisons to previous seasons are challenging. However, COVID-19 lab-confirmed cases were at their highest at the end of November 2023 during the 2023/2024 respiratory season.

Figure 7. Number of COVID-19 Cases by Epidemiological Week, NL, 2023/2024



- The average age of laboratory-confirmed COVID-19 cases was 68.3 years (Figure 8).
- JN.1 and KP.3, all descendants of omicron, were the predominant circulating strains during the 2023/2024 season.
- The Western Zone of Newfoundland and Labrador Health Services (NLHS) reported the highest rate of COVID-19 cases throughout the 2023/2024 season.

Figure 8. Demographic Information of COVID-19 cases, NL, 2023/2024

Cases 	**Average Age**	68.3
	% Female	56.2%
	Predominant Lineages	JN.1 KP.3
	Rate (per 100,000 population) by Health Zone	Eastern Rural & Urban Zone: 533.3 per 100,000 Central Zone: 818.1 per 100,000 Western Zone: 1070.4 per 100,000 Labrador-Grenfell Zone: 641.2 per 100,000

Epidemiology of Severe Outcomes

➔ Cumulatively, during the 2023/2024 season, there were 568 hospitalizations, 68 ICU admissions, and 68 COVID-19-related deaths (Figure 9).

Figure 9. COVID-19 Hospitalizations, ICU Admissions, and Deaths by Epidemiological Week, NL, 2023/2024

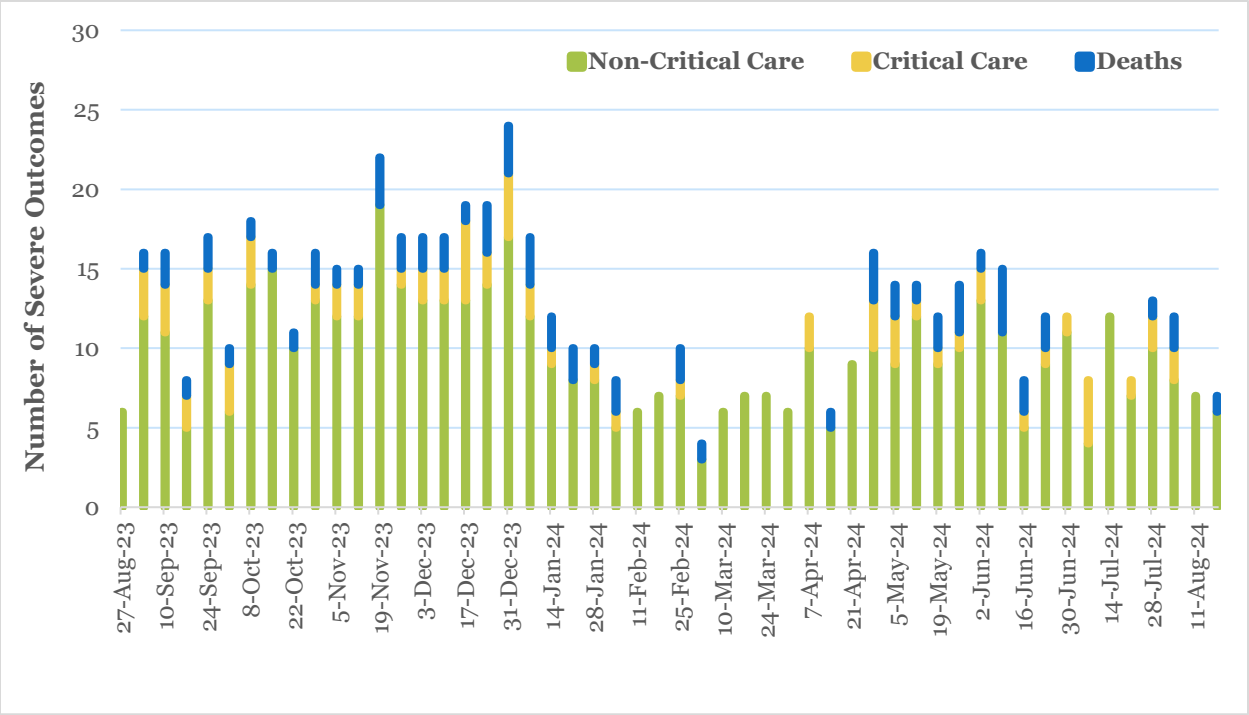


Figure 10. Demographic Information of COVID-19 Severe Outcomes, NL, 2023/2024

		Hospitalization	Death
Severe Outcomes 	Average Age	70.0	79.3
	% Female	50.0%	48.5%
	% Vaccinated*	18.5%	27.9%

