

British Columbia COVID-19 Situation Report for K-12 Schools

February 2022 Update



Key Findings

- Vaccination coverage:** By February 14, 2022, provincial-level one-dose COVID-19 vaccination coverage among 5-11 year-olds and 12-17 year-olds was 55% and 88%, respectively. Two-dose coverage was 17% and 84%, respectively. Third/booster dose coverage among 12-17 year-olds was 18% across BC, which, for the majority of children in this age group, started in early February 2022. There is variation in vaccination coverage across communities in BC.
- Adverse events following immunization:** As of February 12, 2022, there have been 21 (9 reports per 100,000 doses administered) and 166 (29 per 100,000 doses administered) reported adverse events following a COVID-19 vaccine among 5-11 and 12-17 year-olds, respectively. Among all adverse events reported among 5-17 year-olds, 17 were considered serious enough to involve hospitalization and all have been discharged.
- Cases:** Due to changes in testing strategies in BC, reported cases based only on PCR tests since late December are an underestimate of the true incidence of COVID-19 cases. The reported case incidence among 5-11 year-olds in BC overall was elevated with the emergence of the Omicron variant and it has been decreasing since the end of January. The COVID-19 case incidence among 12-17 year-olds has continued a declining trend since peaking in early January.
- Outcomes:** Between December 15, 2021 and February 12, 2022, the hospitalization rate among unvaccinated 5-11 and 12-17 year-olds was 1.8 and 3.5 times higher than their vaccinated counterparts, respectively. Critical care admissions from COVID-19 increased slightly but continue to be rare (24 admissions since January 2020) among all school-age children in BC. There have been no COVID-19 deaths among school-age children in BC.

		Ages 0-4 No school	Ages 5-11 Elementary school	Ages 12-17 Secondary school
 VACCINATIONS As of February 14, 2022	have 1 dose	Not eligible	55%	88%
	have 2 doses	for	17%	84%
	have 3/booster doses	vaccination	Not eligible	18%
 CASES As of February 15, 2022	new this report	2,408	2,207	1,288
	new this school year	8,145	15,362	7,524
	total cases	12,318	24,532	17,910
 HOSPITALIZATIONS As of February 15, 2022	new this report	73	24	42
	new this school year	156	67	93
	ever hospitalized	238	104	127
 CRITICAL CARE As of February 15, 2022	new this report	8	4	2
	new this school year	16	8	7
	ever in critical care	24	10	14
 DEATHS As of February 15, 2022	new this report	0	0	0
	new this school year	0	0	0
	total deaths	2	0	0

○ New this report for cases, hospitalizations, critical care, and deaths are net new since January 19, 2022; new this school year numbers are since September 7, 2021.

Figure 1: February 2022 summary of BC pediatric COVID-19 cases, outcomes, and vaccine coverage

Please note that the content of this report may change as more information becomes available. Links to the most recent available reports, dashboards and other resources are included in section F. Additional Resources.

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A. Introduction

The rapid increase in COVID-19 cases in December and January has resulted in additional strain on BC’s health care and public health systems, with PCR testing reaching its maximum capacity [by late December](#). Omicron spreads rapidly and [contact tracing and notification have become less effective](#) in the timely management of this COVID-19 variant. The rapid spread of the Omicron variant and its shorter incubation period and generation time have led to changes to testing, case management, and contact tracing strategies that were [announced on January 7, 2022](#). BC’s Provincial Health Officer asked that people not access testing sites if they are fully vaccinated and have mild symptoms. It was also noted that public notifications of potential exposures in schools would no longer be possible, and that school attendance would instead be monitored.

Changes to the testing strategy, as well as the expanded use of rapid antigen tests, have implications for the data presented in this report. While still a useful indication of trends over time, case counts and rates reported since late December are based only on PCR tests and underestimate the true incidence of COVID-19 cases in BC. The shift towards more focused testing guidance, self-management, and a reduced role for traditional contact tracing means public notifications of potential exposures and case clusters are no longer viable measures of the COVID-19 situation in K-12 schools. Notifications will still be sent out when there is an outbreak in a school. Starting in January 2022, school attendance is being monitored closely and investigated as a proxy to assess the impact of the pandemic in schools.

BC’s vaccination strategy is complemented by layers of public health measures to reduce the risk of COVID-19 transmission in K-12 schools. As the Omicron variant has rapidly established dominance in the province, increasing COVID-19 vaccine coverage among all eligible individuals remains the most effective strategy to reduce the risk in K-12 schools for the remainder of the 2021-2022 school year, especially as [public health restrictions are relaxed through the spring](#). Not only does vaccination help protect the individual, particularly against severe outcomes, it can also help protect others in the community who are not able to be vaccinated. [BC’s public health guidance for K-12 schools](#) includes additional directions to ensure schools have effective measures in place to prevent transmission of COVID-19.

Schools provide essential support for students’ academic, social, and emotional development. A previous [report](#) from the BCCDC outlined the importance of schools remaining open to support child and family wellbeing during the pandemic. According to the 2020 [BC COVID-19 SPEAK survey](#), 60% of households with children reported increased child stress, while 79% of households with children reported decreased connection with friends amidst school closures and other pandemic response measures.

[During the 2020-2021 school year](#), most cases of COVID-19 among students and staff were acquired outside of school, predominantly in households and social networks. While the experience from the last school year provided insight into how COVID-19 spread within the K-12 school environment, the emergence of the more transmissible Delta variant over summer 2021 and the Omicron variant in late 2021 means that it is important to continue to monitor and respond as necessary to reduce transmission. Exposures in schools tend to reflect the prevalence of COVID-19 in the community. While more transmissible variants may lead to more cases attending school, schools with multiple layers of protection are expected to remain at lower risk compared to unstructured environments in the community.

The purpose of this report is to provide a situational update on COVID-19 in BC K-12 schools since the start of the 2021-2022 school year.

B. Vaccination

Vaccine Coverage

Vaccines are the most effective way to reduce the risk of COVID-19. As part of the BC [vaccination strategy](#), starting May 2021, everyone 12 years and older became eligible to receive the vaccine. Effective [November 29, 2021](#), eligibility was expanded to children 5-11 years-old. Parents and guardians can register their children aged five and above with [Get Vaccinated](#), and invitations to book appointments are delivered by text and/or email. Third/[booster](#) doses are available to individuals 12 years and older six months after the date of their second dose.

