

British Columbia (BC) COVID-19 Situation Report
Week 48: November 28- December 04, 2021

Table of Contents	
Epidemic curve and regional incidence	2
Test rates and % positive	3
Age profile, testing and cases	4
Severe outcomes	7
Age profile, severe outcomes	8
Care facility outbreaks	9
Modeling	10
Wastewater surveillance	10
Additional resources	11

Provincial COVID-19 incidence steadily declining; hospital admissions and deaths remain stable.

The provincial incidence by episode date was 36 per 100K, with 1,894 cases in week 48.

Incidence by Health Authority in week 48:

- Since week 38, Fraser Health incidence decreased from 99 to 31 per 100K.
- Since week 38 Vancouver Coastal incidence decreased from 53 to 23 per 100K.
- Since week 44, Interior Health incidence decreased from 99 to 52 per 100K.
- Since week 44, Northern Health incidence decreased from 215 to 65 per 100K.
- Since week 47, Island Health incidence decreased from 63 to 43 per 100K.

Age-specific incidences continued to decrease in all age groups from week 47 to week 48. After a recent increase in week 47, the incidence rate in children <10 of age declined from 87 per 100K to 73 per 100K in week 48. Similarly, the incidence rate in 10-14 year-olds declined since week 47, from 107 per 100K to 76 per 100K in week 48. The incidence rate in 80+ age groups has been declining since week 42 from 68 per 100K to 11 per 100K in week 48.

92% of those eligible for COVID-19 vaccine (i.e. 12+ year-olds) received a single dose of vaccine and 88% received two doses of vaccine by week 48.

Testing of MSP-funded specimens increased slightly from ~49,800K in week 47 to ~50,500 in week 48. The positivity of MSP-funded specimens stabilized at 4.9% in weeks 47 and 48.

The number of hospital admissions decreased since week 42; there was an average of 224 hospitalizations per week from weeks 42 to 48. In week 48, 60-79 year-olds had the highest number of hospital admissions (48 hospitalizations). The weekly number of deaths decreased slightly from 28 in week 47 to 26 in week 48.

By case of earliest onset date, no new outbreaks were reported in healthcare settings in week 48.

Table of [vaccination phases](#) defined by vaccine eligibility of target populations in BC:

VACCINATION PHASE 1 Dec 2020 to Feb 2021	VACCINATION PHASE 2 Feb to Apr 2021	VACCINATION PHASE 3 Apr to May 2021	VACCINATION PHASE 4 May to Nov 2021	VACCINATION PHASE 5 Nov 2021 to Present
Target populations include residents, staff and essential visitors to long-term care settings; individuals assessed and awaiting a long-term care placement; health care workers providing care for COVID-19 patients; and remote and isolated Indigenous communities.	Target populations include seniors, age ≥80; Indigenous peoples age ≥65 and Indigenous Elders; Indigenous communities; hospital staff, community general practitioners and medical specialists; vulnerable populations in select congregate settings; and staff in community home support and nursing services for seniors.	Target populations include people aged 60-79 years, Indigenous peoples aged 18-64 and people aged 16-74 who are clinically extremely vulnerable.	Target populations include everyone 12+ years. In September, third dose is available for people who are clinically extremely vulnerable.	Target populations include everyone 5+. Children aged 5-11 are eligible at the end of November. Everyone 18 and older will be invited to get a booster dose within 6-8 months of their second dose.

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

- Episode dates are defined by dates of illness onset. When those dates are unavailable, earliest laboratory date is used (collection or result date); if also unavailable, then public health care report date is used. Analyses based on episode date (or illness onset date) may better represent the timing of epidemic evolution. Episode-based tallies for recent weeks are expected to increase as case data, in particular onset dates, are more complete.
- The weekly tally by surveillance date (result date, if unavailable then report date) includes cases with illness onset date in preceding weeks. Episode dates for hospital admission, ICU, and death are defined by admission and death dates. When unavailable, surveillance date is used.
- As of June 15, 2021, per capita rates/incidences for year 2020 are based on Population Estimates 2020 (n= 5,147,772 for BC overall) and for year 2021 are based on PEOPLE 2021 estimates (n= 5,194,137 for BC overall).
- Laboratory data include Medical Service Plan (MSP) funded (e.g. clinical diagnostic tests) and non-MSP funded (e.g. screening tests) specimens.

- Data sources include: Health Authority case line list data, laboratory PLOVER data, PHSA Provincial Immunization Registry (PIR), and hospital data (PHSA Provincial COVID19 Monitoring Solution (PCMS)).
- Case data were extracted on December 10, 2021, laboratory data on December 10, 2021, PIR vaccine coverage date on December 10, 2021, and PCMS hospitalization data on December 10, 2021.
- Some figures are displayed by vaccination status. “Unvaccinated” refers to individuals who did not receive a vaccine or <3 weeks has passed since the first dose was administered. “Vaccinated” refers to fully vaccinated individuals with 2 weeks after receipt of 2nd dose.

A. COVID-19 case counts and epidemic curves

Up to week 48, 2021, there have been 221,024 cases for a cumulative incidence of 4,249 per 100K (Table 1, Figure 1). The provincial incidence by episode date was 36 per 100K (1,894 cases) in week 48, which has decreased from 102 per 100K at the peak of Wave 4 (week 38). Incidence by episode date may increase as data become more complete in recent weeks.

As shown in Figure 2, incidence decreased in all Health Authorities (HAs) from week 47 to week 48. Incidence has been trending downward since week 38 in FH (from 99 to 31 per 100k) and in VCH (from 53 to 23 per 100K). Incidence started to decrease since week 44 in IH (from 99 to 52 per 100K in week 48) and NH (from 215 to 65 per 100K in week 48). Incidence in VIHA decreased from 63 per 100K in week 47 to 43 per 100K in week 48. These rates may increase as data become more complete.

