

**British Columbia (BC) COVID-19 Situation Report**  
**Week 49: December 05- December 11, 2021**

Table of Contents		<b>Provincial COVID-19 incidence increasing; hospital admissions and deaths decreasing.</b>	
Epidemic curve and regional incidence	<a href="#">2</a>	The provincial incidence by episode date was 48 per 100K, with 2,516 cases in week 49.	
Test rates and % positive	<a href="#">3</a>	Incidence stabilized or increased in all Health Authority from week 48 to week 49, except Northern Health:	
Age profile, testing and cases	<a href="#">4</a>	<ul style="list-style-type: none"> <li>• Fraser Health incidence stabilized at 36 per 100K</li> <li>• Interior Health incidence stabilized 65 per 100K</li> <li>• Vancouver Island Health incidence increased from 57 to 75 per 100K</li> <li>• Vancouver Coastal incidence increased from 27 to 37 per 100K</li> <li>• Northern Health incidence decreased from 80 to 56 per 100K</li> </ul>	
Severe outcomes	<a href="#">6</a>	Testing of MSP-funded specimens was stable at ~50,600 in week 48 and ~51,300 in week 49.	
Age profile, severe outcomes	<a href="#">7</a>	The positivity of MSP-funded specimens was stable at 5.1% in week 49.	
Care facility outbreaks	<a href="#">8</a>	Age-specific incidences decreased in <10, 70-79, and 80+ year-olds, while incidences increased or stabilized in other age groups from week 48 to week 49. After a recent increase in week 47, the incidence rate in children <10 of age declined from 88 per 100K in week 47 to 83 per 100K in week 49. The incidence rates declined from week 42 to week 49 in 70-79 (from 45 to 13 per 100K) and 80+ (from 68 to 6 per 100K) age groups. From week 48 to week 49, the incidence rate increased in 15-19 (from 35 to 43 per 100K), 20-29 (from 39 to 62 per 100K), and 30-39 (from 51 to 62 per 100K) year-olds.	
Modeling	<a href="#">9</a>	The number of hospital admissions decreased since week 42; there was an average of 210 hospitalizations per week from weeks 42 to 49. In week 49, 60-79 year-olds had the highest number of hospital admissions (50 hospitalizations). The weekly number of deaths decreased from 26 in week 48 to 20 in week 49. Those aged 60-79 accounted for the highest number of deaths in week 49 (12 deaths).	
Wastewater surveillance	<a href="#">9</a>	By case of earliest onset date, no new outbreaks were reported in healthcare settings in week 49.	
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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 December 20, 2021, laboratory data on December 17, 2021, PIR vaccine coverage date on December 17, 2021, and PCMS hospitalization data on December 20, 2021.

**A. COVID-19 case counts and epidemic curves**

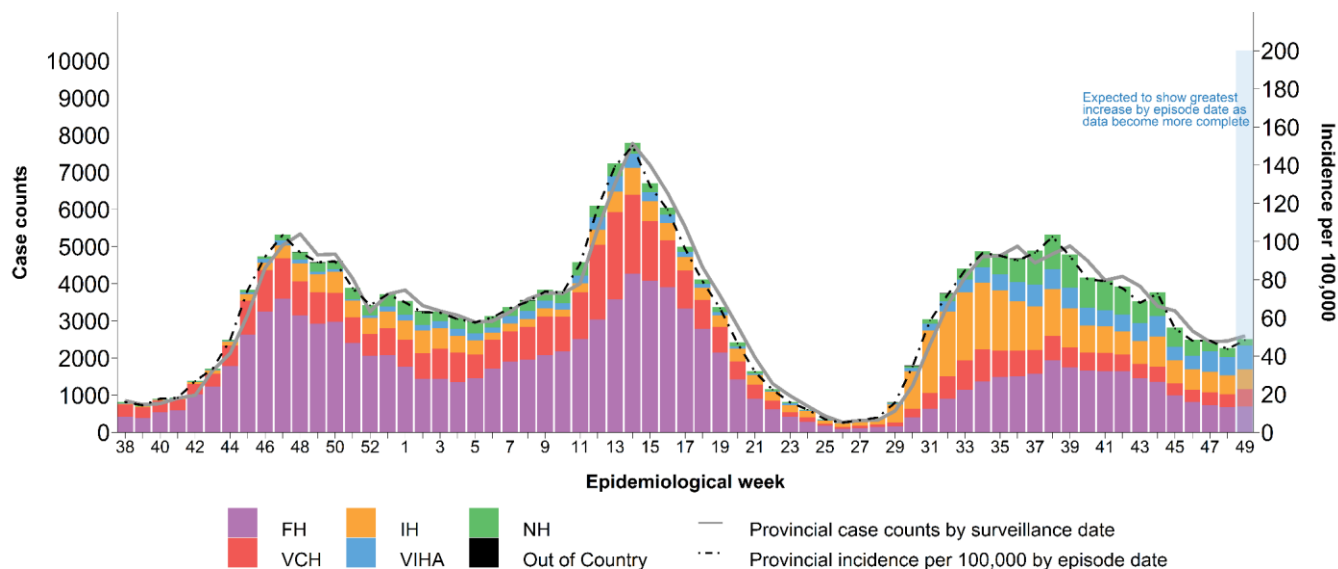
Up to week 49, there have been 224,011 cases for a cumulative incidence of 4,307 per 100K (Table 1, Figure 1). The provincial incidence by episode date was 48 per 100K (2,516 cases) in week 49, which has increased from 44 per 100K in week 48. The increase is likely due to the emergence of Omicron variant in BC. Incidence by episode date may increase as data become more complete in recent weeks

