

British Columbia (BC) COVID-19 Situation Report
Week 52: December 26- January 01, 2022

Table of Contents		Provincial COVID-19 incidence continue to increase; hospitalization admissions are increasing while deaths are decreasing.	
Epidemic curve and regional incidence	2	The provincial incidence by episode date was 391 per 100K, with 20,327 cases in week 52.	
Test rates and % positive	3	Incidence by Health Authority increased from week 49 to week 52:	
Age profile, testing and cases	4	• Fraser Health incidence increased from 41 to 525 per 100K • Vancouver Coastal Health incidence increased from 44 to 356 per 100K • Interior Health incidence increased from 78 to 284 per 100K • Vancouver Island Health incidence increased from 85 to 296 per 100K • Northern Health incidence increased from 66 to 234 per 100K	
Severe outcomes	6	Testing of MSP-funded specimens increased from ~51,300 in week 49 to ~67,800 in week 52.	
Age profile, severe outcomes	7	The positivity of MSP-funded specimens increased from 5.1% in week 49 to 31.1% in week 52.	
Care facility outbreaks	8	The per capita testing rates between week 51 and week 52 decreased in all HAs, except Northern Health. Testing rates decreased in all age groups between week 51 and week 52, except the 80+ age group.	
Modeling	8	Age-specific incidences increased across all age groups from week 49 to week 52. Between week 49 and week 52, incidence rates increased the most in 20-29 year-olds (from 70 to 685 per 100K), 30-39 year-olds (from 72 to 534 per 100K), and 40-49 year-olds (72 to 473 per 100K).	
Wastewater surveillance	8	The number of hospital admissions has increased since week 49, from 117 hospitalizations in week 49 to 214 hospitalizations in week 52. In week 52, 60-79 year-olds had the highest number of hospital admissions (71 hospitalizations).	
Additional resources	9	The weekly number of deaths decreased from 22 in week 49 to 7 in week 52. Those aged 60-79 accounted for the highest number of deaths in week 52 (3 deaths).	
Appendix	10	By case of earliest onset date, 15 new outbreaks were reported in healthcare settings in week 52. No deaths reported in week 52 were associated with care facility outbreaks.	

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 January 10, 2022, laboratory data on January 07, 2022, PIR vaccine coverage date on January 07, 2022, and PCMS hospitalization data on January 10, 2022.

A. COVID-19 case counts and epidemic curves

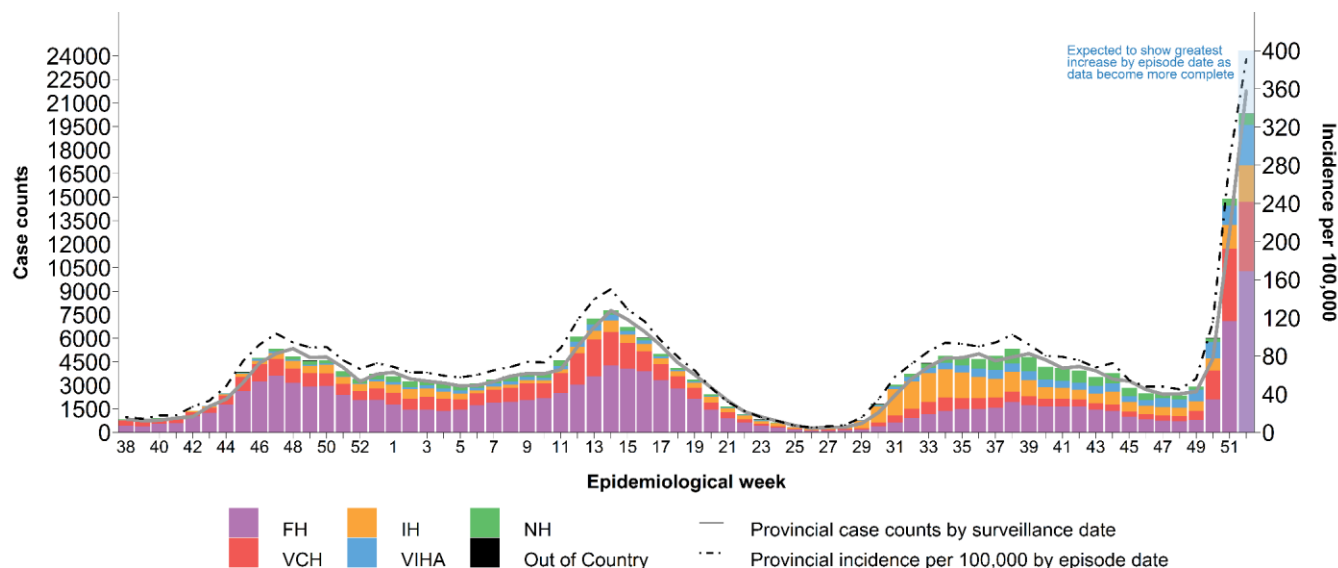
Due to changes in [testing strategies in BC](#) driven by the Omicron variant, case counts in this report are likely an underestimate of the true number of COVID-19 cases in BC. Up to week 52, there have been 265,769 cases for a cumulative incidence of 5,111 per 100K ([Table 1, Figure 1](#)). The provincial incidence by episode date was 391 per 100K (20,327 cases) in week 52, which has increased from 56 per 100K in week 49. The near 7-fold increase is due to the emergence of Omicron variant in BC ([VoC Reports](#)). Incidence by episode date may increase as data become more complete in recent weeks

