

British Columbia (BC) COVID-19 Situation Report
Week 22: May 29- June 04, 2022

Data for week 22 (May 29 - June 04, 2022) may differ from the data published in the BCCDC weekly report. Data was extracted on June 13, 2022 for this situation report compared to June 15, 2022 for the latest weekly report.

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Appendix 12	In week 22, based on earliest symptom onset date (if unavailable, outbreak declared date is used), 1 new outbreak in acute care and 1 new outbreak in long-term care were declared.

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.
- 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 and positive laboratory results in the Provincial Laboratory Information Solution (PLIS) up to April 1, 2022. As of April 2, 2022, only 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 June 13, 2022, laboratory PLOVER data on June 09, 2022, and Health Authority outbreak files on June 08, 2022.
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A. COVID-19 case counts and epidemic curves

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. Up to week 22, there have been 372,664 cases for a cumulative incidence of 7,080 per 100K (Table 1, Figure 1). The provincial incidence by episode date was 17 per 100K (870 cases) in week 22, which decreased from 21 per 100K in week 21. Incidence by episode date may increase as data become more complete in recent weeks.

As shown in Figure 2, incidence rates decreased from week 21 to week 22 in all HAs. Incidence rates decreased the most in Northern Health (NH) and Interior Health (IH) from 22 per 100K in week 21 to 13 per 100K in week 22 and from 26 per 100K in week 21 to 18 per 100K in week 22, respectively. In week 22, the highest incidence rate was in Vancouver Island Health (VIHA) at 19 per 100K.

Table 1. Episode-based case tallies by Health Authority, BC, Jan 15, 2020 (week 3) – Jun 04, 2022 (week 22) (N= 372,664)

Case tallies by episode date	Health Authority of Residence					Outside Canada	Total
	FH	IH	VIHA	NH	VCH		
Week 22, case counts	314	152	163	41	200	0	870
Cumulative case counts	164,270	66,464	36,110	30,332	75,097	391	372,664
Week 22, cases per 100K population	16	18	19	13	16	NA	17
Cumulative cases per 100K population	8,266	8,023	4,103	9,910	5,951	NA	7,080

Figure 1. Episode-based epidemic curve (bars), surveillance date (line) and Health Authority (HA), BC Sept 13, 2020 (week 38) – Jun 04, 2022 (week 22) (N= 364,817)

