



## Respiratory Epidemiology Summary

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March 23, 2023

### Summary (Epidemiological week 11, March 12-18)

A mix of respiratory viruses has recently been contributing to acute respiratory illness in BC, notably enterovirus and/or rhinoviruses (ERV, likely foremost rhinoviruses), SARS-CoV-2, human metapneumovirus and adenovirus. Respiratory syncytial virus (RSV) has continued to decrease below the historical average. Although influenza activity also remained well below the historical average for this time of year, slight increasing trend has been mostly due to influenza B. Continued increase in SARS-CoV-2 wastewater detection through March requires ongoing monitoring.

### Laboratory

Percent positivity in epi-week 11 was highest for ERV (15%), SARS-CoV-2 (13%), and human metapneumovirus (9.4%). Percent positivity was also slightly higher for adenovirus in epi-week 11 (3.7%) compared to the historical average for 2014/15 to 2018/19 (2.5%). RSV percent positivity continued to decrease (3.7%) and remained well below the historical average (8.2%). Although influenza positivity (1.5%) also remained well below the historical average (32%), low-level increase since epi-week 5 (0.5%) has been due mostly to influenza B which comprised 65% of influenza detections in epi-week 11. Similar patterns were observed in children and youth among whom influenza positivity also remained well below the historical average, higher for influenza B (2%) than influenza A (1%).

### Syndromic

All clinical syndromic indicators of acute respiratory illness remained at stable levels, well below historical averages for this time of year, including all age groups and health authorities.

### Wastewater

The wastewater indicator (viral load) continued to show steady increase through March in virtually all test sites. Note that on February 28<sup>th</sup> 2023, BCCDC began using a more sensitive test for SARS-CoV-2 in wastewater, affecting comparisons before and after that date.

### Outbreaks

In epi-week 11, there was one COVID-19 outbreak in a long-term care facility.

### Severe outcomes

In November/December 2022, six influenza-associated deaths were reported among children and youth in BC (1 aged <5 years, 3 aged 5-9 years, and 2 aged 15-18 years) with several experiencing secondary bacterial infections.

### Influenza Vaccine Effectiveness (VE) Estimate

2022/23 influenza VE estimates from the [Canadian Sentinel Practitioner Surveillance Network \(SPSN\)](#) show the risk of medically-attended A/H3 illness was reduced by about half among vaccinated



compared to unvaccinated individuals. These published SPSN findings are available [here](#). Similar findings have since also been reported from the [United States](#).

## 1.1. Pathogen Characterization

### All ages

A mix of respiratory viruses has recently been contributing to acute respiratory illness in BC, with percent positivity in epi-week 11 highest for enteroviruses (ERV, 15%) SARS-CoV-2 (13%), and human metapneumovirus (9.4%). Percent positivity for all other viruses was below 5% although was slightly higher for adenovirus in epi-week 11 (3.7%) compared to the historical average for 2014/15 to 2018/19 (2.5%).

ERV positivity gradually decreased from epi-week 6 (20%) to epi-weeks 10 (15%) and 11 (15%), being comparable to the historical average for this time of year (14%). Characterization of a subset of ERV detections suggests this recent activity has been due to rhinoviruses. Conversely, SARS-CoV-2 test positivity slightly increased through epi-weeks 9 (10%), 10 (11%) and 11 (13%). Human metapneumovirus remained above the historical average of 6.4% in epi-week 11, at 9.4%.

Respiratory syncytial virus (RSV) positivity continued to decrease in epi-week 11 (3.7%), with percent positivity remaining below the historical (2014/15 to 2018/19) average (8.2%). Although influenza activity remained well below the historical average of 32% for this time of year, percent positivity showed a gradual low-level increase from epi-week 5 (0.5%) to epi-week 11 (1.5%), due mostly to influenza B for which positivity increased from 0.1% to 1.0%, respectively. Overall, influenza B viruses comprised 65% of influenza detections in epi-week 11. Following the unusually early influenza A(H3N2) epidemic that peaked in epi-week 47, influenza A positivity due to either subtype (H3N2 or H1N1) remained at stable low levels in epi-week 11 (0.5%).

Percent positivity for parainfluenza and seasonal coronaviruses combined in epi-week 11 (5.5%) remained within the historical average (6.9%).

### Children and youth

A mix of respiratory viruses has also contributed to acute respiratory illness in children and youth. Among those 18 years and younger tested in laboratories in Vancouver (including BC Children's Hospital), Richmond, and the North Shore, percent positivity exceeded historical levels to varying degrees for this time of year; for ERV positivity was 34%, for human metapneumovirus 21%, for parainfluenza and seasonal coronaviruses combined 15% and for adenovirus 10%. At 7.0% in epi-week 11, SARS-CoV-2 positivity showed no clear pattern in children and youth. At 6%, RSV positivity in epi-week 11 was well below the historical average for this time of year. Influenza positivity also remained well below the historical average in epi-week 11 (3.0%), with influenza B positivity (2%) exceeding that of influenza A (1%), as in other age groups.



## 1.2. Community Visits for Respiratory Illness

*Note that community visit numbers are based on physician billing diagnostic codes, which are often assigned based on clinical suspicion and which may lag. Presenting symptoms may overlap for various respiratory conditions, and there is potential for misclassification. Please refer to the limitations section of the data notes in the Supplementary Information section for further information.*

All clinical syndromic indicators of acute respiratory illness remained at stable levels, well below historical averages for this time of year, including all age groups and health authorities.

## 1.3. Wastewater

The wastewater indicator (viral load) shows steady increase through March in virtually all test sites. Note that on February 28<sup>th</sup> 2023, BCCDC began using a more sensitive test for SARS-CoV-2 in wastewater, affecting comparisons before and after that date.

## 1.4. COVID-19 Weekly Summary

In epi-week 11 (March 12-18), the number of reported COVID-19 cases (405) among individuals eligible for PCR testing was higher than in epi-week 10 (March 5-11: 374). However, trends in severe outcomes (new hospital admissions, new critical care admissions, and deaths) have been relatively stable or declining overall in the most recent four weeks based on the information available thus far.

**Over the last four weeks, from epi-week 8 to epi-week 11 of 2023 (February 19-March 18, 2023):**

- The 7-day rolling average for cases was stable and ranged from 102 to 116 per day.
- The 7-day rolling average for new hospital admissions decreased from 23 to 15 per day.
- The 7-day rolling average for new critical care admissions was stable, ranging from 3 to 5 per day.

The 7-day rolling average for deaths within 30 days of a first positive SARS-CoV-2 test result was stable, ranging from 3 to 5 per day.

**Within the last week (March 12-18, 2023):**

- There were 405 cases reported.
- There were 105 new hospital admissions reported.
- There were 21 new critical care admissions reported.
- There were 22 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 new 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 March 23, 2023:**

- There were 250 individuals in the hospital who tested SARS-CoV-2 positive.
- There were 14 individuals in critical care who tested SARS-CoV-2 positive.



## 1.5. Outbreaks

The weekly number of reported COVID-19 care facility outbreaks has been less than six since the start of 2023. In epi-week 11 (March 12-18, 2023), there was 1 outbreak in an acute care facility (ACF).

There have been no influenza outbreaks reported since mid-January 2023. Since the 2022-23 surveillance period started in epi-week 35, 38 influenza outbreaks in long-term care facilities and 5 in ACFs have been reported. Of these 43 facility influenza outbreaks, 33 were attributed to influenza A/H3, 4 to influenza A/H1 and 6 to both influenza A/H1 and A/H3.