Table 1. Episode-based case tallies by Health Authority, BC, Jan 15, 2020 (week 3) – Dec 04, 2021 (week 48) (N= 221,024)

Case tallies by episode date	Health Authority of Residence					Outside Canada	Total
	FH	IH	VIHA	NH	VCH		
Week 48, case counts	613	423	375	196	285	2	1,894
Cumulative case counts	110,056	34,136	13,265	17,905	45,361	301	221,024
Week 48, cases per 100K population	31	52	43	65	23	NA	36
Cumulative cases per 100K population	5,623	4,159	1,530	5,919	3,639	NA	4,249

Figure 1. Episode-based epidemic curve (bars), surveillance date (line) and Health Authority (HA), BC Sept 13, 2020 (week 38) – Dec 04, 2021 (week 48) (N= 213,174)

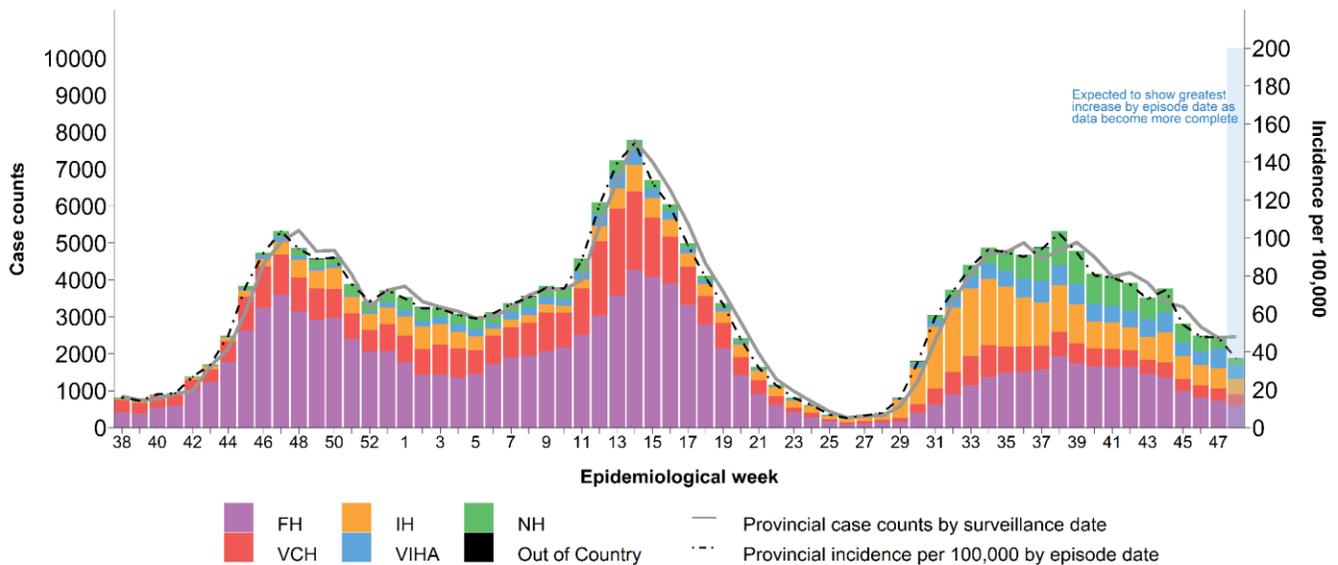
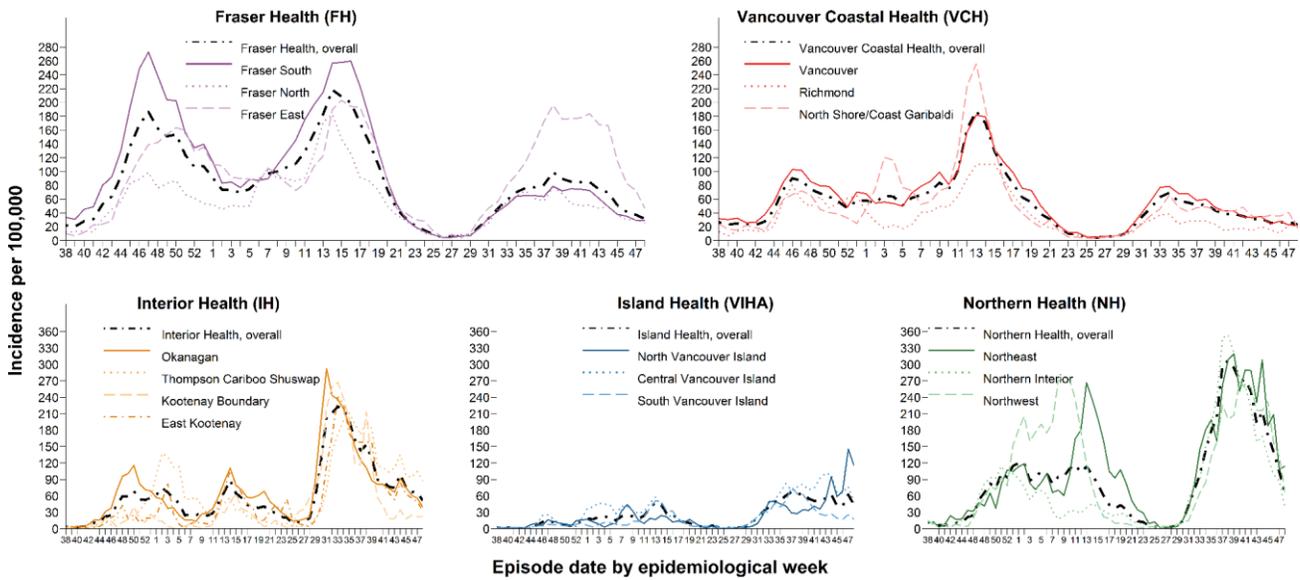


Figure 2. Weekly episode-based incidence rates by HA and health service delivery area (HSDA), BC Sept 13, 2020 (week 38) – Dec 04, 2021 (week 48) (N= 213,174)



B. Test rates and percent positive

As shown by the darker-colored bars in [Figure 3](#), testing of MSP-funded specimens increased slightly from ~49,800 in week 47 to ~50,500 in week 48. The positivity of MSP-funded specimens stabilized at 4.9% from week 47 to week 48.