As of February 14, 2022 ([Figure 2](#), [Figure 3](#)),

- For children 5-11 years-old (elementary school age),
 - First dose coverage is 55% across BC.
 - The coverage rate for the same age group in Canada is 56% as of February 13.¹
 - Coverage ranges from 35% in Northern Health to 69% in Vancouver Coastal Health.
 - There is greater variation among coverage rates at the Local Health Area (LHA) level within Northern Health compared to other health authorities.
 - Second dose coverage is 17% across BC.
 - The coverage rate for the same age group in Canada is 28% as of February 13.¹
 - Coverage ranges from 9% in Northern Health and Interior Health to 29% in Vancouver Coastal Health.
- For youth 12-17 years-old (secondary school age),
 - First dose coverage is 88% across BC.
 - The coverage rate for the same age group in Canada is 88% as of February 13.¹
 - Coverage ranges from 71% in Northern Health to 95% in Vancouver Coastal Health.
 - There is greater variation among coverage rates at the LHA level within Interior Health compared to other health authorities.
 - Second dose coverage is 84% across BC.
 - The coverage rate for the same age group in Canada is 84% as of February 13.¹
 - Coverage ranges from 66% in Northern Health to 92% in Vancouver Coastal Health.
 - Third/booster dose coverage is 18% across BC.
 - The coverage rate for the same age group in Canada is 4% as of February 13.¹
 - Coverage ranges from 9% in Northern Health to 25% in Vancouver Coastal Health.

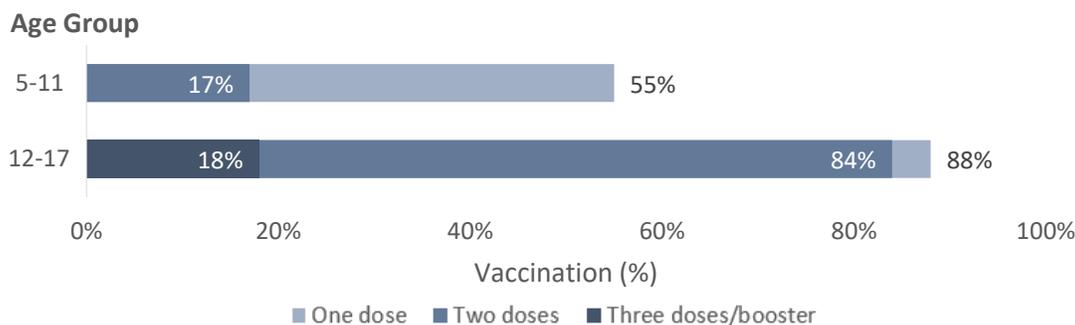


Figure 2: COVID-19 first, second and third/booster dose vaccination coverage by age group, 5-11 and 12-17 year-olds, BC, February 14, 2022

¹ [COVID-19 vaccination in Canada](#), data up to and including February 13, 2022

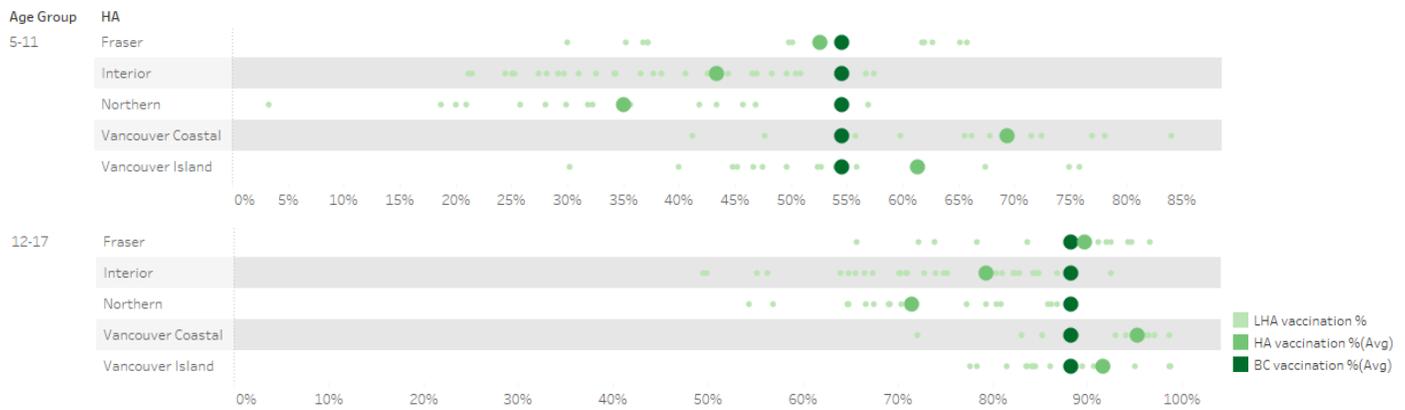


Figure 3: COVID-19 first dose vaccination coverage by BC Health Authority (HA) and Local Health Area (LHA), 5-11 and 12-17 year-olds, February 14, 2022

Vaccine Safety

The COVID-19 mRNA vaccines available to youth aged 12-17 (Moderna Spikevax and Pfizer Comirnaty) and children aged 5-11 (Pfizer Comirnaty) in BC are very safe and side effects are generally mild. Health Canada, the Public Health Agency of Canada, the provinces and territories, and manufacturers continue to closely monitor the safety of all COVID-19 vaccines through provincial and national reporting of adverse events. The risk of adverse events following immunization (AEFI) is lower among the pediatric population when compared to the entire population.

Adverse events following immunization (AEFI) are defined as any untoward medical occurrence which follows immunization, and which does not necessarily have a causal relationship with the use of a vaccine. A single AEFI report may contain one or more adverse events.

Serious AEFI meets one or more of the following criteria: life-threatening, results in hospitalization, prolongation of an existing hospitalization, persistent or significant disability/incapacity, is a congenital anomaly/birth defect, fatal outcome. Any medical event which requires intervention to prevent one of the outcomes listed above may also be considered as serious.