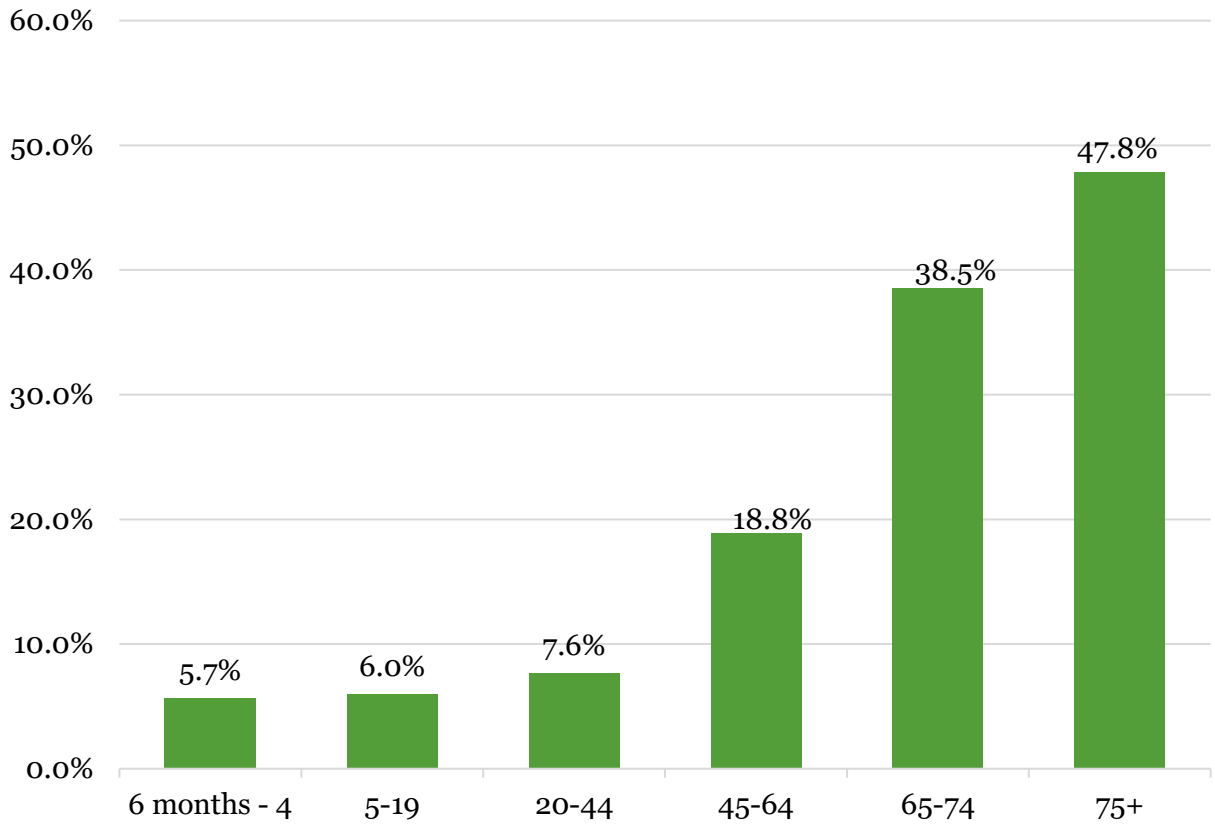
*Received a dose of the new COVID-19 formulation prior to testing positive for COVID-19.

