

British Columbia (BC) COVID-19 Situation Report

Week 1: January 02- January 08, 2022

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Age profile, testing and cases	4	Testing of MSP-funded specimens has decreased from a peak of ~88,800 in week 51, to ~68,000 in week 52, and continued to decrease to ~58,700 in week 1. The positivity of MSP-funded specimens increased from 5.1% in week 49 to 33.7% in week 1.	
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Age profile, severe outcomes	7	Age-specific incidences increased across all age groups from week 49 to week 1. Between week 49 and week 1, incidence rates increased the most in 20-29 year-olds (from 70 to 417 per 100K), 30-39 year-olds (from 72 to 346 per 100K), and 40-49 year-olds (72 to 332 per 100K).	
Care facility outbreaks	8	The number of hospital admissions has increased since week 49, from 127 hospitalizations in week 49 to 261 hospitalizations in week 1. In week 1, 60-79 year-olds had the highest number of hospital admissions (77 hospitalizations).	
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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 17, 2022, laboratory data on January 14, 2022, PIR vaccine coverage date on January 14, 2022, and PCMS hospitalization data on January 17, 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 1, there have been 280,672 cases for a cumulative incidence of 5,326 per 100K (Table 1, Figure 1). The provincial incidence by episode date was 267 per 100K (14,081 cases) in week 1, which has increased from 56 per 100K in week 49. The near 5-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 1. Incidence increased most dramatically in Fraser Health (FH) and Vancouver Coastal Health (VCH), from 41 per 100K in week 49 to 321 per 100K in week 1 for FH, and from 44 per 100K in week 49 to 194 per 100K in week 1 in VCH. Incidence increased from week 49 to week 1 in Interior Health (IH) (from 78 to 258 per 100K), Vancouver Island Health (VIHA) (from 85 to 244 per 100K), and Northern Health (NH) (from 66 to 315 per 100K). The incidence in week 1 is lower compared to week 52 across all regions, but remains elevated compared to weeks 49 and earlier. 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 08, 2022 (week 1) (N= 280,672)

Case tallies by episode date	Health Authority of Residence					Outside Canada	Total
	FH	IH	VIHA	NH	VCH		
Week 1, case counts	6,380	2,137	2,151	965	2,445	3	14,081
Cumulative case counts	137,190	41,770	21,190	20,702	59,499	321	280,672
Week 1, cases per 100K population	321	258	244	315	194	NA	267
Cumulative cases per 100K population	6,904	5,042	2,407	6,763	4,715	NA	5,326

Figure 1. Episode-based epidemic curve (bars), surveillance date (line) and Health Authority (HA), BC Sept 13, 2020 (week 38) – Jan 08, 2022 (week 1) (N= 272,824)