As shown in Figure 2, incidence stabilized in FH (from 35 to 36 per 100K) and IH (from 63 to 65 per 100K) from week 48 to week 49. Incidence increased in VIHA (from 57 to 75 per 100K) and VCH (from 27 to 37 per 100K) from week 48 to week 49. Incidence in NH decreased from 80 per 100K in week 48 to 56 per 100K in week 49. These rates may increase as data become more complete.

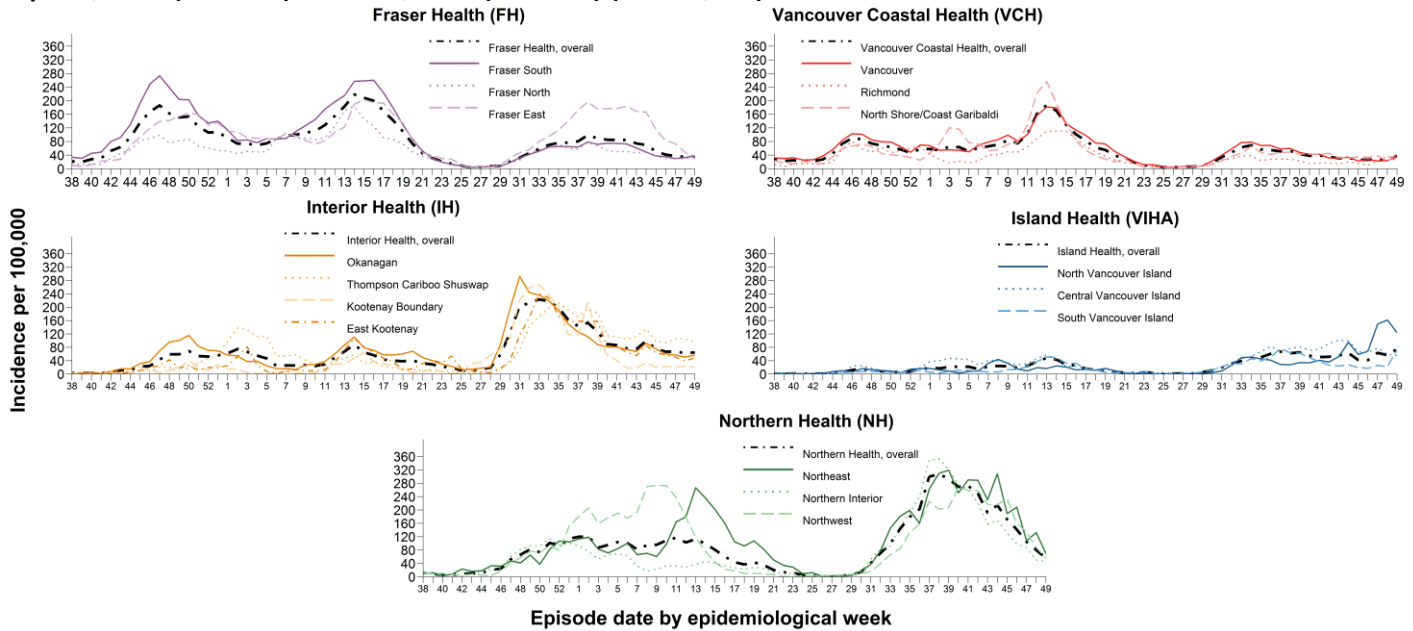
**Table 1. Episode-based case tallies by Health Authority, BC, Jan 15, 2020 (week 3) – Dec 11, 2021 (week 49) (N= 224,011)**

Case tallies by episode date	Health Authority of Residence					Outside Canada	Total
	FH	IH	VIHA	NH	VCH		
Week 49, case counts	698	531	653	169	463	2	2,516
<b>Cumulative case counts</b>	<b>110,839</b>	<b>34,787</b>	<b>14,052</b>	<b>18,132</b>	<b>45,900</b>	<b>301</b>	<b>224,011</b>
Week 49, cases per 100K population	36	65	75	56	37	NA	48
<b>Cumulative cases per 100K population</b>	<b>5,663</b>	<b>4,238</b>	<b>1,621</b>	<b>5,994</b>	<b>3,682</b>	<b>NA</b>	<b>4,307</b>