As shown in [Figure 2](#), incidence has increased sharply in all HAs from week 49 to week 52. Incidence increased most dramatically in Fraser Health (FH) and Vancouver Coastal Health (VCH), from 41 per 100K in week 49 to 525 per 100K in week 52 for FH, and from 44 per 100K in week 49 to 356 per 100K in week 52 in VCH. Incidence increased from week 49 to week 52 in Interior Health (IH) (from 78 to 284 per 100K), Vancouver Island Health (VIHA) (from 85 to 296 per 100K), and Northern Health (NH) (from 66 to 234 per 100K). These rates may increase as data become more complete.

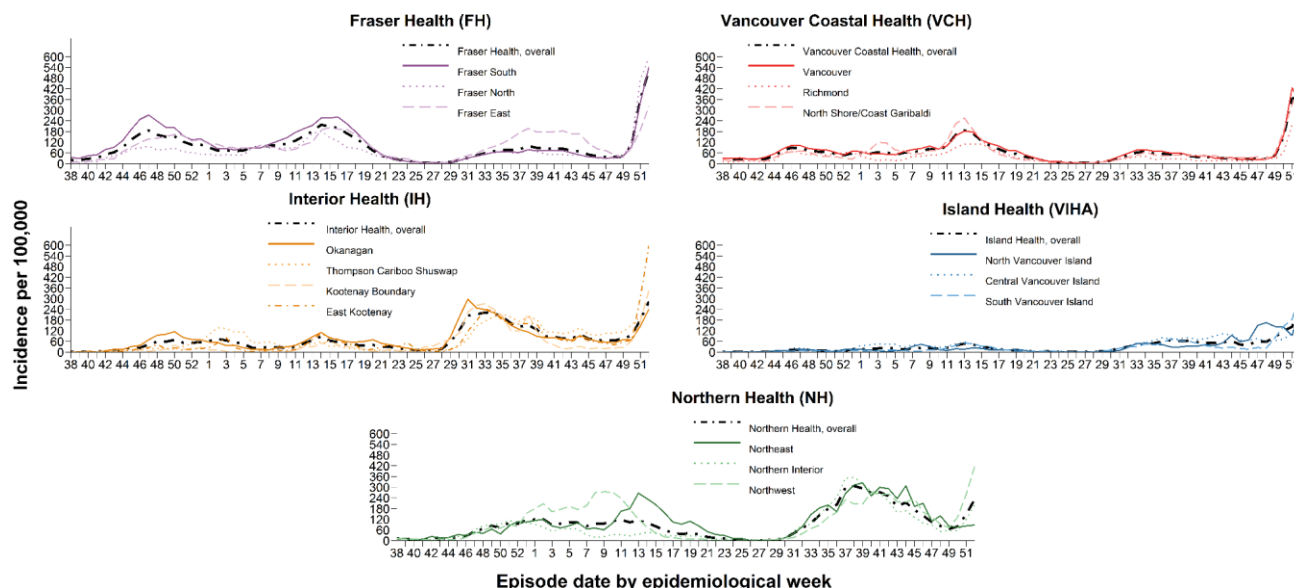
Table 1. Episode-based case tallies by Health Authority, BC, Jan 15, 2020 (week 3) – Jan 01, 2022 (week 52) (N= 265,769)