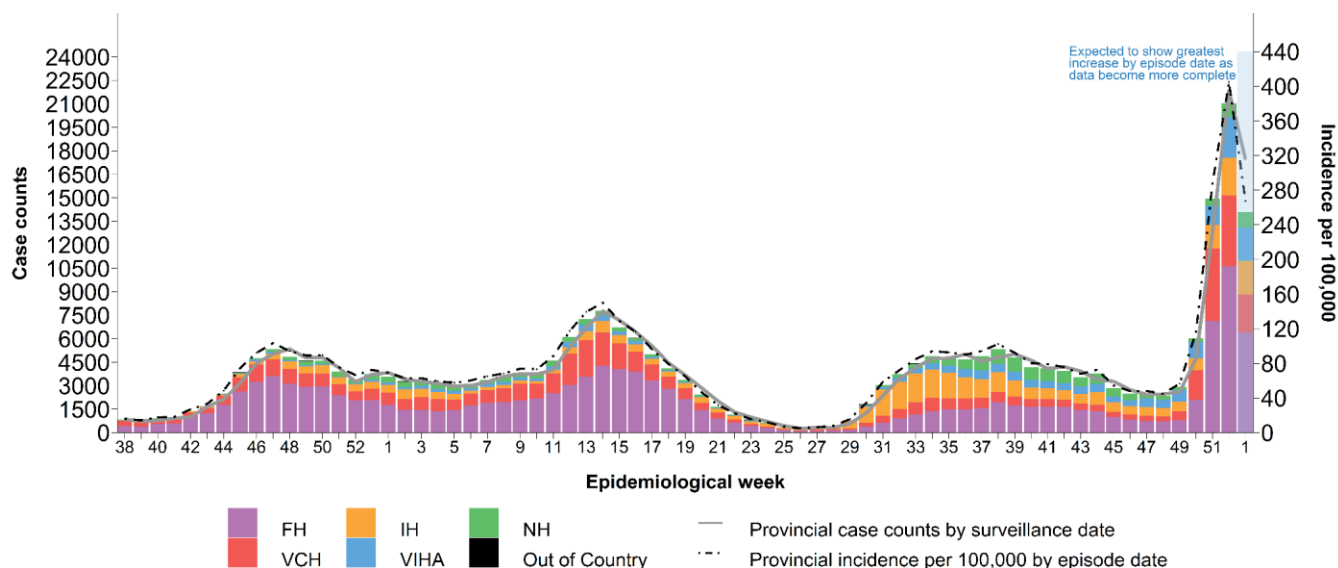
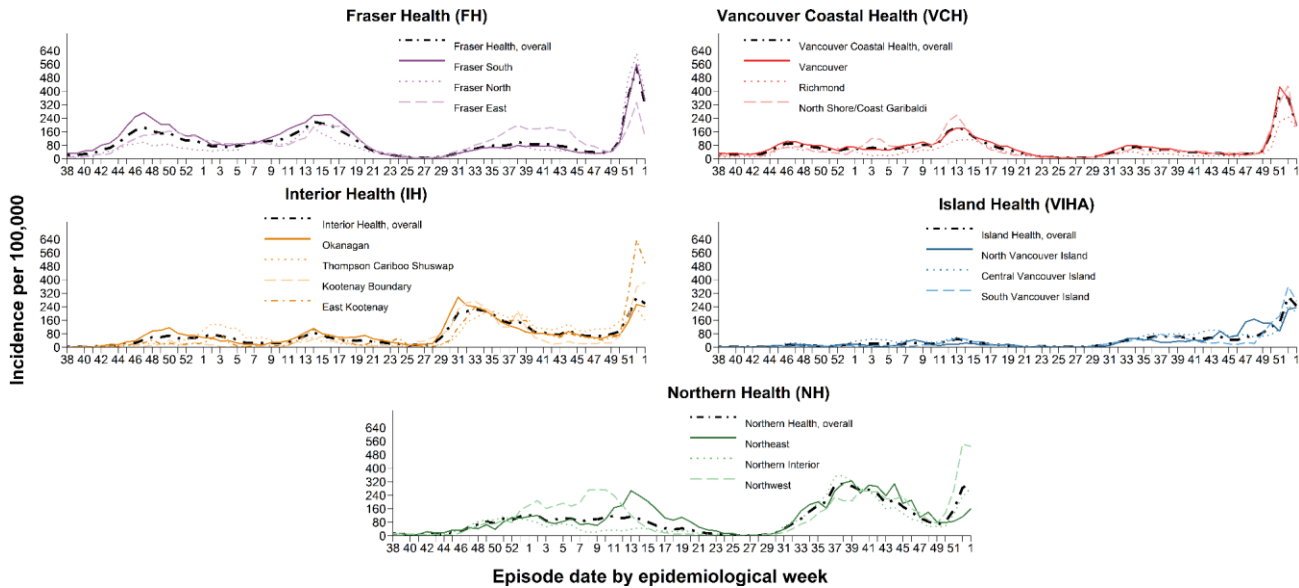


Figure 2. Weekly episode-based incidence rates by HA and health service delivery area (HSDA), BC Sept 13, 2020 (week 38) – Jan 08, 2022 (week 1) (N= 272,824)



B. Test rates and percent positive

As shown by the darker-colored bars in [Figure 3](#), testing of MSP-funded specimens has decreased from a peak of ~88,800 in week 51, to ~68,000 in week 52, and continued to decrease to ~58,700 in week 1. The positivity of MSP-funded specimens increased from 5.1% in week 49 to 33.7% in week 1.

