



Respiratory Epidemiology Summary

January 19, 2023

Summary (Epidemiological week 2, Jan 8 to 14)

Following an earlier than usual November peak, the influenza epidemic continued its steep decline. Conversely, RSV activity remains high overall, but declining among children. SARS-CoV-2 detections and COVID-19 severe outcomes remain stable, with early signs of a potential decline.

Laboratory

From a peak of 27% in epi-week 47 (Nov 20-26), influenza positivity has continued to fall and was below 5% in epi-week 2 (2.2%). A/H3 viruses comprise 88% of subtyped viruses overall this season. However, A/H1 comprised a higher proportion in epi-week 2 (Jan 8-14: 30%) compared to epi-week 1 (Jan 1-7: 13%), although small numbers were tested. RSV activity remains elevated with higher positivity (15%) than influenza (2.2%) and similar to SARS-CoV-2 (13%) in epi-week 2. Among children 18 years and younger, RSV positivity fell from a peak of 43% to 22% in epi-week 2 and far exceeded that of influenza (0.3%) or SARS-CoV-2 (5.0%).

Syndromic

The proportion of community health care visits for clinically-diagnosed influenza continue to show a steep decline over the last month. Visits for acute respiratory infections have declined in pediatric age groups but remain stable among adults.

Wastewater

Wastewater results for SARS-CoV-2 differ by plant, and are either relatively stable or declining.

Outbreaks

In epi-week 2, there were 4 COVID-19 and 1 influenza outbreaks reported in care facilities.

Severe outcomes

BCCDC has received no additional reports of pediatric influenza deaths in epi-week 2. BCCDC is aware of 6 reports of influenza-associated deaths among children and youth in BC (1 aged <5 years, 3 aged 5-9 years, and 2 aged 15-18 years), all in November/December 2022. Several experienced secondary bacterial infections, which can be a complication of influenza contributing to more severe illness.

Influenza Vaccine Effectiveness (VE) Estimate

Preliminary estimates by the [Canadian Sentinel Practitioner Surveillance Network \(SPSN\)](#) suggest that between early November and mid-December, the current season's vaccine reduced the risk of medically-attended A/H3 illness by about half. Estimates will be updated as the season progresses.



1.1. Pathogen Characterization.

All ages

Following an earlier than usual peak in November, the influenza epidemic continued its steep decline. From a peak of 27% in epi-week 47 (Nov 20-26), influenza positivity has continued to fall and was below 5% in epi-week 2 (2.2%). A/H3 viruses continue to predominate, comprising 88% of subtyped influenza A viruses overall this season. However, A/H1 viruses comprised a greater proportion of subtyped influenza A viruses in epi-week 2 (30%) than epi-week 1 (Jan 1-7: 13%). Influenza B viruses have only been detected sporadically.

Respiratory syncytial virus (RSV) positivity remains high in epi-week 2. RSV percent positivity (15%) exceeded that of influenza virus (2.2%), with positivity remaining higher than historical average (2014/15-2018/19) for this time of year (6.2%). SARS-CoV-2 test-positivity remained relatively stable at 13% in epi-week 2 compared with last week, while entero and/or rhinoviruses (ERV) remained at a relatively low detection rate of 7.4% in epi-week 2. Other seasonal respiratory viruses (e.g. parainfluenza, adenovirus, human metapneumovirus, seasonal coronaviruses) contribute but with combined percent positivity of ~5.1% overall in epi-week 2.

Children and youth

Among children and youth 18 years and younger tested in laboratories in Vancouver (including BC Children's Hospital), Richmond, and the North Shore, respiratory virus activity is declining. From a peak of 41% in epi-week 47, influenza test-positivity has decreased to 0.3% in epi-week 2, signaling a low level of activity in this population. RSV continues to be the most commonly detected virus, but test positivity has been declining from a peak of 43% in week 52 to 22% in epi-week 2, lower than pre-pandemic historical RSV averages for this time of year (25.9%). SARS-CoV-2 positivity among children remained stable at 5.0% in epi-week 2. Test positivity for other seasonal respiratory viruses (parainfluenza and seasonal coronaviruses) is decreasing, but remains higher than pre-pandemic historical averages.

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.

Visits for acute respiratory infections continue to decline in pediatric age groups and show stabilization in adults 20 years and older. Overall, the proportion of community health care visits for clinically-diagnosed influenza mirrors laboratory surveillance in showing steep decline in recent weeks, but has been stable at a low level among adults 40 years and older. The proportion of community health care visits for clinically-diagnosed COVID-19 is stable.

1.3. Wastewater

Wastewater tests for SARS-CoV-2 differ by facility but are relatively stable or declining.



1.4. COVID-19 Weekly Summary

In epi-week 2 (January 8-14), the number of reported COVID-19 cases (560) among individuals eligible for PCR testing was lower than in epi-week 1 (January 1-7: 661). Trends in severe outcomes (new hospital admissions, new critical care admissions, and deaths) are relatively stable or declining overall based on reported information so far.

Within the last four weeks, epi-weeks 51-52 in 2022 and epi-week 1-2 in 2023 (December 18, 2022 - January 14, 2023):

- The 7-day rolling average for cases has been relatively stable. Average numbers ranged from 75 to 105 cases per day.
- The number of new hospital admissions has been decreasing. Average number of daily admissions decreased from about 37 to 21.
- The number of new critical care admissions remained generally stable. Average numbers ranged from 4 to 8 counts daily.
- The number of deaths within 30 days of a first positive COVID-19 test has been stable. Average numbers ranged from 4 to 9 counts daily.

Within the last week (January 8-14, 2023):

- There were 560 cases reported.
- There were 142 new hospital admissions reported.
- There were 24 new critical care admissions reported.
- There were 27 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 January 19, 2023:

- There were 268 individuals in the hospital who tested positive for COVID-19.
- There were 17 individuals in critical care who tested positive for COVID-19.

1.5. Outbreaks

The weekly number of reported COVID-19 care facility outbreaks has increased over the past 4 weeks, from 2 in epi-week 51 (December 18-24, 2022) to 7 in epi-week 52 (December 25-31, 2022), and later decreased to 4 in epi-week 2 (January 8-14, 2023). In epi-week 2, there were 3 outbreaks in long-term care facilities (LTCFs) and 1 outbreak in an acute care facility (ACF).

Since the peak of the 2022-23 influenza epidemic in epi-week 50 (December 11-17, 2022), the number of influenza facility outbreaks reported per week has decreased. Of all influenza facility outbreaks reported since epi-week 50, there were 15 outbreaks in long-term care facilities (LTCFs), and 3 outbreaks in ACFs. There were 10 facility outbreaks attributed to influenza A(subtype unknown), 6 attributed to influenza A/H3, and 2 attributed to influenza A/H1. In epi-week 2, there was one influenza A facility outbreak reported in a LTCF of an unknown subtype.