# **BCCDC COVID Data Summary**

25 November 2021





### Purpose

The surveillance deck is a summary of COVID-19 related indicators that can help inform the pandemic response in British Columbia. This surveillance monitoring constitutes the medical chart for population health assessment that guides the public health community of practice. As such this is a working document that reflects a snapshot in time and may differ from other published reports.

### **Data Sources**

The collection, use and disclosure of case data is subject to the Public Health Act. COVID-19 cases are reported under the Public Health Act to the health authority of residence. Public health case notification, clinical management, contact tracing and follow-up contributes surveillance data for regional and provincial COVID-19 monitoring. Each regional health authority have their own workflows and information systems for capture of relevant data. This data foremost serves the public health and clinical management of the case and their contacts.

### Disclaimer

- Data and key messages within these documents are not finalized and considered to be work in progress that is subject to retroactive changes as more data and information become available.
- Accurate interpretation of figures may be difficult with the limited inclusion of data notes and methodology descriptions in this document.





Information currently produced in this slide deck is or will be available in the following data products:

BCCDC COVID-19 Regional Surveillance Dashboard: updated 2x week (Tues & Fri)

BCCDC COVID-19 Epidemiology app: updated 3x week (Mon, Wed, Fri)

Situation Report: updated weekly

Laboratory report on variants and lineages : updated weekly

School report: updated monthly





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## **Overall Summary for surveillance data to Nov 25**

- Case rates continue to decline provincially; decreasing in FH, NH and VCH and relatively stable in IH and VIHA.
- Test positivity among public tests is slowly declining (~5.3% provincially), and remains high in NH (18%).
  - Testing rates remain higher than historical trends among <12 year olds
- New hospitalizations and hospital/critical care census are beginning to decline provincially, but there is regional variation across BC; new deaths are relatively low and stable.
- Hospitalization rates among children continue to remain very low.
- The majority of new cases and hospitalizations continue to be among unvaccinated individuals.
- Vaccine coverage in BC, 23 Nov, 1 dose (2 doses): ~81% (78%) of total population, ~91% (87%) of 12+ eligible population. Lower vaccine coverage in Interior and Northern.
- The Delta variant continues to account for ≈100% of all positive tests in BC. There are 2 main sublineages circulating in BC: AY.25 and AY.27.

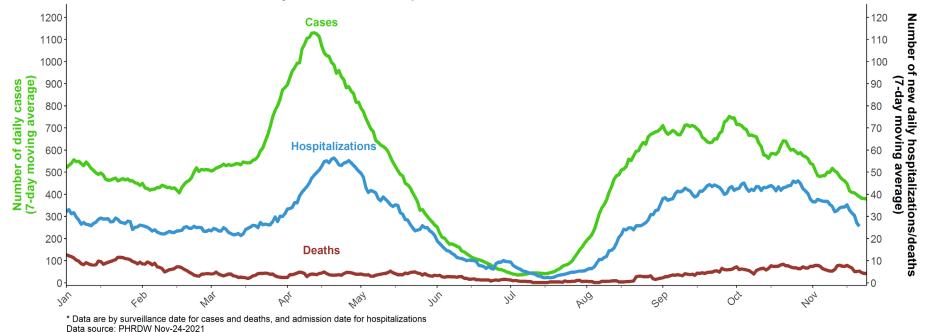




# Nov 18 to Nov 23: BC COVID-19 Profile



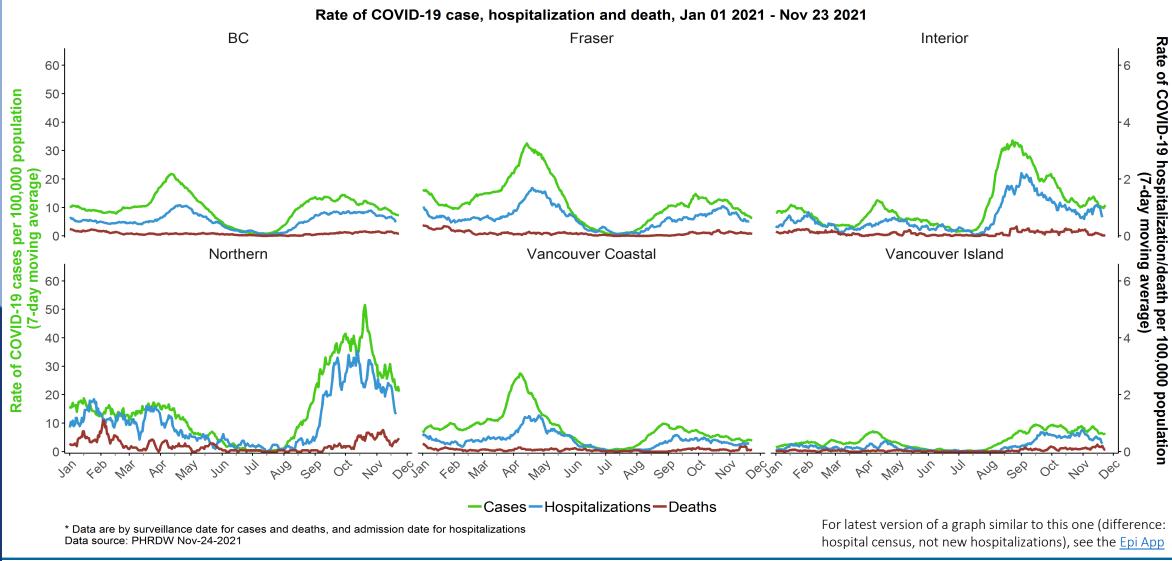
New daily COVID-19 cases, hospitalizations and deaths, Jan 01 2021 - Nov 23 2021







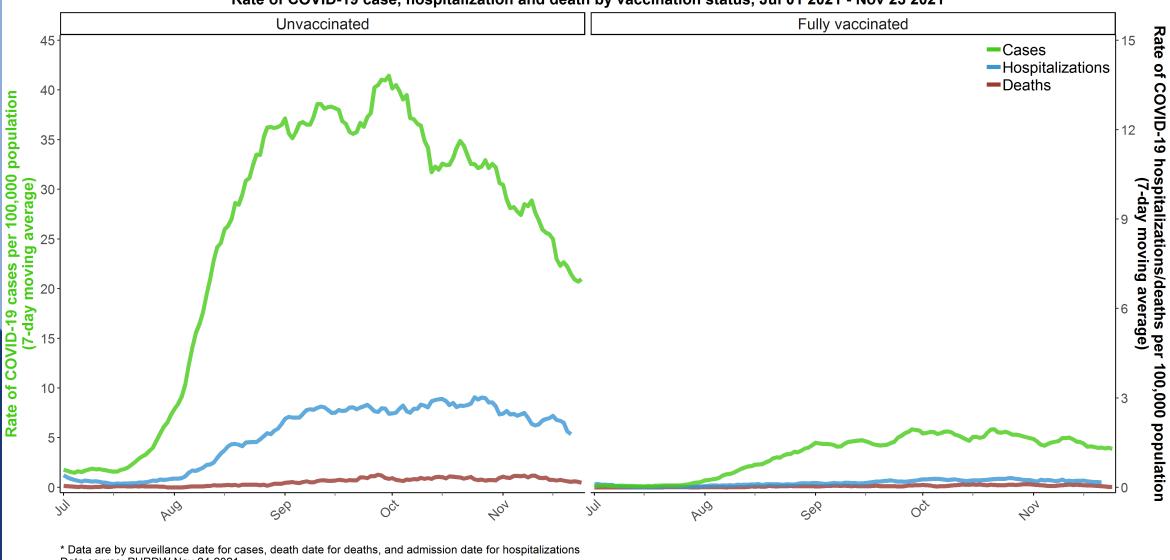
**Case** rates are elevated but continue to decrease provincially; **new hospitalizations** are beginning to decline provincially; **new deaths** are relatively low and stable. Note the regional variation.







