British Columbia (BC) COVID-19 Situation Report

Week 47: November 20 - November 26, 2022

NOTE: This will be the last PDF Situation Report that is produced. All future reports can be accessed at: https://bccdc.shinyapps.io/respiratory_covid_sitrep/

Data for week 47 (November 20 - November 26, 2022) may differ from the data published in the BCCDC weekly report. Data was extracted on December 05, 2022 for this situation report compared to December 07, 2022 for the latest weekly report.

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Report Summary

Due to changes in testing strategies in BC, current case counts are an underestimate of the true number of COVID-19 cases in BC. This underestimation has increased compared to the period prior to the emergence of the Omicron variant in BC. The provincial incidence by episode date was 11 per 100K (596 cases) in week 47, which has remained stable since last week.

Incidence by Health Authority from week 46 to week 47:

- Fraser Health incidence increased slightly from 8 to 11 per 100K
- Interior Health incidence was stable at 12 and 13 per 100K
- Vancouver Island Health incidence increased slightly from 11 to 13 per 100K
- Northern Health incidence decreased from 11 to 7 per 100K
- Vancouver Coastal Health incidence was stable from 10 to 11 per 100K

Testing of MSP-funded specimens increased slightly from ~5,300 in week 46 to ~5,900 in week 47. The percent positivity of MSP-funded specimens remained relatively stable at 11.7% in week 46 and 12.1% in week 47.

The per capita testing rates for MSP-funded specimens increased in all HAs. The percent positivity for MSP-funded specimens decreased or remained stable in all HAs.

Age-specific incidence rates between week 46 and week 47 remained stable in all age groups except for those aged 70-79 and 80+ where the incidence rate increased.

In week 47, 60+ year-olds had the highest number of new hospital admissions, with 64 new hospitalizations in both 60-79 year-olds and 80+ year-olds. In week 47, 60-79 year-olds had the highest number of new critical care admissions (20 new critical care admissions). 60-79 and 80+ year-olds had the highest number of deaths from any cause among people testing positive for COVID-19 in week 47, accounting for 15 and 24 deaths in these age groups, respectively.

From week 28 to week 36 where the underlying cause of death (UCD) has been reported for at least 95% of the post-transition deaths, an average of 46% of these deaths were reported to have COVID-19 as their UCD. Post-transition deaths with complete UCD are expected to increase over time.

In week 47, based on earliest symptom onset date, 4 new care facility outbreaks (all in FH acute care) were declared.

Note: 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.

BELOW ARE IMPORTANT NOTES relevant to the interpretation of cases, hospitalizations, and deaths:

- Due to changes in testing strategies in BC in 2022 focusing on targeted higher risk populations, current case counts are an underestimate of the true number of COVID-19 cases in BC. This underestimation has increased compared to the period prior to the emergence of the Omicron variant in BC. Please see definition of cases below.
- Hospital data include admissions for people who test positive for COVID-19 through hospital screening practices, regardless of the reason for admission. Therefore, reported hospitalizations overestimate the true number of people who are hospitalized specifically due to COVID-19 infection.
- Pre-transition (case line list) deaths include COVID-19 related deaths reported by Health Authorities up to April 1, 2022. As of April 2, 2022, post-transition (automated linkage) deaths include people who died from any cause recorded in Vital Statistics within 30 days of their first positive COVID-19 lab result date. Deaths reported after the system transition use a broader definition and will overestimate the true number of deaths due to COVID-19 since death registration is recorded before the underlying cause of death is determined. Due to the change in data source for death data, the number of pre-transition deaths should not be compared to the number of post-transition deaths.

BELOW ARE IMPORTANT NOTES relevant to the interpretation of data displayed in this bulletin:

- Cases include lab confirmed, lab probable, and epi-linked cases. Case definition can be found at http://www.bccdc.ca/health-professionals/clinical-resources/case-definitions/covid-19-(novel-coronavirus). Cases include those reported in Health Authority case line lists for the first time and those with first positive laboratory results in the Provincial Laboratory Information Solution (PLIS) up to April 1, 2022. As of April 2, 2022, only first positive laboratory results in the PLIS are included and cases who are residents from outside of BC are not included.
- Episode date is defined by date of illness onset when available. When illness onset date is unavailable, earliest laboratory date is used (collection or result date); if also unavailable, then public health case report date is used. As of April 2, 2022, episode date reflects earliest laboratory date (collection or result date) only. Analyses based on episode date may better represent the timing of epidemic evolution. Episode-based tallies for recent weeks are expected to increase as case data are more complete.
- Surveillance date is defined by lab result date, if unavailable, then public health case report date is used. As of April 2, 2022, surveillance date reflects lab result date only. The weekly tally by surveillance date includes cases with illness onset date in preceding weeks.
- Hospitalizations include those reported by Health Authorities up to April 1, 2022. As of April 2, 2022, hospitalizations are defined as individuals who test positive for COVID-19 and are hospitalized as recorded in the PHSA Provincial COVID-19 Monitoring Solution (PCMS). Hospitalizations for individuals 0-19 years-old are reported by linked hospitalization episodes from the PCMS since the beginning of the pandemic. Episode date for hospitalization is defined by admission date, if unavailable, surveillance date is used.
- Critical care admissions (HAU, ICU, and critical care surge beds) include individuals who test positive for COVID-19 and are in critical care admission as recorded in the PCMS. Episode date for critical care admission is defined by critical care admission date, if unavailable, surveillance date is used. Previously only ICU admissions were presented in this report. Critical care admissions comprises a broader category than ICU admissions and therefore, the number of critical care admissions should not be compared to number of ICU admissions from previous weeks.
- Deaths include COVID-19 related deaths reported by Health Authorities up to April 1, 2022. As of April 2, 2022, deaths are any COVID-19 lab positive cases who died from any cause recorded in Vital Statistics within 30 days of their first positive lab result date. Episode date for death is defined by death date, if unavailable, surveillance date is used.
- As of April 2, 2022, data on Health Authority outbreaks are compiled from outbreak files provided by the Health Authorities.
- Laboratory PLOVER data include Medical Service Plan (MSP) funded (e.g. clinical diagnostic tests) and non-MSP funded (e.g. screening tests) specimens.
- Per capita rates/incidences for year 2020 are based on Population Estimates 2020 (n= 5,147,772 for BC overall), for year 2021 are based on PEOPLE 2021 estimates (n= 5,194,137 for BC overall), and for year 2022 is based on PEOPLE 2021 estimates (n= 5,263,772 for BC overall).
- Data sources include Health Authority case line lists, PHSA Provincial COVID-19 Monitoring Solution (PCMS), Vital Statistics, laboratory PLOVER data, and aggregate outbreak files from Health Authorities.
- Integrated case data (including surveillance variables created using Health Authority case line lists, PCMS, and Vital Statistics) were extracted on December 05, 2022, laboratory PLOVER data on November 29, 2022, and Health Authority outbreak files on November 30, 2022.