Vaccination

Since the start of the vaccination campaign on October 10, 2023, 19.2 % of the NL population (age 6 months+) received a dose of the latest formulation of the COVID-19 vaccine. Vaccination rates were highest in the 65+ year old age group (Figure 11).

Vaccination significantly reduces the risk of experiencing COVID-19-related severe outcomes. In the 2023/2024 season, those who received a dose of the new formulation of the COVID-19 vaccine had their likelihood of hospitalization reduced by 44%, after accounting for other factors including age and sex. These findings highlight the importance of getting immunized each fall.

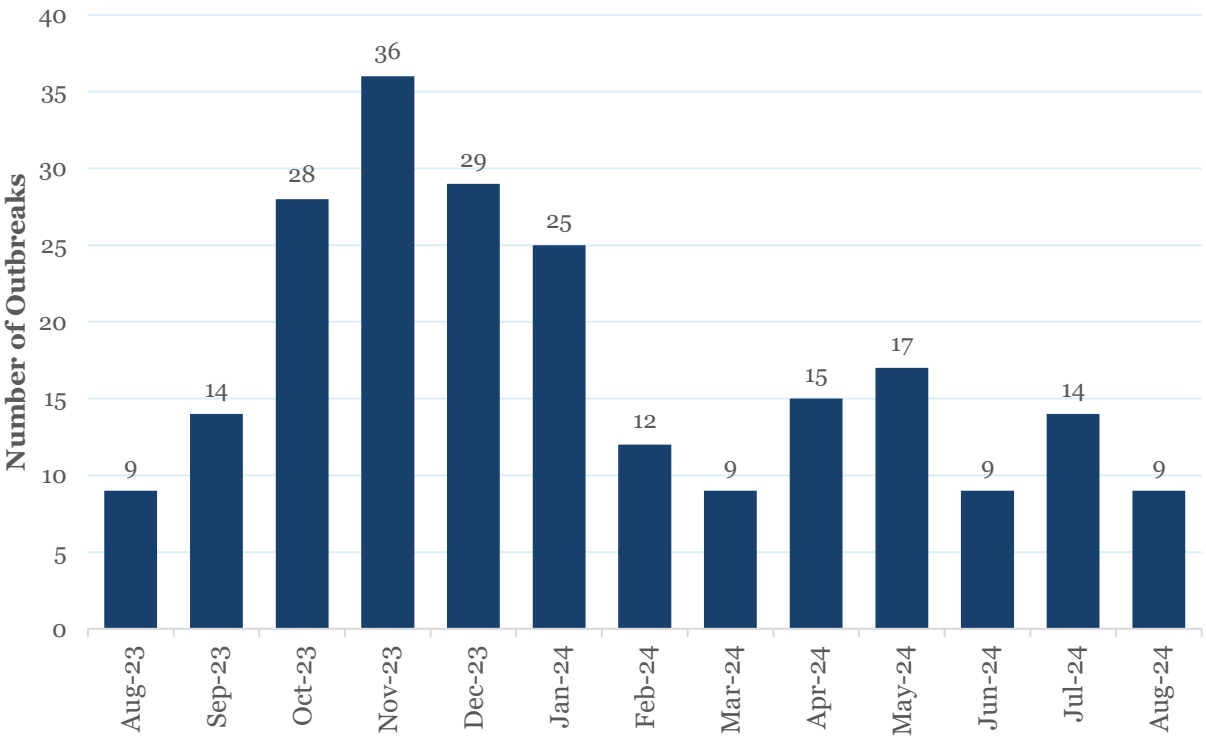
Figure 11. COVID-19 Vaccination Rates in NL, 2023/2024 Season, By Age Group



COVID-19 Outbreaks

- The number of COVID-19 outbreaks in acute care and institutional settings peaked in November 2023. This corresponded with the peak of COVID-19 cases.