As shown in [Figure 4](#), the per capita testing rates (Panel A) between week 52 and week 1 decreased in all HAs, except NH where testing rates increased from 1,101 per 100K to 1,420 per 100K, where testing rates were highest. Testing rates from week 52 to week 1 decreased the most in FH and VCH, from 1,694 per 100K to 1,255 per 100K in FH, and from 943 per 100K to 696 per 100K in VCH.

Percent positivity (Panel B) for MSP-only specimens increased in all HAs in week 1. Percent positivity in week 1 ranged from 29% in IHA to 39.7% in VCH.

Figure 3. Number of specimens tested and percent SARS-CoV-2 positive, by collection week, BC Sept 13, 2020 (week 38) – Jan 08, 2022 (week 1)

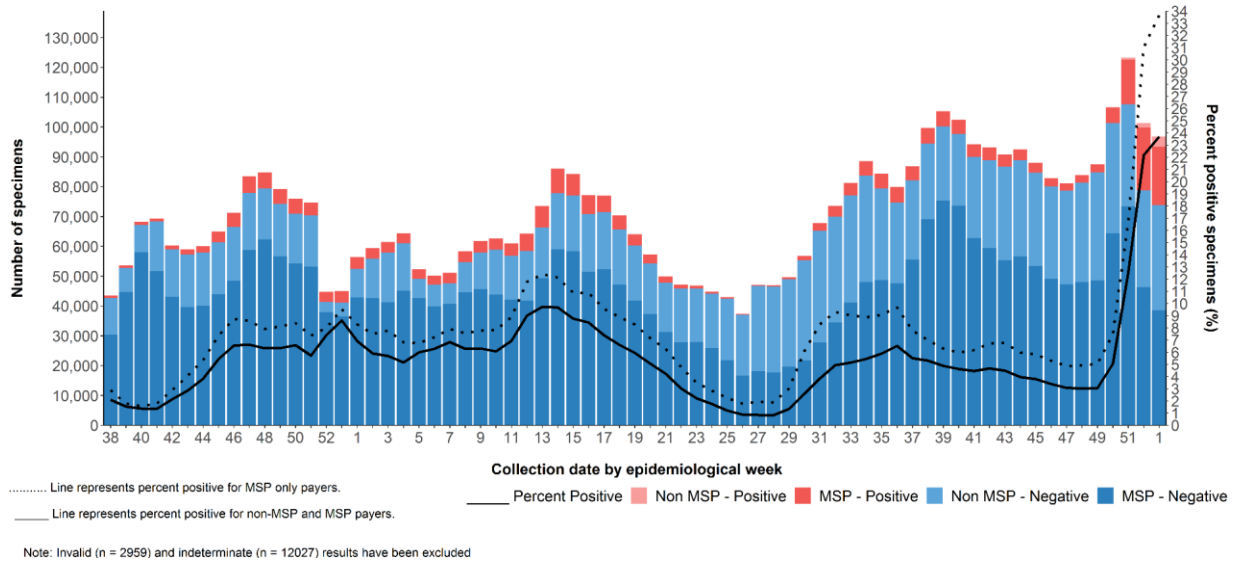
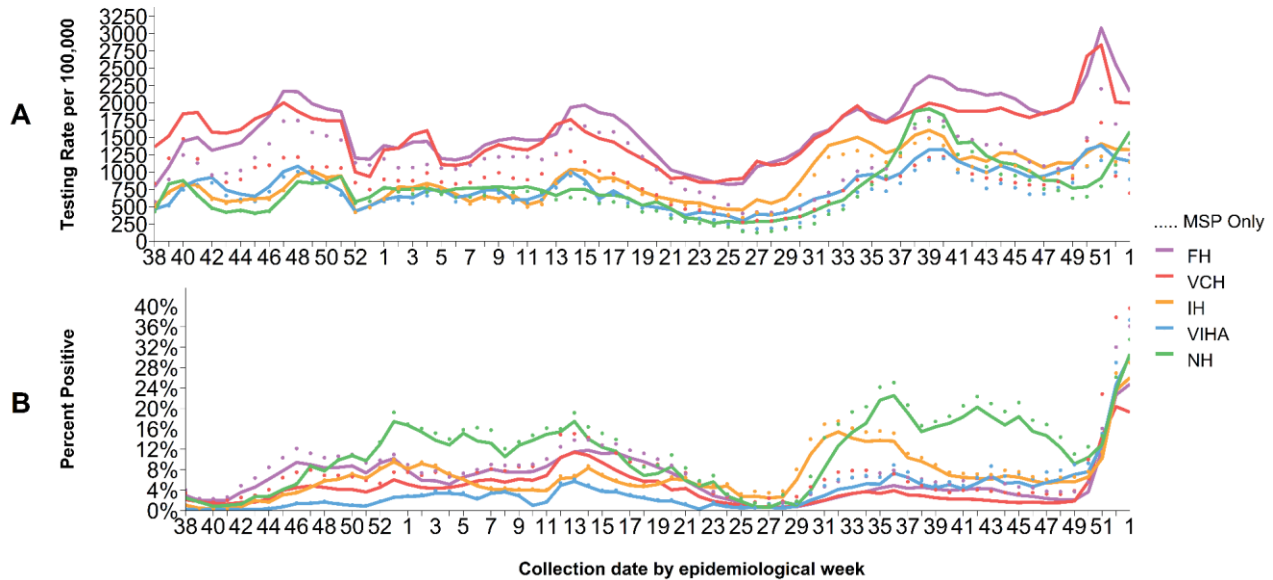