A. COVID-19 case counts and epidemic curve

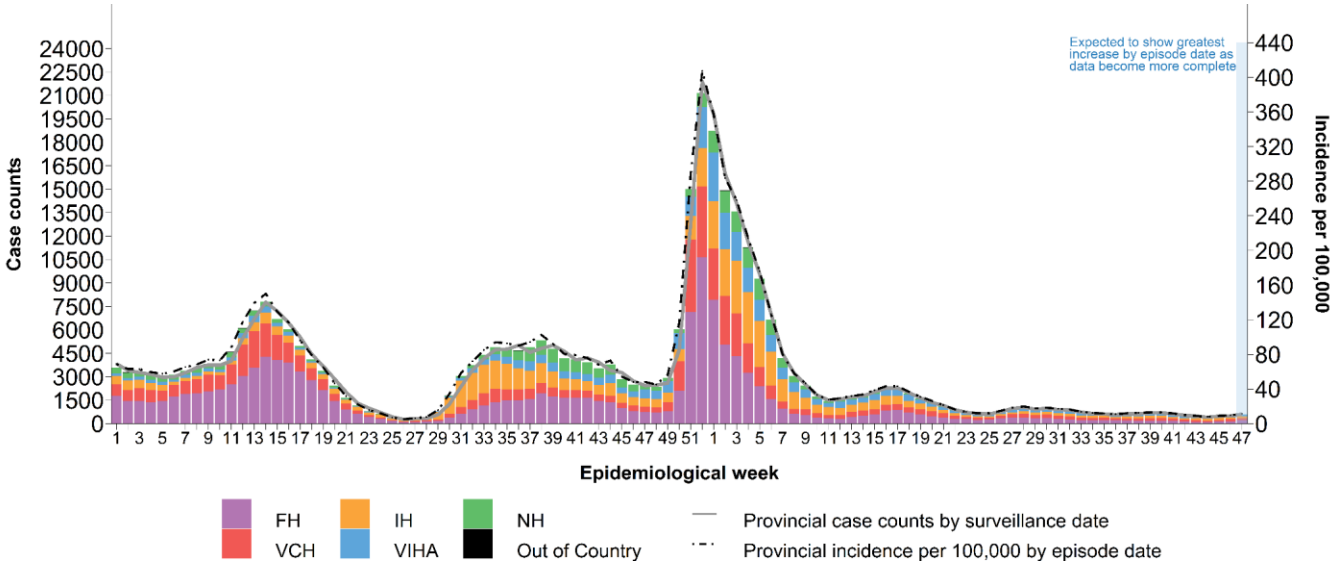
Due to changes in testing strategies in BC in 2022 focusing on targeting higher risk populations, current case counts are an underestimate of the true number of COVID-19 cases in BC. This underestimation has increased compared to the period prior to the emergence of the Omicron variant in BC. Up to week 47, there have been 390,129 cases for a cumulative incidence of 7,412 per 100K (**Table 1, Figure 1**). The provincial incidence by episode date was 11 per 100K (596 cases) in week 47, which has remained stable since last week.

Incidence rates from week 46 to week 47 remained stable in all Vancouver Coastal Health (VCH) and Interior Health (IH), while it increased in Island Health (VIHA) and Fraser Health (FH). Incidence rates decreased in Northern Health (NH). In week 47, the highest incidence rate was in both IHA and VIHA at 13 per 100K. Incidence by episode date may increase as data become more complete in recent weeks.

Table 1. Episode-based case tallies by Health Authority, BC, Jan 15, 2020 (week 3) – Nov 26, 2022 (week 47) (N= 390,129)

Case tallies by episode date	Health Authority of Residence					Outside Canada	Total
	FH	IH	VIHA	NH	VCH		
Week 47, case counts	215	107	118	20	136	0	596
Cumulative case counts	**170,192**	**69,695**	**39,404**	**31,364**	**79,083**	**391**	**390,129**
Week 47, cases per 100K population	11	13	13	7	11	NA	11
Cumulative cases per 100K population	**8,564**	**8,413**	**4,477**	**10,247**	**6,267**	**NA**	**7,412**

Figure 1. Episode-based epidemic curve (bars), surveillance date (line) and Health Authority (HA), BC Jan 3, 2021 (week 1) – Nov 26, 2022 (week 47) (N= 334,271)

