

British Columbia (BC) COVID-19 Situation Report

Week 45: November 06- November 12, 2022

Data for week 45 (November 06 - November 12, 2022) may differ from the data published in the BCCDC weekly report. Data was extracted on November 21, 2022 for this situation report compared to November 23, 2022 for the latest weekly report.

Table of Contents	
COVID-19 case counts and epidemic curve	3
Testing rates and percent positivity	4
Age profile, testing and cases	5
Severe outcomes	6
Age profile, severe outcomes	7
Care facility outbreaks	9
Wastewater surveillance	10
Additional resources	11

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 9 per 100K (479 cases) in week 45, which has remained stable since last week.

Incidence by Health Authority from week 44 to week 45:

- Fraser Health incidence remained stable at 7 and 5 per 100K
- Interior Health incidence remained stable at 14 and 16 per 100K
- Vancouver Island Health incidence remained stable at 11 and 9 per 100K
- Northern Health incidence remained stable at 6 and 8 per 100K
- Vancouver Coastal Health incidence remained stable at 7 and 8 per 100K

Testing of MSP-funded specimens increased slightly from ~4,400 in week 44 to ~4,600 in week 45. The percent positivity of MSP-funded specimens remained stable at 12.0% in week 44 and 12.6% in week 45.

The per capita testing rates for MSP-funded in week 45 increased or remained stable in all age groups except the 40-59 year-old age group, where the testing rate decreased slightly. The percent positivity between week 44 and week 45 decreased or remained stable in all age groups other than those aged 0-4 years old, where the percent positivity increased from 4.6% in week 44 to 8.1% in week 45.

Age-specific incidence rates between week 44 and week 45 remained stable in all age groups except for those under 10 and those aged 70+, where incidence rates increased.

In week 45, 60+ year-olds had the highest number of new hospital admissions, with 57 new hospitalizations in 60-79 year-olds and 65 new hospitalizations in 80+ year-olds. In week 45, 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 45, with 7 and 31 deaths in these age groups, respectively.

Figure 7 displays the number of 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 26 to week 45 in 2022. From week 26 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.

In week 45, based on earliest symptom onset, 8 new care facility outbreaks (5 in acute care and 3 in long-term 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-\(novel-coronavirus\)](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 November 21, 2022, laboratory PLOVER data on November 15, 2022, and Health Authority outbreak files on November 23, 2022.
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A. COVID-19 case counts and epidemic curve

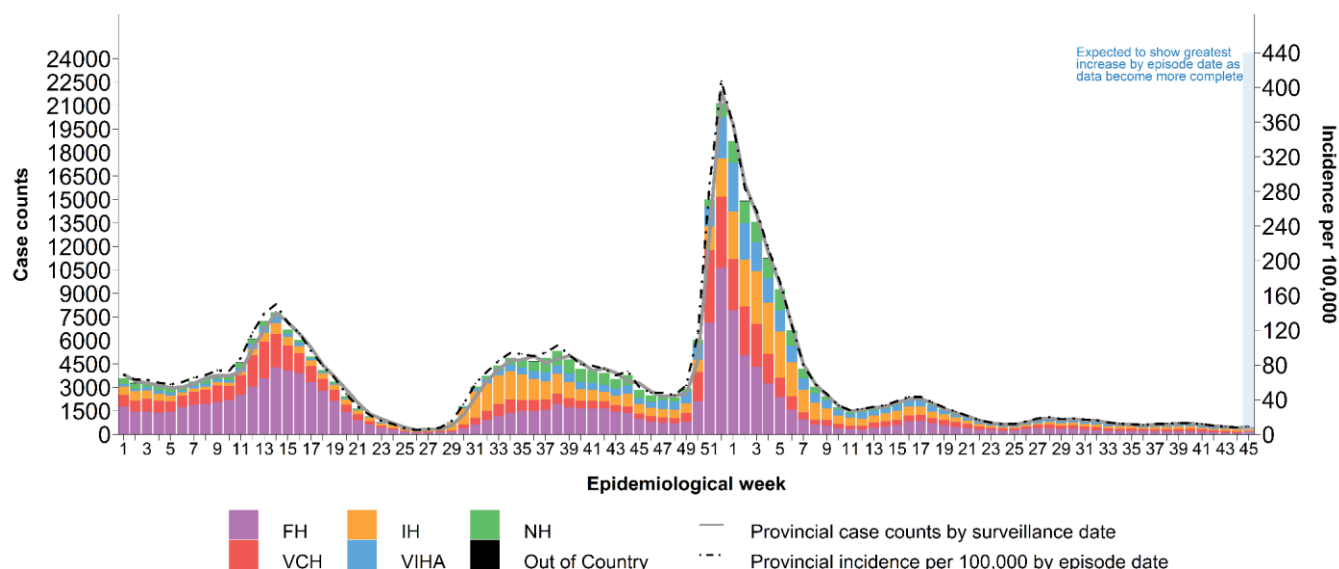
Due to changes in testing strategies in BC in 2022 focusing on targeting higher risk populations, current case counts are an underestimate of the true number of COVID-19 cases in BC. This underestimation has increased compared to the period prior to the emergence of the Omicron variant in BC. Up to week 45, there have been 389,016 cases for a cumulative incidence of 7,390 per 100K ([Table 1, Figure 1](#)). The provincial incidence by episode date was 9 per 100K (479 cases) in week 45, which has remained stable since last week.