As shown in [Figure 4](#), the per capita testing rates (Panel A) decreased from week 47 to week 48 in FH (from 1,089 per 100K to 1,049 per 100K), and NH (from 757 per 100K to 719 per 100K). Testing rates increased slightly in multiple regions, from 815 per 100K in week 47 to 861 per 100k in week 48 for VCH. For VIHA, testing rates increased slightly from 685 per 100K in week 47 to 777 per 100K in week 48. IH also saw increases in testing rates, from 915 per 100K in week 47 to 916 per 100K in week 48. Percent positivity (Panel B) for MSP-only specimens increased or stabilized in most HAs other than NH, where it decreased. Between weeks 47 and 48, percent positivity in FH stabilized at 3.7%, and in VCH stabilized at 3.2%. Percent positivity in IH increased 6.1% to 6.5%, and increased in VIHA from 7.5% in week 47 to 7.9% in week 48. NH saw a decrease in percent positivity from 16.9% to 14.7%, though it still had the highest percent positivity in week 48.

Figure 3. Number of specimens tested and percent SARS-CoV-2 positive, by collection week, BC Sept 13, 2020 (week 38) – Dec 04, 2021 (week 48)

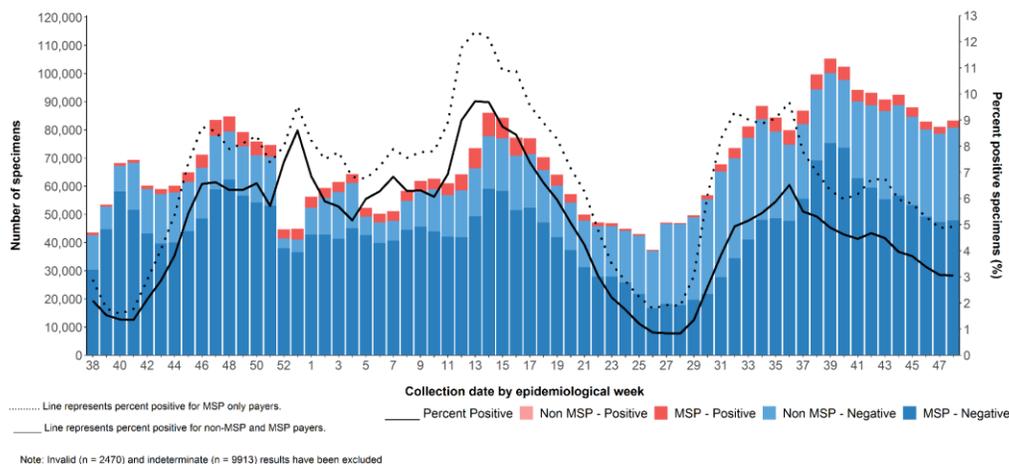
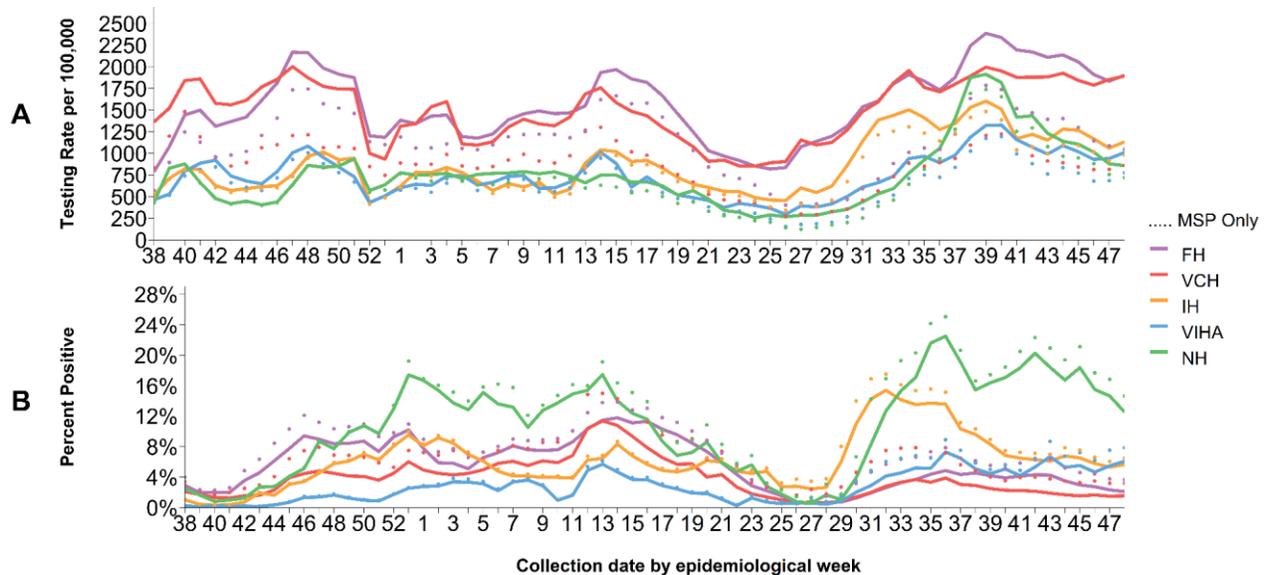