**Figure 1. Episode-based epidemic curve (bars), surveillance date (line) and Health Authority (HA), BC Sept 13, 2020 (week 38) – Dec 11, 2021 (week 49) (N= 216,161)**



**Figure 2. Weekly episode-based incidence rates by HA and health service delivery area (HSDA), BC Sept 13, 2020 (week 38) – Dec 11, 2021 (week 49) (N= 216,161)**



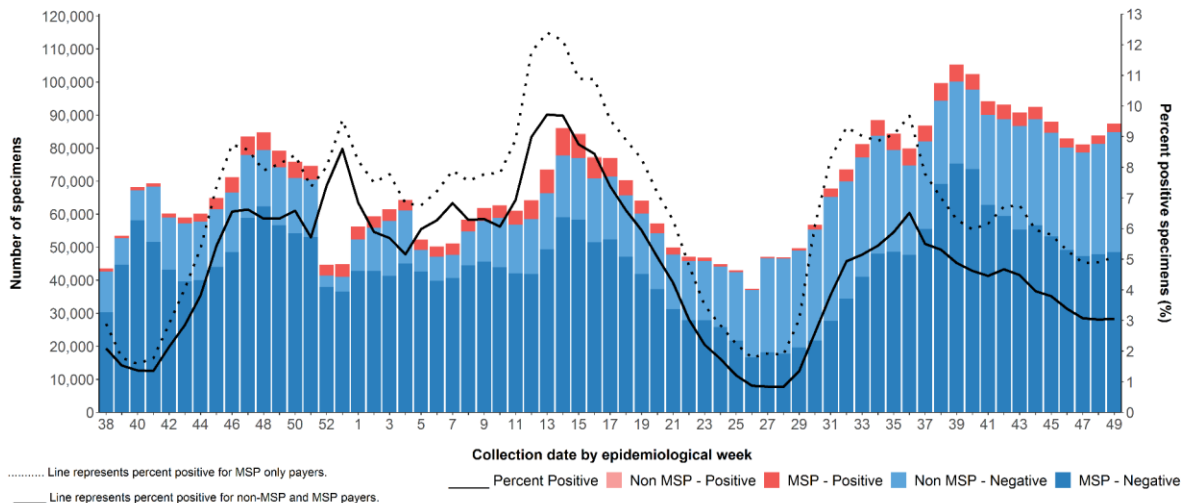
**B. Test rates and percent positive**

As shown by the darker-colored bars in [Figure 3](#), testing of MSP-funded specimens was stable at ~50,600 in week 48 and ~51,300 in week 49. The positivity of MSP-funded specimens was stable at 5.1% from week 48 to 49.

As shown in [Figure 4](#), the per capita testing rates (Panel A) increased in FH, VCH, and VIHA, while testing rates decreased in IH and NH from week 48 to week 49. Testing rates in week 49 remain highest in FH and IH at 1,063 per 100K and 949 per 100K, respectively.

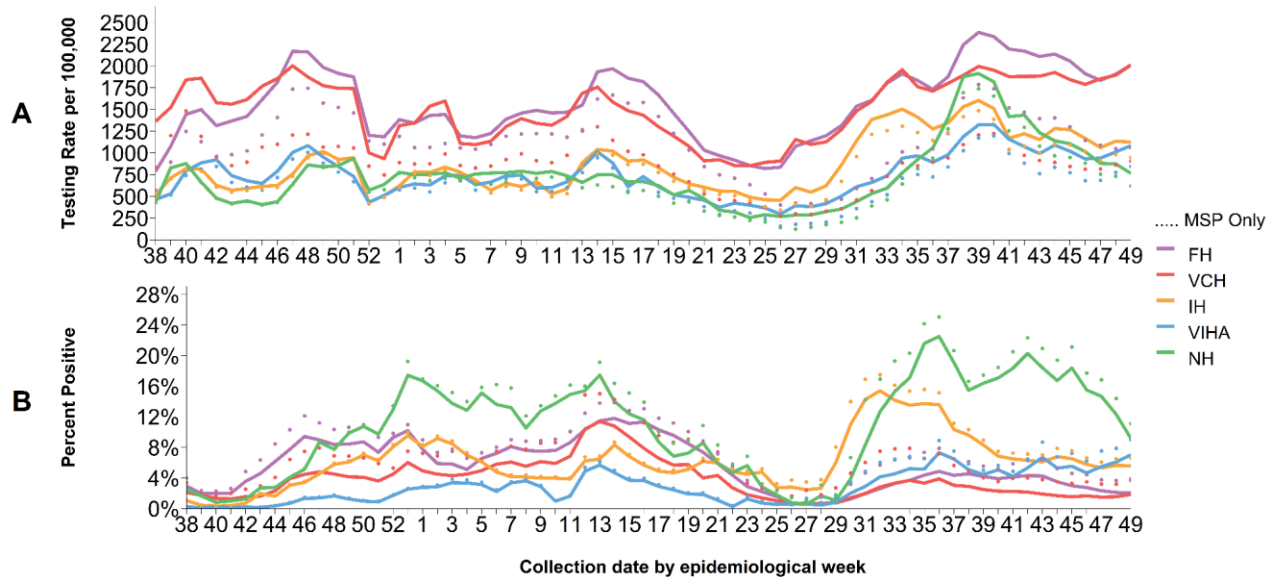
Percent positivity (Panel B) for MSP-only specimens increased or stabilized in all HAs other than NH, where it decreased from week 48 to week 49. The highest percent positivity in week 49 remain in NH (11.1%), despite declining trend in the most recent week. Percent positivity in VIHA has been increasing since week 46, from 6.2% to 9% in week 49.