Figure 12. Number of COVID-19 Outbreaks by Month, NL, 2023/2024

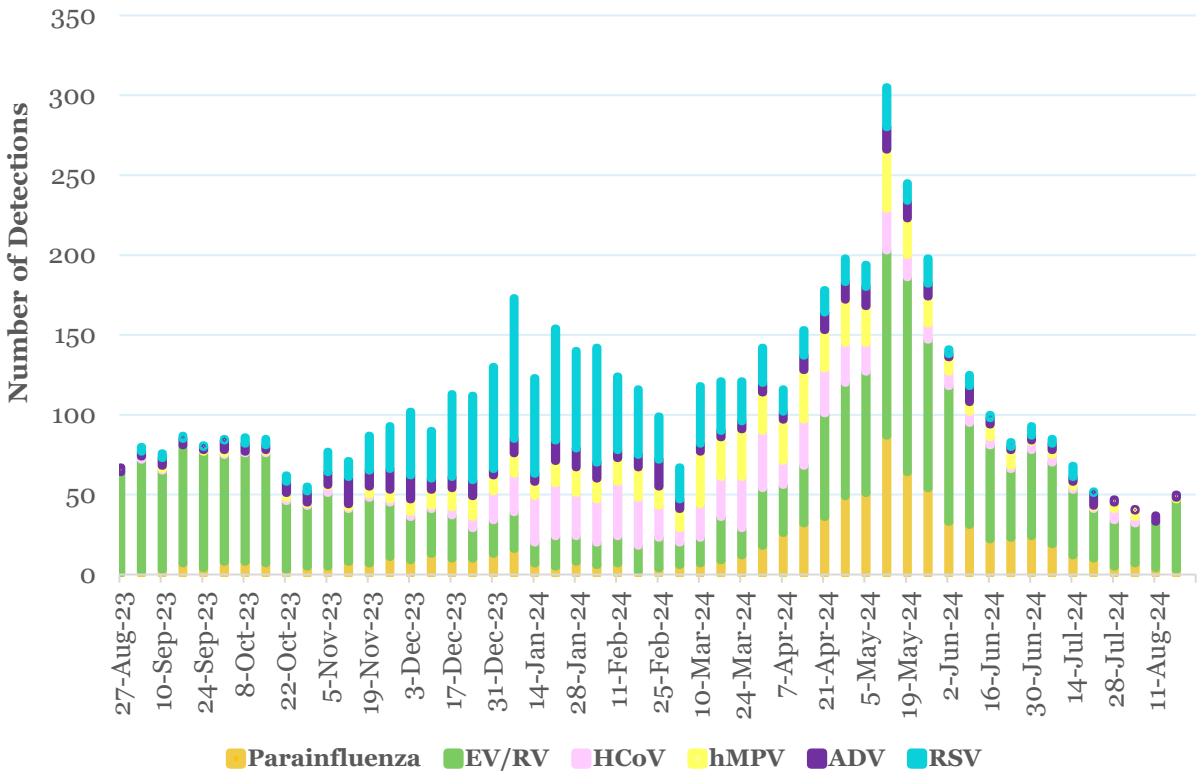


Other Respiratory Pathogens

Overview

- At the beginning of the respiratory season, enterovirus and rhinovirus (EV/RV) were the predominant circulating other respiratory pathogens.
- While influenza activity peaked (week starting December 17, 2023), respiratory syncytial virus (RSV) became the predominant circulating other respiratory pathogen.
- The number of other respiratory pathogen detections peaked during the week of May 12, 2024, with EV/RV predominantly circulating, along with parainfluenza.

Figure 13. Number of Other Respiratory Laboratory Detections by Week, NL, 2023/2024



Syndromic Surveillance

- Syndromic surveillance involves the collection of population and individual health indicators for the monitoring of infectious disease trends.
- The percentage of ED visits presenting with influenza-like-illness (ILI) symptoms and the number of 811 Healthline calls for ILI symptoms provides additional insight into the levels of circulating respiratory viruses.
- The peak of ILI occurred in the week starting January 21, 2024, which was earlier compared to the 2022/2023 season (Figure 14).
- The peak of 811 (Healthline) calls for ILI occurred at approximately the same time that influenza activity peaked, in mid-to-late December 2023 (Figure 15).