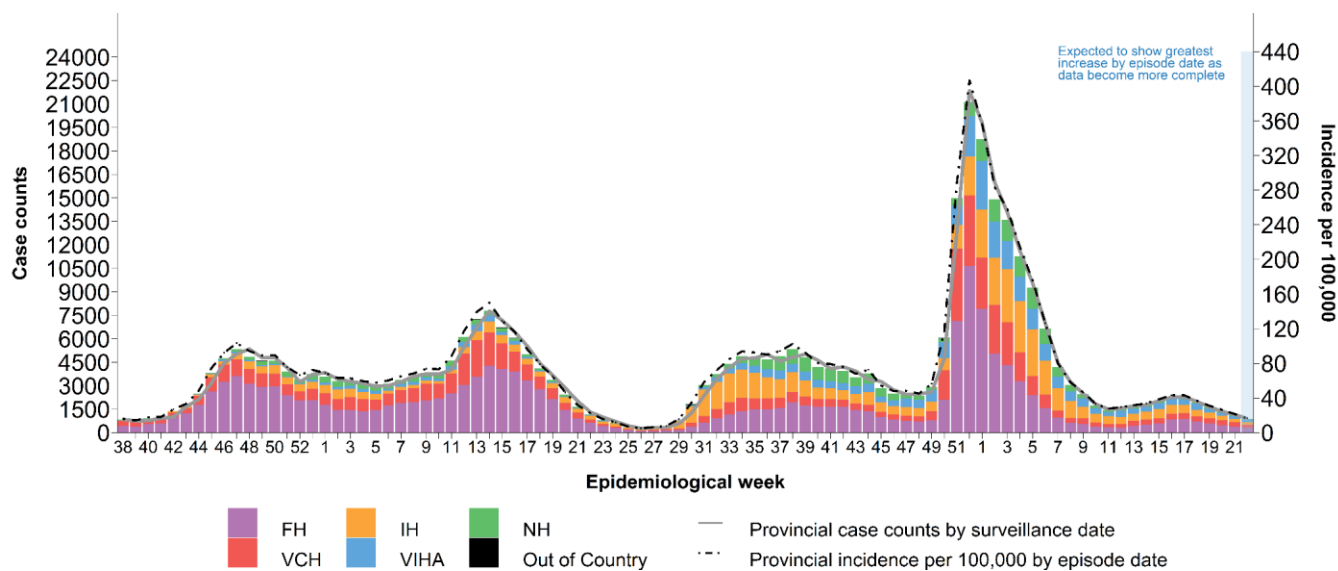
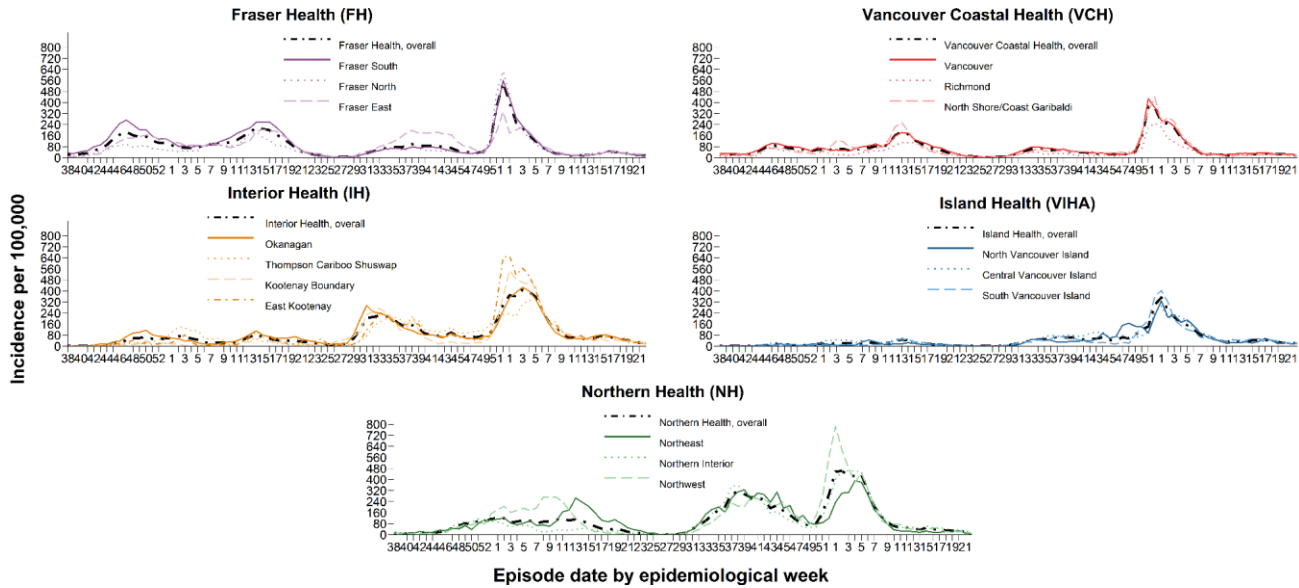


Figure 2. Weekly episode-based incidence rates by HA and health service delivery area (HSDA), BC Sept 13, 2020 (week 38) – Jun 04, 2022 (week 22) (N= 364,817)

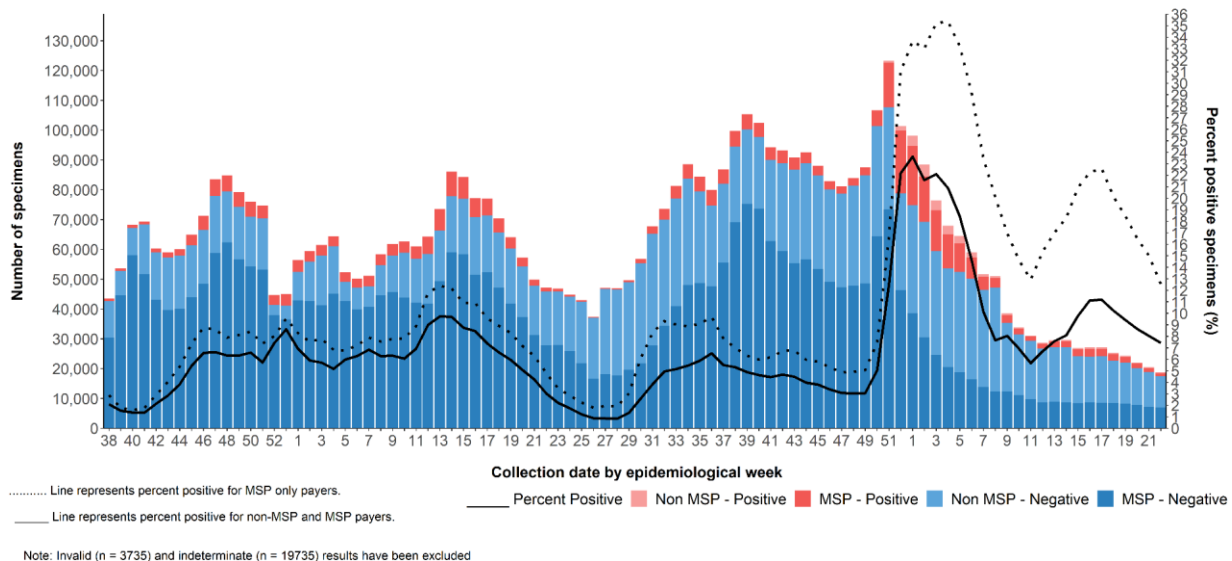


B. Test rates and percent positive

[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 3](#), the number of MSP-funded specimens decreased slightly from ~8,600 in week 21 to ~8,200 in week 22, and the percent positivity of MSP-funded specimens decreased from 15% in week 21 to 12.5% in week 22.