**Figure 3. Number of specimens tested and percent SARS-CoV-2 positive, by collection week, BC Sept 13, 2020 (week 38) – Dec 11, 2021 (week 49)**



Note: Invalid (n = 2559) and indeterminate (n = 10059) results have been excluded

**Figure 4. Testing rates and percent SARS-CoV-2 positive by Health Authority and collection week, BC Sept 13, 2020 (week 38) – Dec 11, 2021 (week 49)**



Data source: laboratory PLOVER data

### C. Age profile – Testing and cases

#### Testing rates and percent positivity by age group

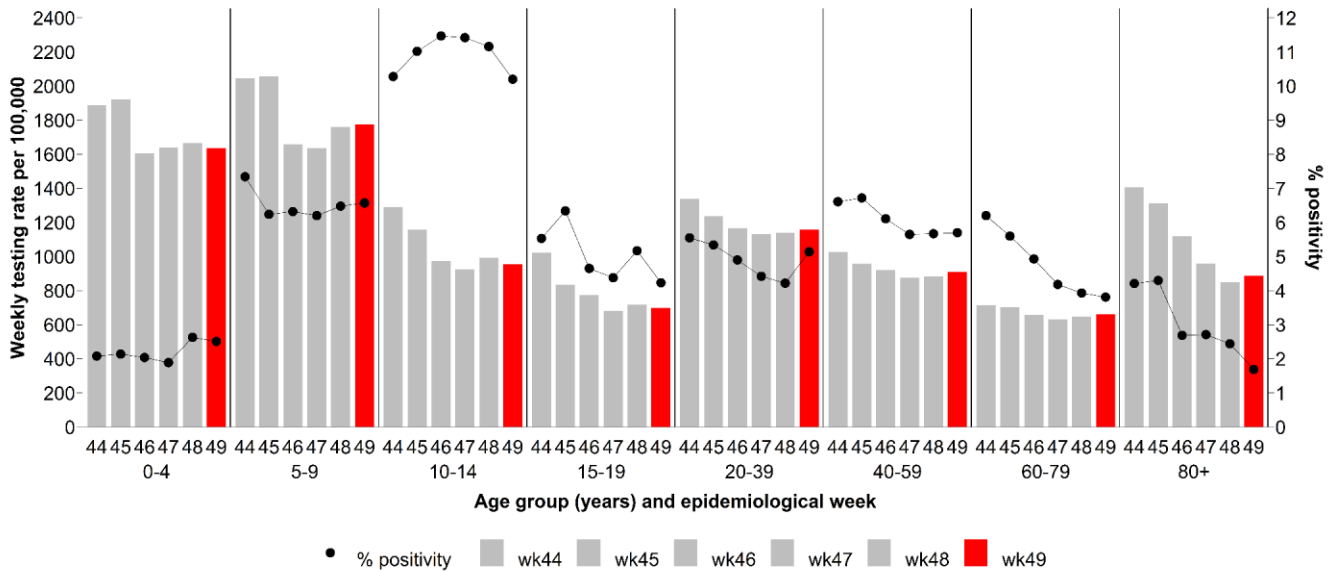
As shown by the bars in [Figure 5](#), testing rates were stable in all age groups between week 48 and week 49. Testing rates in week 49 remain highest in 0-4 and 5-9 year-olds at 1,637 per 100K and 1,774 per 100K, respectively.

As shown by the black dots in [Figure 5](#), the percent positivity decreased or stabilized in most age groups other than 20-29 year-olds, where it increased from week 48 to week 49. The highest percent positivity in week 49 remains in the 10-14 year-olds at 10.2%.