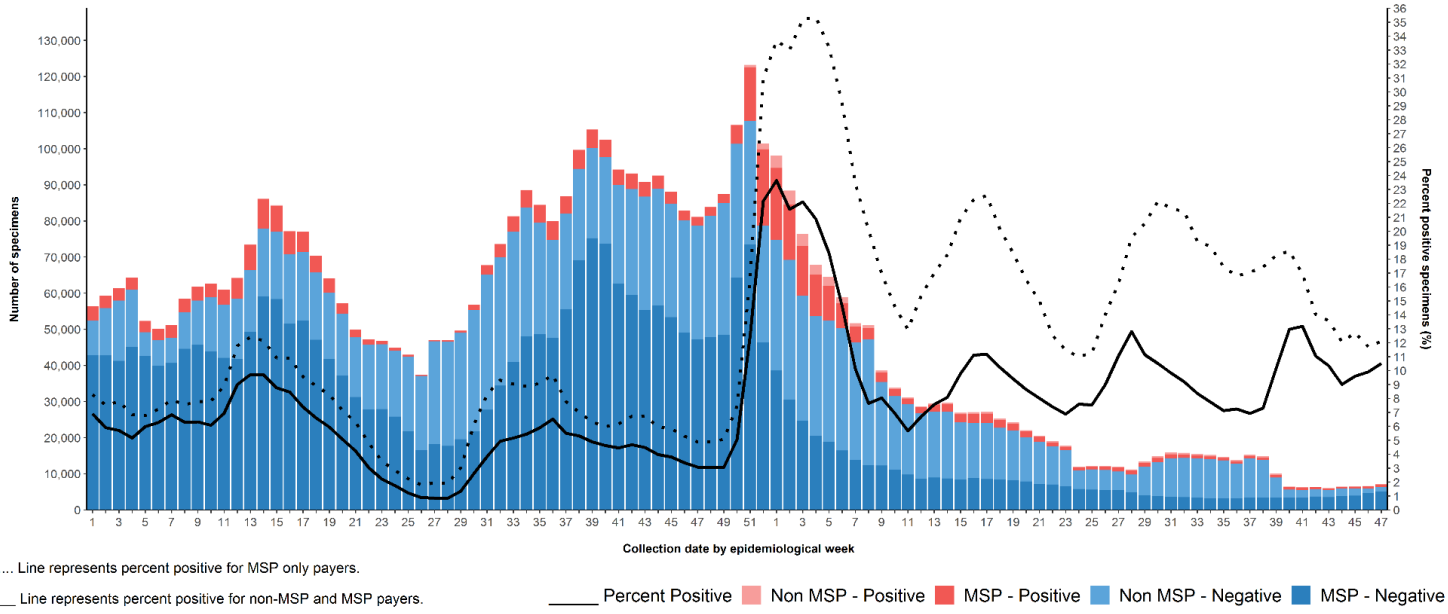


B. Test rates and percent positive

COVID-19 testing guidelines recommend testing for people who have COVID-19 symptoms, and are at risk of more severe disease or live/work in high-risk settings. As shown by the darker-colored bars and dotted line in **Figure 2**, the number of MSP-funded specimens increased slightly from ~5,300 in week 46 to ~5,900 in week 47. The percent positivity of MSP-funded specimens remained stable at 11.7% in week 46 and 12.1% in week 47.

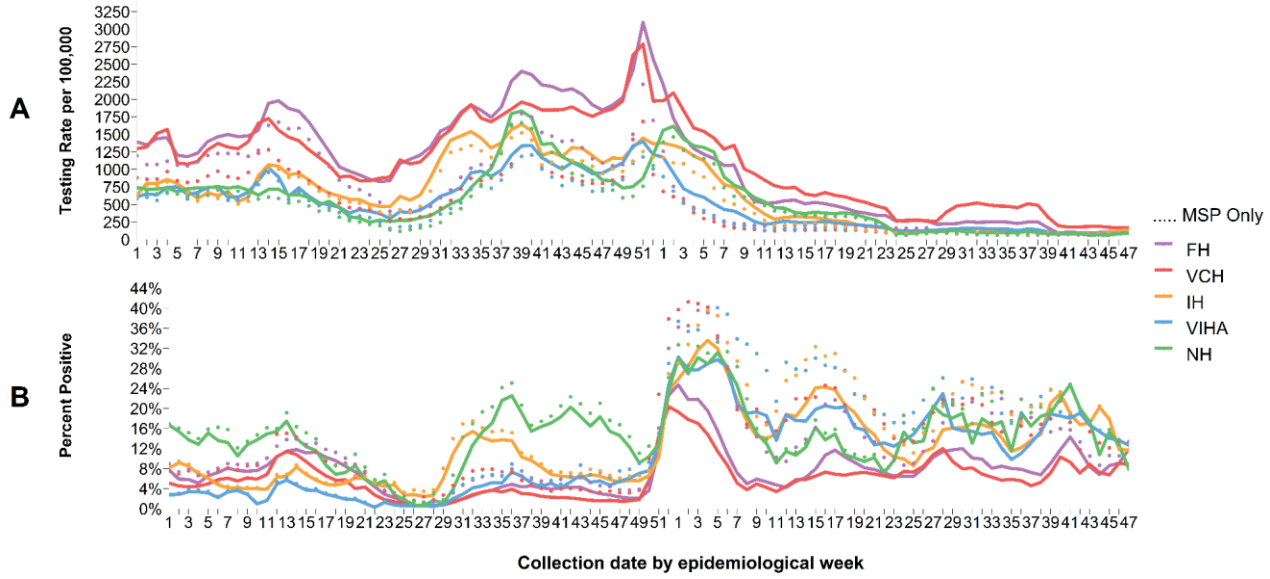
As shown by the dotted lines in **Figure 3**, the per capita testing rates for MSP-funded specimens (Panel A) increased in all HAs. The percent positivity (Panel B) for MSP-funded specimens decreased or remained stable in all HAs.

Figure 2. Number of specimens tested and percent SARS-CoV-2 positive, by collection week, BC Jan 3, 2021 (week 1) – Nov 26, 2022 (week 47)



Note: Invalid (n = 3505) and indeterminate (n = 20791) results have been excluded

Figure 3. Testing rates and percent SARS-CoV-2 positive by Health Authority and collection week, BC Jan 3, 2021 (week 1) – Nov 26, 2022 (week 47)