Figure 4. Testing rates and percent SARS-CoV-2 positive by Health Authority and collection week, BC Sept 13, 2020 (week 38) – Jan 08, 2022 (week 1)



Data source: laboratory PLOVER data

C. Age profile – Testing and cases

Testing rates and percent positivity by age group

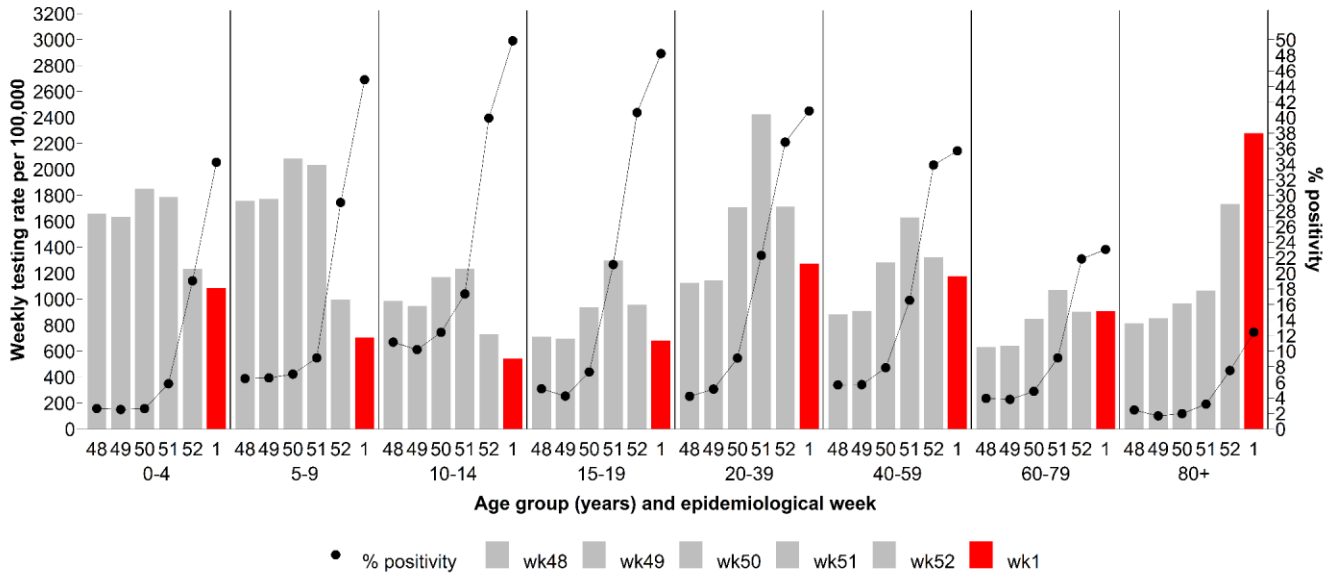
As shown by the bars in [Figure 5](#), testing rates decreased in all age groups between week 52 and week 1, except the 60-79 and 80+ age groups where the testing rates increased from 902 per 100K to 910 per 100K, and 1,732 per 100K to 2,279 per 100K, respectively. Testing rates in week 1 were highest in those aged 80+.