#### Case distribution and weekly incidence by age group

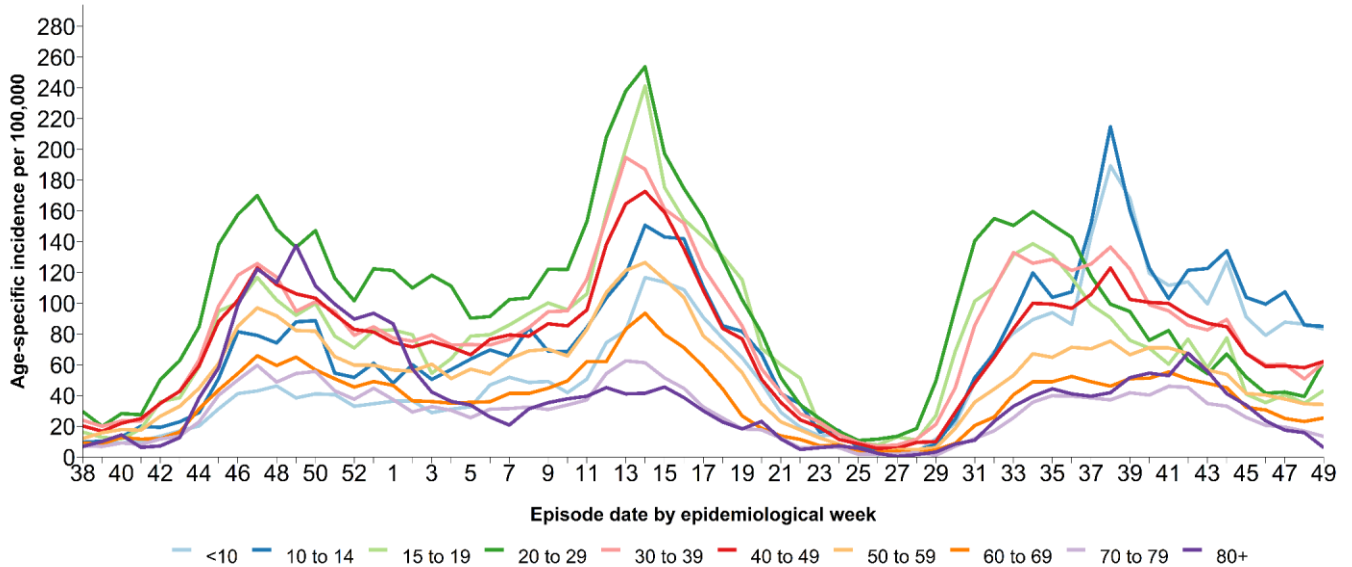
As shown in [Figure 6](#), age-specific incidences decreased in <10, 70-79, and 80+ year-olds, while incidences increased or stabilized in other age groups from week 48 to week 49. After a recent increase in week 47, the incidence rate in children <10 of age declined from 88 per 100K in week 47 to 83 per 100K in week 49. The incidence rates declined from week 42 to week 49 in those aged 70-79 (from 45 to 13 per 100K) and 80+ (from 68 to 6 per 100K). From week 48 to week 49, the incidence rate increased in 15-19 year-olds (from 35 to 43 per 100K), 20-29 year-olds (from 39 to 62 per 100K), and 30-39 year-olds (from 51 to 62 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 06, 2021 (week 44) – Dec 11, 2021 (week 49)**



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 11, 2021 (week 49) (N= 216,151)**



### D. Severe outcome counts and epi-curve

The number of hospital admissions has decreased since week 42; there was an average of 210 hospitalizations per week from weeks 42 to 49. In week 49, 60-79 year-olds had the highest number of hospital admissions (50 hospitalizations). The weekly number of deaths decreased from 26 in week 48 to 20 in week 49. Those aged 60-79 accounted for the highest number of deaths in week 49 (12 deaths) ([Table 2, Figure 8](#)). Detailed information about outcomes by vaccination status can be accessed at [BCCDC COVID-19 Regional Surveillance Dashboard](#).