Figure 4. Testing rates and percent SARS-CoV-2 positive by Health Authority and collection week, BC Sept 13, 2020 (week 38) – Dec 04, 2021 (week 48)



Data source: laboratory PLOVER data

C. Age profile – Testing and cases

Testing rates and percent positivity by age group

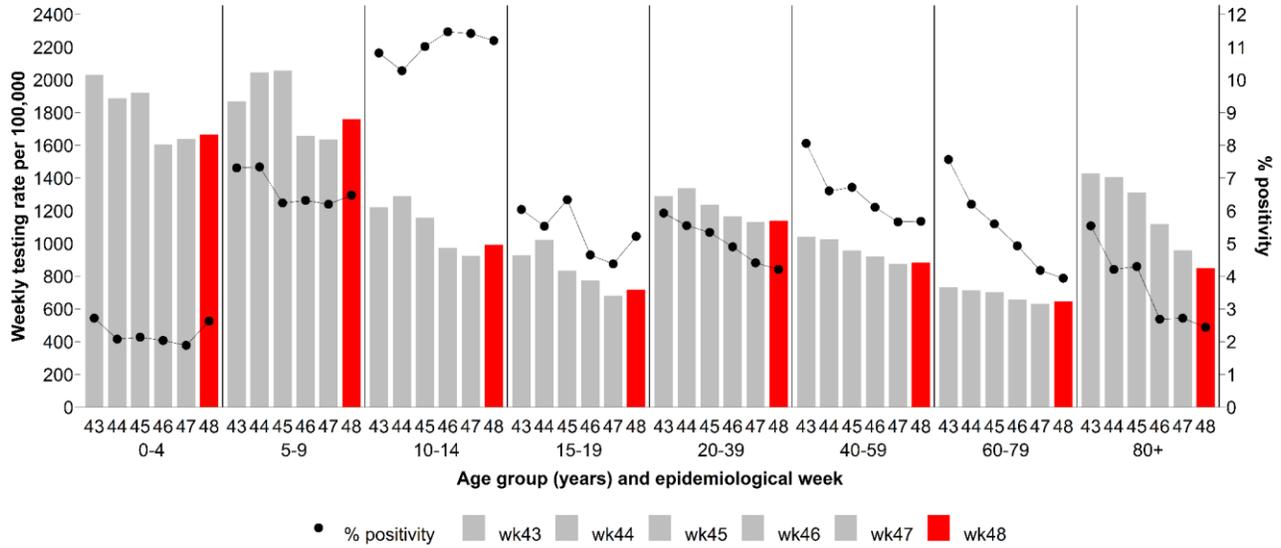
As shown by the bars in [Figure 5](#), testing rates increased in all age groups other than in those aged 80+ from week 47 to week 48. Testing rates remain highest in 0-4 and 5-9 year-olds at 1,666 per 100K and 1,759 per 100K, respectively.

As shown by the black dots in [Figure 5](#), the percent positivity varied age groups from week 47 to week 48. The highest percent positivity in week 48 remains in the 10-14 year-olds at 11.2%.

Case distribution and weekly incidence by age group

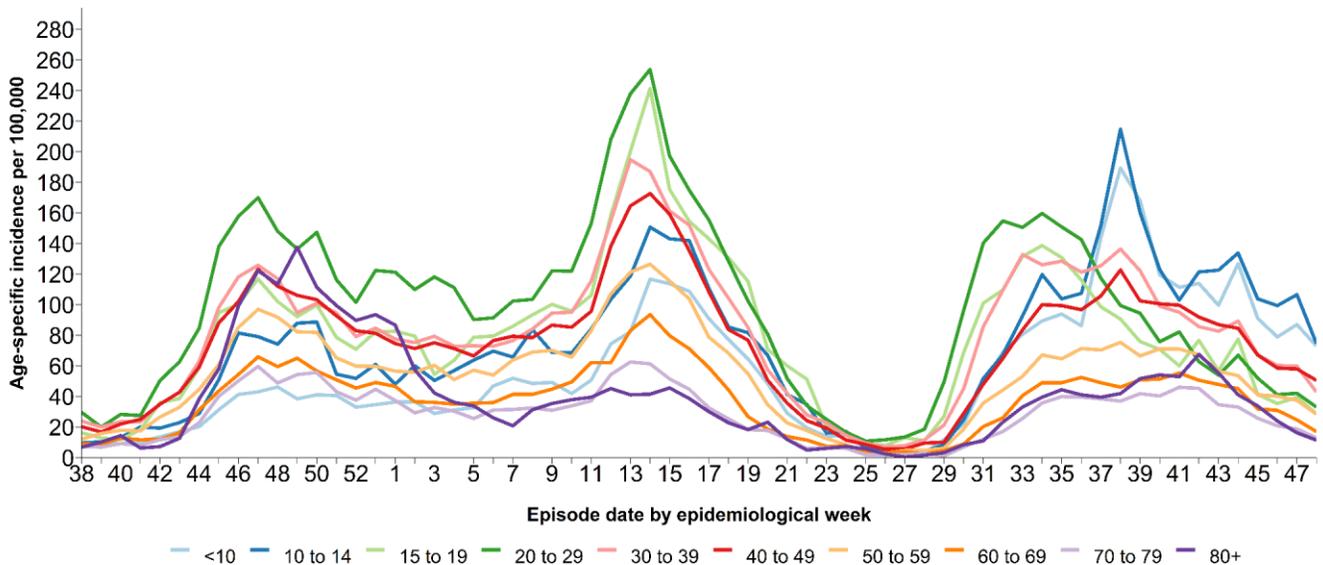
As shown in [Figure 6](#), age-specific incidences continued to decrease in all age groups from week 47 to week 48. After a recent increase in week 47, the incidence rate in children <10 of age declined from 87 per 100K to 73 per 100K in week 48. Similarly, the incidence rate in 10-14 year-olds declined since week 47, from 107 per 100K to 76 per 100K in week 48. The incidence rate in 80+ age groups has been declining since week 42 from 68 per 100K to 11 per 100K in week 48. Age-specific incidences may increase as data become more complete. Detailed information about age-specific incidence by vaccination status can be accessed at [BCCDC COVID-19 Regional Surveillance Dashboard](#) moving forward.