Figure 14. Percent of ED Visits with Influenza-Like-Illness (ILI) (%) by Epidemiological Week, NL, 2023/2024

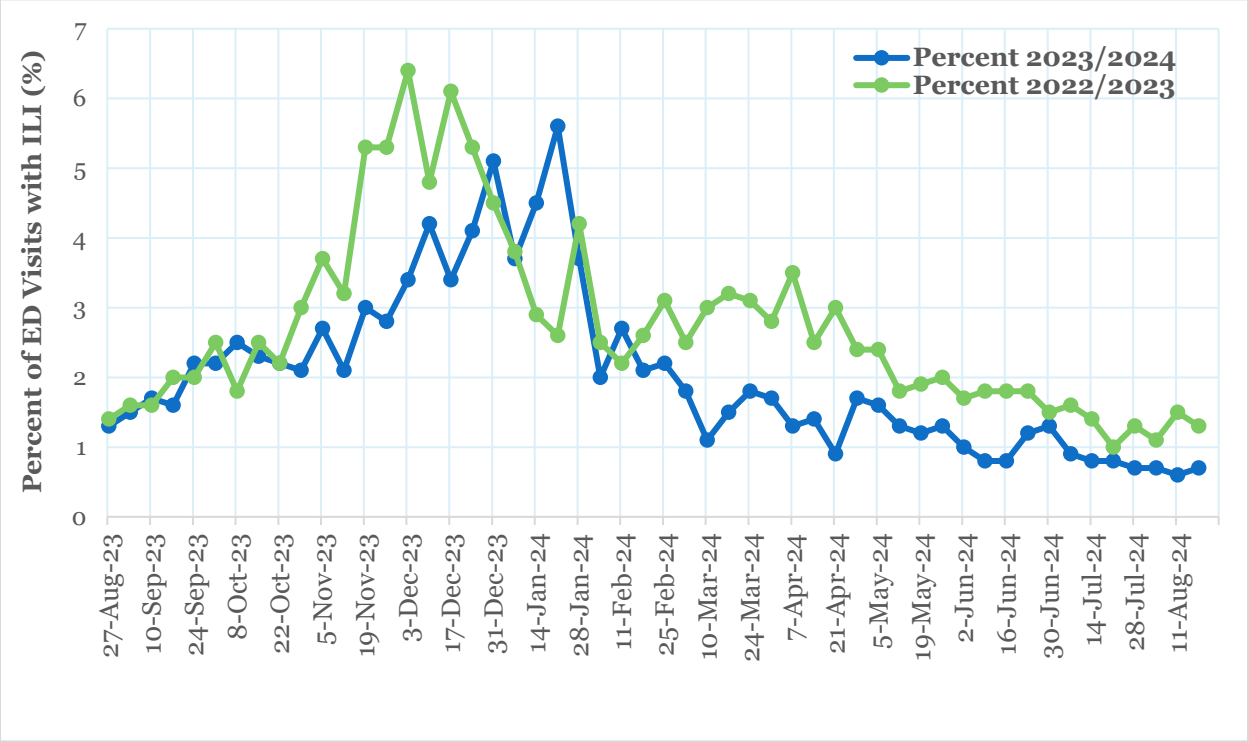
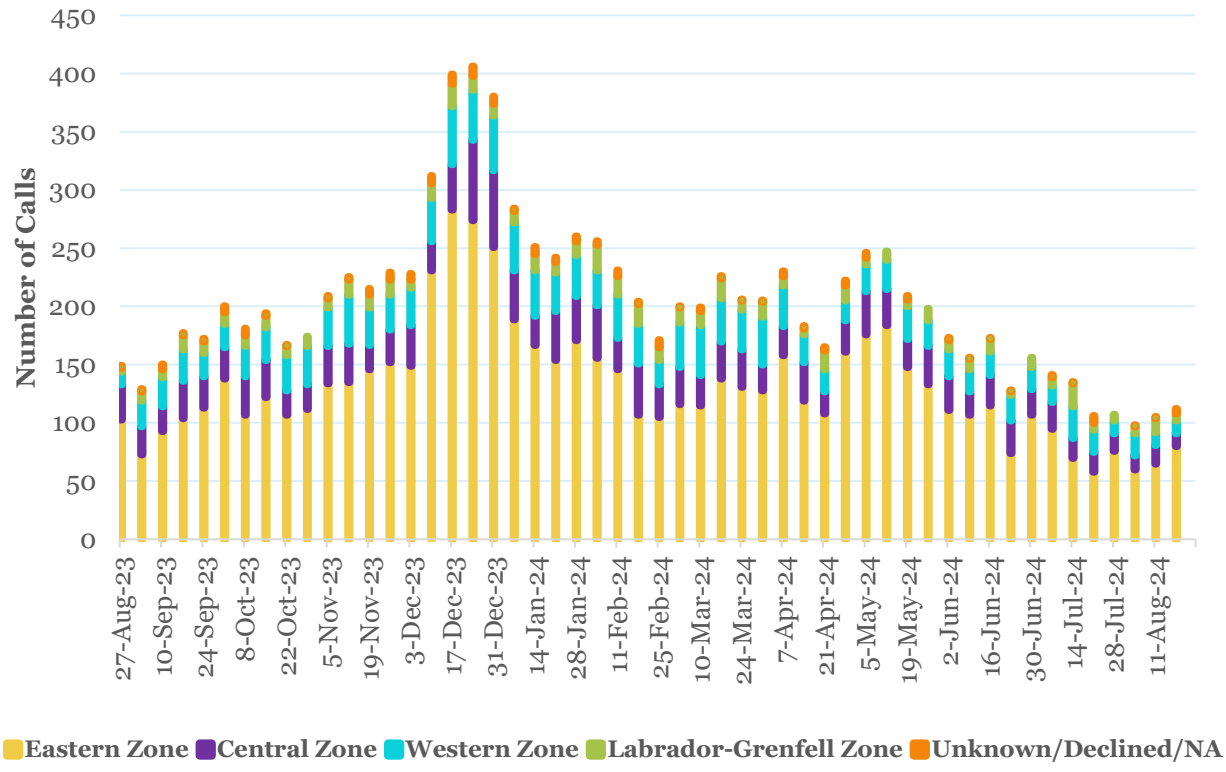