Incidence rates from week 44 to week 45 remained stable in all HAs except Vancouver Island Health Authority (VIHA). In week 45, the highest incidence rate was in Interior Health (IH) at 16 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 12, 2022 (week 45) (N= 389,016)

Case tallies by episode date	Health Authority of Residence					Outside Canada	Total
	FH	IH	VIHA	NH	VCH		
Week 45, case counts	146	132	79	24	98	0	479
Cumulative case counts	169,813	69,486	39,191	31,314	78,821	391	389,016
Week 45, cases per 100K population	7	16	9	8	8	NA	9
Cumulative cases per 100K population	8,545	8,388	4,453	10,230	6,246	NA	7,390

Figure 1. Episode-based epidemic curve (bars), surveillance date (line) and Health Authority (HA), BC Jan 3, 2021 (week 1) – Nov 12, 2022 (week 45) (N= 333,158)



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 ~4,400 in week 44 to ~4,600 in week 45. The percent positivity of MSP-funded specimens remained stable at 12.0% in week 44 and 12.6% in week 45.

As shown by the dotted lines in [Figure 3](#), the per capita testing rates for MSP-funded specimens (Panel A) decreased in Vancouver Coastal Health (VCH), Vancouver Island (VIHA) and Northern Health (NH) and increased in Fraser Health (FH) and Interior Health (IH). The percent positivity (Panel B) for MSP-funded specimens decreased or remained stable in all HAs except in NH, where the percent positivity increased from 10.8% in week 44 to 15.4% in week 45.

Figure 2. Number of specimens tested and percent SARS-CoV-2 positive, by collection week, BC Jan 3, 2021 (week 1) – Nov 12, 2022 (week 45)