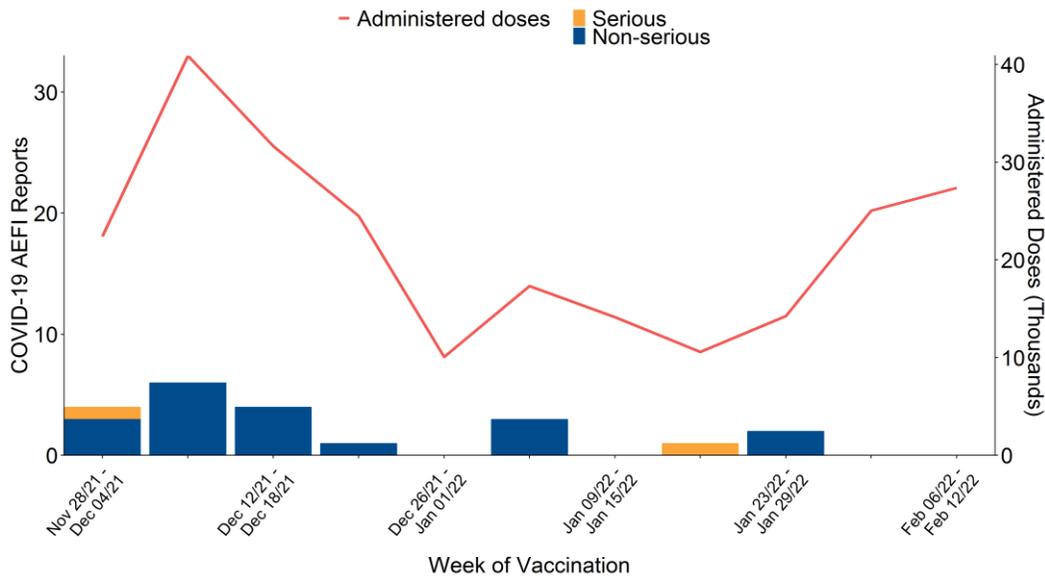
Reports of adverse events are often delayed after vaccination as the time to onset varies by event, as well as the time it takes to receive, investigate, and process a report for submission. While reported events are associated with the timing of vaccine administration (i.e., occur after vaccination within a biologically plausible timeframe), the investigation may find that they were not caused by the vaccine.

Weekly report counts, especially for recent weeks, are expected to increase over time as these are submitted, but **Figure 4** and **Figure 5** show that reports have declined as the immunization campaign has progressed.

As of February 12, 2022,

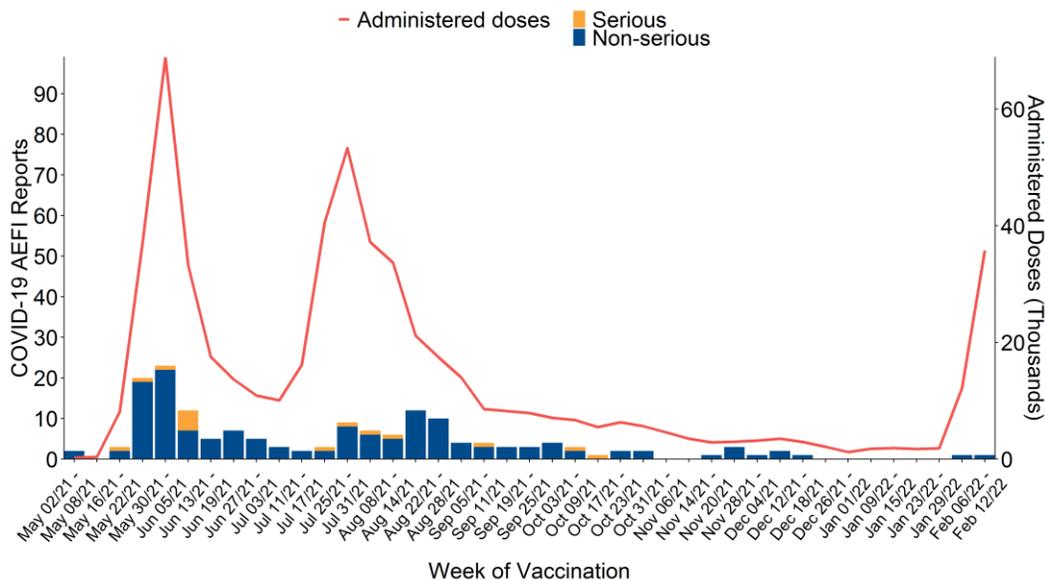
- 238,302 first and second doses have been administered among 5-11 year-olds since November 2021 (**Figure 4**).
 - There have been 21 AEFI reports following a COVID-19 vaccine in this age group, for a reporting rate of 9 reports per 100,000 doses administered.
 - These reports contained 23 adverse events, with the most frequently reported event as ‘other allergic events’ (e.g., allergic rash, hives, pruritus, and gastrointestinal symptoms) (n = 10; 44%).
 - There were 2 adverse events reported that were considered serious, all of whom were admitted to hospital and have since been discharged.

- 572,833 first, second and third/booster doses have been administered among 12-17 year-olds since May 2021 (Figure 5).
 - There have been 166 AEFI reports following a COVID-19 vaccine in this age group, for a reporting rate of 29 reports per 100,000 doses administered.
 - These reports contained 199 adverse events, with the most frequently reported events as ‘other allergic events’ (n=59; 30%), ‘events managed as anaphylaxis’ (n=15; 8%), and ‘anaesthesia/paraesthesia’ (n=9; 5%).
 - There were 15 adverse events reported that were considered serious, all of whom were admitted to hospital and have since been discharged.



- COVID-19 AEFI reports are based on the date of when the AEFI was reported, not the date when the AEFI occurred.

Figure 4: COVID-19 vaccine administration and adverse event reports following receipt of a COVID-19 vaccine by week of vaccination, 5-11 year-olds, BC, November 28, 2021 to February 12, 2022



- COVID-19 AEFI reports are based on the date of when the AEFI was reported, not the date when the AEFI occurred.
- Nine reports of 11 year-olds who received the same dosage as 12-17 year-olds are included in this graph.

Figure 5: COVID-19 vaccine administration and adverse event reports following receipt of a COVID-19 vaccine by week of vaccination, 12-17 year-olds, BC, May 1, 2021 to February 12, 2022

While adverse events following immunization do occur, these events are uncommon and are vastly outweighed by the risks associated with COVID-19 (**Figure 6**).