#### The majority of new cases and hospitalizations continue to be among unvaccinated individuals



Rate of COVID-19 case, hospitalization and death by vaccination status, Jul 01 2021 - Nov 23 2021

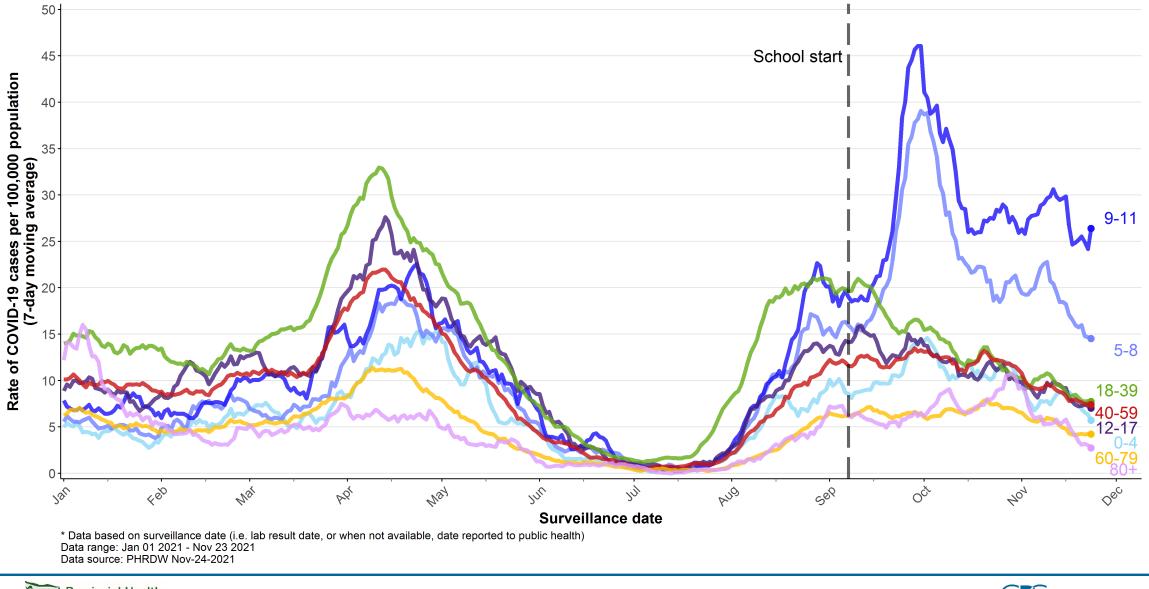
\* Data are by surveillance date for cases, death date for deaths, and admission date for hospitaliza Data source: PHRDW Nov-24-2021



For latest version of this figure (note: no deaths data), see COVID-19 Regional Surveillance Dashboard



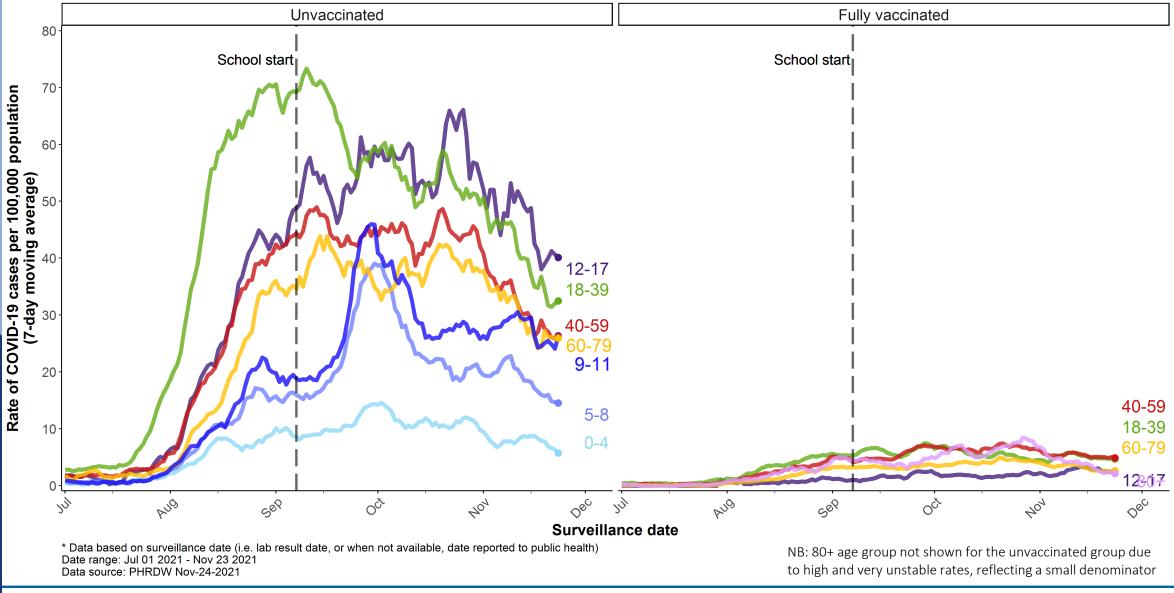
Incidence is stable among 9 to 11 years (currently unvaccinated), and decreasing in all other age groups. Note: this graph looks different once separated out by vaccine status (next slide)



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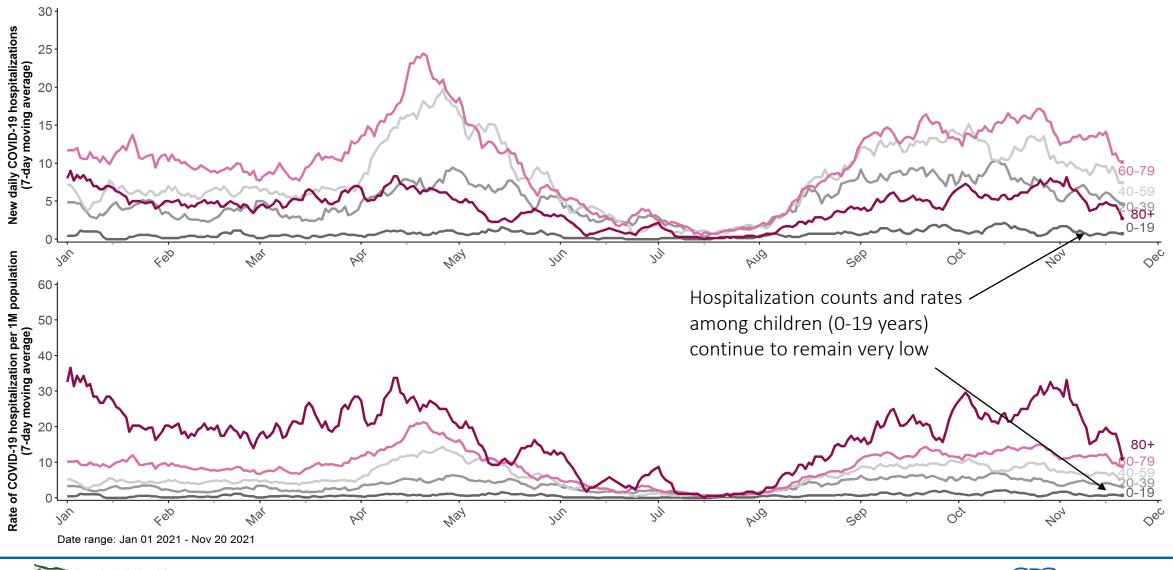
# For all age groups 12+, those who are vaccinated have very low case rates. Among those unvaccinated, case rates are lowest among children.





For latest version of this figure (NB: different age groups), see <u>COVID-19 Regional Surveillance Dashboard</u>

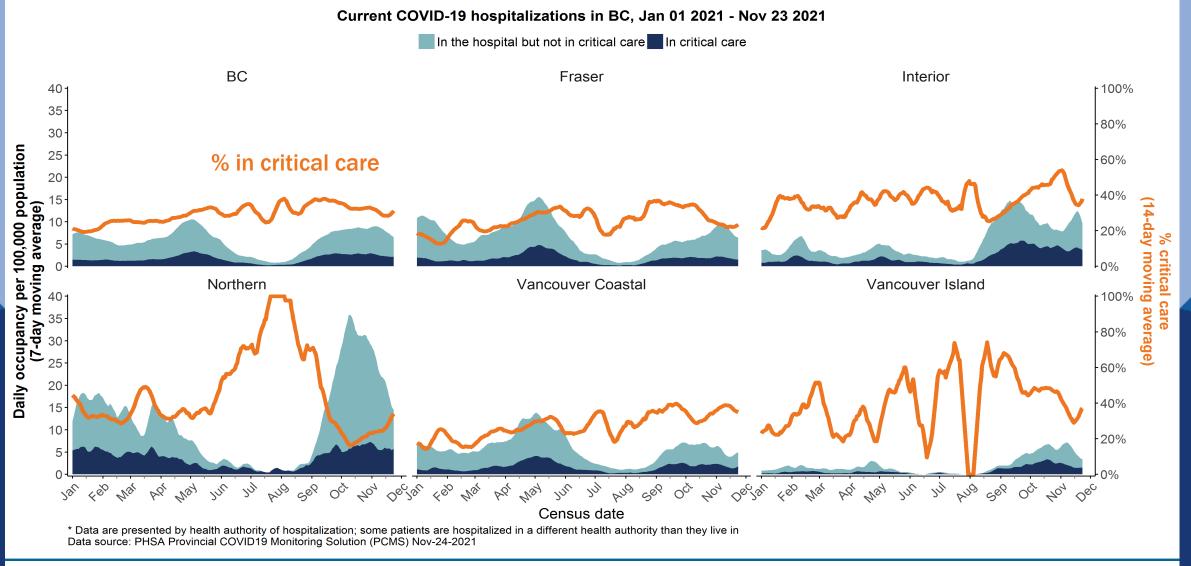
#### Trends in number and rate of new hospitalizations by age group, BC, 1 Jan – 20 Nov 2021