As shown by the black dots in [Figure 5](#), the percent positivity increased in all age groups. The highest percent positivity in week 1 was in the 10-14 and 5-9 year-olds at 49.9% and 44.8%, respectively.

Case distribution and weekly incidence by age group

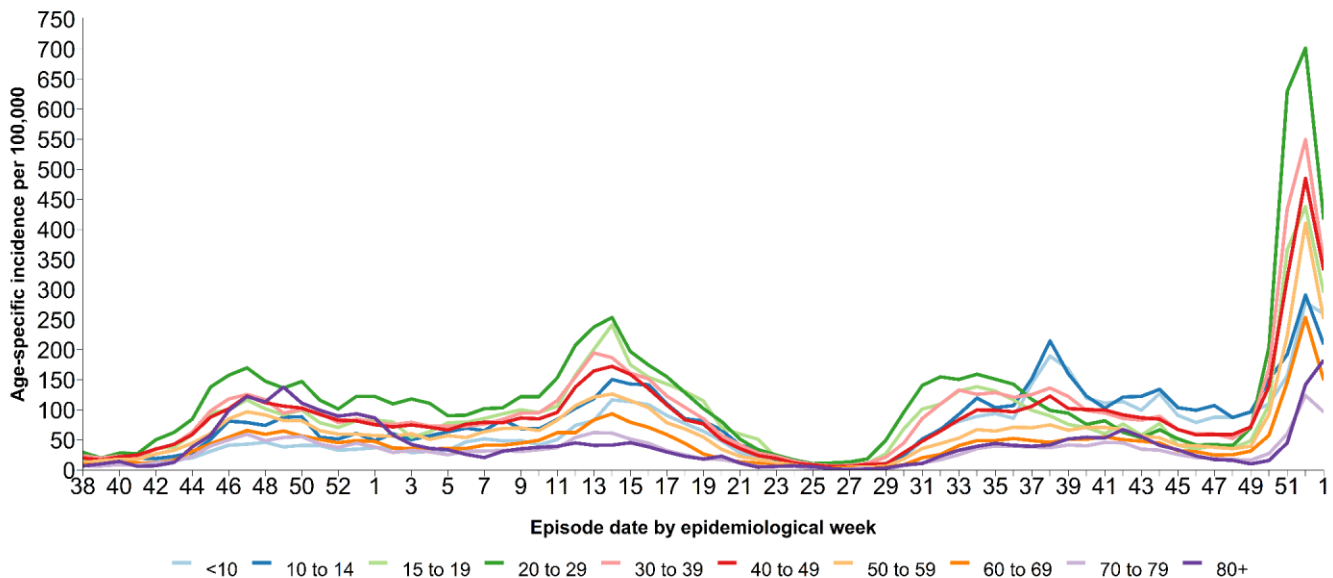
As shown in [Figure 6](#), age-specific incidences decreased across all age groups from week 52 to week 1, except for in those aged 80+. Between week 52 and week 1, incidence rates continued to increase in those aged 80+, from 142 per 100K in week 52 to 142 per 100K in week 1. Age-specific incidences 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 January 20, 2020 (week 4) – Jan 08, 2022 (week 1)



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 08, 2022 (week 1) (N= 272,792)



D. Severe outcome counts and epi-curve

The number of hospital admissions has increased since week 49, from 127 hospitalizations in week 49 to 261 hospitalizations in week 1. In week 1, 60-79 year-olds had the highest number of hospital admissions (77 hospitalizations). The weekly number of deaths decreased slightly from 22 in week 49 to 18 in week 1. Those aged 80+ accounted for the highest number of deaths in week 1 (14 deaths) ([Table 2, Figure 8](#)). Recent data from VCH showed that approximately 1 in 2 COVID-19 hospitalizations in December in that region were incidental – i.e. they are admitted to the hospital for reasons unrelated to COVID-19. Therefore, the numbers presented here may be an overestimate of cases that are hospitalized due to COVID-19 ([see Jan. 14 briefing](#)). Detailed information about outcomes by vaccination status can be accessed at [BCCDC COVID-19 Regional Surveillance Dashboard](#).