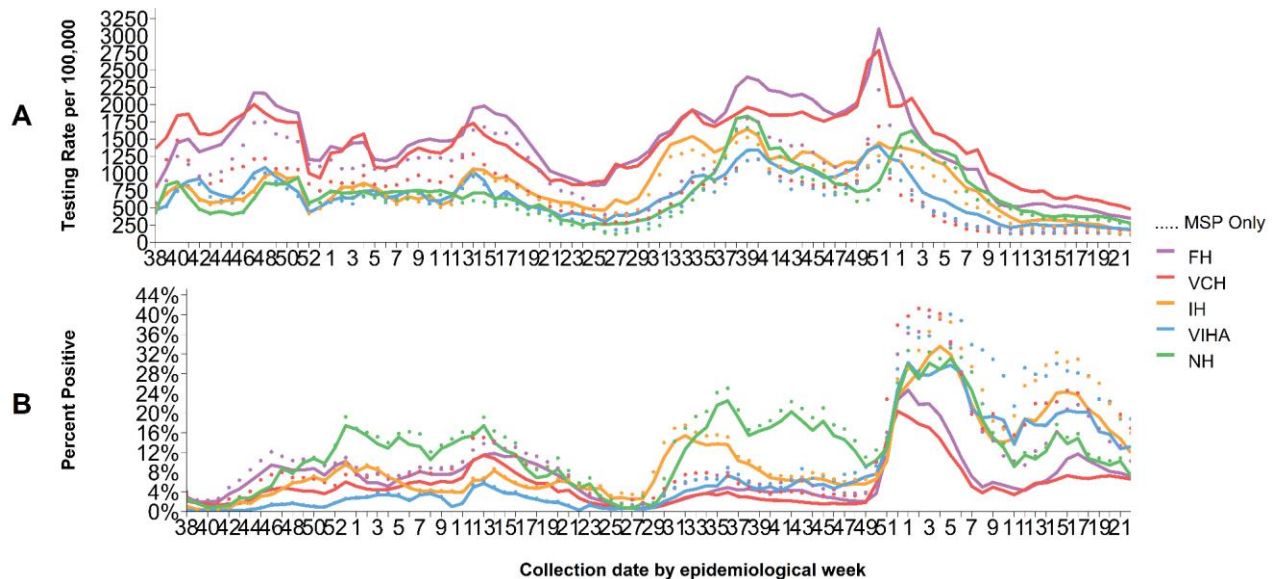
As shown by the dotted lines in [Figure 4](#), the per capita testing rates for MSP-funded specimens (dotted lines in Panel A) decreased from week 21 to week 22 in all HAs. In week 22, NH had the highest testing rate at 239 per 100K. The percent positivity (dotted lines in Panel B) for MSP-funded specimens decreased or remained the same from week 21 to week 22 in all HAs. In week 22, percent positivity ranged from 7.7% in NH to 18.8% in VIHA.

Figure 3. Number of specimens tested and percent SARS-CoV-2 positive, by collection week, BC Sept 13, 2020 (week 38) – Jun 04, 2022 (week 22)



Note: Invalid (n = 3735) and indeterminate (n = 19735) 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) – Jun 04, 2022 (week 22)