Figure 5. Average weekly SARS-CoV-2 MSP testing rates and MSP percent positive by known age group, BC Oct 30, 2021 (week 43) – Dec 04, 2021 (week 48)



Data source: laboratory PLOVER data

Figure 6. Weekly age-specific COVID-19 incidence per 100K population by epidemiological week, BC Sept 13, 2020 (week 38) – Dec 04, 2021 (week 48) (N= 213,164)

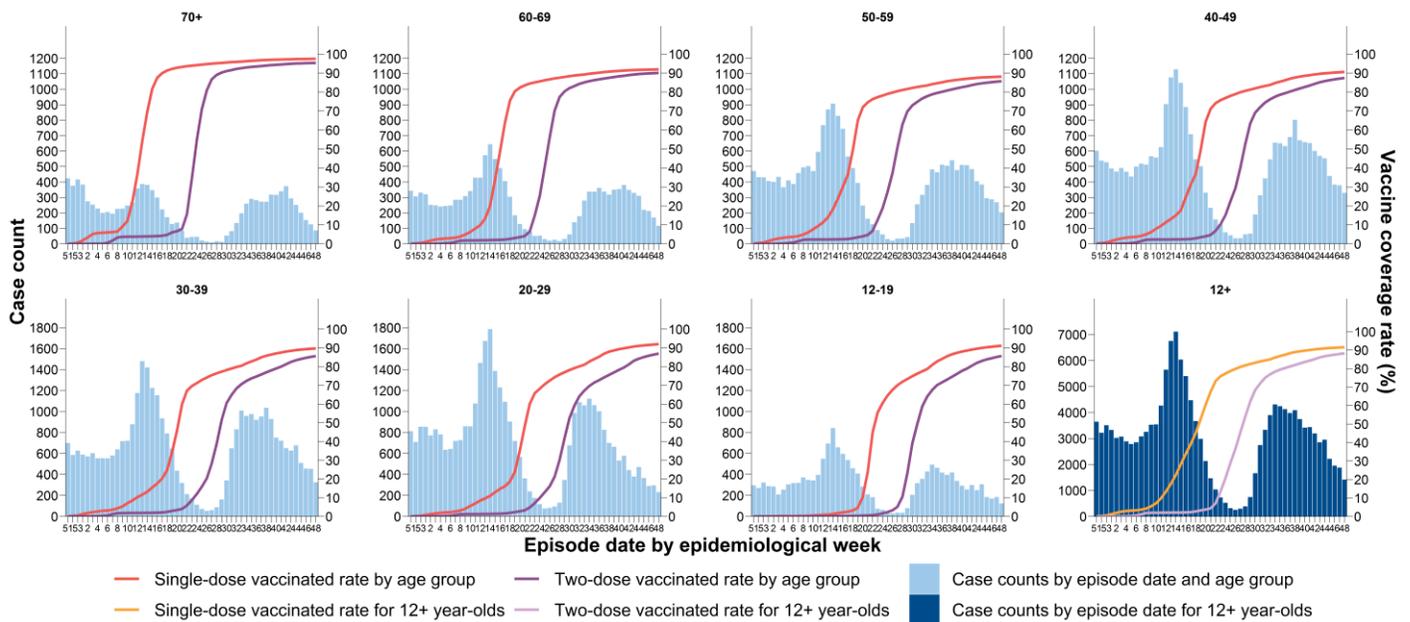


Vaccine coverage and weekly cases by age group

As shown in [Figure 7](#), 92% of those eligible for COVID-19 vaccine (i.e. 12+ year-olds) received a single dose of vaccine and 88% received two doses of vaccine by week 48.

In week 48, the single-dose coverage for those aged 50+ years ranged from 88-98%, and two-dose coverage ranged from 86-95%. There were 408 cases reported for those age groups combined, regardless of vaccination status in week 48. Single-dose coverage in the 20-49 year-olds was between 89-92% and two-dose coverage ranged between 86-87%, with 887 cases reported for those age groups combined in week 48. Single-dose coverage in the 12-19 year-olds was 91% and 86% had received two doses, with 124 cases reported for that age group in week 48.

Figure 7. Weekly age-specific single-dose COVID-19 vaccine coverage and case counts by epidemiological week, BC Dec 13, 2020 (week 51) – Dec 04, 2021 (week 48)



Data sources: Health Authority case line list data and PHSa Provincial Immunization Registry

D. Severe outcome counts and epi-curve

The number of hospital admissions decreased since week 42; there was an average of 224 hospitalizations per week from weeks 42 to 48. In week 48, 60-79 year-olds had the highest number of hospital admissions (48 hospitalizations). The weekly number of deaths decreased slightly from 28 in week 47 to 26 in week 48. Those aged 60-79 accounted for the highest number of deaths in week 48 (12 deaths) ([Table 2, Figure 8](#)). Detailed information about outcomes by vaccination status can be accessed at [BCCDC COVID-19 Regional Surveillance Dashboard](#) moving forward.

