



Respiratory Epidemiology Summary

November 16, 2022

1. Summary

This report presents information from laboratory testing, community healthcare practitioner visits, and wastewater surveillance indicators used to monitor the activity of seasonal respiratory viruses circulating in British Columbia (BC).

Clinical indicators of acute respiratory illnesses continue to increase in BC, notably among children, as expected with seasonal respiratory viruses. Most of the observed relative increase is primarily related to influenza A, but also to other common seasonal respiratory viruses (respiratory syncytial virus (RSV), enterovirus/rhinovirus (ERV), parainfluenza, adenovirus, human metapneumovirus, and seasonal coronavirus). SARS-CoV-2 activity, the virus that causes COVID-19, remains relatively stable.

One of the key indicators used is laboratory test results of submitted respiratory specimens. They show a notable increase in test positivity for influenza A and RSV, especially among the pediatric population. Currently both influenza A/H3 and A/H1 subtypes are circulating. Since epi-week 35 (beginning Aug 28, 2022) to epi-week 45 (ending Nov 12, 2022) about 80% of subtyped influenza A viruses have been A/H3, with A/H1 constituting about 20%. Two recent influenza outbreaks in long-term care facilities were A/H3. There has also been sporadic detection of influenza B.

Another indicator for monitoring respiratory virus activity is the share of visits to community healthcare practitioners that are because of symptoms of a new respiratory illness, such as a cough or fever. This indicator has been slowly increasing, with the biggest increase in visits for acute respiratory infections seen among children and youth.

Finally, wastewater tests from water treatment plants suggest relatively stable or declining levels of SARS-CoV-2 detection.

1.1. Community Visits for Respiratory Illness

Overall, the share of community visits to health care practitioners for respiratory symptoms has been increasing since mid-September. The greatest increase was for acute respiratory infection-related symptoms (see Supplementary Information for more details) and, more recently, influenza symptoms. A higher proportion of these visits is observed among younger children, which is a typical pattern for seasonal respiratory viruses. COVID-19-related visits have started to show early signs of decline across regions and age groups.

Since mid-September, community visits (based on physician billing codes) for:

- The share of visits for acute respiratory symptoms increased in all regions and particularly among the 0-19 age group.



- More recently, there has been a sharp increase in the share of visits for influenza symptoms among children aged 5-19.
- The share of visits for COVID-19-related symptoms have started to show an early sign of decline across regions and age groups.
- Note that community visit numbers are based on physician billing codes which are assigned based on clinical suspicion. Presenting symptoms may overlap for various respiratory conditions, and there is potential for misclassification. Trends presented here should be interpreted along with pathogen characterization data. Please refer to the limitations section of the data notes in the Supplementary Information section for further information.

1.2. COVID-19 Weekly Summary

In the most recent week (November 6–November 12, 2022), the number of reported COVID-19 cases among individuals eligible for PCR testing was lower compared to the previous week (October 30–November 5, 2022). Trends in severe outcomes (new hospitalizations admissions, new critical care admissions, and deaths) are relatively stable or declining overall based on reported information so far.

Within the last four weeks (October 16–November 12, 2022):

- The 7-day rolling average for cases declined slowly from October 16 to November 4 and has increased slowly up to November 12.
- The number of new hospital admissions has been slowly declining.
- The number of critical care admissions remained stable. Average numbers ranged from 2 to 10 counts daily.
- The number of deaths within 30 days of a first positive COVID-19 test declined. Average numbers ranged from 1 to 16 counts daily.

Within the last week (November 6–November 12, 2022):

- There were 487 cases reported.
- There were 144 new hospital admissions reported.
- There were 33 new critical care admissions reported.
- There were 30 deaths within 30 days of a first positive COVID-19 test reported.
- We operate in a live database environment and it is expected that the number of hospital admissions, critical care admissions and deaths in the current report week will increase over time with further updates of data feeds to BC Centre for Disease Control.

On November 17, 2022:

- There were 328 individuals in the hospital who tested positive for COVID-19.
- There were 26 individuals in critical care who tested positive for COVID-19.



1.3. Pathogen Characterization

Since the start of November, the number of detected influenza A viruses has increased rapidly throughout the province. We are observing a stabilization of SARS-CoV-2 and a small decrease in entero and/or rhinoviruses (ERV) test positivity. Among the pediatric population, steep increase in the number and proportion of specimens positive for influenza is observed, along with an increase in positivity for RSV.

While SARS-COV-2 is the most commonly detected virus in the province, influenza A is now the second most detected virus in BC.

After accounting for testing volumes, test positivity for SARS-CoV-2 is lower than that of influenza A, which has passed the 5% threshold for the past 2 weeks. Nationally, influenza test positivity has also surpassed the 5% threshold. With national-level influenza surveillance indicators increasing and exceeding expected levels for this time of year, the Public Health Agency of Canada announced the start of the 2022-23 seasonal influenza epidemic, see: <https://www.canada.ca/en/public-health/services/diseases/flu-influenza/influenza-surveillance/weekly-influenza-reports.html>.

Since epi-week 35 (beginning Aug 28, 2022) to epi-week 45 (ending Nov 12, 2022) in BC, about 80% of subtyped influenza A viruses have been A/H3, with A/H1 also contributing at 20% of subtyped viruses. Two recent influenza outbreaks in long-term care facilities were A/H3. Influenza B has also been detected sporadically in the province.

Among children tested at BC Children's and Women's Hospital, influenza A is both the most commonly detected virus and has the highest percent positivity (~25%), which is higher compared to what is typically observed historically for this time of year. RSV and SARS-CoV-2 have similar percent positivity (~10%). Although RSV is on an upward trajectory, the numbers of samples tested for RSV are smaller compared to this time last year.

Only some people visiting a healthcare practitioner or people who are part of an identified outbreak are sent for further testing to identify the virus causing their illness. A targeted proportion of ERV specimens is further subtyped among children and teenagers in the season when enterovirus D68 is expected to peak (for further details, see Data Notes). Of the ERV samples this season that have undergone targeted subtyping, 17% are testing positive for enterovirus D68, demonstrating a recent declining trend in enterovirus D68 positivity. It's important to note that this proportion is not necessarily representative of broader patterns in the community.

1.4. Wastewater

SARS-CoV-2 viral loads measured in wastewater plants in Metro Vancouver are stable or declining across all sites.