Case tallies by episode date	Health Authority of Residence					Outside Canada	Total
	FH	IH	VIHA	NH	VCH		
Week 52, case counts	10,275	2,334	2,569	708	4,434	7	20,327
Cumulative case counts	130,436	39,521	18,995	19,567	56,933	317	265,769
Week 52, cases per 100K population	525	284	296	234	356	NA	391
Cumulative cases per 100K population	6,665	4,815	2,191	6,468	4,567	NA	5,111

Figure 1. Episode-based epidemic curve (bars), surveillance date (line) and Health Authority (HA), BC Sept 13, 2020 (week 38) – Jan 01, 2022 (week 52) (N= 257,921)



**Figure 2. Weekly episode-based incidence rates by HA and health service delivery area (HSDA), BC
 Sept 13, 2020 (week 38) – Jan 01, 2022 (week 52) (N= 257,921)**



B. Test rates and percent positive

As shown by the darker-colored bars in [Figure 3](#), testing of MSP-funded specimens increased from ~51,300 in week 49 to ~88,800 in week 51, followed by a decrease to ~67,800 in the most recent week. The positivity of MSP-funded specimens increased from 5.1% in week 49 to 31.1% in week 52.

As shown in [Figure 4](#), the per capita testing rates (Panel A) between week 51 and week 52 decreased in all HAs, except NH where testing rates increased from 795 per 100K to 1,101 per 100K. Testing rates in week 52 were highest in FH and IH at 1,694 per 100K and 1,147 per 100K, respectively.

Percent positivity (Panel B) for MSP-only specimens increased in all HAs in week 52. Percent positivity in week 52 ranged from 26.2% in NHA to 38.1% in VCH.

**Figure 3. Number of specimens tested and percent SARS-CoV-2 positive, by collection week, BC
 Sept 13, 2020 (week 38) – Jan 01, 2022 (week 52)**

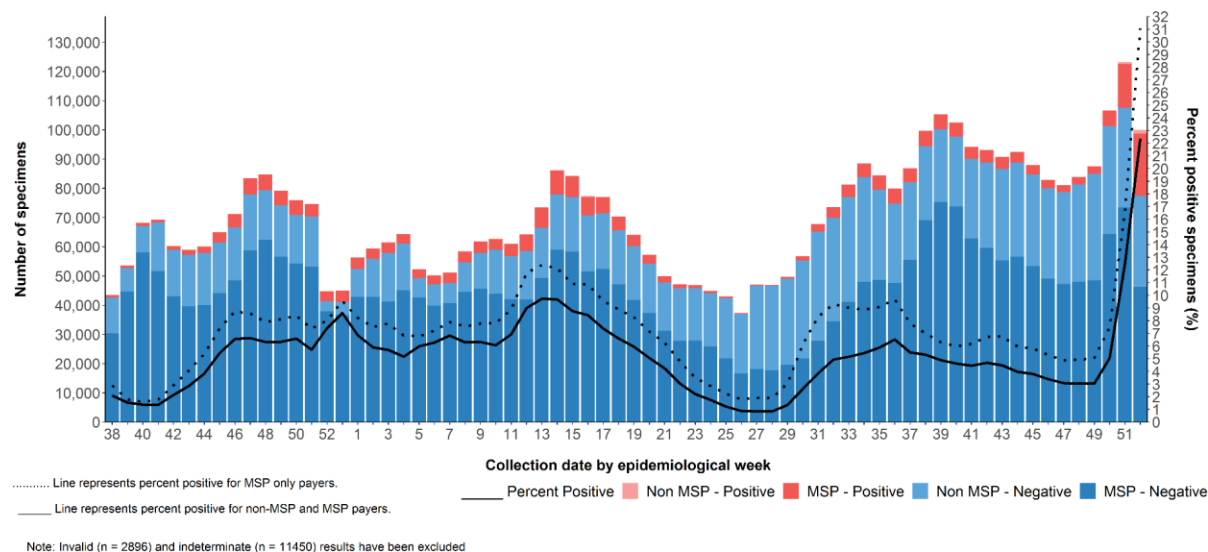
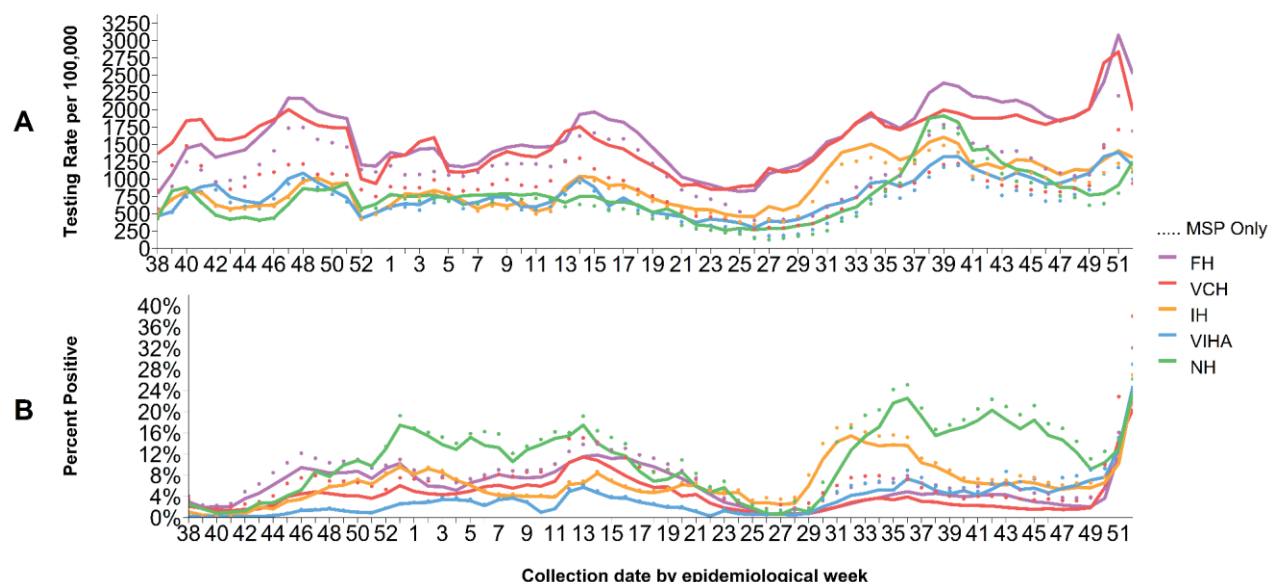