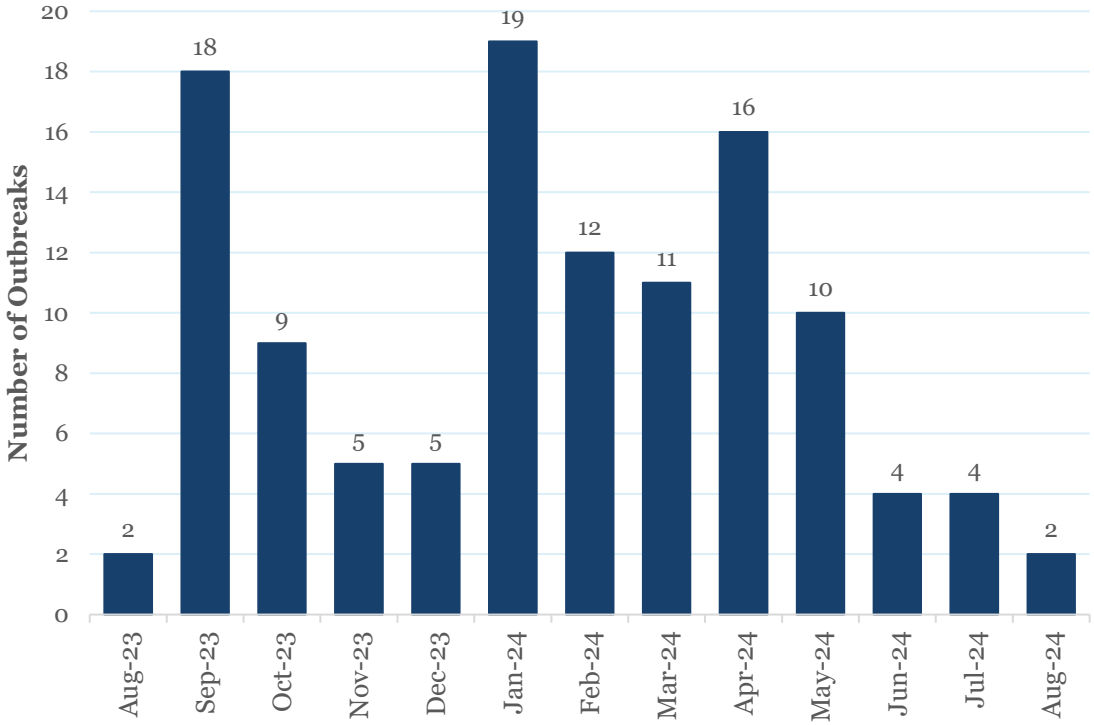
Figure 15. Number of Healthline (811) Calls for Influenza-Like-Illness (ILI), by Epidemiological Week and Health Zone, NL, 2023/2024