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#### Critical care census is beginning to decline in provincially and in most regions

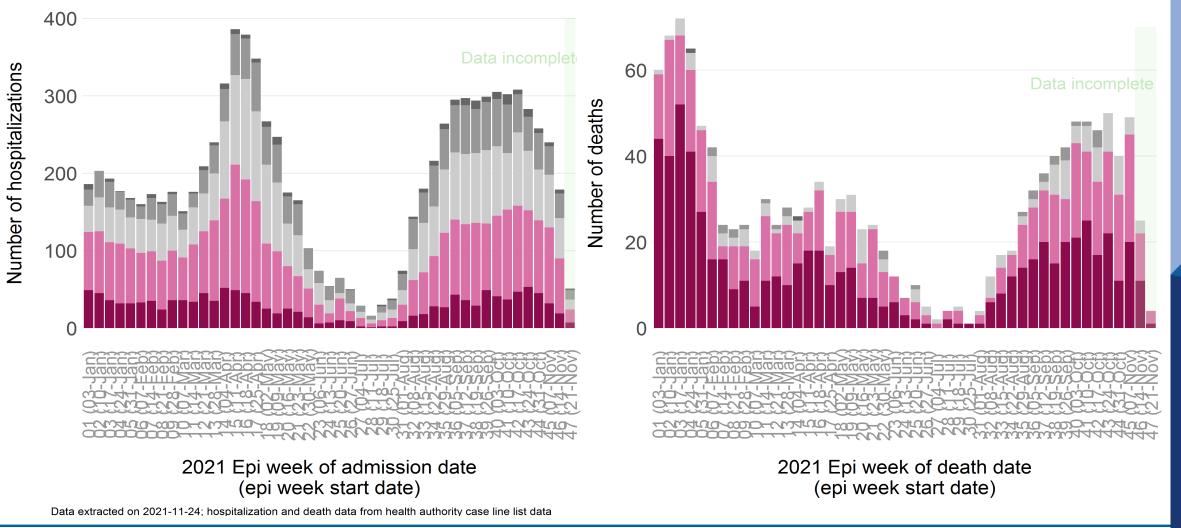


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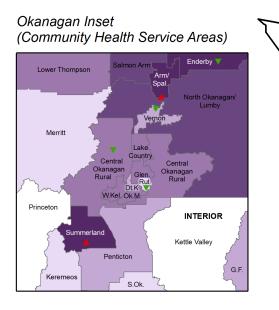
# Number of new hospital admissions is elevated but declining. The majority of deaths are in individuals ≥60 years.



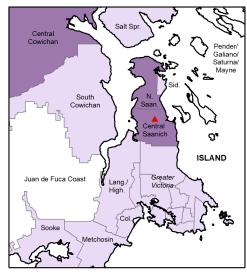


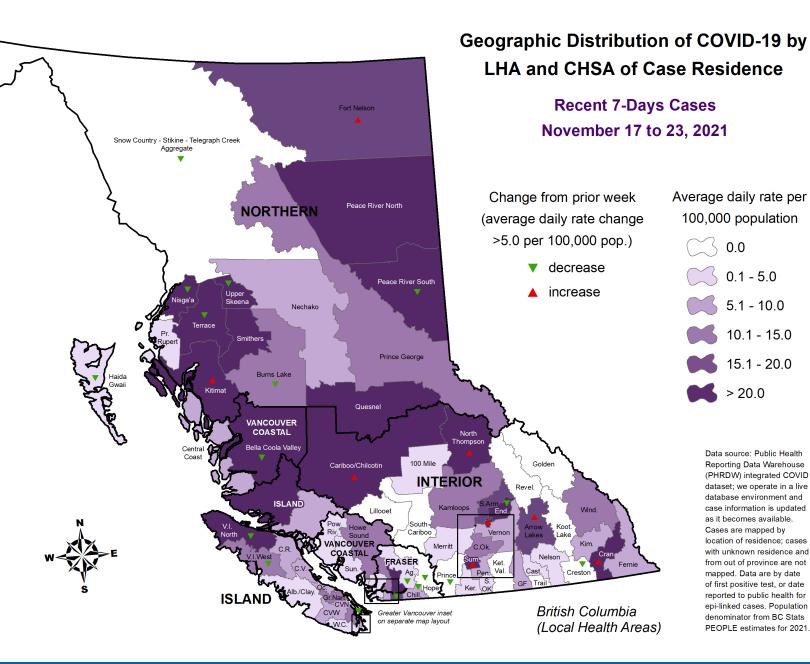






Greater Victoria Inset (Community Health Service Areas)





Data source: Public Health Reporting Data Warehouse (PHRDW) integrated COVID dataset; we operate in a live database environment and case information is updated as it becomes available Cases are mapped by location of residence; cases with unknown residence and from out of province are not mapped. Data are by date of first positive test, or date reported to public health for epi-linked cases. Population denominator from BC Stats PEOPLE estimates for 2021.

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0.1 - 5.0

5.1 - 10.0

10.1 - 15.0

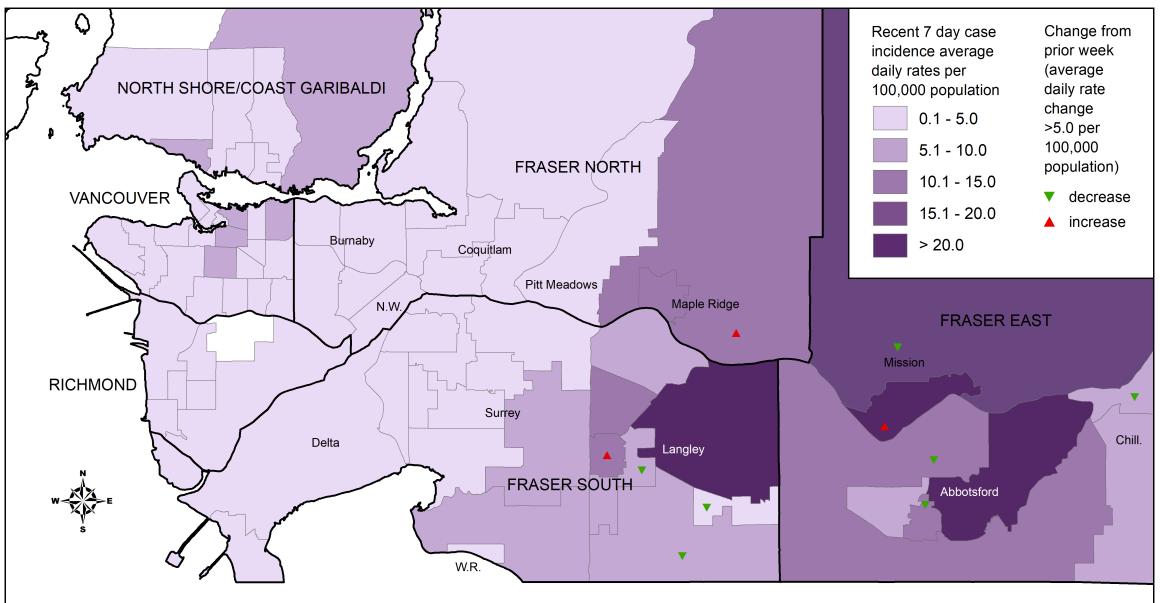
15.1 - 20.0

> 20.0



For latest version of this map (note: change symbols not included), see COVID-19 Regional Surveillance Dashboard





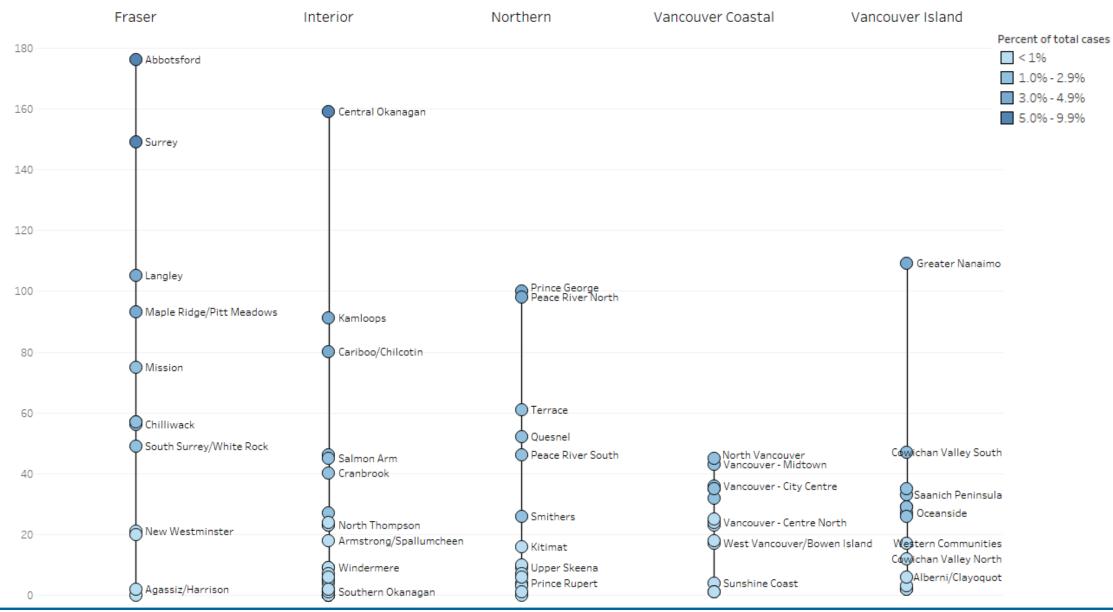
COVID-19 Recent 7-Day Case Incidence Rates by CHSA (November 17 to 23, 2021)