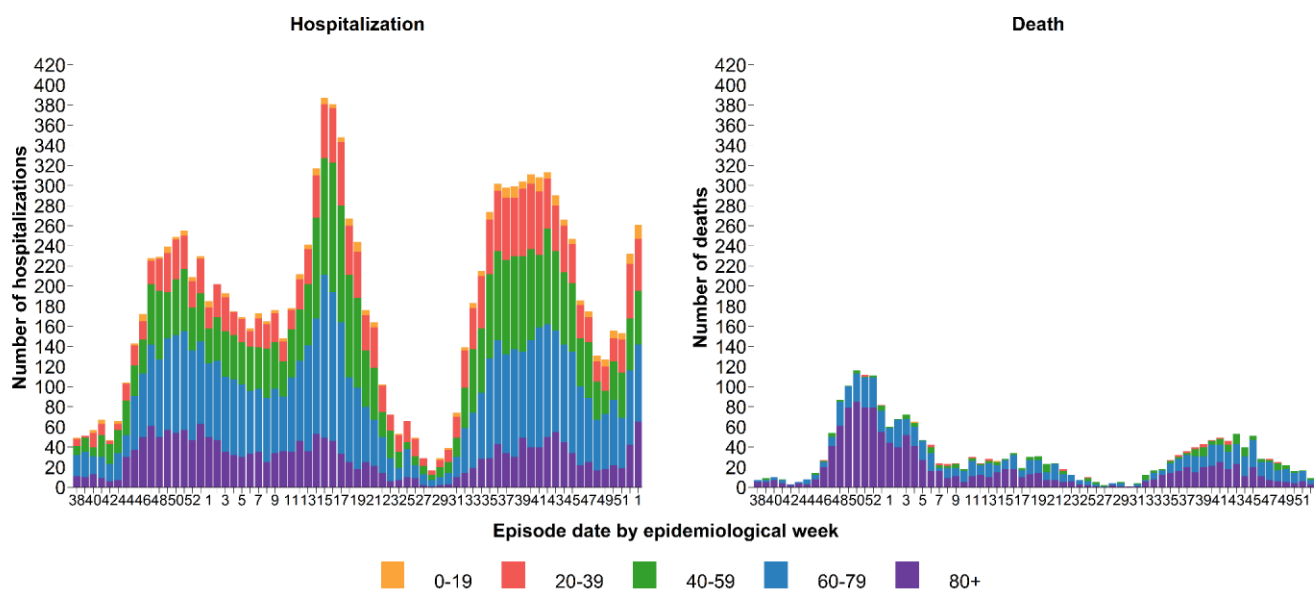
Cumulatively, there have been 22 confirmed cases of [Multi-system Inflammatory Syndrome in children and adolescents \(MIS-C\)](#) in BC since January 1, 2020. There have been no new confirmed cases of MIS-C since the last report. The median age of all cases is 9 years old (range from 1 to 16 years old).

Table 2. COVID-19 severe outcomes by episode date, Health Authority of residence, BC Jan 15, 2020 (week 3) – Jan 08, 2022 (week 1)

Severe outcomes by episode date	Health Authority of residence					Residing outside of Canada	Total n/N ^a (%)
	FH	IH	VIHA	NH	VCH		
Week 1, hospitalizations	140	36	15	11	59	0	261
Cumulative hospitalizations^b	6,371	2,167	826	1,433	2,616	14	13,427/280,672 (5)
Week 1, ICU admissions	17	6	5	1	8	0	37
Cumulative ICU admissions^b	1,237	642	244	341	676	2	3,142/280,672 (1)
Week 1, deaths	11	1	1	1	4	0	18
Cumulative deaths	1,144	300	147	280	582	0	2,453/280,672 (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 08, 2022 (week 1)



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 1, 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 <60 years of age, 1 death in 50-59 year-olds, 2 deaths in 60-69 year-olds, 6 deaths in the 70-79 year-olds, and 6 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 08, 2022 (week 1) (N= 280,621)^a