Figure 4. Testing rates and percent SARS-CoV-2 positive by Health Authority and collection week, BC Sept 13, 2020 (week 38) – Jan 01, 2022 (week 52)



Data source: laboratory PLOVER data

C. Age profile – Testing and cases

Testing rates and percent positivity by age group

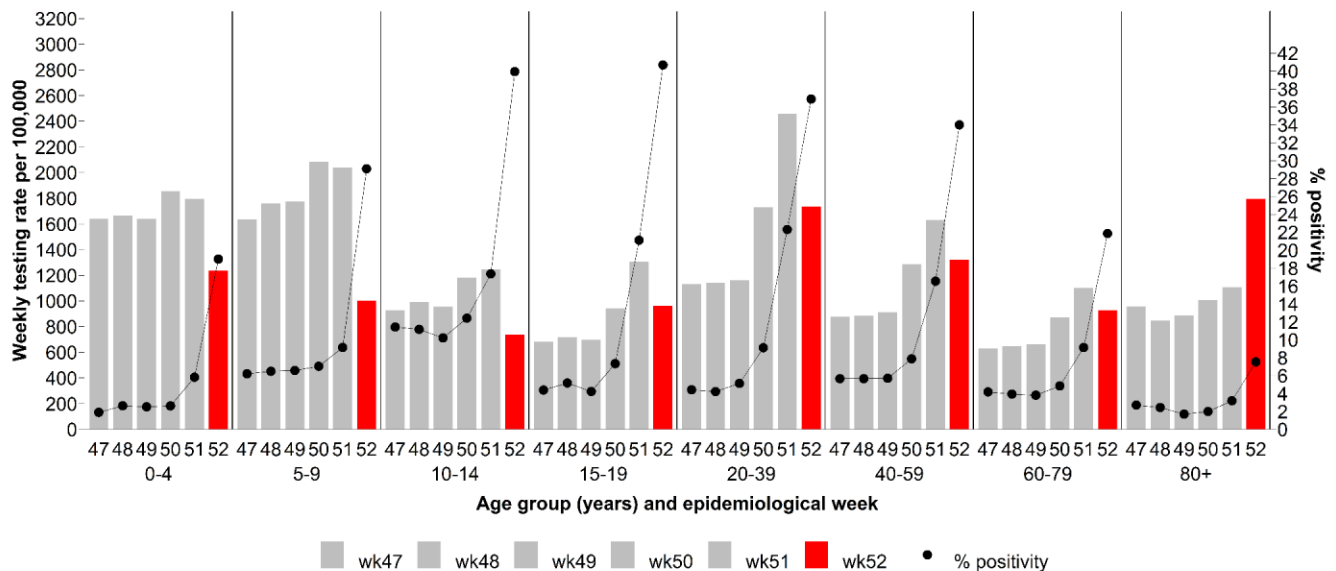
As shown by the bars in [Figure 5](#), testing rates decreased in all age groups between week 51 and week 52, except the 80+ age group where the testing rates increased from 1,108 per 100K to 1,797 per 100K. Testing rates in week 52 were highest in those aged 80+ and 20-39 at 1,797 per 100K and 1,735 per 100K, respectively.