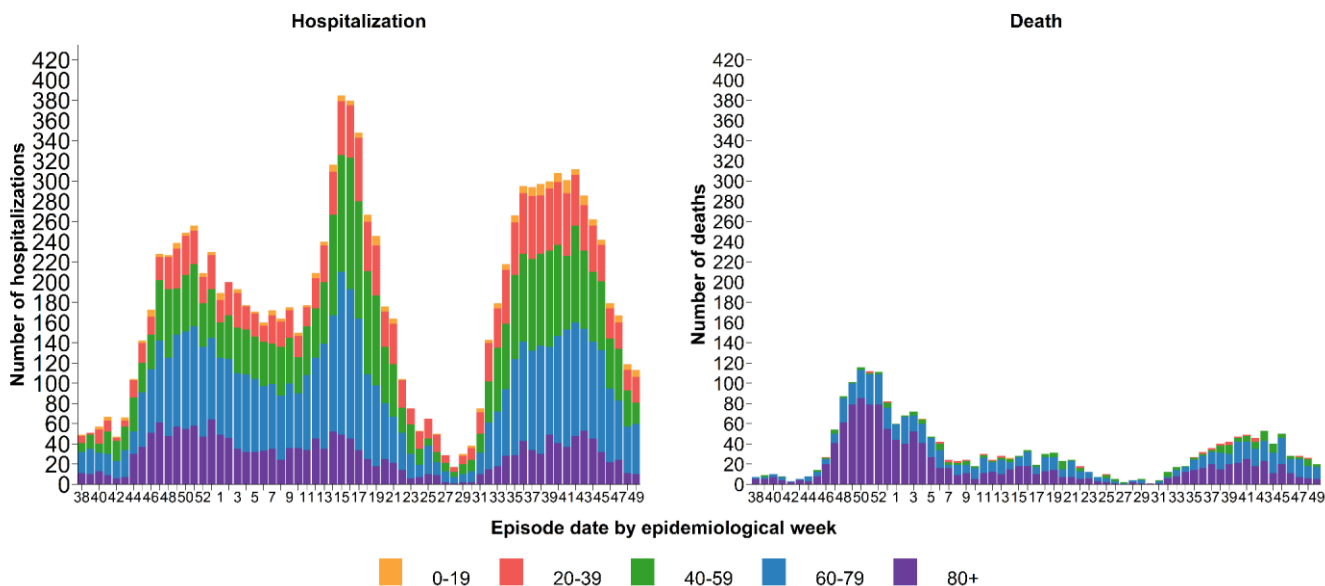
Cumulatively, there have been 19 confirmed cases of [Multi-system Inflammatory Syndrome in children and adolescents \(MIS-C\)](#) in BC since January 1, 2020. There have been no new confirmed cases of MIS-C since the last report. The median age of all cases is 9 (range 1-15) years.

**Table 2. COVID-19 severe outcomes by episode date, Health Authority of residence, BC  
 Jan 15, 2020 (week 3) – Dec 11, 2021 (week 49)**

Severe outcomes by episode date	Health Authority of residence					Residing outside of Canada	Total n/N <sup>a</sup> (%)
	FH	IH	VIHA	NH	VCH		
Week 49, hospitalizations	43	27	20	13	10	0	113
<b>Cumulative hospitalizations<sup>b</sup></b>	<b>5,972</b>	<b>2,037</b>	<b>699</b>	<b>1,386</b>	<b>2,433</b>	<b>14</b>	<b>12,541/224,011 (6)</b>
Week 49, ICU admissions	7	11	9	4	3	0	34
<b>Cumulative ICU admissions<sup>b</sup></b>	<b>1,196</b>	<b>594</b>	<b>202</b>	<b>332</b>	<b>649</b>	<b>2</b>	<b>2,975/224,011 (1)</b>
Week 49, deaths	10	0	6	4	0	0	20
<b>Cumulative deaths</b>	<b>1,122</b>	<b>295</b>	<b>133</b>	<b>267</b>	<b>573</b>	<b>0</b>	<b>2,390/224,011 (1)</b>

- 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 11, 2021 (week 49)**



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 49, 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 46, there has been a weekly average of 1 death in those <50 years of age, 3 deaths in 50-59 year-olds, 7 deaths in 60-69 year-olds, 8 deaths in the 70-79 year-olds, and 7 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 11, 2021 (week 49) (N= 223,982)<sup>a</sup>**

Age group (years)	Cases n (%)	Hospitalizations n (%) <sup>b</sup>	ICU n (%)	Deaths n (%)
<10	17,854	172 (1)	16 (<1)	2 (<1)
10-19	25,582	132 (<1)	27 (<1)	0 (<1)
20-29	47,076	731 (2)	93 (<1)	6 (<1)
30-39	41,905	1,358 (3)	273 (1)	30 (<1)
40-49	32,560	1,458 (4)	338 (1)	52 (<1)
50-59	26,232	1,995 (8)	598 (2)	135 (1)
60-69	17,338	2,358 (14)	753 (4)	278 (2)
70-79	8,845	2,262 (26)	646 (7)	524 (6)
80-89	4,593	1,559 (34)	216 (5)	786 (17)
90+	1,997	535 (27)	23 (1)	577 (29)
<b>Total</b>	<b>223,982</b>	<b>12,560</b>	<b>2,983</b>	<b>2,390</b>
<b>Median age<sup>c</sup></b>	<b>34</b>	<b>61</b>	<b>62</b>	<b>82</b>