Data source: Laboratory PLOVER data

C. Age profile – Testing and cases

Testing rates and percent positivity by age group

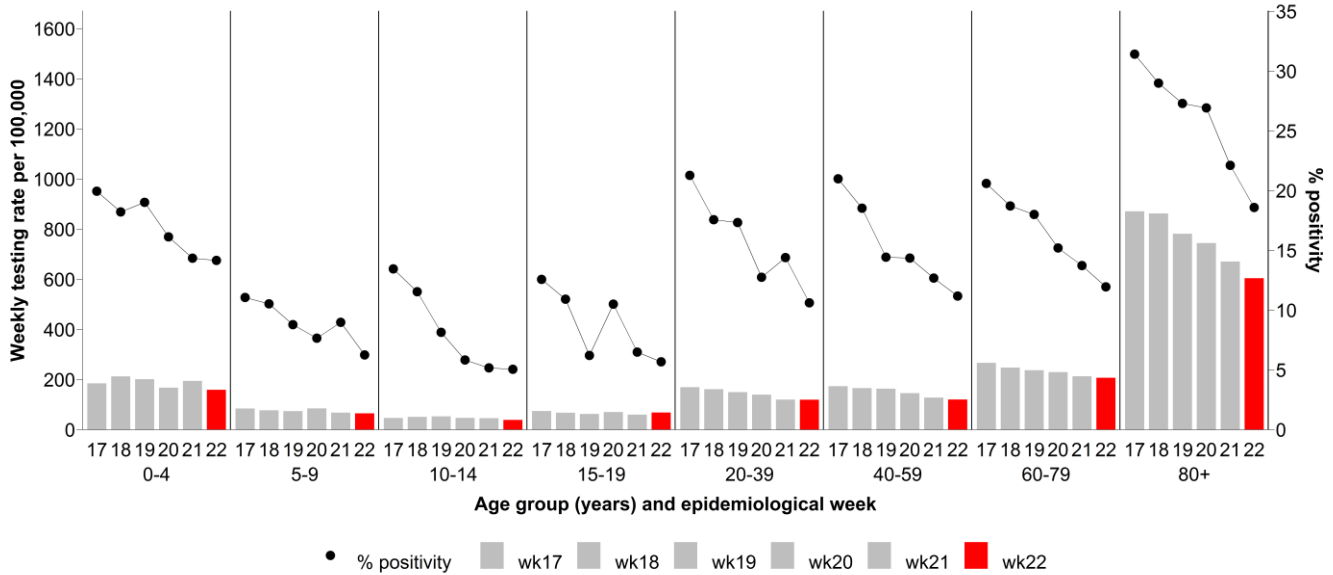
As shown by the bars in [Figure 5](#), the per capita testing rates for MSP-funded specimens between week 21 and week 22 decreased or remained stable in all age groups except in the 15-19 year-olds, where testing rates increased from 60 per 100K in week 21 to 69 per 100K in week 22.

As shown by the black dots in [Figure 5](#), percent positivity between week 21 and week 22 decreased or remained stable in all age groups. In week 22, percent positivity ranged from 5.1% in 10-14 year-olds to 18.6% in 80+ year-olds.

Case distribution and weekly incidence by age group

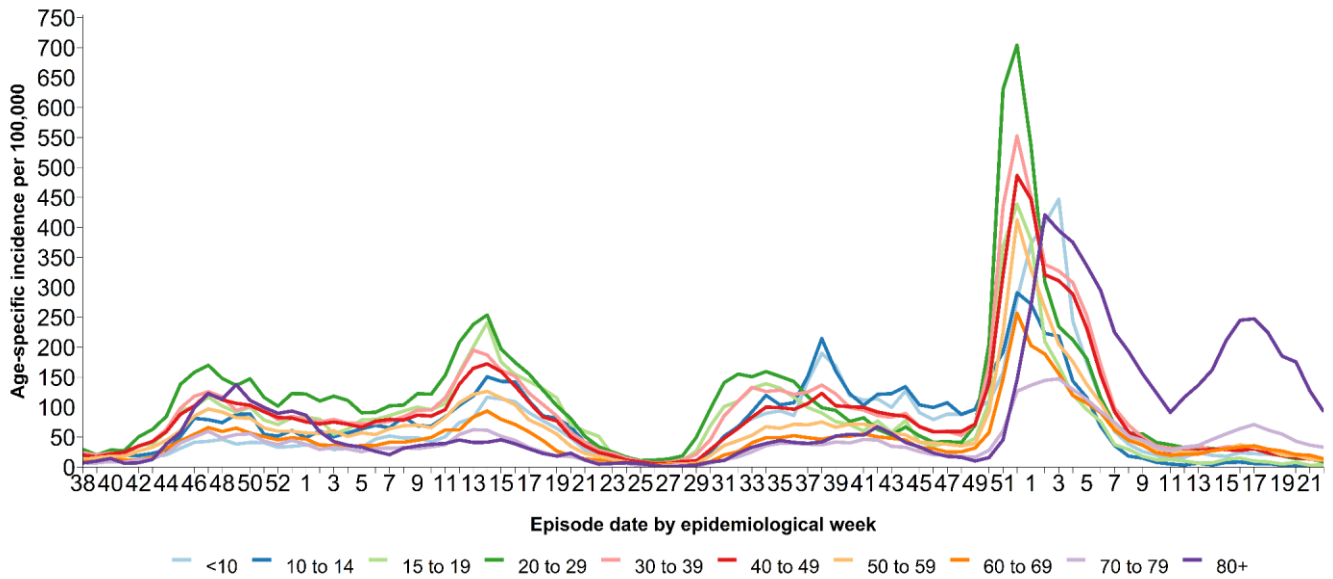
As shown in [Figure 6](#), age-specific incidence rates between week 21 and week 22 decreased or remained stable in all age groups. Incidence rates decreased the most in the 80+ year-olds from 127 per 100K in week 21 to 92 per 100K in week 22. Age-specific incidence may increase as data become more complete.