As shown by the black dots in [Figure 5](#), the percent positivity increased in all age groups. The highest percent positivity in week 52 was in the 15-19 and 10-14 year-olds at 40.7% and 39.9%, respectively.

Case distribution and weekly incidence by age group

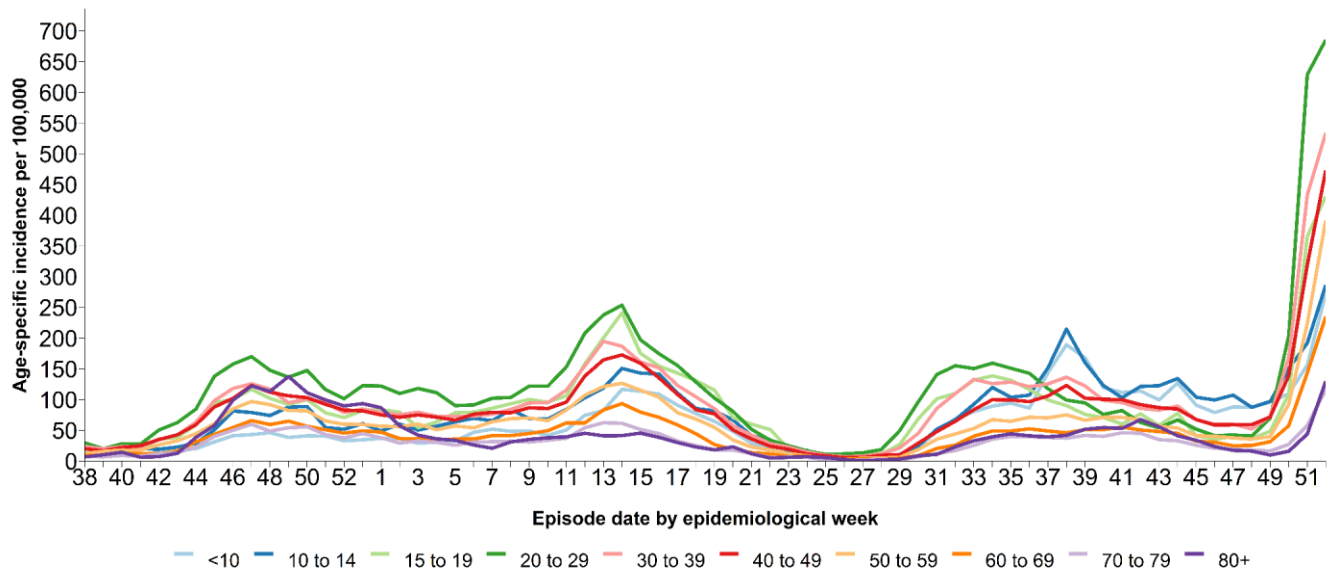
As shown in [Figure 6](#), age-specific incidences increased across all age groups from week 49 to week 52. Between week 49 and week 52, incidence rates increased the most in 20-29 year-olds (from 70 to 685 per 100K), 30-39 year-olds (from 72 to 534 per 100K), and 40-49 year-olds (72 to 473 per 100K). 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](#).

Figure 5. Average weekly SARS-CoV-2 MSP testing rates and MSP percent positive by known age group, BC Nov 27, 2021 (week 47) – Jan 01, 2022 (week 52)



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) – Jan 01, 2022 (week 52) (N= 257,893)



D. Severe outcome counts and epi-curve

The number of hospital admissions has increased since week 49, from 117 hospitalizations in week 49 to 214 hospitalizations in week 52. In week 52, 60-79 year-olds had the highest number of hospital admissions (71 hospitalizations). The weekly number of deaths decreased from 22 in week 49 to 7 in week 52. Those aged 60-79 accounted for the highest number of deaths in week 52 (3 deaths) ([Table 2, Figure 8](#)). Detailed information about outcomes by vaccination status can be accessed at [BCCDC COVID-19 Regional Surveillance Dashboard](#).