- 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

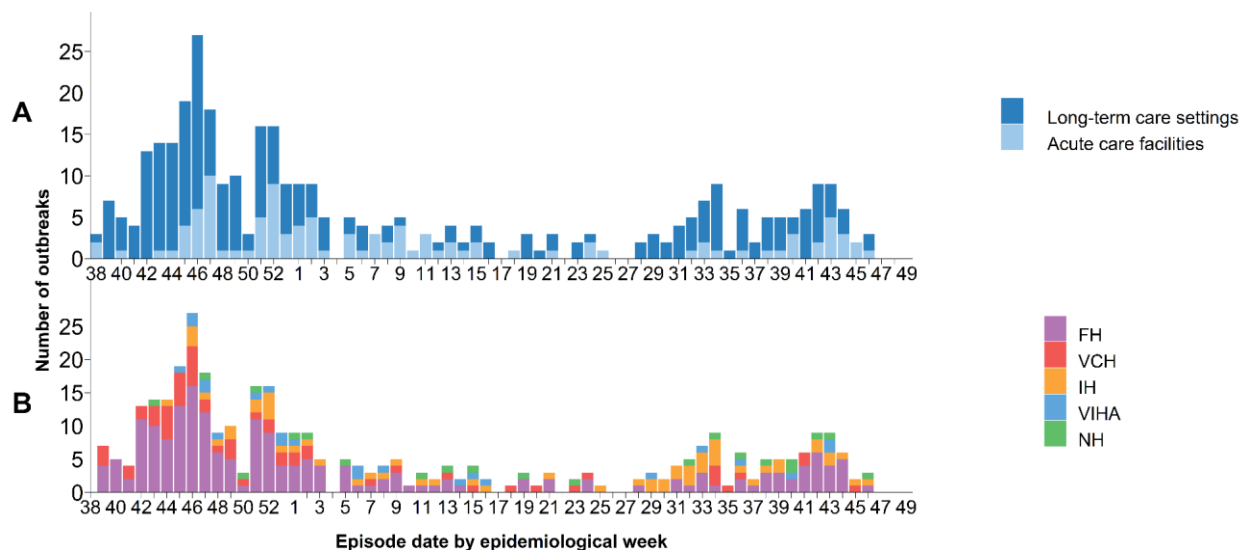
As shown in [Table 4](#) and [Figure 9](#), 422 care facility (acute and long-term care setting) outbreaks were reported in total in BC to the end of week 49. In week 49, no new outbreaks were declared, based on earliest case onset date. Five of the 20 (25%) deaths reported in week 49 were associated with an outbreak in a care facility.

**Table 4. COVID-19 care facility<sup>a,b</sup> outbreaks by earliest case onset<sup>a,c</sup>, associated cases and deaths by episode date, BC<sup>d</sup> Jan 15, 2020 (week 3) – Dec 11, 2021 (week 49) (N=422)**

Care facility outbreaks and cases by episode date	Outbreaks	Cases				Deaths			
		Residents	Staff/other	Unknown	Total	Residents	Staff/other	Unknown	Total
Week 49, Care Facility Outbreaks	0	2	0	0	2	5	0	0	5
<b>Cumulative, Care Facility Outbreaks</b>	<b>422</b>	<b>4,527</b>	<b>2,657</b>	<b>8</b>	<b>7,192</b>	<b>1,213</b>	<b>0</b>	<b>0</b>	<b>1,213</b>

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<sup>b</sup> outbreaks by earliest case onset<sup>c</sup>, facility type (A) and Health Authority (B), BC<sup>d</sup> Sept 13, 2020 (week 38) – Dec 11, 2021 (week 49) (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.



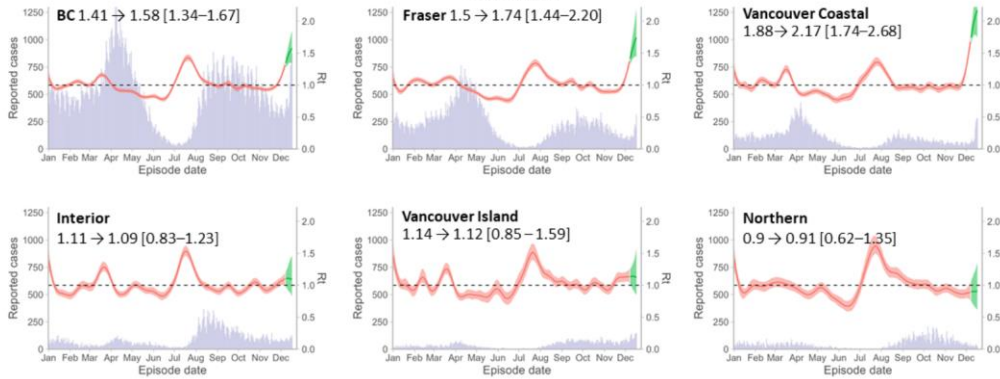
**G. Modeling**

As shown in [Figure 10](#),  $R_t$  (the average number of people a single case will transmit an infection to) has grown to above 1 in all regions. With the increase in Omicron these estimates will likely continue to change in the short-term.