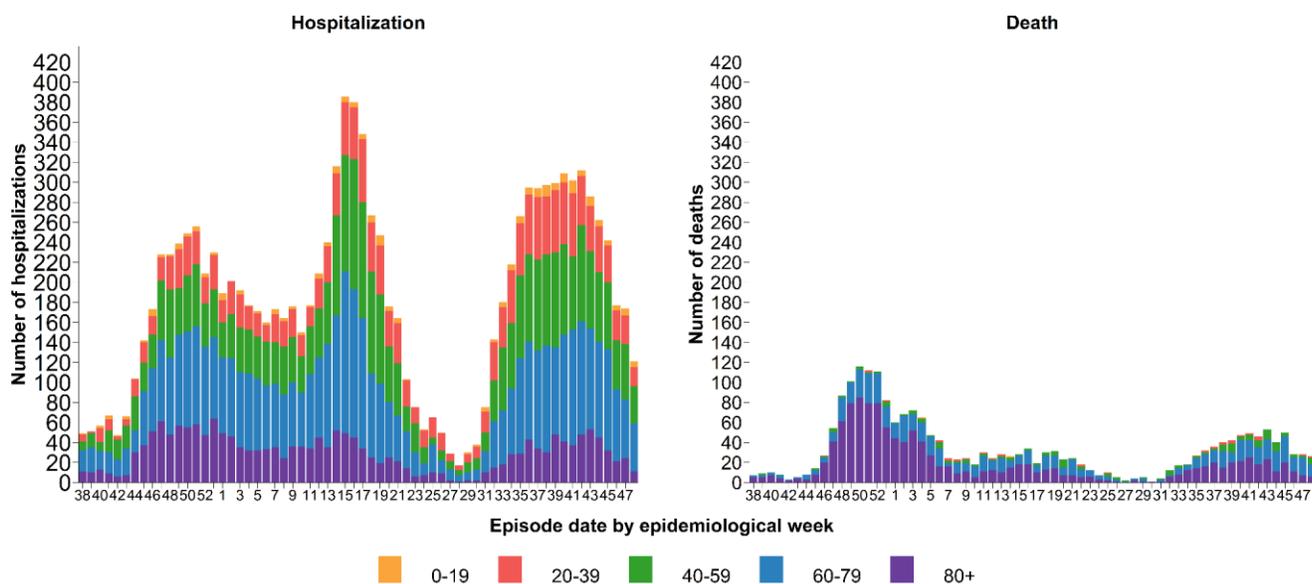
Cumulatively, there have been 19 confirmed cases of [Multi-system Inflammatory Syndrome in children and adolescents \(MIS-C\)](#) in BC since January 1, 2020. There have been no new confirmed cases of MIS-C since the last report. The median age of all cases is 9 (range 1-15) years.

Table 2. COVID-19 severe outcomes by episode date, Health Authority of residence, BC Jan 15, 2020 (week 3) – Dec 04, 2021 (week 48)

Severe outcomes by episode date	Health Authority of residence					Residing outside of Canada	Total n/N ^a (%)
	FH	IH	VIHA	NH	VCH		
Week 48, hospitalizations	37	32	11	25	16	0	121
Cumulative hospitalizations^b	5,939	2,010	680	1,375	2,423	14	12,441/221,024 (6)
Week 48, ICU admissions	11	10	2	6	3	0	32
Cumulative ICU admissions^b	1,190	582	194	328	646	2	2,942/221,024 (1)
Week 48, deaths	10	2	5	7	2	0	26
Cumulative deaths	1,112	295	127	263	573	0	2,370/221,024 (1)

- a. Cases with unknown outcome are included in the denominators (i.e. assumed not to have the specified severe outcome).
- b. Data source: Health Authority case line lists only. Data may be incomplete and subject to change

Figure 8. Weekly COVID-19 hospital admissions and deaths by age groups, BC, Sept 13, 2020 (week 38) – Dec 04, 2021 (week 48)



Data sources: Health Authority case line list data and PHSA Provincial Immunization Registry

E. Age profile, severe outcomes

Table 3 displays the distribution of cases and severe outcomes. In week 48 median age of hospital admissions, ICU admissions and deaths was 61 years, 62 years and 82 years, respectively, based on Health Authority case line lists only (data not shown).

Since week 42, there was a weekly average of 1 death in those <50 years of age, 5 deaths in 50-59 year-olds, 8 deaths in 60-69 year-olds, 10 deaths in the 70-79 year-olds, and 14 deaths in the 80+ year-olds (data not shown). The number of deaths may increase over time as data becomes more complete.

Table 3: Age distribution: COVID-19 cases, hospitalizations, ICU admissions, deaths, and BC population by age group Jan 15, 2020 (week 3) – Dec 04, 2021 (week 48) (N= 220,995)^a

Age group (years)	Cases n (%)	Hospitalizations n (%) ^b	ICU n (%)	Deaths n (%)
<10	17,396	170 (1)	16 (<1)	2 (<1)
10-19	25,201	129 (<1)	25 (<1)	0 (<1)
20-29	46,579	723 (2)	93 (<1)	6 (<1)
30-39	41,364	1,345 (3)	271 (1)	30 (<1)
40-49	32,084	1,449 (5)	334 (1)	50 (<1)
50-59	25,934	1,989 (8)	596 (2)	134 (1)
60-69	17,115	2,334 (14)	743 (4)	277 (2)
70-79	8,762	2,240 (26)	635 (7)	513 (6)
80-89	4,570	1,551 (34)	215 (5)	782 (17)
90+	1,990	532 (27)	23 (1)	576 (29)
Total	220,995	12,462	2,951	2,370
Median age^c	34	61	62	82

- Among those with available age information only.
- Data sources: Health Authority case line lists and a subset of PHSA Provincial COVID19 Monitoring Solution (PCMS) data for children <20 years of age. PCMS data were included as of June 8 2021. Due to this change in data source, additional admissions that occurred since the start of the pandemic are now included in age groups 0-9 and 10-19 years.
- Median ages calculated are based on Health Authority case line lists only.