Cumulatively, there have been 22 confirmed cases of [Multi-system Inflammatory Syndrome in children and adolescents \(MIS-C\)](#) in BC since January 1, 2020. There have been three new confirmed cases of MIS-C since the last report. The median age of all cases is 9 years old (range from 1 to 16 years old).

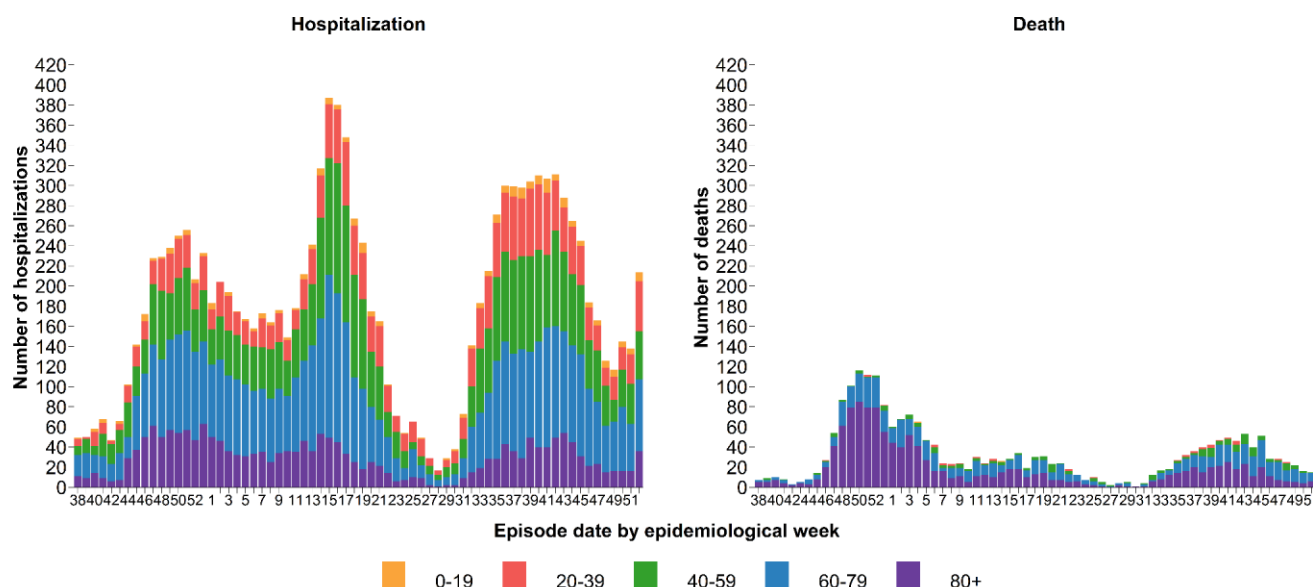
**Table 2. COVID-19 severe outcomes by episode date, Health Authority of residence, BC
 Jan 15, 2020 (week 3) – Jan 01, 2022 (week 52)**

Severe outcomes by episode date	Health Authority of residence					Residing outside of Canada	Total n/N ^a (%)
	FH	IH	VIHA	NH	VCH		
Week 52, hospitalizations	109	23	35	11	36	0	214
Cumulative hospitalizations^b	6,208	2,117	807	1,419	2,513	14	13,078/265,769 (5)
Week 52, ICU admissions	13	12	11	1	5	0	42
Cumulative ICU admissions^b	1,222	633	239	341	663	2	3,100/265,769 (1)
Week 52, deaths	1	1	2	2	1	0	7
Cumulative deaths	1,132	299	146	277	576	0	2,430/265,769 (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) – Jan 01, 2022 (week 52)



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 52, 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 49, there has been a weekly average of 1 death in those <50 years of age, 1 death in 50-59 year-olds, 2 deaths in 60-69 year-olds, 7 deaths in the 70-79 year-olds, and 4 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) – Jan 01, 2022 (week 52) (N= 265,722)^a