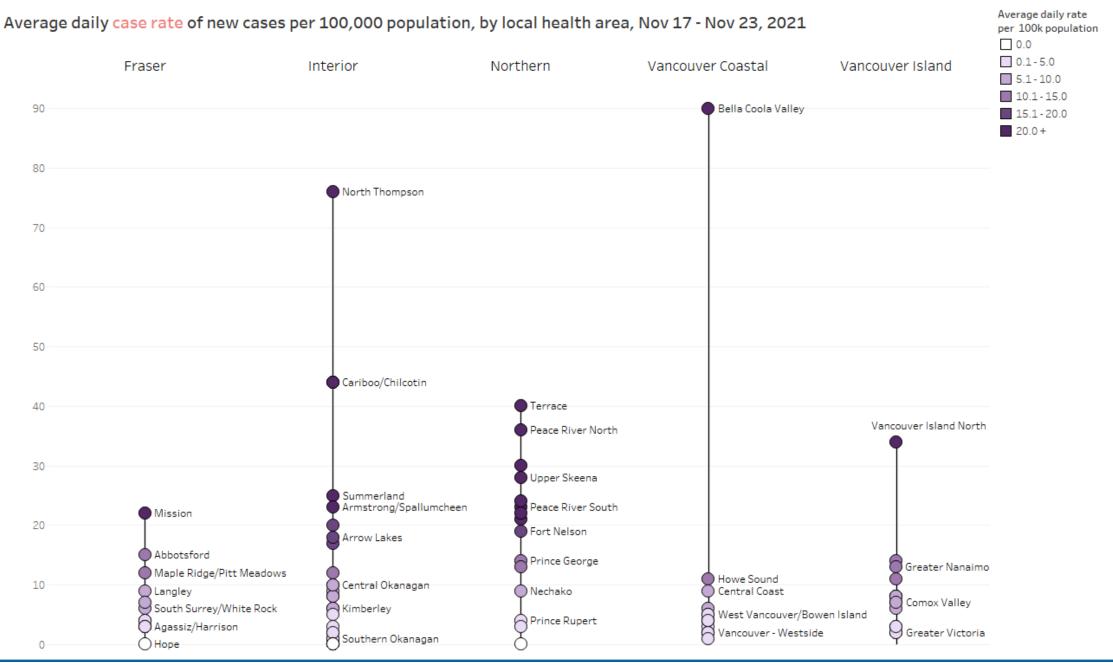
For latest version of this map, (note: change symbols not included), see <u>COVID-19 Regional Surveillance Dashboard</u>



#### Total cases by local health area, Nov 17 - Nov 23, 2021









For latest version of this graph, see <u>COVID-</u><u>19 Regional Surveillance Dashboard</u>

# Key messages – vaccination coverage and outcomes by vaccine status

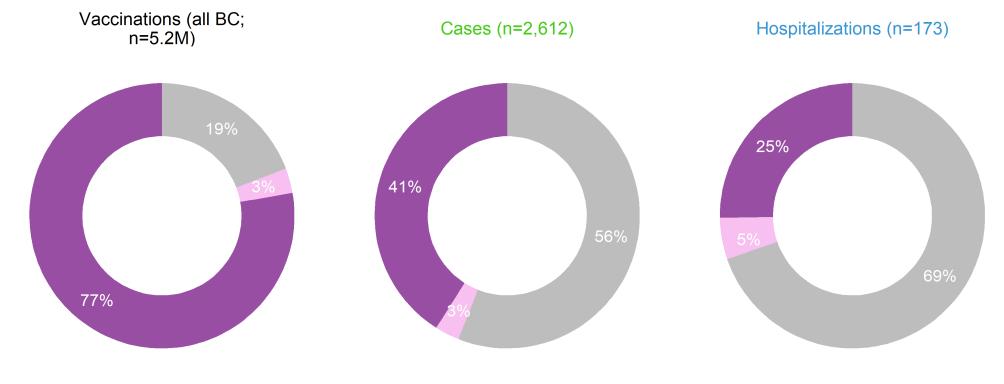
- Vaccine coverage in BC, 23 Nov, 1 dose (2 doses): ~81% (78%) of total population, ~91% (87%) of 12+ eligible population. Lower vaccine coverage in Interior and Northern.
- Most of the recent cases and hospitalizations continue to be among unvaccinated individuals
- Based on data over the last 4 weeks, compared with fully vaccinated individuals and after adjusting for age differences, unvaccinated individuals are
  - ≈ 8x more likely to become a case
  - **≈ 34x** more likely to be hospitalized
  - ≈ 61x more likely to be admitted to critical care
  - NB: relative rates fluctuate over time and do not represent vaccine effectiveness
- Unvaccinated: no dose or not yet protected (<3 weeks since receipt of 1<sup>st</sup> dose; <10% of unvaccinated cases)
- Vaccinated, 1 dose: ≥3 weeks since receipt of 1<sup>st</sup> dose and <2 weeks after 2<sup>nd</sup> dose
- Vaccinated, 2 doses: 2 weeks or more after receipt of 2<sup>nd</sup> dose
- Vaccinated, 3 doses: 2 weeks or more after receipt of 3<sup>nd</sup> dose





#### Over the past week, fully vaccinated individuals represented 77% of BC's total population, but accounted for 41% of cases and 25% of hospitalizations.

These % fluctuate over time. There are many more vaccinated individuals than unvaccinated individuals, and thus it is important to take the denominator into account. These figures do not represent vaccine effectiveness.



Unvaccinated Vaccinated, 1 dose Vaccinated, 2 doses

Data include cases from Nov 18-Nov 24, and hospitalizations from Nov 15-Nov 21, 2021

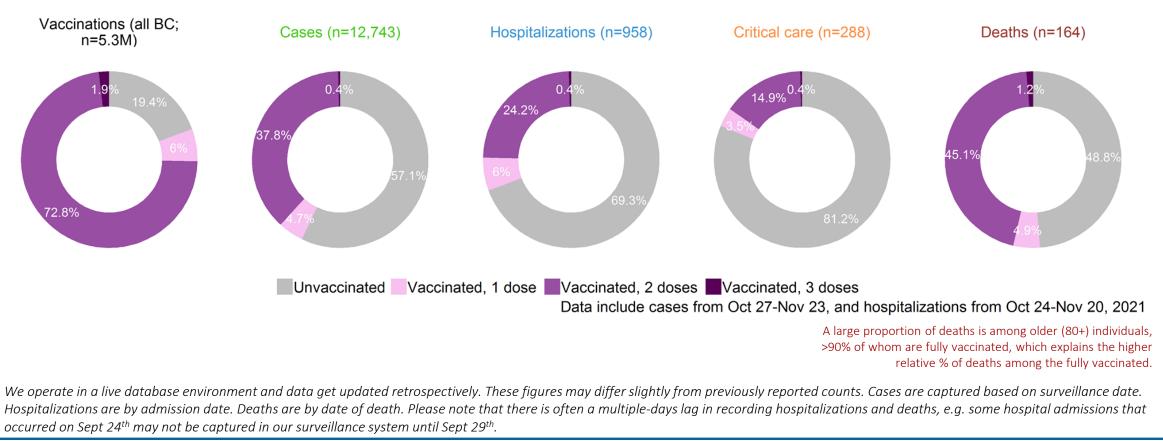
We operate in a live database environment and data get updated retrospectively. These figures may differ slightly from previously reported counts. Cases are captured based on surveillance date. Hospitalizations are by admission date. Please note that there is often a multiple-days lag in recording hospitalizations, e.g. some hospital admissions that occurred on Sept 24<sup>th</sup> may not be captured by our surveillance system until Sept 29<sup>th</sup>.





# Over the past month, unvaccinated individuals accounted for 19% of the population but 57% of cases, 69% of hospitalizations, and 81% of critical care admissions.

These % are expected to increase over time as more people get fully vaccinated and there are fewer unvaccinated people. There are many more vaccinated individuals than unvaccinated individuals, and thus it is important to take the denominator into account. These figures do not represent vaccine effectiveness.