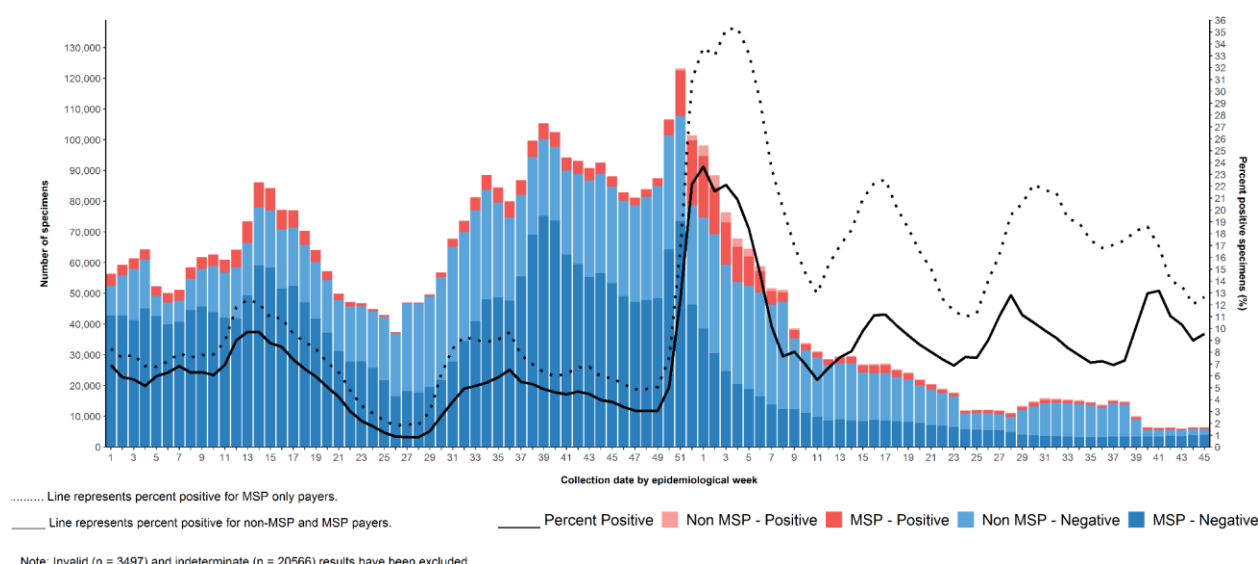
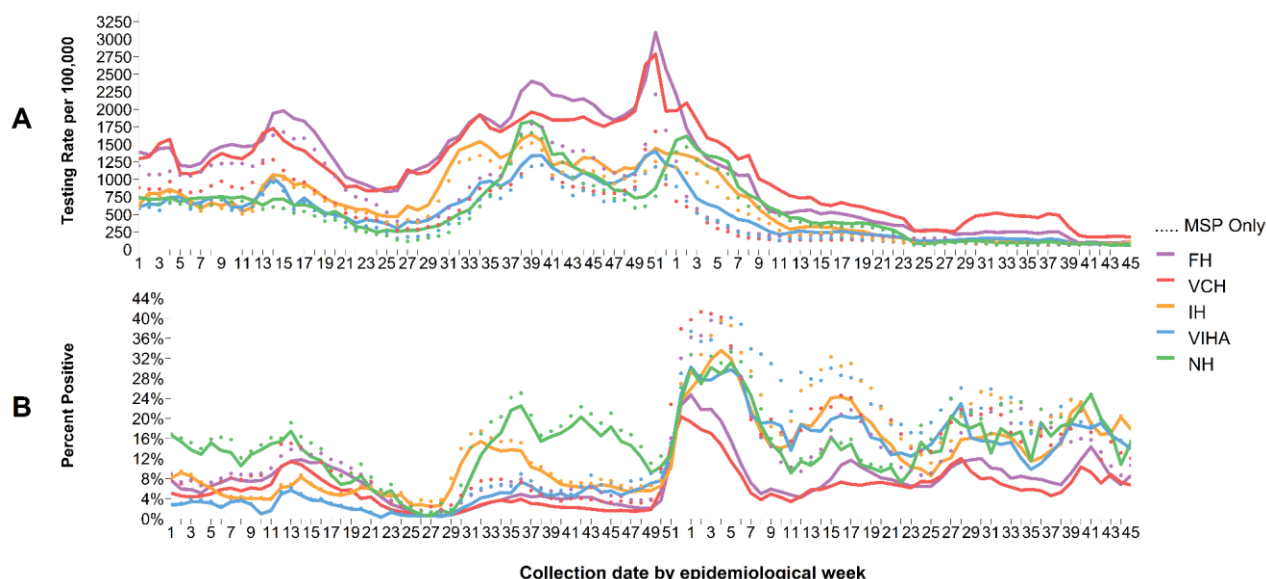


Figure 3. Testing rates and percent SARS-CoV-2 positive by Health Authority and collection week, BC Jan 3, 2021 (week 1) – Nov 12, 2022 (week 45)



Data source: Laboratory PLOVER data

C. Age profile, testing and cases

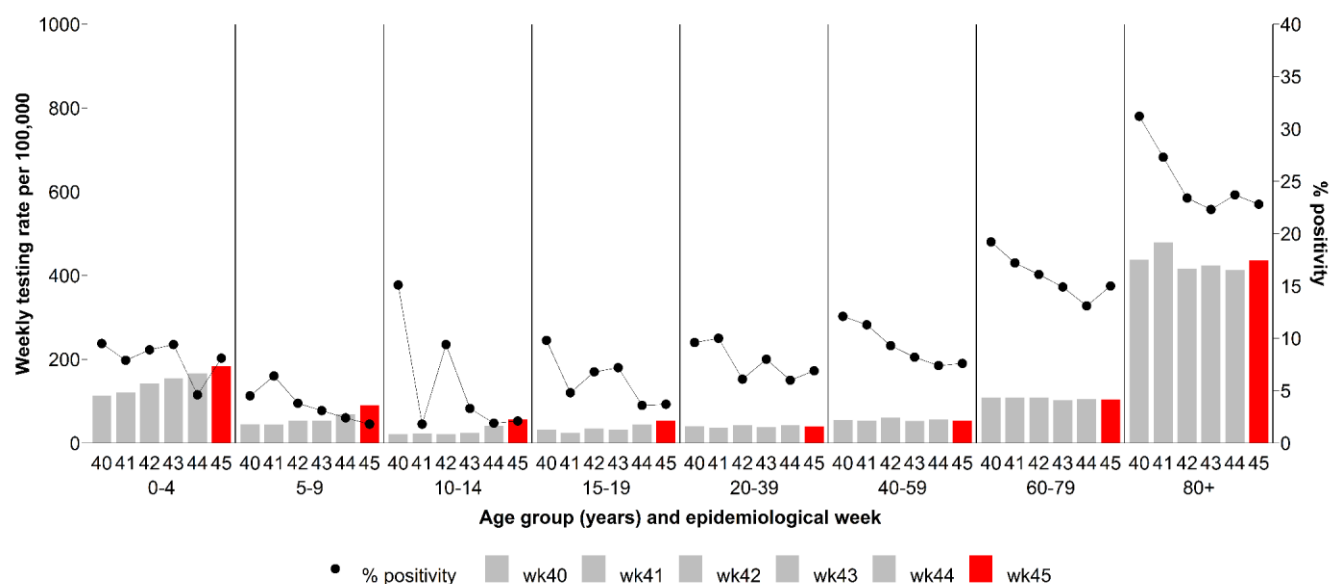
Testing rates and percent positivity by age group