Outbreaks

➔ The number of outbreaks in acute care and other institutional settings caused by other respiratory viruses was highest in September 2023 and January 2024.

Figure 16. Number of Institutional Outbreaks Caused by Other Respiratory Pathogens* by Month, NL, 2023/2024



*Other respiratory pathogens include parainfluenza, EV/RV, HCoV, hMPV, ADV, and RSV.

Technical Notes

Considerations

- All laboratory-confirmed influenza, COVID-19, and severe respiratory illness (SRI) are reported to the Regional Medical Officer of Health (RMOH) or designate responsible for accurate and timely provincial reporting.
- The data presented here are from August 27, 2023, to August 24, 2024; report weeks from various sources may not align exactly.
- Surveillance is a continuous process. Fluctuations in data occur with each update.
- The 2020/2021 season was omitted from the five-year average for influenza cases due to no influenza activity.
- For more information on influenza in Canada see the Public Health Agency of Canada website: http://healthycanadians.gc.ca/diseases-conditions-maladies-affections/disease-maladie/flu-grippe/surveillance/index-eng.php
- For more information on COVID-19 in Canada see the Public Health Agency of Canada website: https://health-infobase.canada.ca/covid-19/
- To reflect the most up-to-date data, this report was last updated on November 14, 2024.

Data Sources

- **COVID-19 Cases***:* COVID-19 Tracker, Health Information System (Meditech), Newfoundland and Labrador Health Services, Public Health Microbiology Laboratory.
- **Influenza Cases***:* Communicable Disease Control Influenza Reporting Tool, Newfoundland and Labrador Health Services.
- **COVID-19 Outbreaks**: COVID-19 Tracker, Health Information System (Meditech), Newfoundland and Labrador Health Services, Public Health Microbiology Laboratory.
- **Influenza Outbreaks**: Canadian Network for Public Health Intelligence (CNPHI).
- **Other respiratory pathogen cases (RSV, ADV, hMPV, EV/RV, HCoV, Parainfluenza)***:* Respiratory Virus Detection, Public Health Agency of Canada; Public Health Microbiology Laboratory, Newfoundland and Labrador Health Services.
- **Other respiratory pathogen outbreaks:** Canadian Network for Public Health Intelligence (CNPHI).
- **Vaccination Coverage***:* Pharmacy Network, Health Information System, and Electronic Medical Record.
- **Healthline***:* Newfoundland and Labrador Healthline
- **ILI***:* Health Information System (Meditech), Newfoundland and Labrador Health Services.

Definitions

Epidemiological Week: Seven-day period, from Sunday to Saturday, according to the national FluWatch weeks calendar.

Influenza-like-illness: Onset of respiratory illness with fever and cough and one or more of the following: sore throat, arthralgia, myalgia or prostration, which could be due to influenza virus.

Surveillance Season: Timeframe in which respiratory activity is measured, from epidemiological week 35 to epidemiological week 34. The 2023/2024 surveillance season was from August 27, 2023, to August 24, 2024.

Abbreviations

ADV: Adenovirus

COVID-19: Coronavirus disease 2019

ED: Emergency department

EV/RV: Enterovirus/Rhinovirus

HCoV: Human coronavirus (seasonal coronavirus)

hMPV: Human metapneumovirus

ILI: Influenza-like-illness

NL: Newfoundland and Labrador