Figure 5. Average weekly SARS-CoV-2 MSP testing rates and MSP percent positive by known age group, BC Apr 30, 2022 (week 17) – Jun 04, 2022 (week 22)



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) – Jun 04, 2022 (week 22) (N= 364,723)



D. Severe outcome counts and epi-curve

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 in hospital with a positive COVID-19 test decreased from 311 in week 21 to 225 in week 22. In week 22, 60+ year-olds had the highest number of people in hospital with a positive COVID-19 test, with 80 hospitalizations in 60-79 years-olds and 85 hospitalizations in 80+ year-olds.

As of April 2, 2022, death data include people who test positive for COVID-19 and 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 from any cause among people testing positive for COVID-19 decreased from 65 in week 21 to 54 in week 22. In week 22, 80+ year-olds had the highest number of deaths from any cause among people testing positive for COVID-19 (36 deaths) ([Table 2, Figure 8](#)). Detailed information about outcomes by vaccination status can be accessed at [BCCDC COVID-19 Regional Surveillance Dashboard](#).

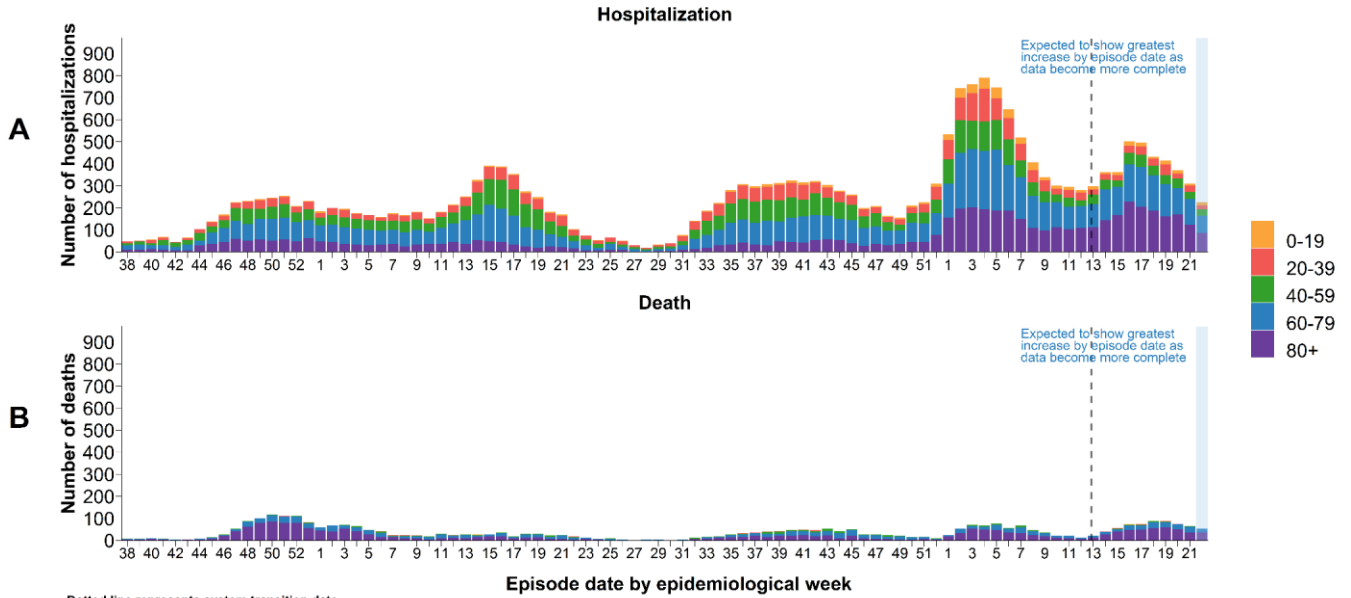
Cumulatively, there have been 33 confirmed cases of [Multi-system Inflammatory Syndrome in children and adolescents \(MIS-C\)](#) in BC since January 1, 2020. There have been no new confirmed cases of MIS-C since the last report. The median age of all cases is 9 years old (range from 4 months old to 16 years old).