As shown by the bars in [Figure 4](#), the per capita testing rates for MSP-funded specimens in week 45 increased or remained stable in all age groups except the 40-59 year-old age group where the testing rate slightly decreased. As shown by the black dots in [Figure 4](#), percent positivity between week 44 and week 45 decreased or remained stable in all age groups other than those aged 0-4 years old where the percent positivity increased from 4.6% in week 44 to 8.1% in week 45.

Case distribution and weekly incidence by age group

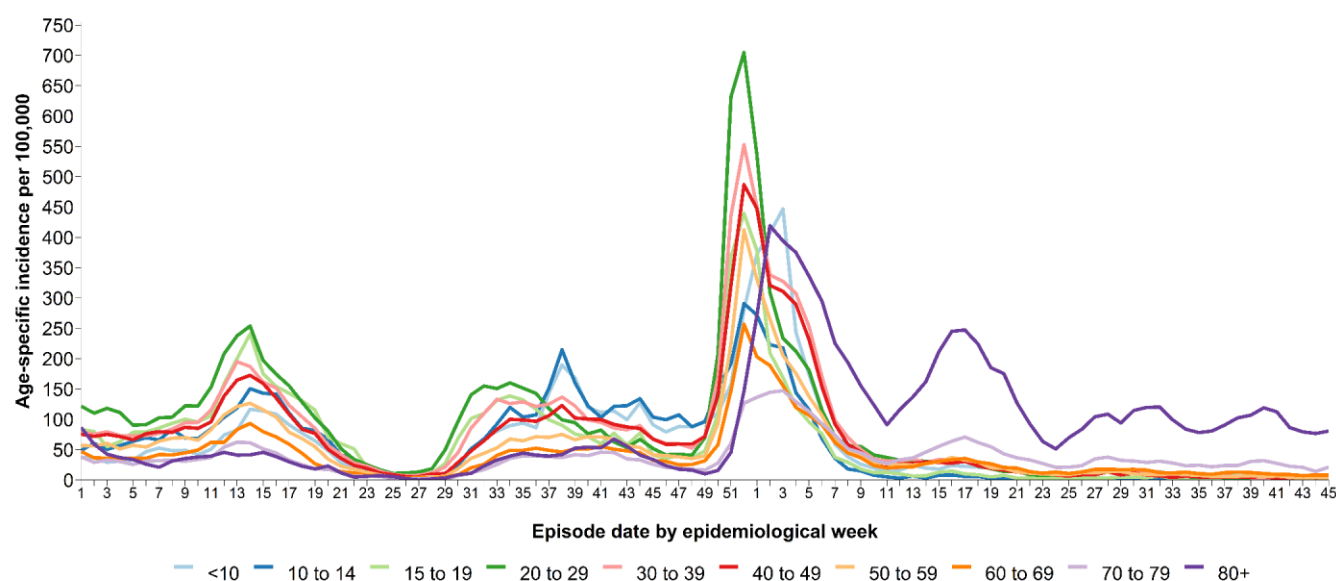
As shown in [Figure 5](#), age-specific incidence rates between week 44 and week 45 remained stable in all age groups except for those under 10 and those aged 70+.

Figure 4. Average weekly SARS-CoV-2 MSP testing rates and MSP percent positive by known age group, BC Oct 08, 2022 (week 40) – Nov 12, 2022 (week 45)



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 12, 2022 (week 45) (N= 333,156)



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 163 in week 44 to 147 in week 45. The number of new critical care admissions increased from 28 in week 44 to 33 in week 45.