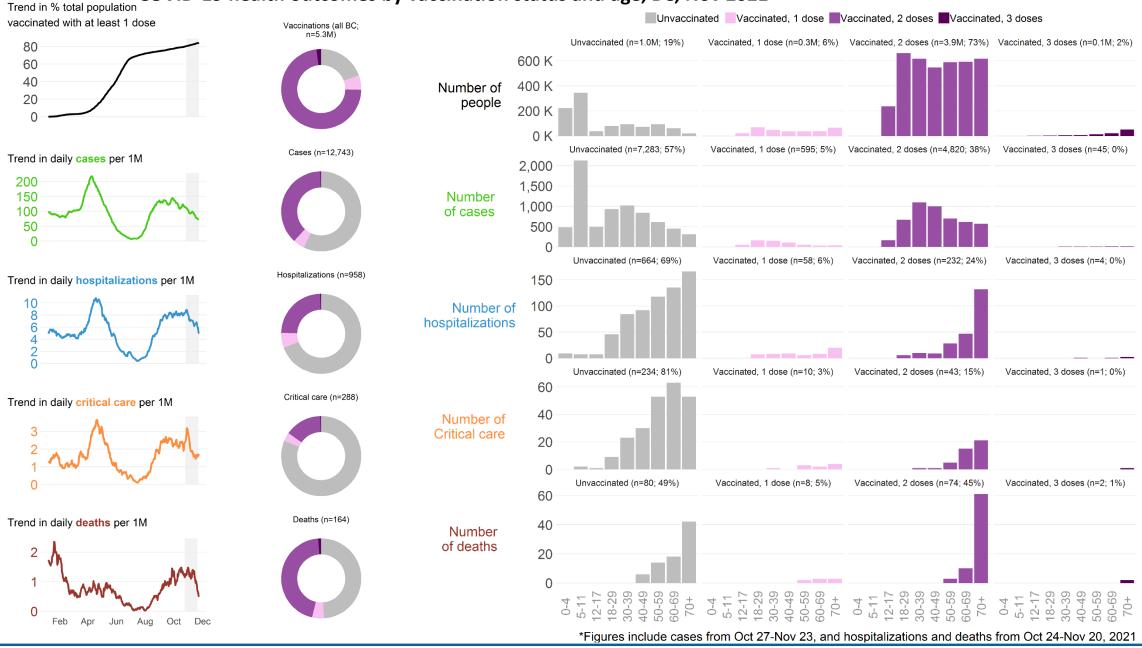






#### COVID-19 health outcomes by vaccination status and age, BC, Nov 2021

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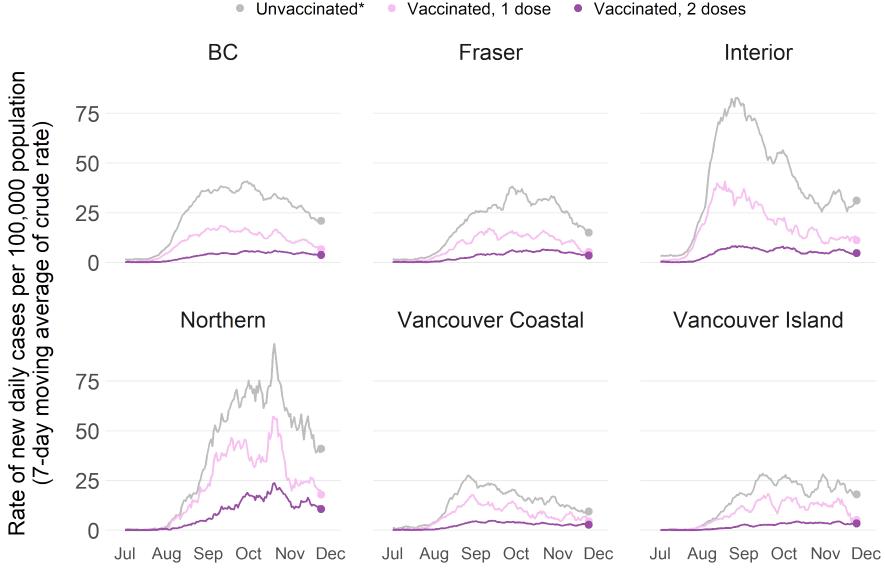
COVID-19 case rate by vaccination status and Health Authority, July 1 – Nov 25, 2021

Denominators for each vaccine status group are dynamic and change daily as people flow from being unvaccinated to protected by 1 dose to protected by 2 doses. Therefore, the denominators are different across groups and over time.

Provincial Health

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\*Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 6% of the total unvaccinated cases since 1 July 2021. Data extracted from health authority case line list on 25 Nov 2021



COVID-19 case rate by vaccination status and age, July 1 – Nov 25, 2021

Unvaccinated\* Vaccinated, 1 dose Vaccinated, 2 doses Vaccinated, 3 doses 0-4 5-11 12-17 80 100,000 population 60 40 of crude rate) 20 18-29 30-39 40-49 80 (7-day moving average Rate of new daily cases per 60 40 20 50-59 60-69 70+ 80 60 40 20 Jul Aug Sep Oct Nov Dec Aug Sep Oct Nov Dec Aug Sep Oct Nov Dec Jul Jul

\*Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 6% of the total unvaccinated cases since 1 July 2021. Data extracted from health authority case line list on 25 Nov 2021

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Denominators for each vaccine status

group are dynamic and change daily

unvaccinated to protected by 1 dose

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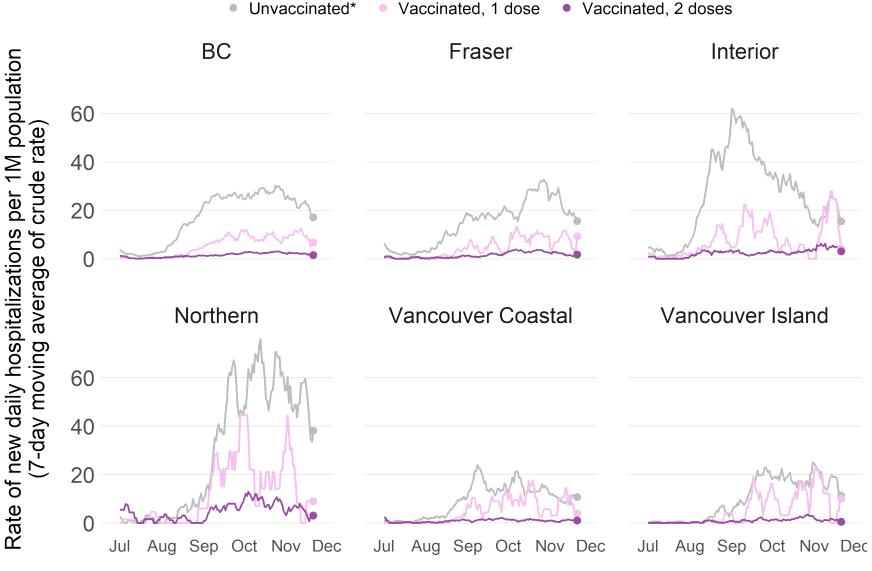
For latest version of this figure, see <u>COVID-19 Regional Surveillance Dashboard</u>



### **COVID-19 hospitalization** rate by vaccination

status, July 1 – Nov 21, 2021

Data by hospital admission date. Denominators for each vaccine status group are dynamic and change daily as people flow from being unvaccinated to protected by 1 dose to protected by 2 doses. Therefore, the denominators are different across groups and over time.



\*Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 5% of hospitalized unvaccinated cases since 1 July 2021. Data extracted from health authority case line list and up to 21 Nov 2021

For latest version of this figure, see <u>COVID-19 Regional Surveillance Dashboard</u>



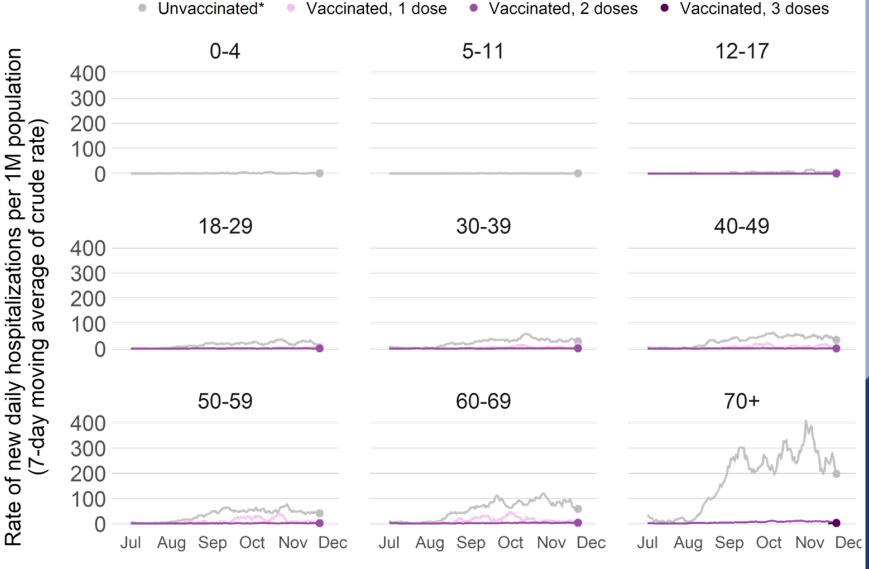
#### COVID-19

hospitalization rate by vaccination status and age, July 1 – Nov 21, 2021

Denominators for each vaccine status group are dynamic and change daily as people flow from being unvaccinated to protected by 1 dose to protected by 2 doses. Therefore, the denominators are different across groups and over time.