- For children 5-11 years-old,
 - Between December 15, 2021 and February 12, 2022, unvaccinated children were 1.8 times more likely to be hospitalized for COVID-19 compared to their vaccinated counterparts.
 - Between May 1, 2021 and February 12, 2022, the rate of a serious AEFI, which includes hospitalizations, was 0.8 per 100,000 doses administered.
 - There have been no deaths in this age group regardless of vaccination status to date.
- For youth 12-17 years-old,
 - Between December 15, 2021 and February 12, 2022, unvaccinated youth were 3.5 times more likely to be hospitalized for COVID-19 compared to their vaccinated counterparts.
 - Between May 1, 2021 and February 12, 2022, the rate of a serious AEFI, which includes hospitalizations, was 2.6 per 100,000 doses administered.
 - There have been no deaths in this age group regardless of vaccination status to date.

Rate of...	5-11 year-olds		12-17 year-olds	
	Among unvaccinated	Among partially vaccinated	Among unvaccinated	Among partially or fully vaccinated
 Being hospitalized due to COVID-19¹ (per 100,000 population)	11.7	6.6	47.5	13.4
 Experiencing a serious adverse event after immunization² (per 100,000 doses administered)	Not applicable	0.8	Not applicable	2.6

¹ Data are from December 15, 2021 to February 12, 2022.

² Data are from May 1, 2021 to February 12, 2022.

Figure 6: Rates of COVID-19 illness and serious adverse event after immunization by vaccination status, 5-11 and 12-17 year-olds, BC

The risk of experiencing a serious AEFI is rare when compared to other general risks, such as being hospitalized for a mental disorder (38 per 100,000 children aged 5-9 years; 321 per 100,000 youth aged 10-14 years; and 922 per 100,000 youth aged 15-17 years²) or dying from a motor vehicle crash (0.8 per 100,000 population aged <15 years; 6.2 per 100,000 population aged 15-24 years³).

C. Cases

Case Incidence

Due to changes in [testing strategies in BC](#) driven by the Omicron variant, case counts and rates reported since late December are based only on PCR tests and underestimate the true incidence of COVID-19 cases in BC.

At the provincial level, the 7-day moving average of COVID-19 case incidence among children aged 5-11 was elevated with the introduction of the Omicron variant and it has been decreasing since the end of January. The COVID-19 case incidence among youth aged 12-17 has followed similar trends to most adult age groups, where incidence has continued a declining trend since peaking in early January (**Figure 7**). Since the Omicron variant first appeared in various parts of the province at different points in time, there may be geographic variation in the timing of the case incidence peak.

² [Canadian Institute for Health Information](#), British Columbia, 2018/19

³ [Ministry of Public Safety and Solicitor General](#), British Columbia, 2021

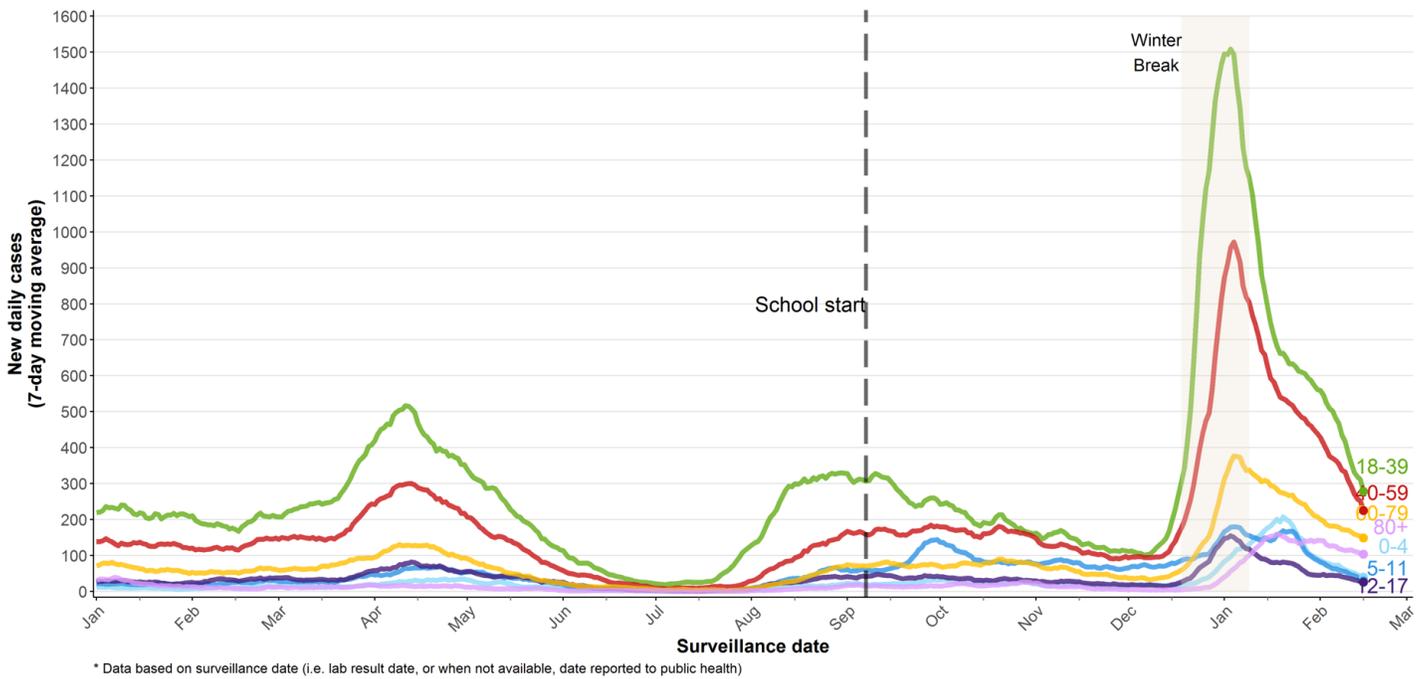


Figure 7: COVID-19 cases by age group, BC, January 1, 2021 to February 15, 2022

There are many factors that contribute to the risk of COVID-19 infection, including rates in the community, vaccination coverage, and contact with others through social networks. Regional differences in case incidence rates among children reflect community vaccination coverage as well as community prevalence (Figure 8).