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 remained stable at 41 in week 44 and week 45. 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 12, 2022 (week 45)**

Severe outcomes by episode date	Health Authority of residence					Residing outside of Canada	Total n/N ^a (%)
	FH	IH	VIHA	NH	VCH		
Week 45, hospitalizations	57	23	25	7	35	0	147
Cumulative hospitalizations	13,393	4,981	3,296	2,362	6,143	17	30,192/389,016 (8)
Week 45, critical care admissions ^b	16	3	4	6	4	0	33
Cumulative critical care admissions^b	2,747	1,090	485	854	1,220	4	6,400/389,016 (2)
Week 45, deaths	12	15	7	4	3	0	41
Cumulative deaths, pre-transition (case line list)^c	1,348	367	241	330	716	0	3,002/356,560 (1)
Cumulative deaths, post-transition (automated linkage)^c	507	358	320	65	368	0	1,618/32,456 (5)

- Cases with unknown outcome are included in the denominators (i.e. assumed not to have the specified severe outcome).
- 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.
- 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 44, 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 68 years, 64 years, 82 years, and 86 years, respectively.

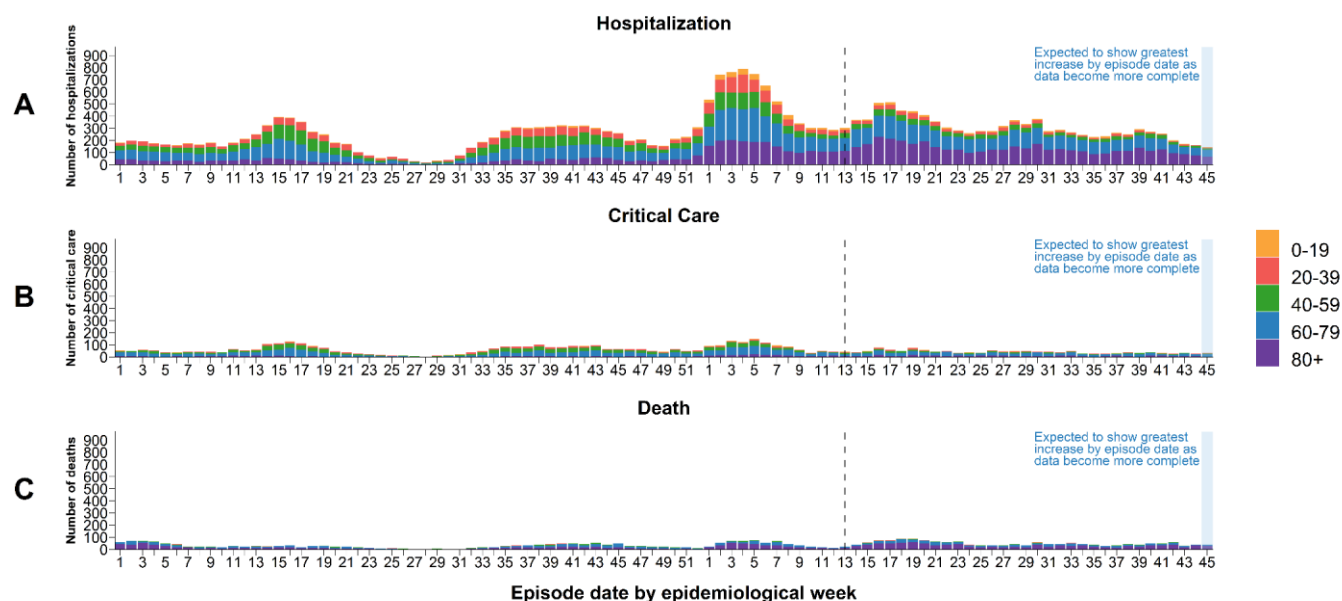
In week 45, 60+ year-olds had the highest number of new hospital admissions, with 57 new hospitalizations in 60-79 year-olds and 65 new hospitalizations in 80+ year-olds. In week 45, 60-79 year-olds had the highest number of new critical care admissions (20 new critical care admissions). 60-79 and 80+ year-olds had the highest number of deaths from any cause among people testing positive for COVID-19 in week 45, with 7 and 31 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 12, 2022 (week 45) (N= 388,983)^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	31,431	637 (2)	82 (<1)	2 (<1)	2 (<1)	3 (<1)	0 (<1)
10-19	35,987	391 (1)	55 (<1)	0 (<1)	0 (<1)	3 (1)	0 (<1)
20-29	73,922	1,436 (2)	219 (<1)	6 (<1)	1 (<1)	8 (<1)	0 (<1)
30-39	71,028	2,472 (3)	459 (1)	31 (<1)	1 (<1)	11 (<1)	0 (<1)
40-49	54,856	2,373 (4)	610 (1)	64 (<1)	2 (<1)	13 (1)	3 (<1)
50-59	44,964	3,423 (8)	1,130 (3)	166 (<1)	11 (<1)	45 (2)	4 (<1)
60-69	31,943	4,919 (15)	1,573 (5)	353 (1)	53 (1)	87 (2)	16 (<1)
70-79	20,026	6,037 (30)	1,474 (7)	655 (4)	119 (2)	196 (4)	17 (<1)
80-89	16,056	5,902 (37)	701 (4)	989 (10)	242 (4)	253 (4)	54 (1)
90+	8,770	2,602 (30)	97 (1)	736 (15)	223 (6)	216 (6)	35 (1)
Total	388,983	30,192	6,400	3,002	654	835	129
Median age	37	68	64	82	86	81	85

- Among those with available age information only.
- 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.
- 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.
- 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.