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Services Authority Province-wide solutions. Better health.

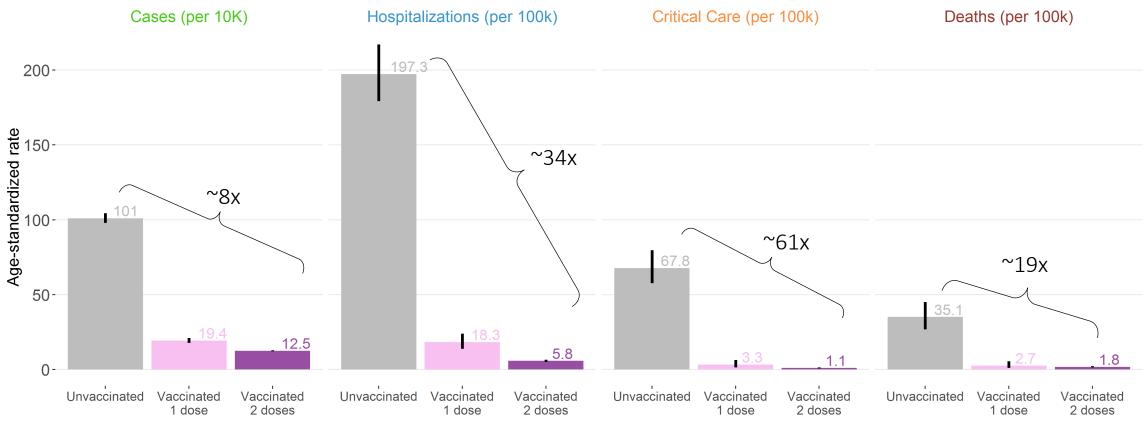


\*Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 5% of hospitalized unvaccinated cases since 1 July 2021. Data extracted from health authority case line list and up to 21 Nov 2021



# After adjusting for age, unvaccinated individuals continue to be at a significantly higher risk of diagnosed infection, hospitalization, critical care admission and death from COVID-19 compared with 2-dose vaccinated

Relative rates fluctuate over time. These figures do not represent vaccine effectiveness.

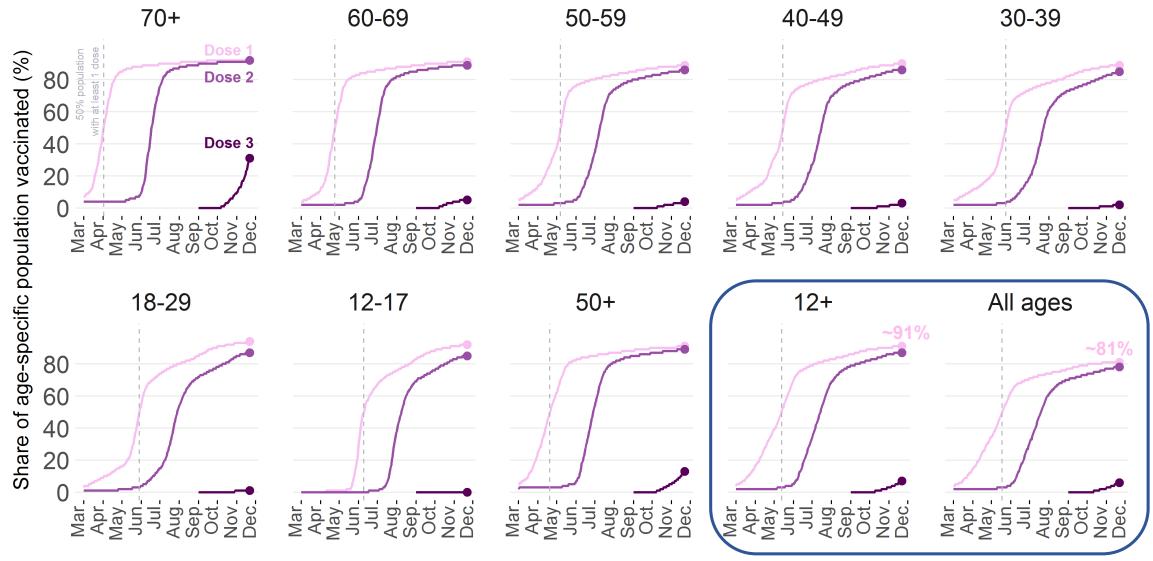


Data include cases from Oct 27-Nov 23, and hospitalizations and deaths from Oct 24-Nov 20, 2021





#### Vaccination progress in BC over time by age group and dose number up to Nov. 23, 2021



Data updated 2021-11-23 Data Source: Provincial Immunization Registry, PHSA





### Vaccination progress in BC and by Health Authority as of Nov. 23, by age group and dose number (%)

Denominator for this graph is Client Roster maintained by the BC Ministry of Health. Client Roster population data are sourced from a list of all residents registered with Medical Services Plan as of March 12, 2021. Since this date, people may have moved, permanently or temporarily, and have been vaccinated or reported their vaccination status. As a result, there are areas in BC where there will be more people vaccinated than there were living in that area in March 2021. The Client Roster likely underrepresents new arrivals into a region such as young adults relocating to attend post-secondary institutes and workers at major construction project areas. An alternative denominator would be based on projections derived from Census 2016, which is also not representative of the current BC population. There is no perfect denominator.





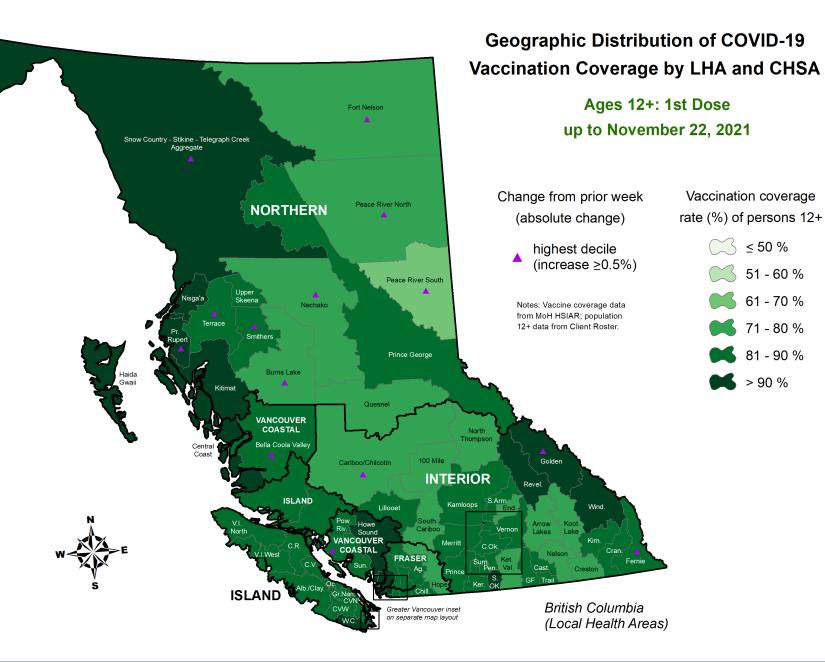
For latest version of this figure, see COVID-19 Regional Surveillance Dashboard

Okanagan Inset (Community Health Service Areas)



Greater Victoria Inset (Community Health Service Areas)



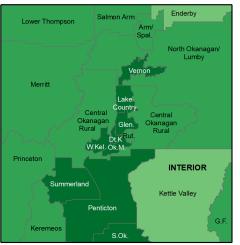




For latest version of this map, see <u>COVID-19 Regional Surveillance Dashboard</u>