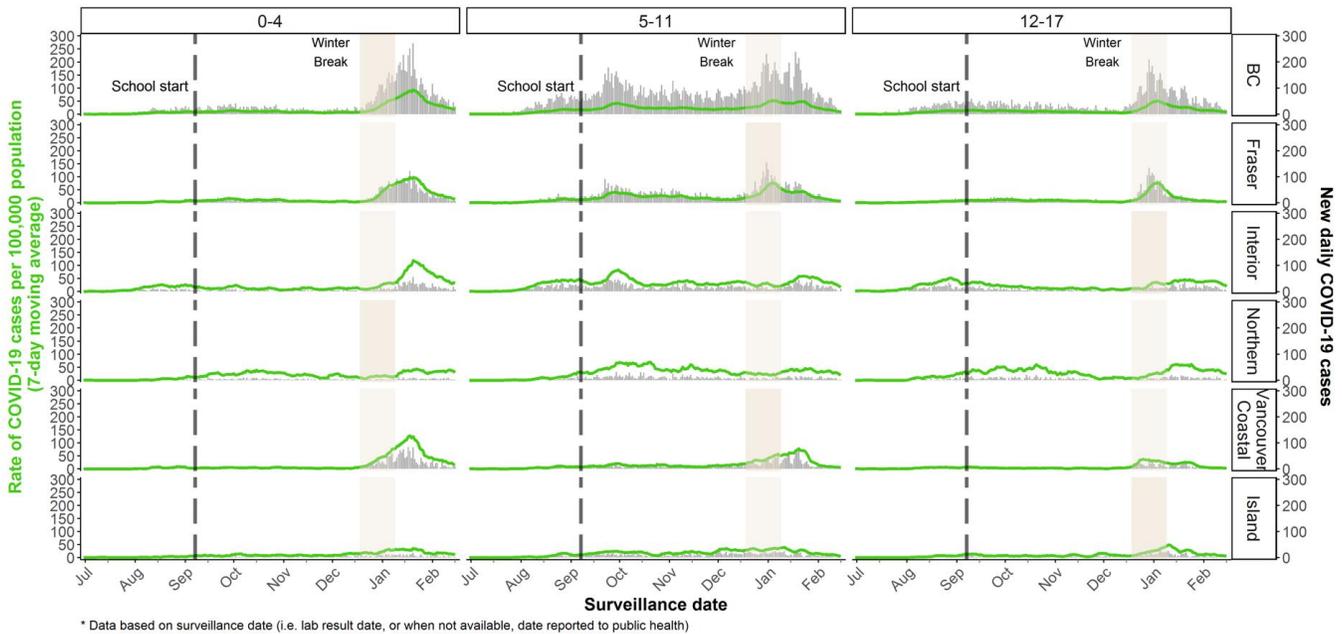


Figure 8: Count and rate of COVID-19 cases by BC Health Authority and age group, 0-17 year-olds, July 1, 2021 to February 15, 2022

Case incidence rates among the unvaccinated population show that children under 12 years-old are generally at lower risk of infection than other age groups. Case incidence among fully vaccinated individuals remained low compared to unvaccinated individuals across all age groups until the emergence of the Omicron variant in mid-December 2021,

when case incidence increased among all individuals regardless of vaccination status (**Figure 9**). However, the risk of severe outcomes remains lower for fully vaccinated individuals (see section D. Severe Outcomes).