F. Care facility outbreaks

As shown in [Table 4](#) and [Figure 9](#), 422 care facility (acute and long-term care setting) outbreaks were reported in total in BC to the end of week 48. In week 48, no new outbreaks were declared, based on earliest case onset date. Since week 38, 32 (64%) outbreaks were reported in long-term care settings and 21 of these outbreaks (66%) were declared by FH.

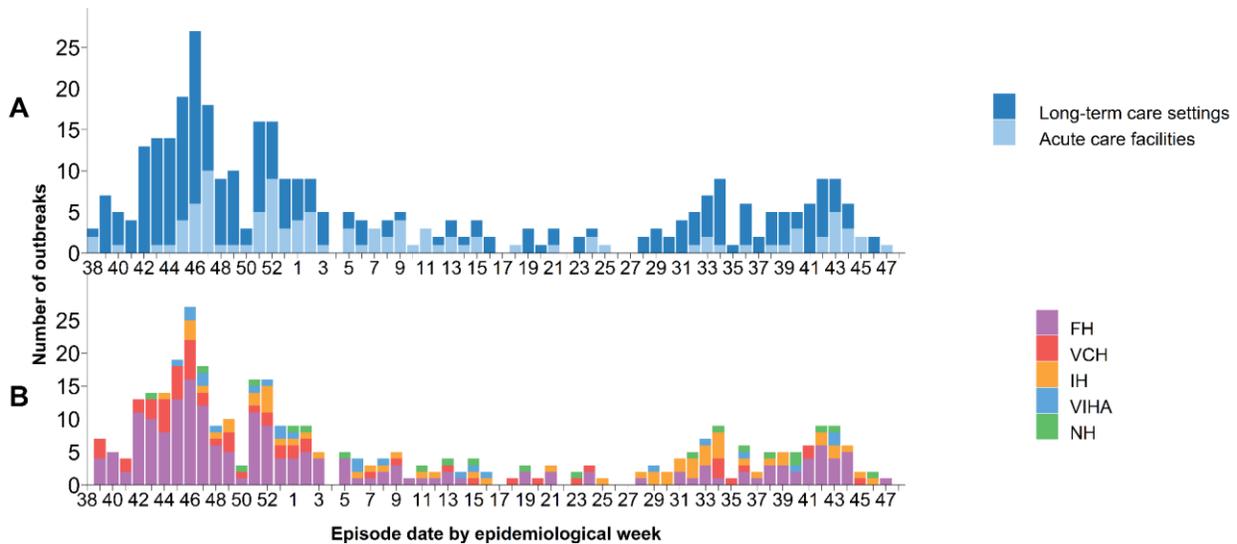
Three of the 26 (11.5%) deaths reported in week 48 were associated with an outbreak in a care facility.

Table 4. COVID-19 care facility^{a,b} outbreaks by earliest case onset^{a,c}, associated cases and deaths by episode date, BC^d Jan 15, 2020 (week 3) – Dec 04, 2021 (week 48) (N=422)

Care facility outbreaks and cases by episode date	Outbreaks	Cases				Deaths			
		Residents	Staff/other	Unknown	Total	Residents	Staff/other	Unknown	Total
Week 48, Care Facility Outbreaks	0	6	0	0	6	3	0	0	3
Cumulative, Care Facility Outbreaks	422	4,526	2,657	8	7,191	1,208	0	0	1,208

a. New outbreaks reported since the last report with an earliest case onset date prior to the current reporting week will be included in the cumulative care facility outbreak total.

Figure 9. COVID-19 care facility^b outbreaks by earliest case onset^c, facility type (A) and Health Authority (B), BC^d Sept 13, 2020 (week 38) – Dec 04, 2021 (week 48) (N=354)

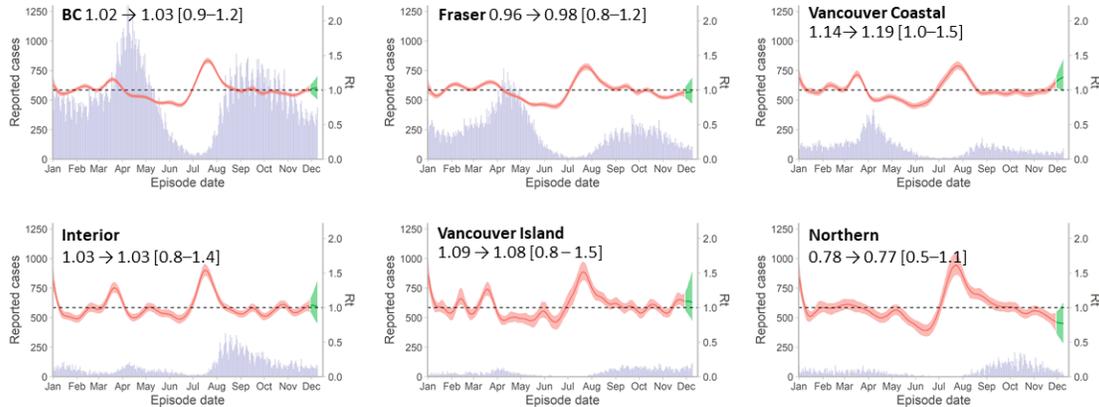


- b. Care facility settings include acute care or long-term care settings (defined as long-term care facility or assisted living).
- c. Earliest dates of onset of outbreak cases are subject to change as investigations and data are updated.
- d. As of week 46, VCH and FH no longer declare outbreaks with single staff cases unless there is evidence of transmission within the facility.