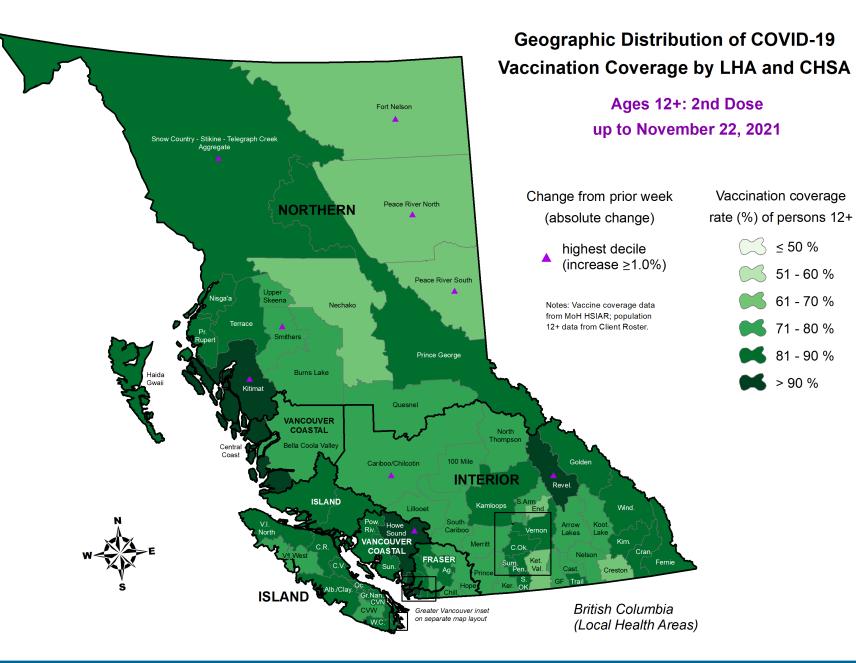


Okanagan Inset (Community Health Service Areas)



Greater Victoria Inset (Community Health Service Areas)

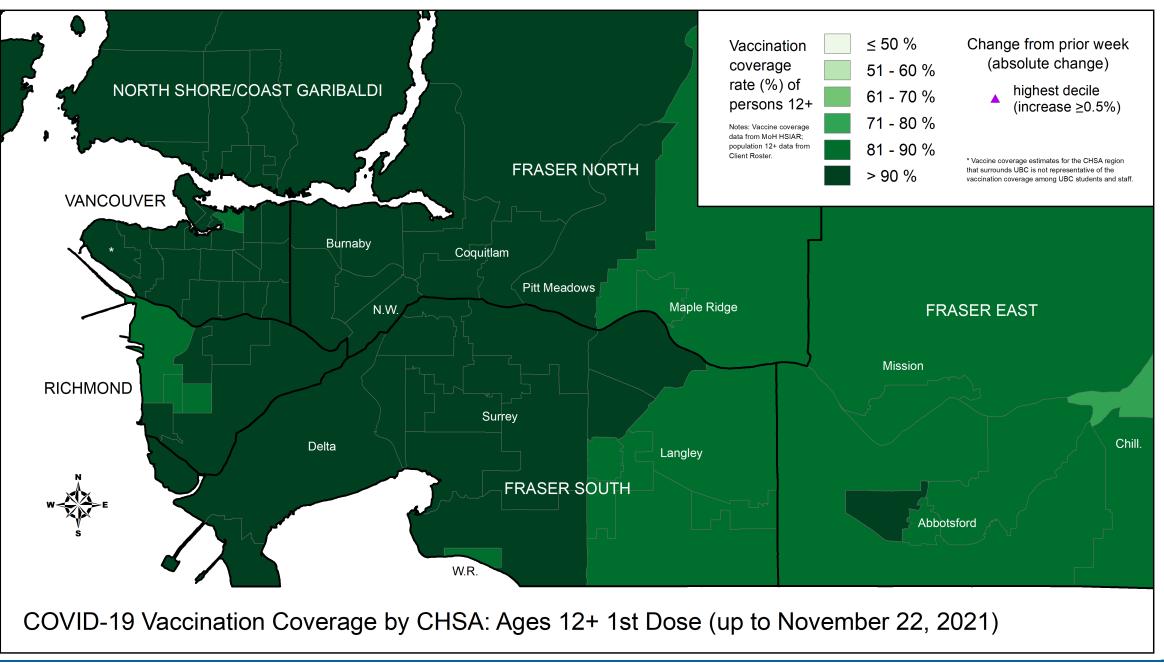






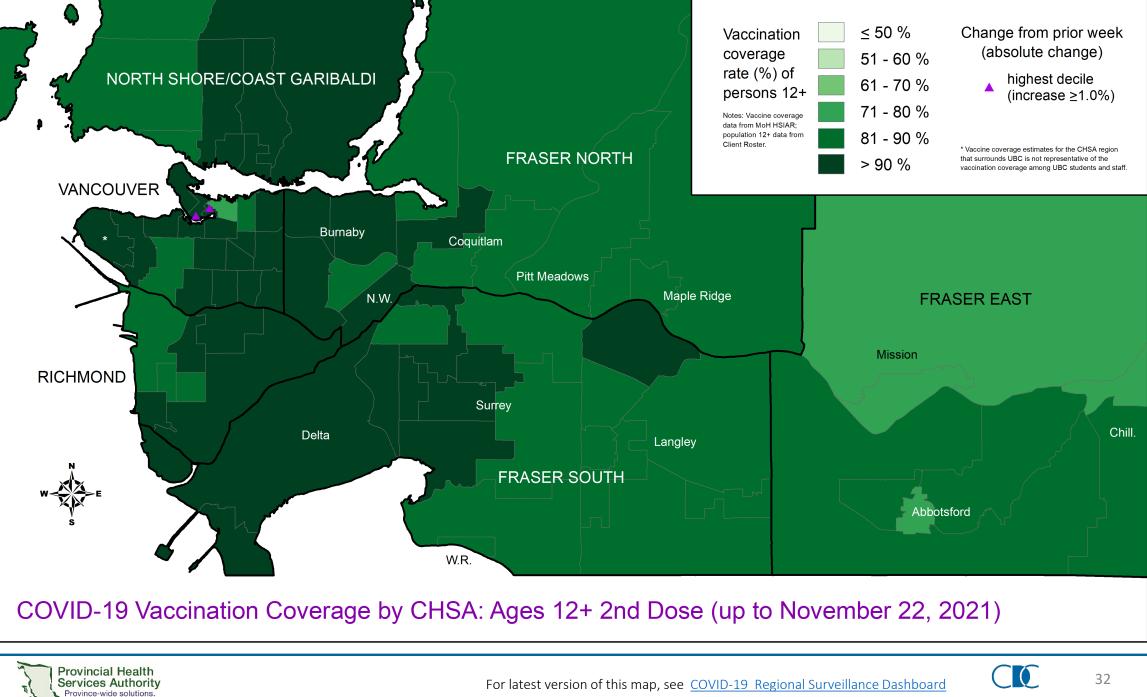
For latest version of this map, see <u>COVID-19 Regional Surveillance Dashboard</u>











Better health

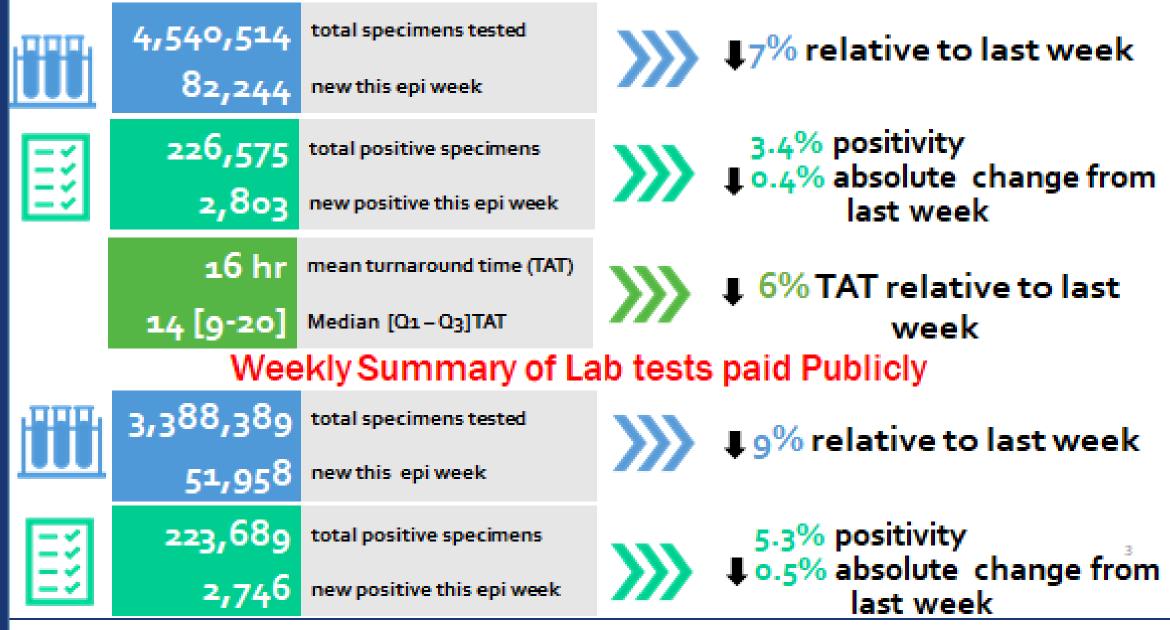
# Lab - Key Messages

- Test positivity among publicly funded tests continues to slowly decline (~5.3%)
  - Test positivity varies by HA, ranging from 3% in VCH to 18% in NH
  - Test positivity is consistently ~2-3x higher among unvaccinated individuals than in 2 dose recipients
- Publicly funded testing are slowly decreasing(~52K total public tests this week)
  - Testing rates remain higher than historical trends among <12 year olds
  - In each region, testing rates are similar by vaccination status
- The provincial weekly median turnaround time (time from specimen collection to lab result) is low at 14 hours, indicating good testing capacity.
- Delta sublineages AY.25 and AY.27 remain the most prevalent COVID-19 variants in BC across all age groups and all health authorities. In the last epi week, Delta consisted of ~100% of all sequenced specimens.
  - AY.4.2 and AY.4.2.1 are Delta sub-lineages. They have been slowly increasing in prevalence in the UK since mid-October, 2021.
  - As of this week, 12 cases of AY.4.2 and its sublineage AY.4.2.1 have been detected.
- Wastewater samples can act as a population-level sentinel surveillance tool
  - Viral signals in Metro Vancouver wastewater plants have plateaued or are declining slowing, consistent with case-counts in these regions