**Figure 10. Dynamic modeling: recent trends, BC**

**Dynamic modeling: recent trends**

Modelling indicates that  $R_t$  is above 1 in all regions. Note that estimates include both omicron and delta cases. Early estimates of  $R_t$  for omicron in BC are 2.07 [0.8 – 4.7] as of 13<sup>th</sup> Dec. Estimates are shown for last week → this week, with 90% range of possible values given next to most recent estimate.

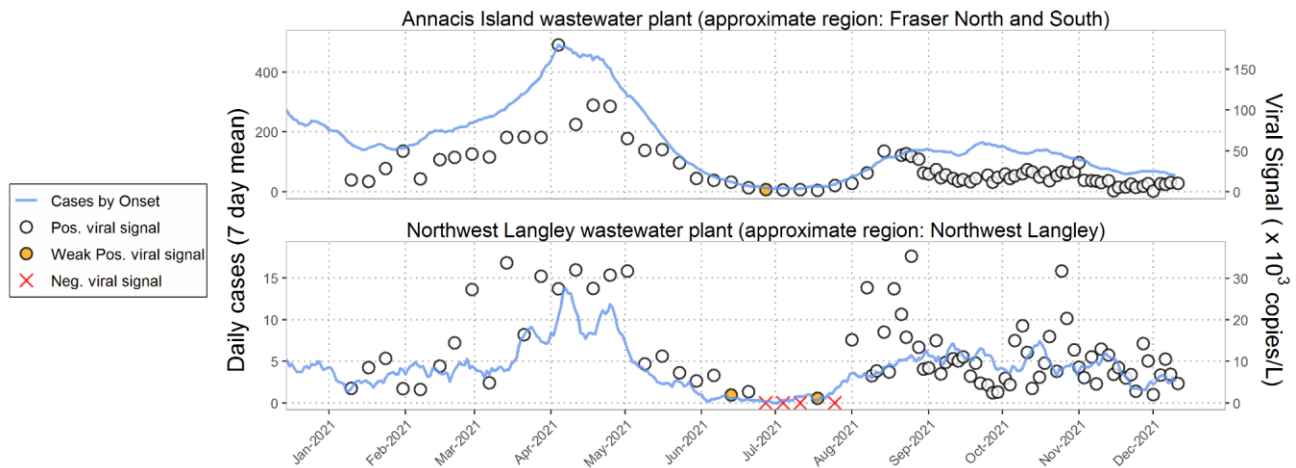


Solid line: median  $R_t$ , modeled using all reported cases up to Dec 17, 2021; Red band: 5%-95% credible interval; Green band: estimate based on partial data – each week, current estimates are updated with new data to provide a clearer understanding of the trend. Purple bars: all reported cases. Only January 2021 onward shown here. Data source: BCCDC HA Inelist.

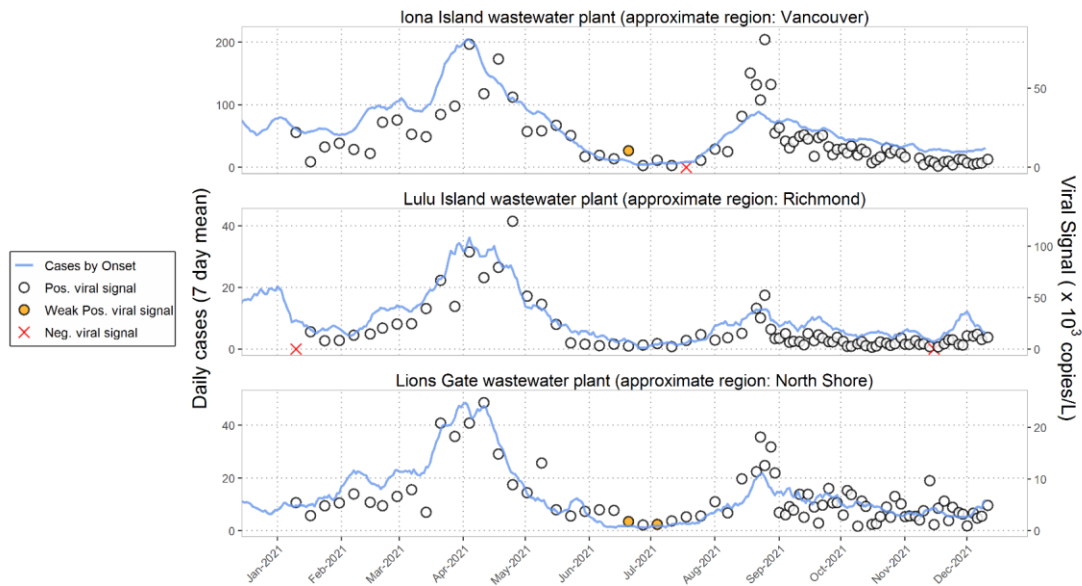
**H. Wastewater surveillance**

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/](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.