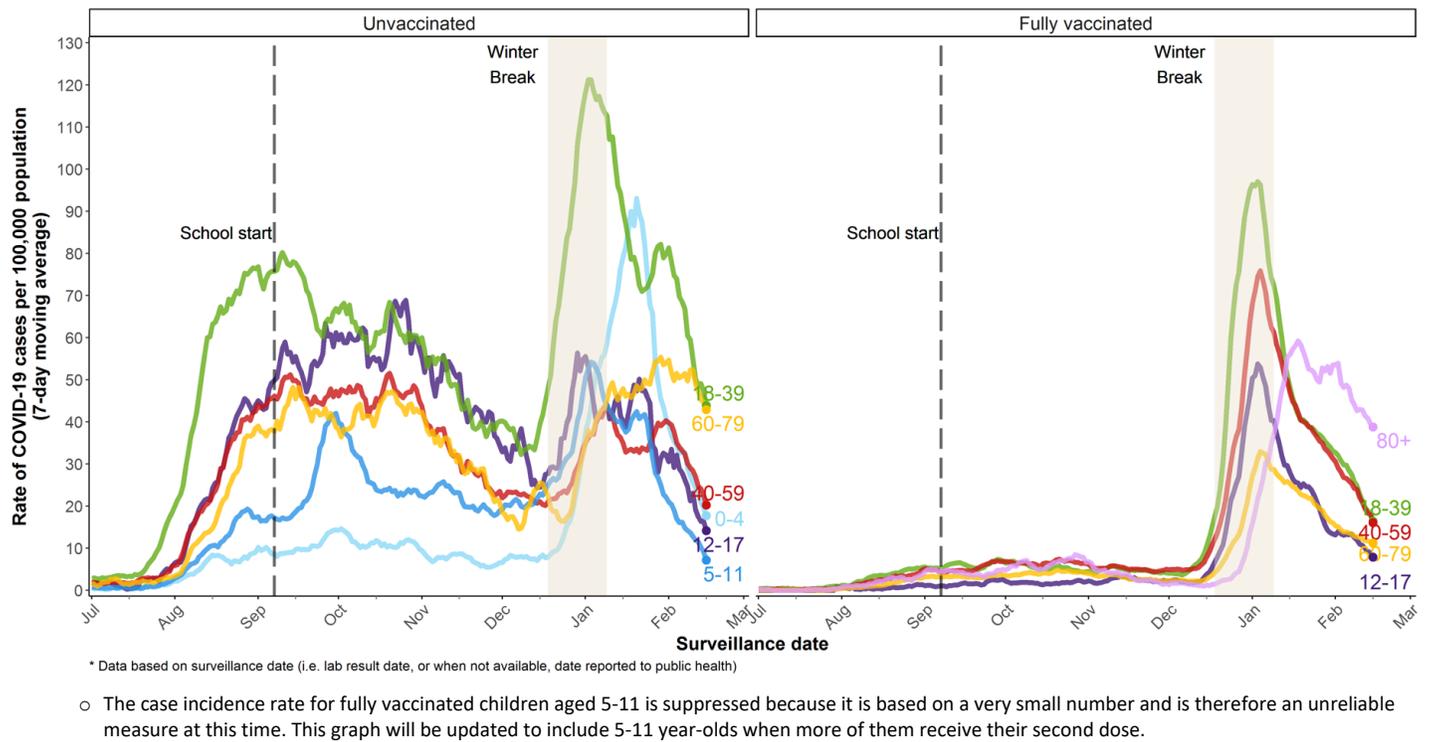
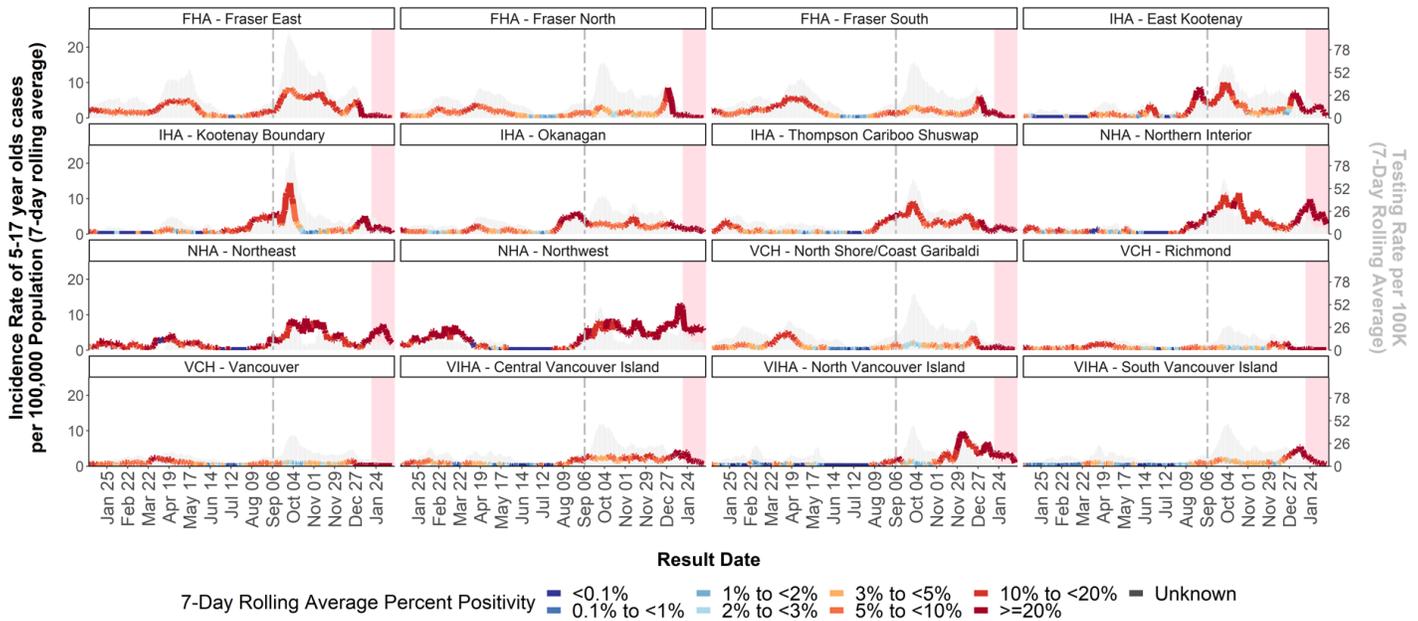


Figure 9: Case rate of COVID-19 by age and vaccination status, BC, July 1, 2021 to February 15, 2022

Testing Volumes and Positivity

COVID-19 testing among 5-17 year-olds has been on general decline across all [Health Service Delivery Areas](#) (HSDAs) since peaking in late September (**Figure 10**). The increased testing in the pediatric and adolescent populations during early fall may be related to [other circulating respiratory viruses](#) causing similar symptoms to COVID-19 that often become more common following the return to school and respiratory season. Lower testing volumes since late December are in part due to changes in [testing strategies in BC](#).

Test percent positivity, the percentage of all tests performed that are positive, has been and remains elevated in most HSDAs since late December 2021. A reflection of wide community transmission of the Omicron variant, the high percent positivity is also due, in part, to changes in testing strategy that aim to preserve PCR testing capacity for symptomatic and/or high-priority individuals based on risk profile.



Data source: PLOVER 15-Feb-2022

○ The pink shading indicates the period of a different testing strategy.

Figure 10: Case incidence rate (line), test percent positivity (colour of the line), and testing rate (grey bars) by BC Health Service Delivery Area (HSDA), 5-17 year-olds, January 1, 2021 to February 15, 2022

D. Severe Outcomes

Hospitalization and Deaths

Most children are at lower risk of acquiring COVID-19 and, if they do, they most commonly have mild or no symptoms.

From January 1, 2020 to February 15, 2022, among 42,442 cases in 5-17 year-olds in BC, there were:

- 231 hospitalizations, including 24 critical care admissions
- 0 deaths

The number of hospital and critical care admissions for children and youth aged 0-17 have been consistently low in comparison to other age groups throughout the pandemic. Rising case incidence among children and youth in BC due to the emergence of the Omicron variant led to an increase in hospitalizations and a slight increase in critical care admissions starting in January 2022; both hospital and critical care admissions have generally declined since the beginning of February. Critical care admissions continue to be rare among children and the most recent increase in 2022 was in line with other increases in the past (**Figure 11**). Additional hospitalization and critical care numbers can be found in the [COVID-19 Regional Surveillance Dashboard](#).

A [recent analysis](#) of hospitalizations among December COVID-19 cases residing within the Vancouver Coastal Health region revealed that nearly half were incidental hospitalizations – people who were in hospital for reasons unrelated to COVID-19 but tested positive during screening. More work is underway to understand and quantify incidental hospitalizations specific to children.