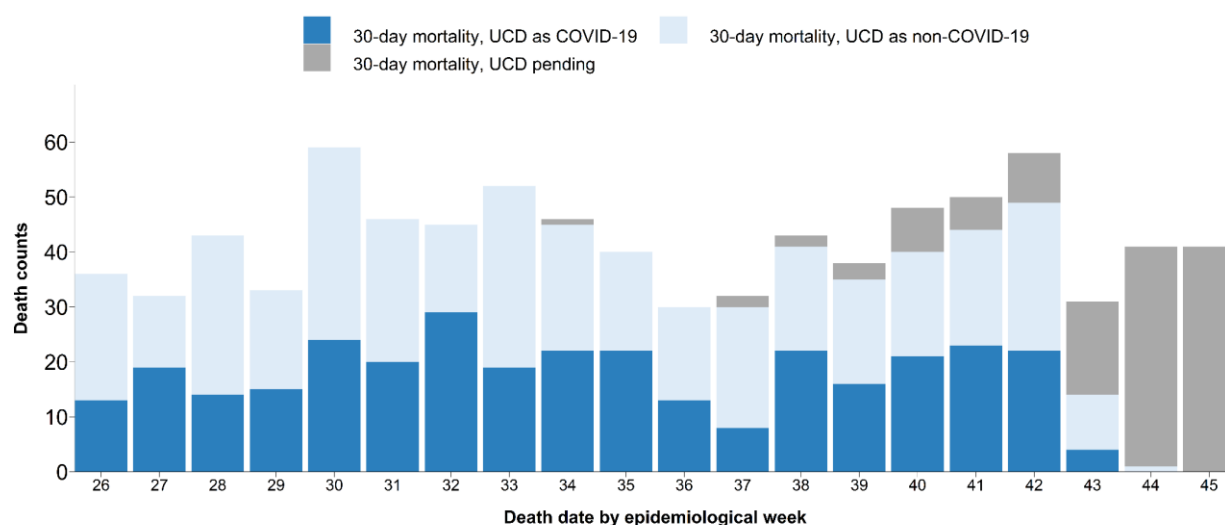
Figure 6. Weekly COVID-19 hospital admissions (A), critical care admissions (B), and deaths (C) by age groups, BC, Jan 3, 2021 (week 1) – Nov 12, 2022 (week 45)^a



a. Among those with available age information only.

Figure 7 displays the number of 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 26 to week 45 in 2022. From week 26 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, Jun 26, 2022 (week 26) – Nov 12, 2022 (week 45)^{a,b}



- 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.
- 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.