Data source: Laboratory PLOVER data

C. Age profile, testing and cases

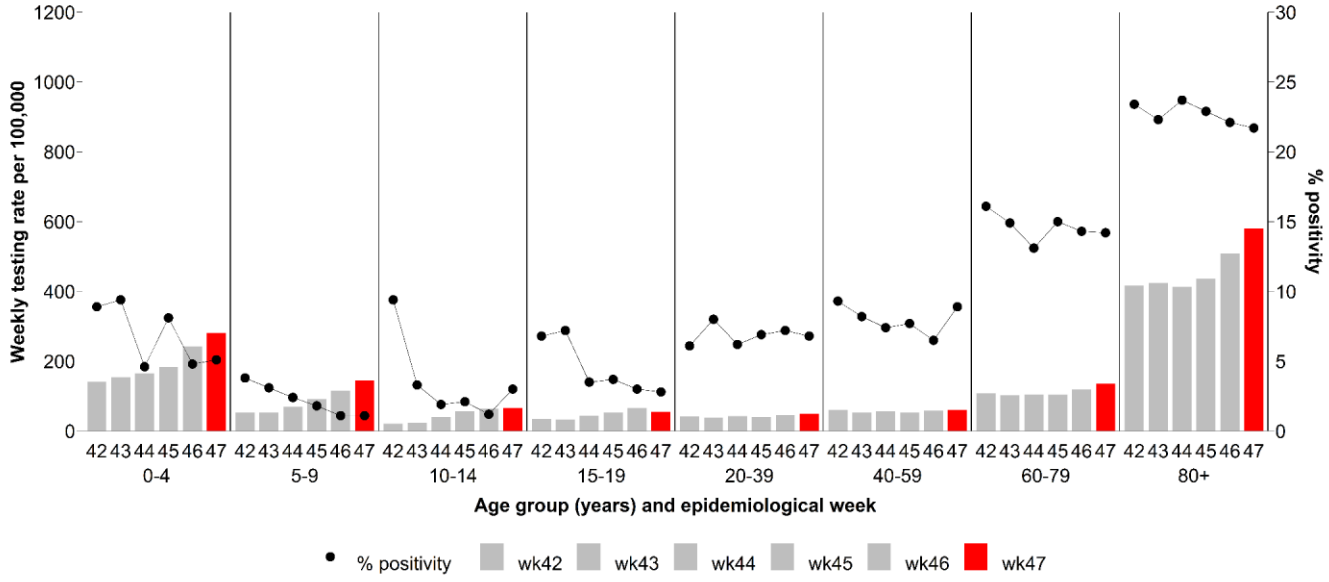
Testing rates and percent positivity by age group

As shown by the bars in **Figure 4**, the per capita testing rates for MSP-funded specimens in week 47 increased in all age groups except in those aged 15-19, where it decreased. As shown by the black dots in **Figure 4**, percent positivity between week 46 and week 47 decreased or remained stable in all age groups except in those aged 10-14 and 40-59.

Case distribution and weekly incidence by age group

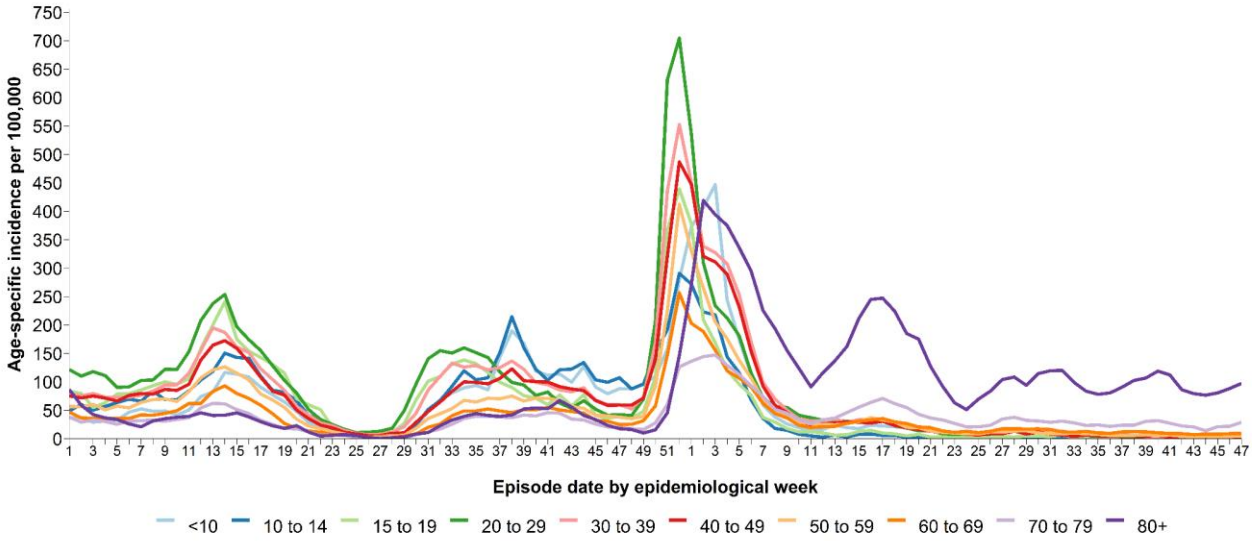
As shown in **Figure 5**, age-specific incidence rates between week 46 and week 47 remained stable in all age groups except for those aged 70-79 and 80+ where the incidence rate increased.

Figure 4. Average weekly SARS-CoV-2 MSP testing rates and MSP percent positive by known age group, BC Oct 22, 2022 (week 42) – Nov 26, 2022 (week 47)



Data source: Laboratory PLOVER data

Figure 5. Weekly age-specific COVID-19 incidence per 100K population by epidemiological week, BC Jan 3, 2021 (week 1) – Nov 26, 2022 (week 47) (N= 334,249)



D. Severe outcomes

Hospital data include admissions for people who test positive for COVID-19 through hospital screening practices, regardless of the reason for admission. Therefore, reported hospitalizations overestimate the true number of people who are hospitalized specifically due to COVID-19 infection. The number of people admitted to hospital decreased from 193 in week 46 to 174 in week 47. The number of new critical care admissions increased from 25 in week 46 to 34 in week 47.

As of April 2, 2022, death data include people who died from any cause (COVID-19 or non-COVID-19) within 30 days of their first positive lab result date. The weekly number of deaths reported from any cause among people testing positive for COVID-19 increased from 29 in week 46 to 39 in week 47. This number is expected to change with subsequent data refreshes (Table 2). (**Table 2**).

Cumulatively, there have been 35 confirmed cases of Multi-system Inflammatory Syndrome in children and adolescents (MIS-C) in BC since January 1, 2020. There have been no new cases of MIS-C since the last report. The median age of all cases is 7 years old (ranging from 4 months old to 16 years old).