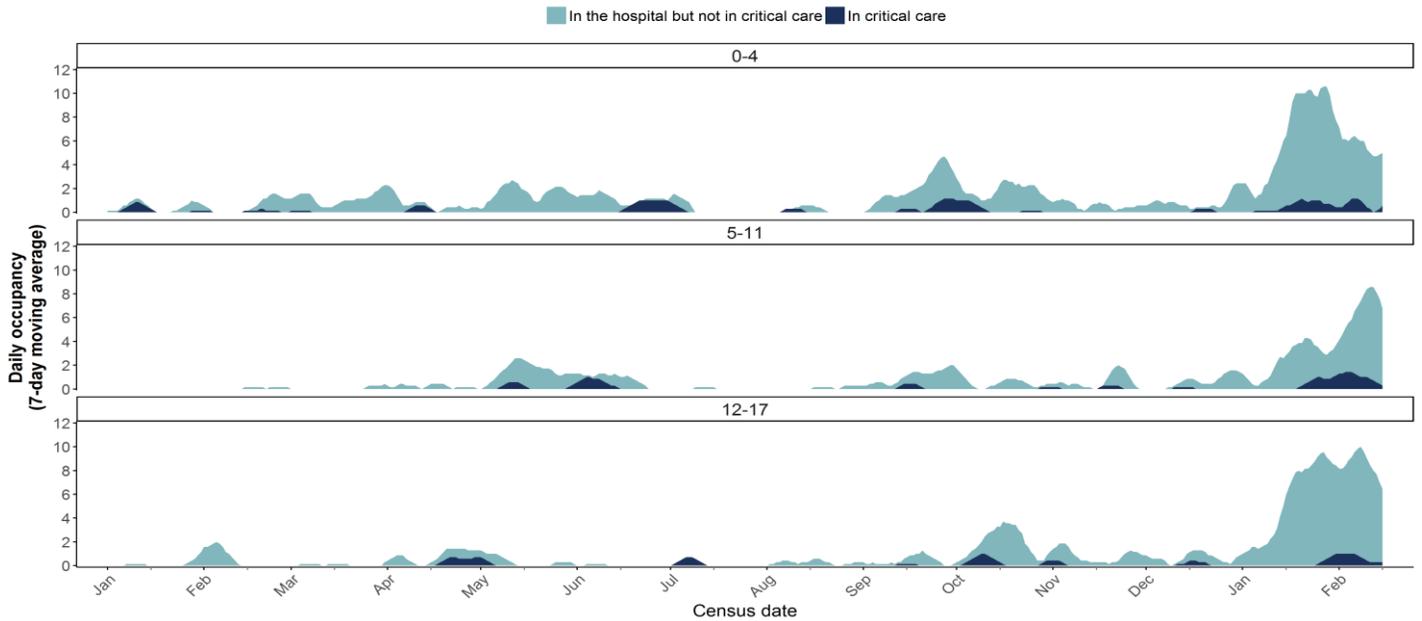
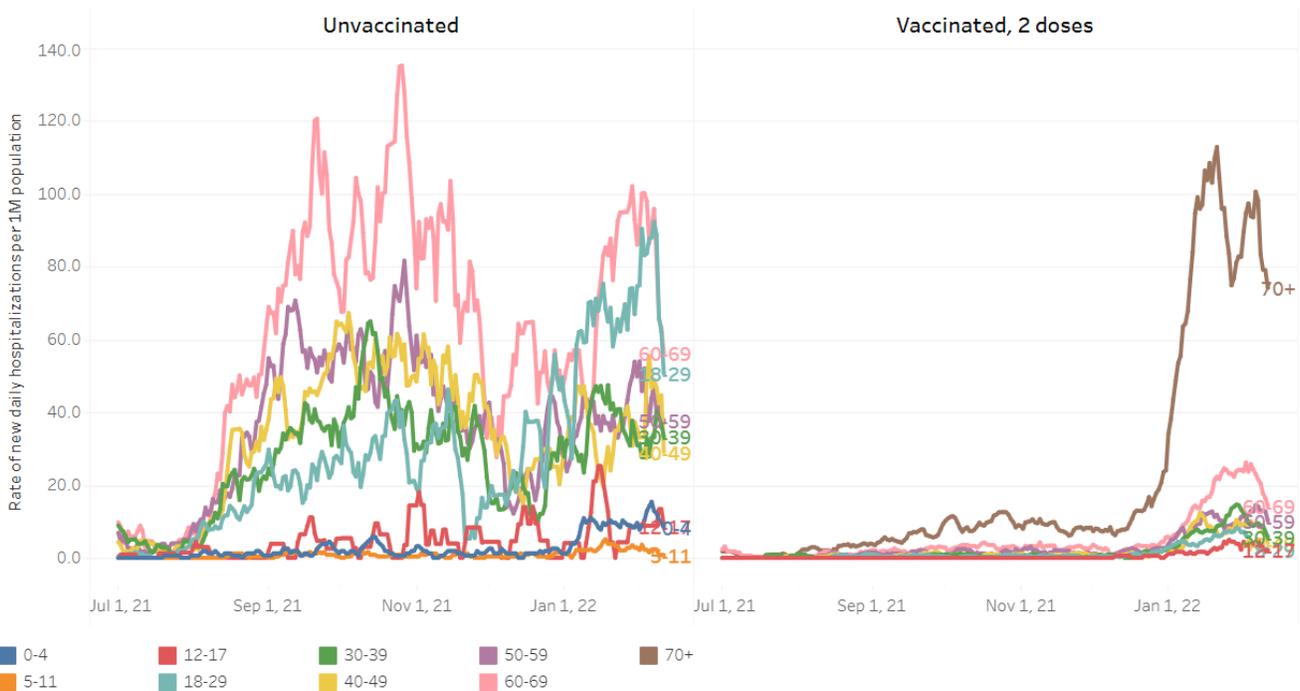