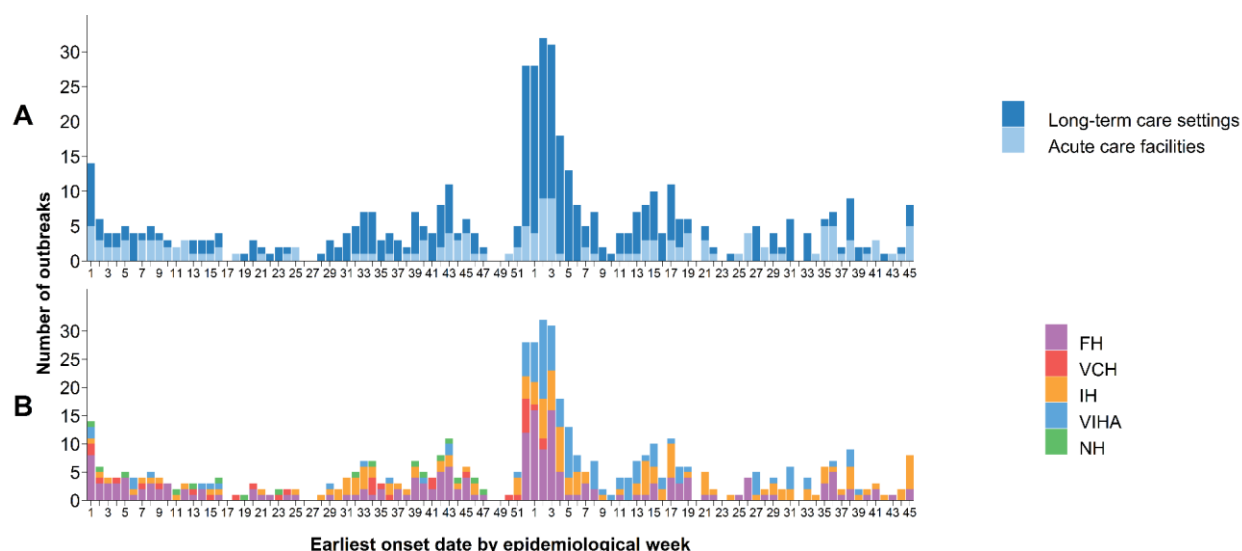
F. Care facility outbreaks

As shown in [Table 4](#) and [Figure 8](#), 747 care facility (acute care and long-term care setting) outbreaks were reported in total in BC to the end of week 45. In week 45, based on earliest symptom onset date (if unavailable, then outbreak declared date is used), 8 new care facility outbreaks (5 in acute care and 3 in long-term 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 12, 2022 (week 45) (N=747)^{d,e}

Care facility outbreaks and cases by episode date	Outbreaks	Cases			Deaths		
		Residents	Staff/other	Total	Residents	Staff/other	Total
Week 45, Care Facility Outbreaks	8	103	0	103	3	0	3
Cumulative, Care Facility Outbreaks	747	10,649	3,820	14,469	1,478	0	1,478

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 12, 2022 (week 45) (N=496)^{d,e}



- 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.
- Earliest dates of onset of outbreak cases are subject to change as investigations and data are updated. If unavailable, outbreak declared date is used.
- 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.
- Cases with unknown role are included in the case count for Staff/other.
- 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 November 21st, 2022:

SARS-CoV-2 viral load is slowly but consistently increasing at the Annacis wastewater plant. Viral loads are steady at other Metro Vancouver wastewater plants.