Table 2. COVID-19 severe outcomes by episode date, Health Authority of residence, BC Jan 15, 2020 (week 3) – Nov 26, 2022 (week 47)

Severe outcomes by episode date	Health Authority of residence					Residing outside of Canada	Total n/N[a] (%)
	FH	IH	VIHA	NH	VCH		
Week 47, hospitalizations	62	22	29	13	48	0	174
Cumulative hospitalizations	**13,608**	**5,041**	**3,410**	**2,401**	**6,271**	**17**	**30,748/390,129 (8)**
Week 47, critical care admissions[b]	15	6	4	4	5	0	34
Cumulative critical care admissions[b]	**2,786**	**1,095**	**493**	**864**	**1,235**	**4**	**6,477/390,129 (2)**
Week 47, deaths	6	13	14	2	4	0	39
Cumulative deaths, pre-transition (case line list)[c]	**1,348**	**367**	**241**	**330**	**716**	**0**	**3,002/356,545 (1)**
Cumulative deaths, post-transition (automated linkage)[c]	**522**	**379**	**342**	**70**	**380**	**0**	**1,693/33,584 (5)**

a. Cases with unknown outcome are included in the denominators (i.e. assumed not to have the specified severe outcome).
b. Due to the change in data source for hospitalization data, ICU admissions are no longer available. Critical care admissions are now being provided, which comprises a broader category than ICU admissions (please see Important Notes on Page 2 for more information). Number of critical care admissions should not be compared to number of ICU admissions from previous weeks.
c. Pre-transition (case line list) deaths include COVID-19 related deaths reported by Health Authorities up to April 1, 2022. As of April 2, 2022, post-transition (automated linkage) deaths are any COVID-19 lab positive cases who died from any cause recorded in Vital Statistics within 30 days of their first positive lab result date. Deaths reported after the system transition use a broader definition and will overestimate the true number of deaths due to COVID-19 since death registration is recorded before the underlying cause of death is determined. Due to the change in data source for death data, the number of pre-transition deaths should not be compared to the number of post-transition deaths.

E. Age profile, severe outcomes

Table 3 displays the distribution of cases and severe outcomes. In week 47, the median age of hospital admissions, critical care admissions, pre-transition deaths, and post-transition deaths with underlying cause of death (UCD) as COVID-19 was 69 years, 64 years, 82 years, and 85 years, respectively.

In week 47, 60+ year-olds had the highest number of new hospital admissions, with 64 new hospitalizations in both 60-79 year-olds and 80+ year-olds. In week 47, 60-79 year-olds had the highest number of new critical care admissions (20 new critical care admissions). 60-79 and 80+ year-olds had the highest number of deaths from any cause among people testing positive for COVID-19 in week 47, with 15 and 24 deaths in these age groups, respectively (**Figure 6**).

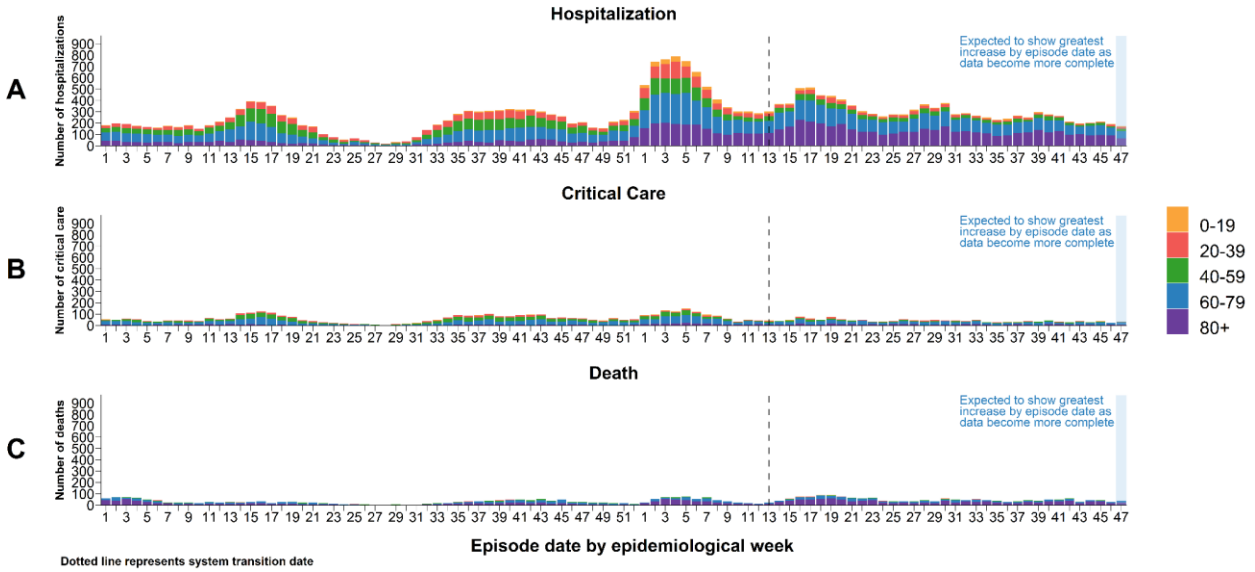
Table 3: COVID-19 cases, new hospitalizations, critical care admissions, and deaths by age group, BC, Jan 15, 2020 (week 3) – Nov 26, 2022 (week 47) (N= 390,096)[a]

Age group (years)	Cases	Hospitalizations n (%)	Critical care admissions[b] n (%)	Pre-transition (case line list) deaths[c] n (%)	Post-transition (automated linkage) deaths[c]		
					UCD as COVID-19[d] n (%)	UCD as non-COVID-19[d] n (%)	UCD pending[d] n (%)
<10	31,490	652 (2)	83 (<1)	2 (<1)	2 (<1)	3 (<1)	0 (<1)
10-19	36,001	393 (1)	57 (<1)	0 (<1)	0 (<1)	3 (<1)	0 (<1)

20-29	73,957	1,446 (2)	223 (<1)	6 (<1)	1 (<1)	8 (<1)	1 (<1)
30-39	71,086	2,493 (4)	459 (1)	31 (<1)	1 (<1)	11 (<1)	0 (<1)
40-49	54,893	2,385 (4)	612 (1)	64 (<1)	2 (<1)	14 (1)	2 (<1)
50-59	45,028	3,460 (8)	1,137 (3)	166 (<1)	13 (<1)	46 (2)	2 (<1)
60-69	32,071	4,992 (16)	1,596 (5)	353 (1)	56 (1)	93 (2)	13 (<1)
70-79	20,269	6,184 (31)	1,499 (7)	655 (4)	124 (2)	198 (4)	31 (1)
80-89	16,345	6,060 (37)	709 (4)	989 (10)	253 (4)	272 (4)	42 (1)
90+	8,956	2,683 (30)	102 (1)	736 (15)	230 (6)	228 (6)	44 (1)
Total	**390,096**	**30,748**	**6,477**	**3,002**	**682**	**876**	**135**
Median age	**37**	**69**	**64**	**82**	**85**	**82**	**85**