Age group (years)	Cases n (%)	Hospitalizations n (%) ^b	ICU n (%)	Deaths n (%)
<10	20,447	180 (<1)	16 (<1)	2 (<1)
10-19	29,481	149 (<1)	29 (1)	0 (<1)
20-29	57,822	781 (1)	101 (<1)	6 (<1)
30-39	50,632	1,417 (3)	280 (1)	30 (<1)
40-49	38,727	1,510 (4)	352 (1)	54 (<1)
50-59	31,355	2,081 (7)	631 (2)	139 (<1)
60-69	20,407	2,444 (12)	780 (4)	285 (1)
70-79	9,784	2,367 (24)	671 (7)	539 (6)
80-89	4,965	1,617 (33)	226 (5)	792 (16)
90+	2,102	556 (26)	23 (1)	583 (28)
Total	265,722	13,102	3,109	2,430
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

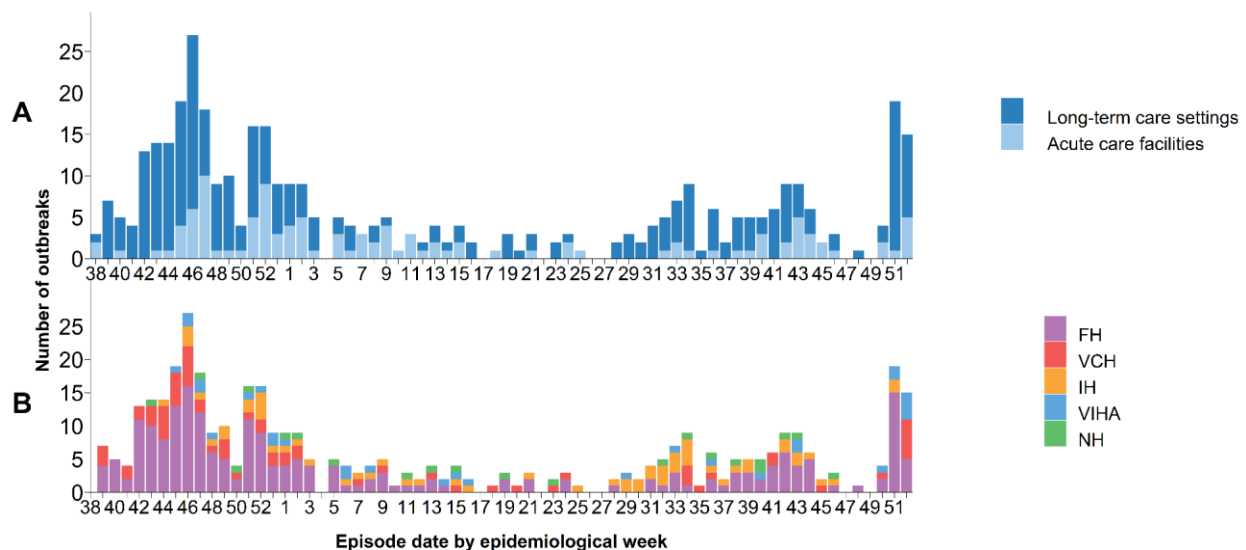
As shown in [Table 4](#) and [Figure 9](#), 462 care facility (acute and long-term care setting) outbreaks were reported in total in BC to the end of week 52. In week 52, 15 new outbreaks were declared, based on earliest case onset date. No deaths reported in week 52 were associated with care facility outbreaks.

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) – Jan 01, 2022 (week 52) (N=462)

Care facility outbreaks and cases by episode date	Outbreaks	Cases				Deaths			
		Residents	Staff/other	Unknown	Total	Residents	Staff/other	Unknown	Total
Week 52, Care Facility Outbreaks	15	138	115	0	253	NA	NA	NA	NA
Cumulative, Care Facility Outbreaks	462	4,700	2,815	8	7,523	1,216	0	0	1,216

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) – Jan 01, 2022 (week 52) (N=394)



- 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

Current R_t estimates for BC are considered unreliable due to recent and ongoing changes in the ascertainment of case counts, including capacity limitations of PCR testing and the use of rapid antigen tests.

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.

SARS-CoV-2 concentrations in wastewater peaked during epi week 1 of 2022. These results should be interpreted with caution because:

- there was no sampling during epi week 52 of 2021;
- the kinetics and features of fecal shedding of the Omicron variant are unknown;
- recent heavy snowmelt runoff and rain in Metro Vancouver may affect results in unpredictable ways.