G. Modeling

As shown in [Figure 10](#), modeling indicates that R_t , the average number of people a single case will transmit an infection to, is hovering near 1 in most regions. R_t can be viewed as a proxy measure for how quickly COVID-19 is spreading. Estimates are shown for last week → this week, with 90% range of possible values given next to most recent estimate.

Figure 10. Dynamic modeling: recent trends, BC



Solid line: median R_t , modeled using all reported cases up to Dec 9, 2021; Red band: 5%-95% credible interval; Green band: estimate based on partial data – each week, current estimates are updated with new data to provide a clearer understanding of the trend. Purple bars: all reported cases. Only January 2021 onward shown here. Data source: BCCDC HA Inelist.

H. Wastewater surveillance

The BCCDC and Metro Vancouver have been testing for SARS-CoV-2 in wastewater at five wastewater treatment plants (representing 50% of BC’s population) since May 2020, in order to assess whether COVID-19 virus is present and how it might be changing over time. As shown in [Figure 11](#) and [Figure 12](#), viral signal from the wastewater surveillance correlates with COVID-19 case counts.

Figure 11. Wastewater surveillance, FHA

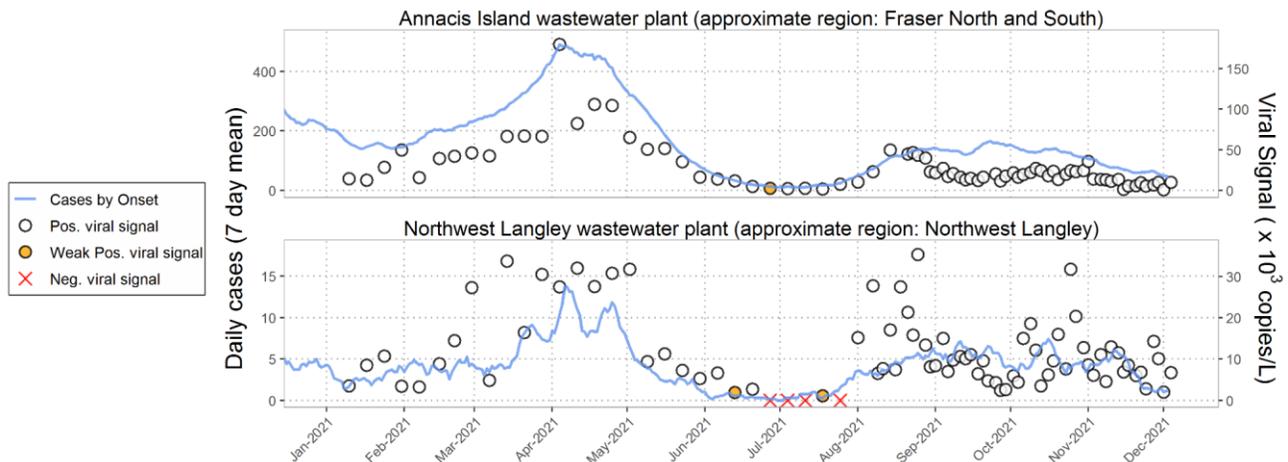
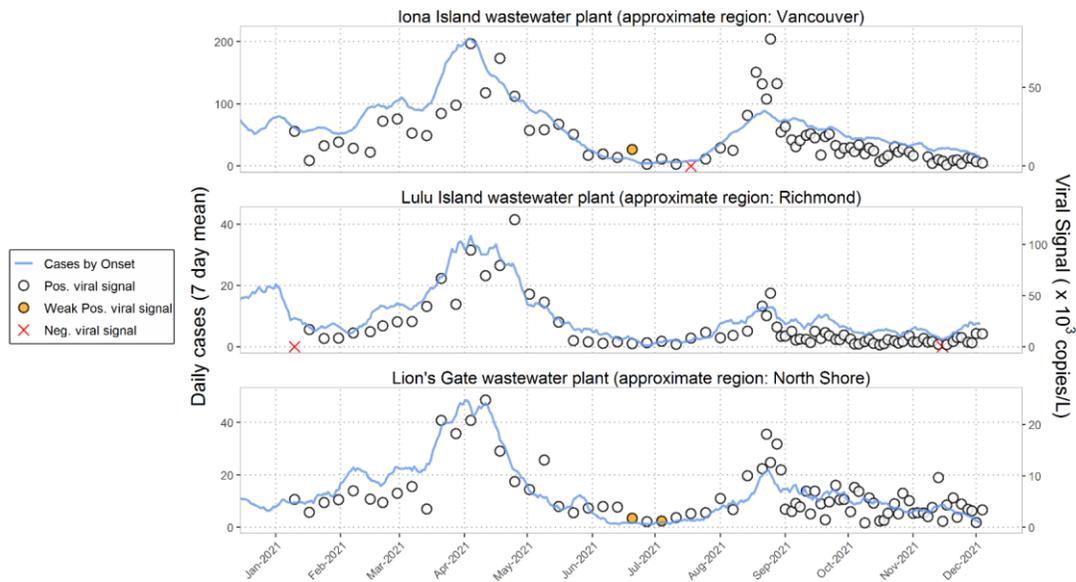


Figure 12. Wastewater surveillance, VCH



I. Additional resources

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

For maps and geographical distribution of cases and vaccinations, visit the BCCDC COVID-19 Regional Surveillance Dashboard here: <http://www.bccdc.ca/health-professionals/data-reports/covid-19-surveillance-dashboard>

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/