a. Among those with available age information only.
b. Due to the change in data source for hospitalization data, ICU admissions are no longer available. Critical care admissions are now being provided, which comprises a broader category than ICU admissions (please see Important Notes on Page 2 for more information). Number of critical care admissions should not be compared to number of ICU admissions from previous weeks.
c. Pre-transition (case line list) deaths include COVID-19 related deaths reported by Health Authorities up to April 1, 2022. As of April 2, 2022, post-transition (automated linkage) deaths are any COVID-19 lab positive cases who died from any cause recorded in Vital Statistics within 30 days of their first positive lab result date. Deaths reported after the system transition use a broader definition and will overestimate the true number of deaths due to COVID-19 since death registration is recorded before the underlying cause of death is determined. Due to the change in data source for death data, the number of pre-transition deaths should not be compared to the number of post-transition deaths.
d. Since underlying cause of death (UCD) takes approximately 8 weeks to be recorded, all-cause mortality is initially reported and then retrospective evaluations of underlying cause of death are provided here to better understand true COVID-19 mortality. UCD as COVID-19 are deaths that have been determined to be caused by COVID-19 in their Vital Stats record. UCD as non-COVID-19 are deaths that have been determined to be not attributable to COVID-19 in their Vital Stats record that are reported as deaths due to a lab positive COVID-19 test within 30 days of death. UCD pending are all post-transition deaths that do not yet have a recorded UCD.

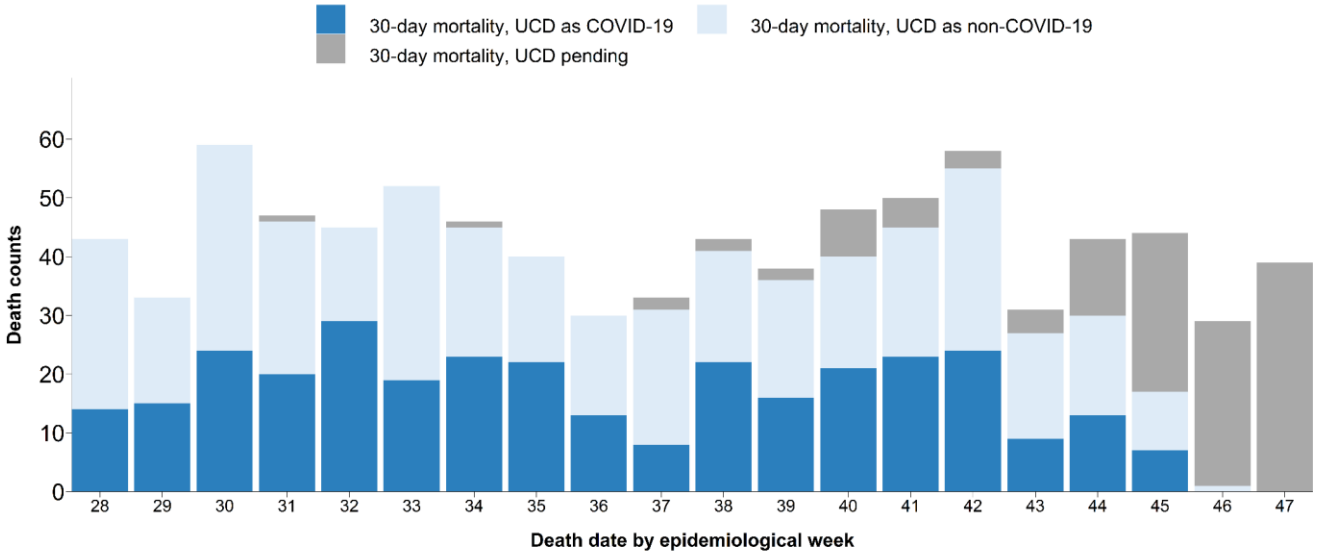
Figure 6. Weekly COVID-19 hospital admissions (A), critical care admissions (B), and deaths (C) by age groups, BC, Jan 3, 2021 (week 1) – Nov 26, 2022 (week 47)[a]



a. Among those with available age information only.

[Figure 7](#) displays the number of pre-transition deaths and post-transition deaths (i.e. people who test positive for COVID-19 and died from any cause within 30 days of their first positive lab result date) by underlying cause of death as recorded in Vital Statistics from week 28 to week 47 in 2022. From week 28 to week 36 where the UCD has been reported for at least 95% of the post-transition deaths, an average of 46% of these deaths were reported to have COVID-19 as their UCD. Post-transition deaths with complete UCD are expected to increase over time.

Figure 7. Post-transition deaths by underlying cause of death, BC, Jul 10, 2022 (week 28) – Nov 26, 2022 (week 47)[a,b]



a. As of April 2, 2022, post-transition (automated linkage) deaths are any COVID-19 lab positive cases who died from any cause recorded in Vital Statistics within 30 days of their first positive lab result date. Deaths reported after the system transition use a broader definition and will overestimate the true number of deaths due to COVID-19 since death registration is recorded before the underlying cause of death is determined. Due to the change in data source for death data, the number of pre-transition deaths should not be compared to the number of post-transition deaths.

b. Since underlying cause of death (UCD) takes approximately 8 weeks to be recorded, all-cause mortality is initially reported and then retrospective evaluations of underlying cause of death are provided here to better understand true COVID-19 mortality. UCD as COVID-19 are deaths that have been determined to be caused by COVID-19 in their Vital Stats record. UCD as non-COVID-19 are deaths that have been determined to be not attributable to COVID-19 in their Vital Stats record that are reported as deaths due to a lab positive COVID-19 test within 30 days of death. UCD pending are all post-transition deaths that do not yet have a recorded UCD.