Figure 11. Wastewater surveillance, FHA

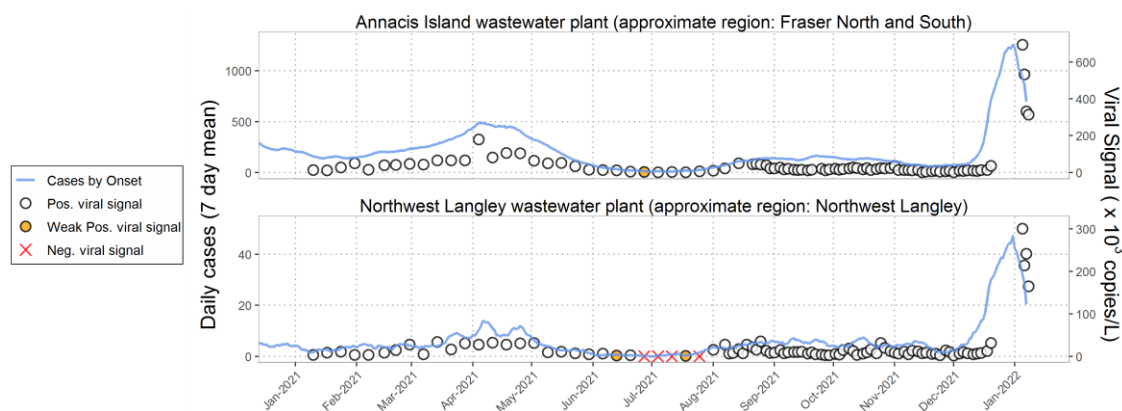
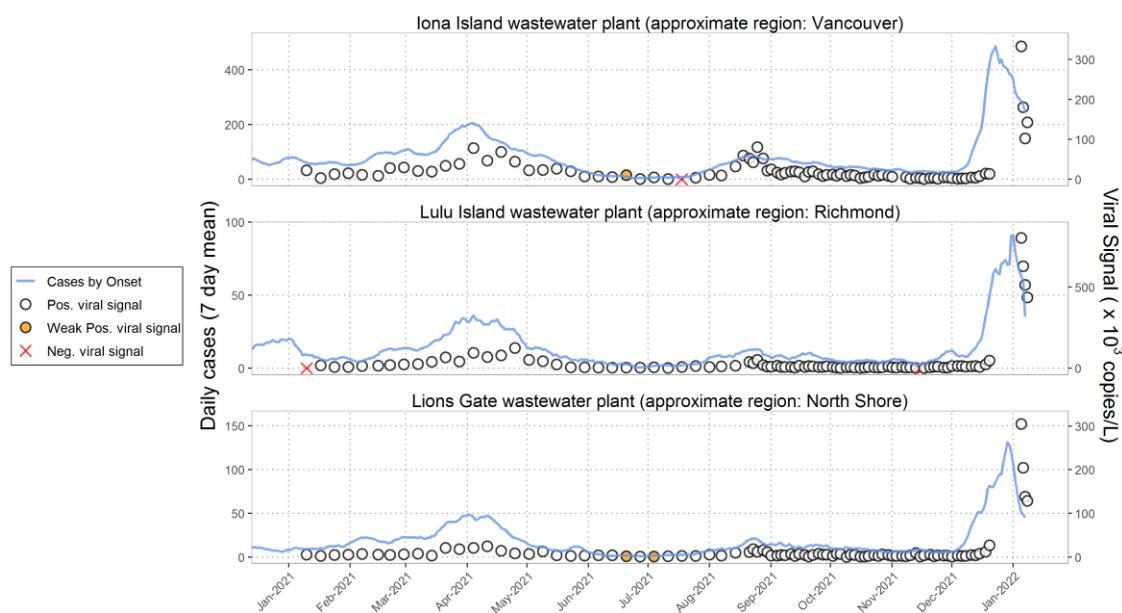


Figure 12. Wastewater surveillance, VCH



I. Additional resources

Information about when to get a COVID-19 test is updated here: <http://www.bccdc.ca/health-info/diseases-conditions/covid-19/testing/when-to-get-a-covid-19-test>

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/

J. Appendix

[Vaccination phases](#) defined by vaccine eligibility of target populations in BC

Vaccination Phase 1 (December 2020 – February 2021)

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.

Vaccination Phase 2 (February 2021 – April 2021)

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.

Vaccination Phase 3 (April 2021 – May 2021)

Target populations include people aged 60-79 years, Indigenous peoples aged 18-64 and people aged 16-74 who are clinically extremely vulnerable.

Vaccination Phase 4 (May 2021 – November 2021)

Target populations include everyone 12+ years. In September, third dose is available for people who are clinically extremely vulnerable.

Vaccination Phase 5 (November 2021 – Present)

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.