Respiratory Epidemiology Summary

December 22, 2022

Summary (Epidemiological week 50, Dec 11 to 17)

Influenza activity remains high, but it is declining. RSV activity continues to increase. SARS-CoV-2 activity, the virus that causes COVID-19, remains relatively stable, with some signs of increase in wastewater data. Other seasonal respiratory viruses also continue to be present in the community.

Laboratory

In this past epi week, influenza A was the most detected virus in the BC population, with H3 continuing to be the predominant (~90%) subtype since the start of this respiratory season. Test positivity for influenza A shows steady decline from a high of 27% in epi week 47 to 16% in epi week 50. RSV test positivity (13%) continues to increase, up from 6% in week 47. Among children aged 0-18 years, RSV became the most commonly detected virus last week. Test positivity for both influenza A (21%) and RSV (37%) remain higher in children 0-18 years than in the overall population. There has been sporadic detection of influenza B so far.

Syndromic

The share of visits to community healthcare practitioners for symptoms of a new respiratory infection remains at elevated but stable levels. Share of visits for influenza symptoms are beginning to show signs of stabilization or decline. Observed decreases are primarily seen in the younger age groups. Visits for influenza symptoms in children remain higher than is typical for this time of year; while remaining within historical peak levels.

Wastewater

Wastewater tests from all 5 water treatment plants show slow increase in SARS-CoV-2 levels.

Outbreaks

In the last epi week, there was 1 COVID-19 outbreak in an acute care facility and 5 influenza outbreaks in long-term care settings. All long-term care settings reported influenza A (subtype unknown).

Severe outcomes

BCCDC has not received any new notifications of influenza-associated deaths in the pediatric population in the last two weeks. So far this respiratory season, BCCDC is aware of 6 reports of recent influenza-associated deaths among children and youth in BC (1 aged <5 years, 3 aged 5-9 years, and 2 aged 15-18 years). Several of the children experienced secondary bacterial infections, which can be a complication of influenza contributing to more severe illness.

Influenza Vaccine Effectiveness Estimate

Preliminary estimates by the Canadian Sentinel Practitioner Surveillance Network (SPSN) suggest the current season’s vaccine has reduced the risk of medically-attended influenza-like illness due to the A/H3N2 subtype by about half, with vaccine effectiveness estimate of 55% (95%CI: 32-
70%). Estimates will be updated in the new year.

1.1. Pathogen Characterization

Note: pathogen characterization data are incomplete this week. The numbers presented are likely to change as data become more complete in the coming weeks.

All ages

In this past week (epi week 50, Dec 11-17), influenza A continued to be the most detected virus in BC, with test positivity of 16% (719/4473). Influenza A/H3 is the predominant circulating subtype detected; since epi week 35 (beginning Aug 28, 2022) to epi week 50 (ending Dec 17, 2022) about 90% of subtyped influenza A viruses have been H3.

Other seasonal respiratory viruses (respiratory syncytial virus (RSV), enterovirus/rhinovirus (ERV), parainfluenza, adenovirus, human metapneumovirus, and seasonal coronavirus) are also present in the community. For RSV, test positivity continues to increase and is notably higher (~13%) compared to pre-pandemic historical averages (2014/15-2018/19) for this time of year (~5%). The number of SARS-CoV-2 viruses detected remains relatively stable. The number of entero and/or rhinoviruses (ERV) detected and test positivity (~9%) remains low and stable.

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, RSV has become the most commonly detected virus, and has a test positivity of 37%, which is higher than pre-pandemic historical averages for this time of year (27%). Test positivity for influenza A remains high despite recent decreases, with a test positivity of 21%. Both positivity and rate of growth of influenza have been higher this season compared to pre-pandemic historical average. By contrast, rate of growth and test positivity in the past week for RSV is comparable to historical ranges. SARS-CoV-2 positivity among children remains low (~4%).

1.2. Community Visits for Respiratory Illness

Overall, the share of community visits to health care practitioners for respiratory symptoms has been increasing since mid-September, but has recently started to stabilize at elevated levels. A higher proportion of these visits continues to be observed among younger children.

Share of visits for influenza symptoms are beginning to show signs of stabilization or decline. Observed decreases are primarily seen in the younger age groups. However, visits for influenza symptoms in children remain higher than is typical for this time of year, while remaining within historical peak levels.

Share of visits for COVID-19 symptoms continues to decline across regions and age groups.

Note that community visit numbers are based on physician billing diagnostic codes, which are often 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. There are natural lags to these data. Please refer to the limitations section of the data notes in the Supplementary Information section for further information.
### 1.3. Wastewater

Wastewater tests from all five water treatment plants show continuous slow increase in levels of SARS-CoV-2.

### 1.4. COVID-19 Weekly Summary

In the most recent epi week (Dec 11-17), the number of reported COVID-19 cases among individuals eligible for PCR testing was lower compared to the previous epi week (Dec 4-10). 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 (November 20-December 17, 2022):**

- The 7-day rolling average for cases has been increasing slightly.
- The number of new hospital admissions have declined slightly.
- The number of new critical care admissions remained stable. Average numbers ranged from 1 to 11 counts daily.
- The number of deaths within 30 days of a first positive COVID-19 test has been stable. Average numbers ranged from 1 to 10 counts daily.

**Within the last week (December 11-December 17):**

- There were 609 cases reported.
- There were 167 new hospital admissions reported.
- There were 28 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 December 22, 2022:**

- There were 349 individuals in the hospital who tested positive for COVID-19.
- There were 35 individuals in critical care who tested positive for COVID-19.

### 1.5. Outbreaks

The number of COVID-19 care facility outbreaks has been declining since late-November, at 1 to 6 outbreaks per week from week 47 to 50 (November 20-December 17). In epi week 50 (December 11-December 17), there was 1 COVID-19 outbreak in an acute care facility.

During the same week, there were 5 influenza care facility outbreaks in long-term care settings. All long-term care settings reported influenza A (subtype unknown). Since late November, the number of influenza facility outbreaks has been relatively stable, at 5 to 7 outbreaks per week.