F. Care facility outbreaks

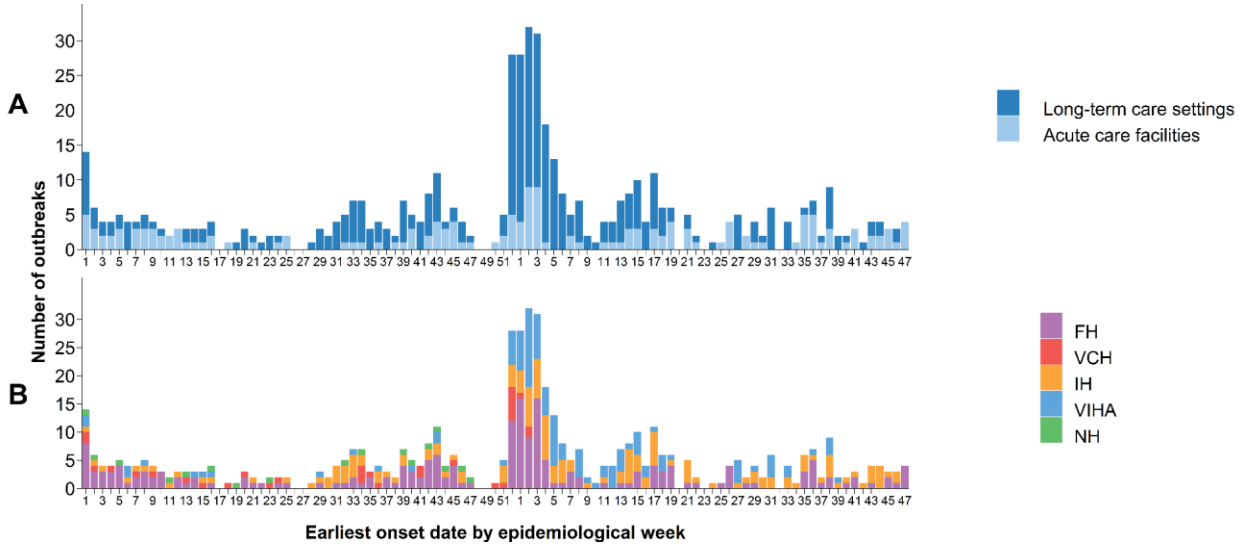
As shown in **Table 4** and **Figure 8**, 754 care facility (acute care and long-term care setting) outbreaks were reported in total in BC to the end of week 47. In week 47, based on earliest symptom onset date (if unavailable, then outbreak declared date is used), 4 new care facility outbreaks (all in acute care) were declared.

Table 4. COVID-19 care facility[a] outbreaks by earliest case onset[b,c], associated cases and deaths by episode date, BC Jan 15, 2020 (week 3) – Nov 26, 2022 (week 47) (N=754)[d,e]

Care facility outbreaks and cases by episode date	Outbreaks	Cases			Deaths		
		Residents	Staff/other	Total	Residents	Staff/other	Total
Week 47, Care Facility Outbreaks	4	48	0	48	0	0	0
Cumulative, Care Facility Outbreaks	**754**	**10,767**	**3,826**	**14,593**	**1,487**	**0**	**1,487**

Figure 8. COVID-19 care facility [a], outbreaks by earliest case onset[b,c], facility type (A) and Health Authority (B), BC

Jan 3, 2021 (week 1) – Nov 26, 2022 (week 47) (N=503)[d,e]



a. Case and death counts include PCR positive cases only for outbreaks in NHA and VIHA. Vancouver Coastal Health, Fraser Health Authority, and Interior Health Authority outbreaks may also include those diagnosed by rapid antigen tests or considered as suspect reinfection.
b. Earliest dates of onset of outbreak cases are subject to change as investigations and data are updated. If unavailable, outbreak declared date is used.
c. New outbreaks reported since the last report with an earliest case onset date (if unavailable, outbreak declared date is used) prior to the current reporting week will be included in the cumulative care facility outbreak total.
d. Cases with unknown role are included in the case count for Staff/other.
e. Data might be incomplete or vary from what was reported previously due to updates by Health Authorities.

G. Wastewater surveillance

The BCCDC and Metro Vancouver measure SARS-CoV-2 in wastewater at five wastewater treatment plants (treating wastewater from 50% of BC's population). To account for changing wastewater volume due to rainfall or snowmelt, SARS-CoV-2 concentrations are normalized to wastewater flow. Normalized SARS-CoV-2 wastewater levels (measured as viral copies per day) are shown alongside incident COVID-19 cases in each wastewater catchment area in **Figure 9** and **Figure 10**. The BCCDC's test results are obtained from the liquid fraction of the wastewater sample. Other organizations, such as the National Microbiology Laboratory, test from the solid fraction of wastewater and therefore, their results are not directly comparable.

Key messages with results through to December 4th:

- SARS-CoV-2 viral loads measured in all Metro Vancouver wastewater plants are slowly increasing.