**Table 2. COVID-19 severe outcomes by episode date, Health Authority of residence, BC
Jan 15, 2020 (week 3) – Jun 04, 2022 (week 22)**

Severe outcomes by episode date	Health Authority of residence					Residing outside of Canada	Total n/N ^a (%)
	FH	IH	VIHA	NH	VCH		
Week 22, hospitalizations	96	29	54	7	39	0	225
Cumulative hospitalizations	10,914	4,084	2,142	2,021	4,635	17	23,813/372,664 (6)
Week 22, critical care admissions ^b	21	4	6	3	9	0	43
Cumulative critical care admissions^b	2,327	949	390	769	1,049	4	5,488/372,664 (1)
Week 22, deaths	14	12	15	2	11	0	54
Cumulative deaths, pre-transition (case line list)^c	1,348	367	241	330	716	0	3,002/356,599 (1)
Cumulative deaths, post-transition (automated linkage)^c	200	139	118	22	148	0	627/16,065 (4)

- 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.

Figure 8. Weekly COVID-19 hospital admissions (A) and deaths (B) by age groups, BC, Sept 13, 2020 (week 38) – Jun 04, 2022 (week 22)^a



a. Among those with available age information only.

E. Age profile, severe outcomes

Table 3 displays the distribution of cases and severe outcomes. In week 22, 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 66 years, 63 years, 82 years, and 87 years, respectively.

In the past four weeks (from week 19 to week 22), there has been a weekly average of 3 deaths in those <60 years of age, 6 deaths in 60-69 year-olds, 16 deaths in 70-79 year-olds and 45 deaths in the 80+ year-olds (data not shown). The number of deaths may increase over time as data becomes more complete.

Table 3: COVID-19 cases, hospitalizations, critical care admissions, and deaths by age group, BC, Jan 15, 2020 (week 3) – Jun 04, 2022 (week 22) (N= 372,632)^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	30,404	508 (2)	63 (<1)	2 (<1)	1 (<1)	1 (<1)	1 (<1)
10-19	35,690	333 (1)	46 (<1)	0 (<1)	0 (<1)	1 (<1)	0 (<1)
20-29	72,891	1,304 (2)	194 (<1)	6 (<1)	0 (<1)	2 (<1)	2 (<1)
30-39	69,673	2,230 (3)	408 (1)	31 (<1)	2 (<1)	5 (<1)	0 (<1)
40-49	53,853	2,158 (4)	569 (1)	64 (<1)	0 (<1)	3 (<1)	4 (<1)
50-59	43,641	2,985 (7)	1,011 (2)	166 (<1)	2 (<1)	10 (1)	4 (<1)
60-69	29,946	4,012 (13)	1,372 (5)	353 (1)	13 (1)	21 (1)	21 (1)
70-79	17,147	4,543 (26)	1,232 (7)	655 (4)	24 (1)	44 (2)	60 (3)
80-89	12,605	4,038 (32)	523 (4)	989 (10)	62 (2)	76 (3)	67 (2)
90+	6,782	1,702 (25)	70 (1)	736 (15)	70 (4)	56 (3)	75 (4)
Total	372,632	23,813	5,488	3,002	174	219	234
Median age	36	66	63	82	87	81	84

- 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.