Figure 9. Wastewater surveillance, FH

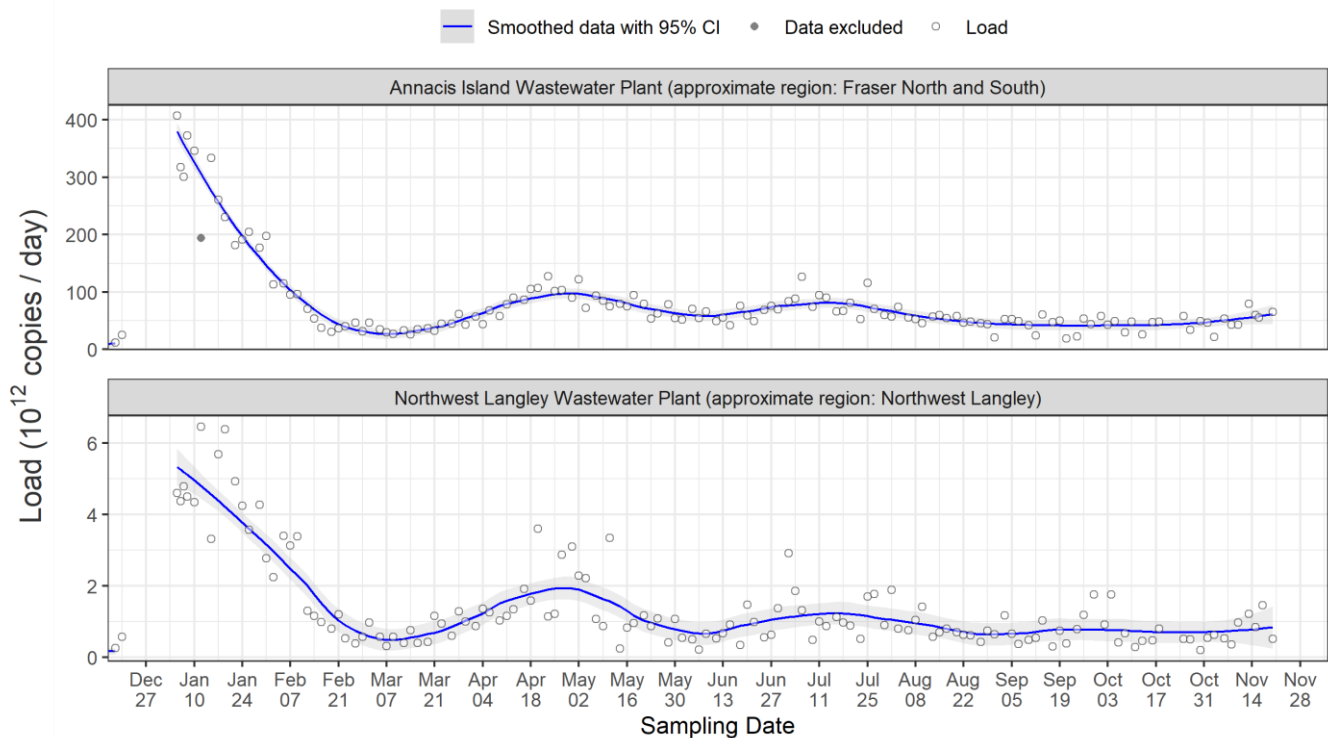
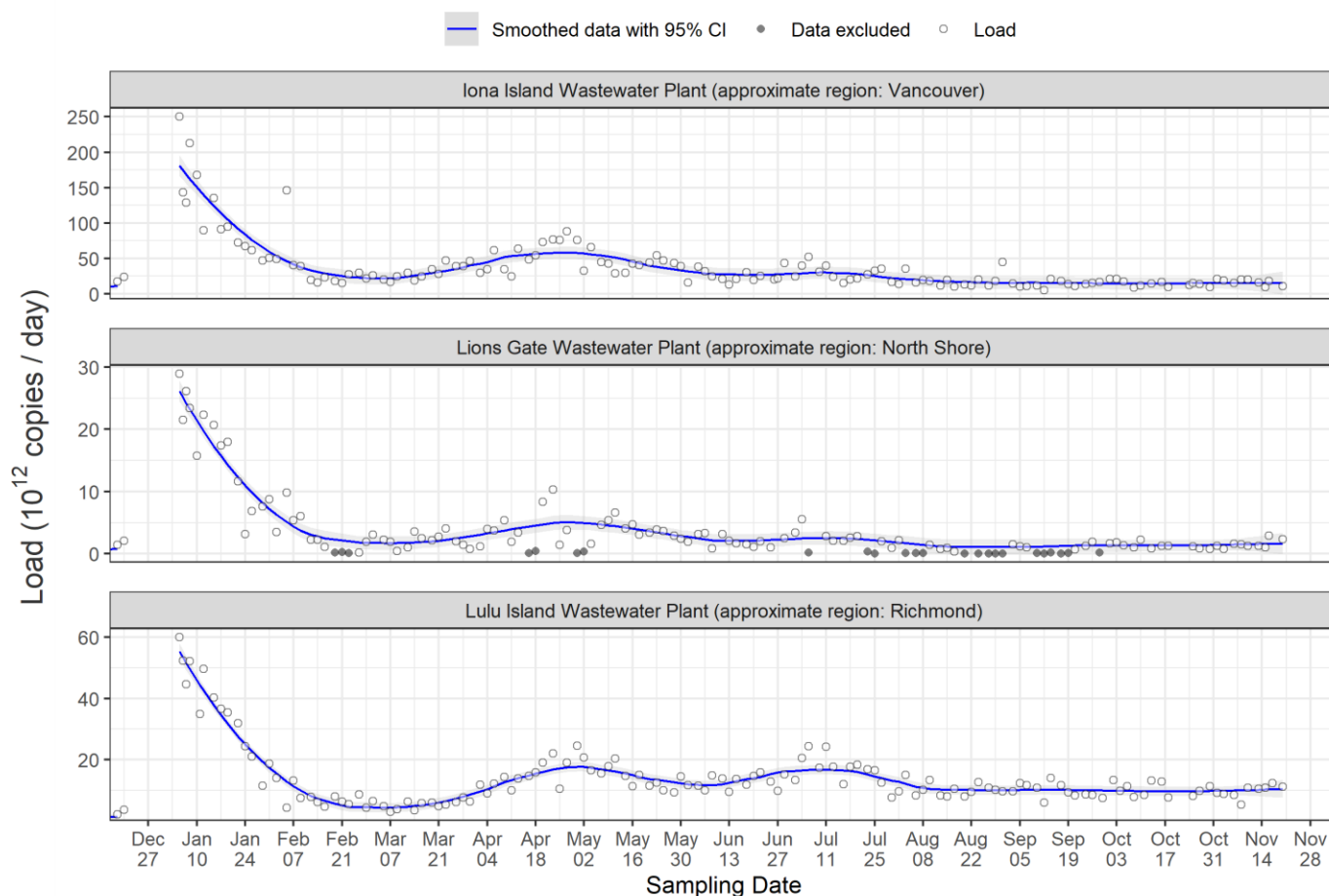


Figure 10. Wastewater surveillance, VCH



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>