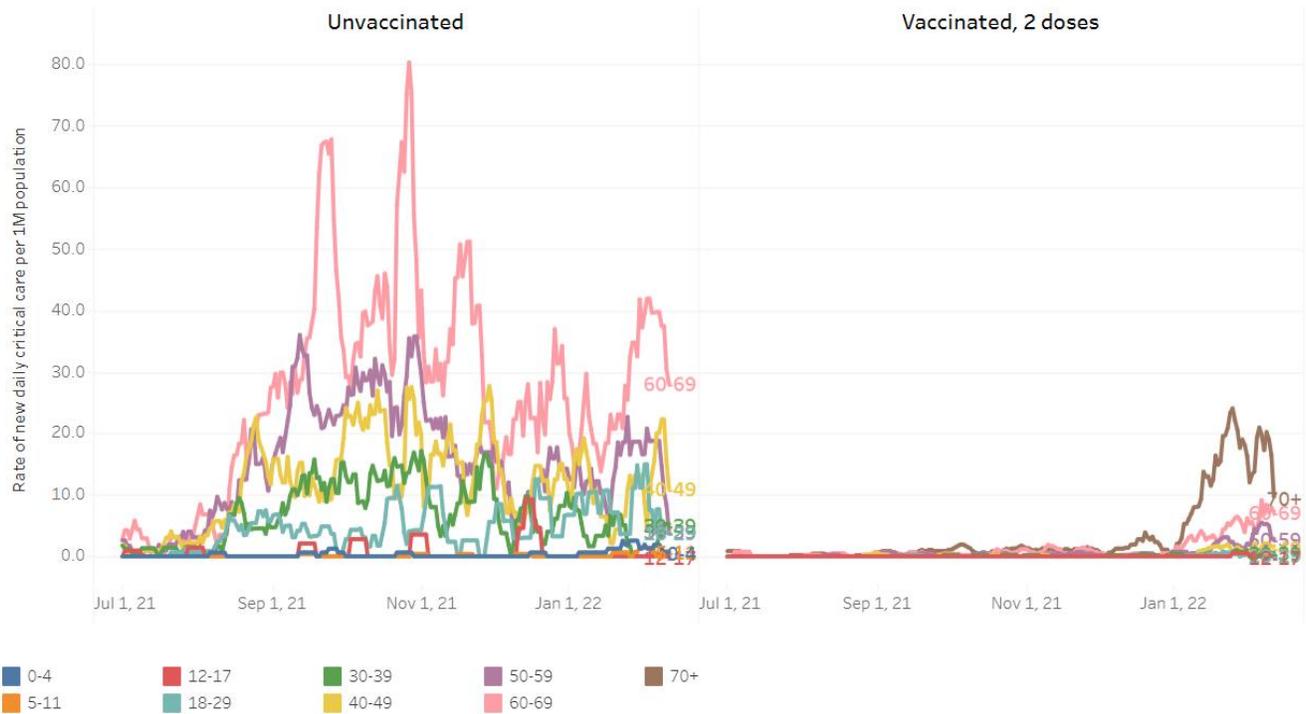
Figure 11: Daily hospital and critical care occupancy by pediatric age groups, 0-17 year-olds, BC, January 1, 2021 to February 15, 2022

The hospitalization and critical care rates among fully vaccinated individuals are lower compared to unvaccinated individuals across most age groups and time, regardless of the dominant circulating strain of COVID-19. Hospitalization and critical care rates among the unvaccinated population show that children under 12 years-old are generally at lower risk of hospitalization than other age groups (Figure 12, Figure 13). In general, fully vaccinated cases are much less likely to need hospital and/or ICU care, or to die from COVID-19. [Research](#) also shows that a third or booster dose can provide more protection against the Omicron variant.



o The hospitalization rate for unvaccinated individuals aged 70 years and over is suppressed because it is based on a very small number of people and is therefore an unreliable measure.

Figure 12: Hospitalization rate of COVID-19 by age and vaccination status, BC, July 1, 2021 to February 11, 2022



- o The critical care rate for unvaccinated individuals aged 70 years and over is suppressed because it is based on a very small number of people and is therefore an unreliable measure.

Figure 13: Critical care rate of COVID-19 by age and vaccination status, BC, July 1, 2021 to February 11, 2022

E. Data Sources and Notes

Data sources include: HA case line list data, laboratory PLOVER data, PHSA Provincial Immunization Registry (PIR), Ministry of Health Immunization Population Coverage Report, hospital data PHSA Provincial COVID-19 Monitoring Solution (PCMS), and the Ministry of Health’s Health Sector Information, Analysis and Reporting (HSIAR) vaccine coverage data.

Daily cases are reported by surveillance date. For epi-linked cases, this is the date it was reported to public health. For all lab-confirmed cases, the lab result date is used. If a lab result date is not available, the date the case was reported to public health is used.

Population estimates for case incidence, hospitalization, and death rates are from PEOPLE 2021.

Vaccination coverage is estimated using the Client Roster for the denominator as of March 12, 2021. Age is calculated as age as of December 31, 2021.

Laboratory data include Medical Service Plan (MSP) funded (e.g. clinical diagnostic tests) and non-MSP funded specimens (e.g. screening tests).

Data may be corrected over time as additional data flow into the system.

F. Additional Resources

Provincial COVID-19 Dashboards

[BC COVID-19 Dashboard](#) – Daily provincial and health authority level reporting of case incidence, death, hospitalization and laboratory data.

[BCCDC Regional Surveillance Dashboard](#) – Provincial and regional reporting of case, hospitalization, critical care, and vaccine data, including interactive maps. Updated twice a week.

[BCCDC COVID-19 Epi App](#) – Case incidence, death, hospitalization, laboratory and limited vaccine data for regional and global comparisons. Updated three times a week.

COVID-19 Updates

[BC COVID-19 Situation Report](#) - Provides a more in-depth look at COVID-19 epidemiology, underscoring data and key trends. This report includes information on Multi-System Inflammatory Syndrome (MIS-C).

[BC COVID-19 Pandemic Update](#) – BC Ministry of Health daily update on COVID-19.

[BC COVID-19 Situation Report for K-12 Schools](#) - Provides a monthly situational update on COVID-19 in BC K-12 schools since the start of the 2021-2022 school year

Case Definitions

[COVID-19 Case Definition](#)

BC K-12 School Guidance

[COVID-19 Safe Schools](#) – information and guidance related to K-12 schools.

[Public Health Communicable Disease Guidance for K-12 Schools](#) – outlines the prevention measures recommended for public, independent, and First Nations K-12 schools in BC to reduce the risk of communicable diseases, including COVID-19 in K-12 schools.

[Addendum – Public Health Guidance for K-12 Schools](#) – provides recommendations for time-limited enhancements to the Public Health Guidance for K-12 Schools.

[Addendum \(February 3, 2022\) – Provincial COVID-19 Communicable Disease Guidelines for K-12 Settings](#) – outlines focused actions and additional prevention measures BC public and independent K-12 schools must implement in response to the recent rise of cases of COVID-19 due to the emergence of the more transmissible Omicron variant.

BC Surveillance Bulletin of Influenza and Other Respiratory Viruses

[BC Influenza Surveillance Reports](#) – Provides surveillance analysis of the activity of influenza as well as other non-influenza respiratory viruses in BC.