Age group (years)	Cases n (%)	Hospitalizations n (%) ^b	ICU n (%)	Deaths n (%)
<10	21,695	198 (1)	18 (<1)	2 (<1)
10-19	30,797	158 (<1)	30 (<1)	0 (<1)
20-29	60,876	815 (1)	103 (<1)	6 (<1)
30-39	53,463	1,450 (3)	281 (1)	30 (<1)
40-49	41,026	1,538 (4)	355 (1)	54 (<1)
50-59	33,284	2,121 (6)	640 (2)	140 (<1)
60-69	21,612	2,497 (12)	792 (4)	287 (1)
70-79	10,296	2,417 (23)	677 (7)	544 (5)
80-89	5,274	1,683 (32)	232 (4)	802 (15)
90+	2,298	584 (25)	24 (1)	588 (26)
Total	280,621	13,461	3,152	2,453
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

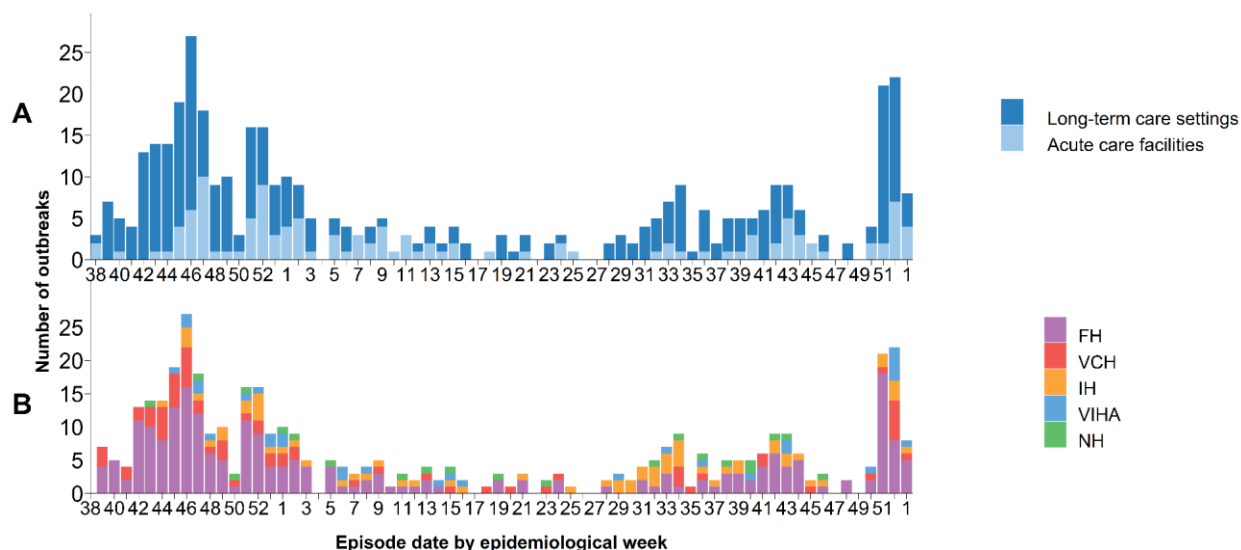
As shown in [Table 4](#) and [Figure 9](#), 480 care facility (acute and long-term care setting) outbreaks were reported in total in BC to the end of week 1. In week 1, 8 new outbreaks were declared, based on earliest case onset date. 9 of the 18 deaths reported in week 1 were associated with care facility 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 08, 2022 (week 1) (N=480)

Care facility outbreaks and cases by episode date	Outbreaks	Cases				Deaths			
		Residents	Staff/other	Unknown	Total	Residents	Staff/other	Unknown	Total
Week 1, Care Facility Outbreaks	8	298	107	0	405	9	0	0	9
Cumulative, Care Facility Outbreaks	480	5,002	2,953	8	7,963	1,226	0	0	1,226

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 08, 2022 (week 1) (N=412)



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 Rt 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 is consistent with COVID-19 case counts.

Results through to Jan. 15, 2022

- For each wastewater treatment plant, samples are collected and tested three times per week to assess trends of SARS-CoV-2 in wastewater over time.