Figure 9. Wastewater surveillance, FH

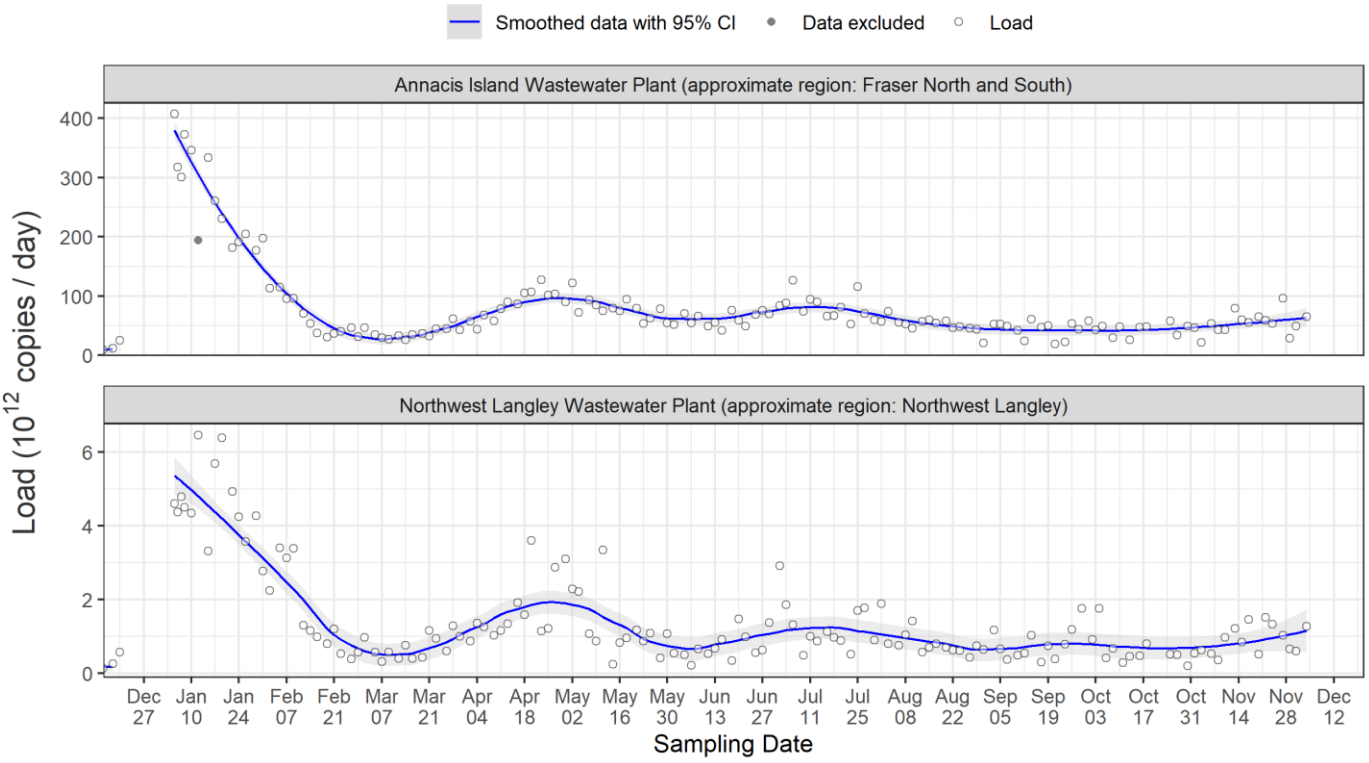
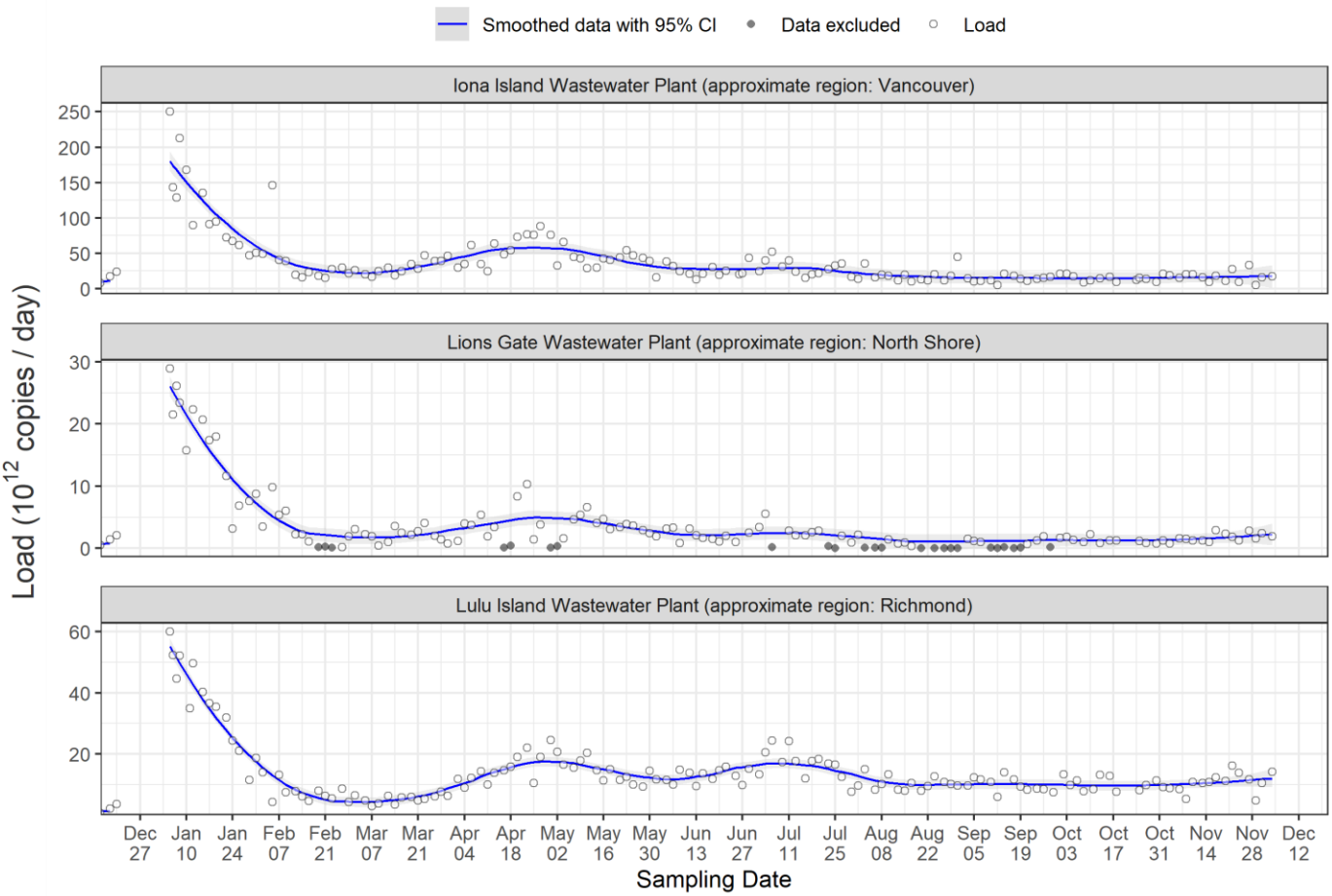


Figure 10. Wastewater surveillance, VCH



Note: Data are smoothed using LOESS (Locally Estimated Scatterplot Smoothing).

H. Additional resources

For COVID-19 vaccination coverage data, visit the COVID-19 Vaccination Coverage Dashboard here: http://www.bccdc.ca/health-professionals/data-reports/covid-19-surveillance-dashboard

Variant of concern (VOC) findings are available weekly here: http://www.bccdc.ca/health-info/diseases-conditions/covid-19/data#variants

For local, national, and global comparisons of BC to other jurisdictions on key epidemiological metrics, visit the BCCDC COVID-19 Epidemiology App here: https://bccdc.shinyapps.io/covid19_global_epi_app/

BC's COVID-19 Immunization Plan is updated regularly here: https://www2.gov.bc.ca/gov/content/covid-19/vaccine/plan