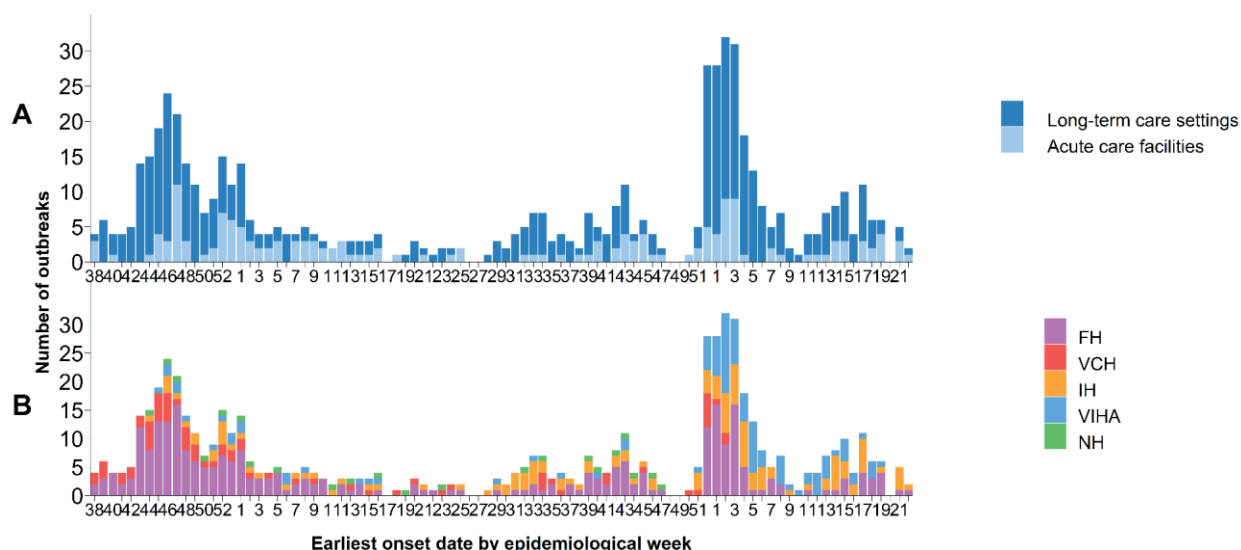
F. Care facility outbreaks

As shown in [Table 4](#) and [Figure 9](#), 674 care facility (acute care and long-term care settings) outbreaks were reported in total in BC to the end of week 22. In week 22, based on earliest symptom onset date (if unavailable, then outbreak declared date is used), 2 new care facility outbreaks were declared - 1 in acute care and 1 in long-term care. In the past four weeks (from week 19 to week 22), there has been a weekly average of 3 care facility outbreaks.

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) – Jun 04, 2022 (week 22) (N=674)^{d,e}

Care facility outbreaks and cases by episode date	Outbreaks	Cases			Deaths		
		Residents	Staff/other	Total	Residents	Staff/other	Total
Week 22, Care Facility Outbreaks	2	15	0	15	0	0	0
Cumulative, Care Facility Outbreaks	674	9,526	3,817	13,343	1,448	0	1,448

Figure 9. COVID-19 care facility^a, outbreaks by earliest case onset^{b,c}, facility type (A) and Health Authority (B), BC Sept 13, 2020 (week 38) – Jun 04, 2022 (week 22) (N=606)^{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 10](#) and [Figure 11](#). 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 June 11, 2022:

- Generally, viral loads detected at Metro Vancouver wastewater plants are decreasing. There is a modest increase in detected viral loads at Lulu Island.
- Over the past 7 weeks, viral loads at Annacis Island (Fraser North and South) have decreased by 50%.
- Over the past 6 weeks, viral loads at Northwest Langley have decreased by 81%.

- Over the past 2 weeks, viral loads at Iona Island plant (Vancouver) have decreased by 47%.
- Over the past 2 weeks, viral loads at Lulu Island plant (Richmond) have increased by 21%.
- Over the past 4 weeks, viral loads at Lions Gate plant (North Shore) have decreased by 54%.