- To account for possible effects of wastewater volume, SARS-CoV-2 concentrations have been normalized by daily wastewater flow.
- SARS-CoV-2 viral loads remain elevated in wastewater from all five WWTPs in VCH and FHA but have declined from their peak in early January.

Figure 11. Wastewater surveillance, FHA

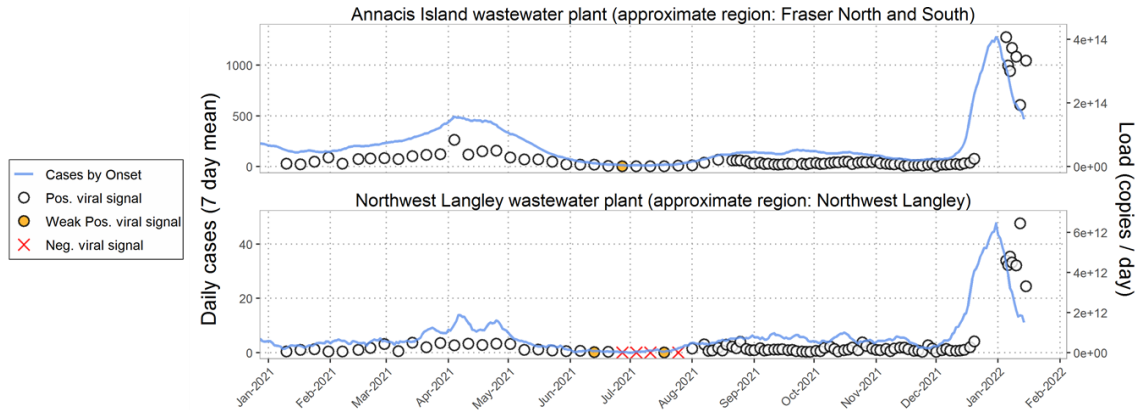
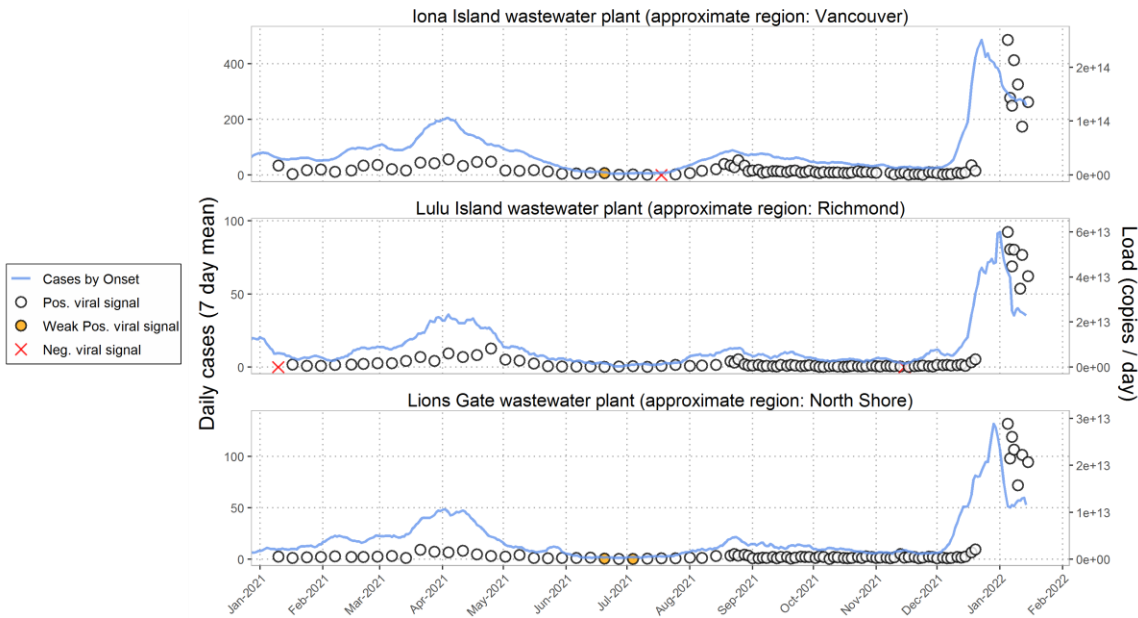


Figure 12. Wastewater surveillance, VCH



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/

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.