Figure 10. Wastewater surveillance, FH

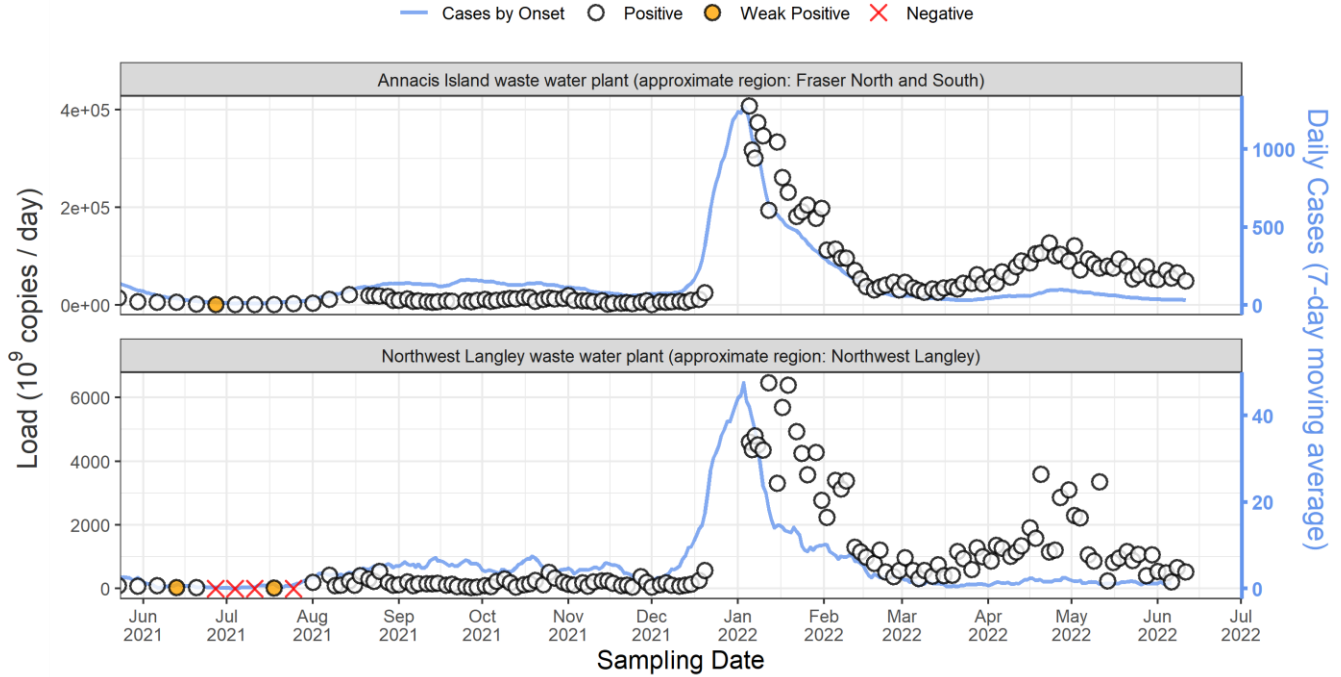
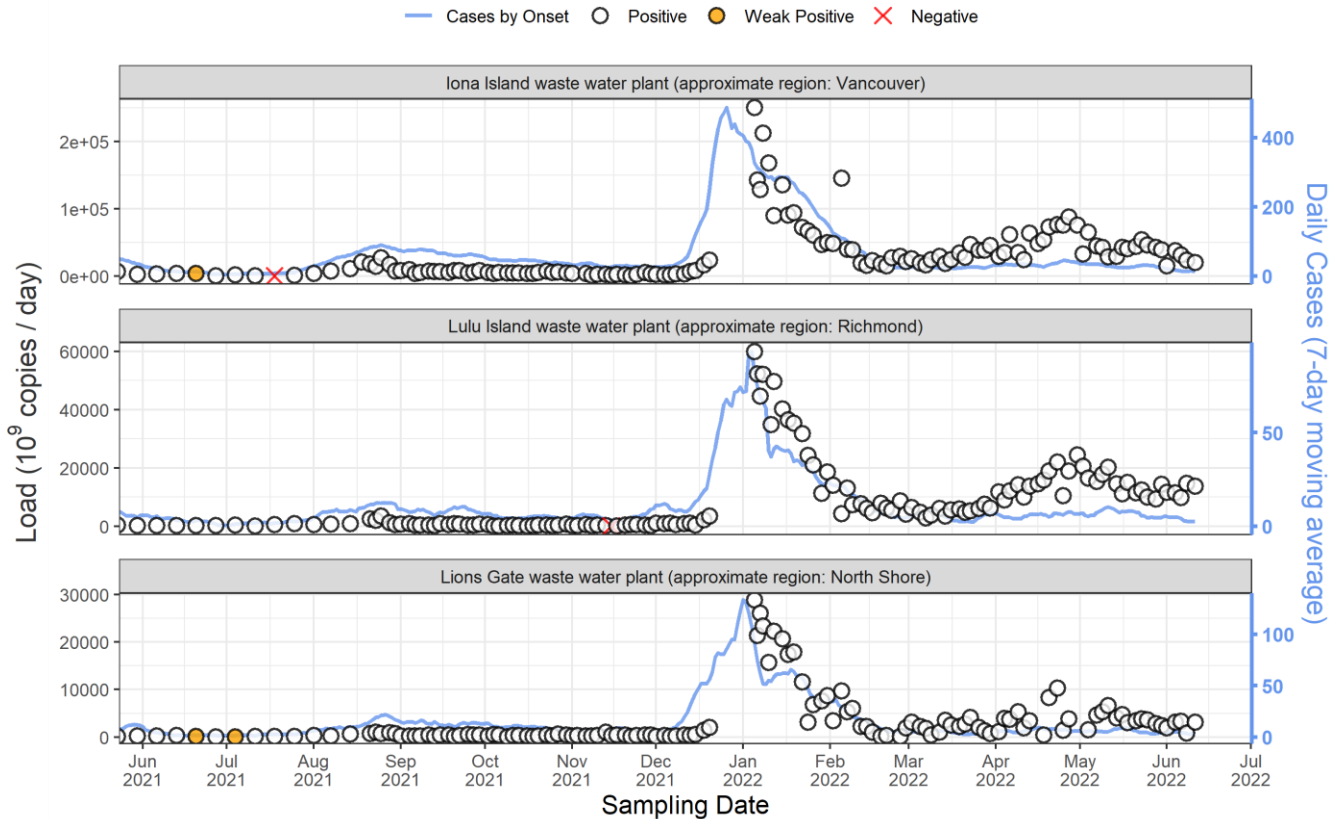


Figure 11. Wastewater surveillance, VCH



H. Additional resources

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>

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/

I. 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 – February 2022)

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.

Vaccination Phase 6 (February 2022 – April 2022)

Target populations include everyone 5+. Everyone 12 and older will be invited to get a booster dose within 6-8 months of their second dose.

Vaccination Phase 7 (April 2022 – Present)

Target populations include everyone 5+. Everyone 12 and older will be invited to get a booster dose within 6-8 months of their second dose. People in long-term care, assisted living, seniors and Indigenous people can get a second booster 6 months after the date of the first booster.