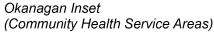


### Weekly Summary of ALL lab tests performed



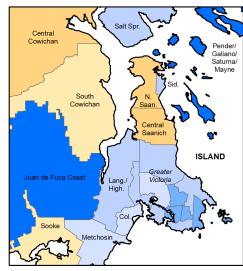
IC Contro for Disease Control

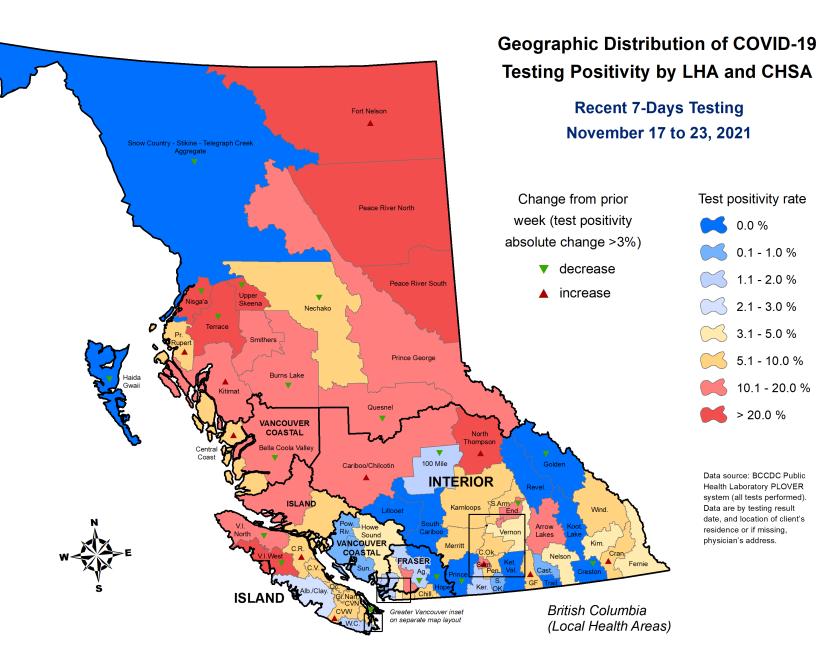
Data source: PLOVER extract at 10:30am on November 24, 2021. Epi week 46 (Nov 14 – Nov 20)





Greater Victoria Inset (Community Health Service Areas)

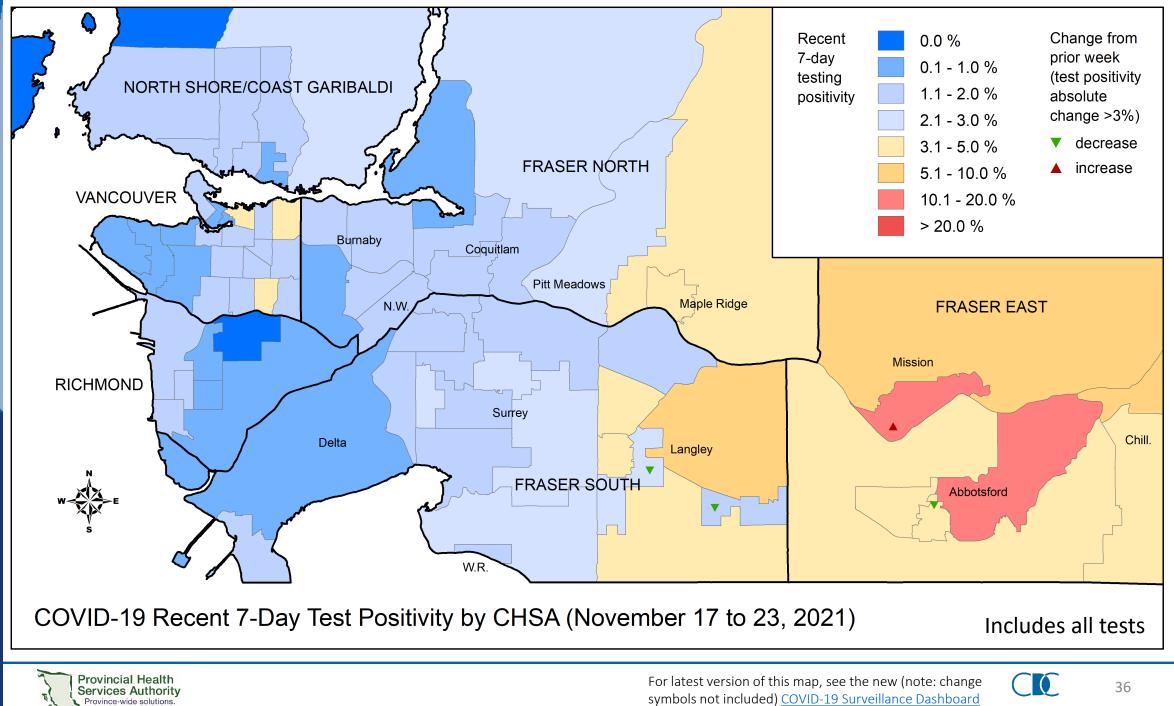






For latest version of this map, see the new (note: change symbols not included) <u>COVID-19 Surveillance Dashboard</u>

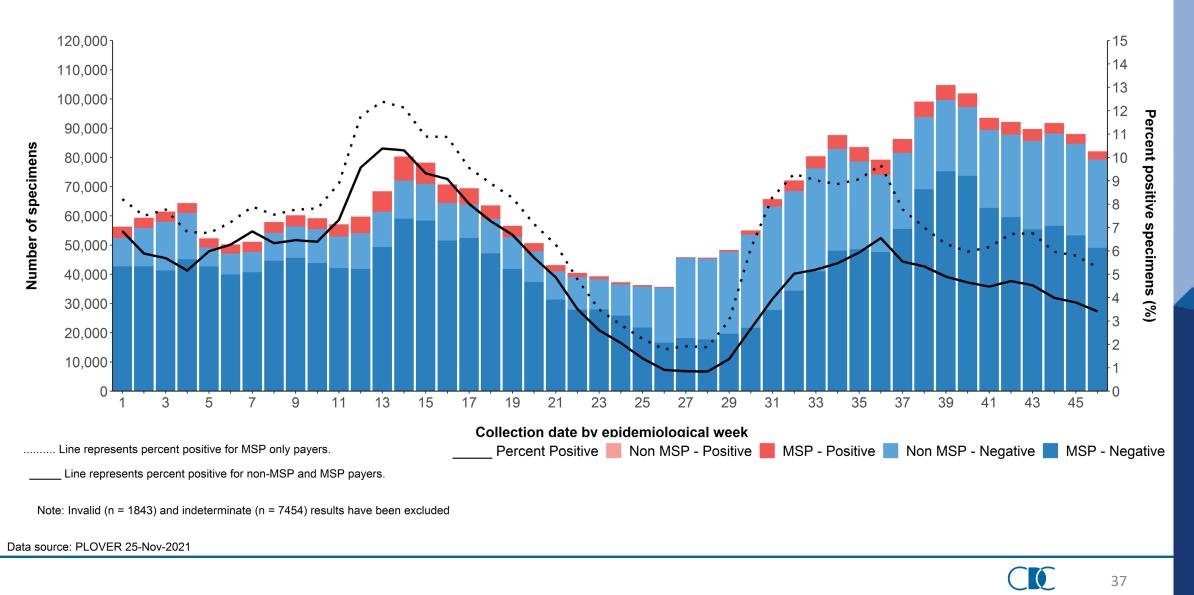




Better health.

**BC Centre for Disease Control** 

### Among publicly funded specimens, percent positivity is stable (~6.0%), and testing rates are stable.



Percent positivity is slowly declining provincially, but varies by region: lowest in VCH (3%), high in NH (18%). Also note differences by vaccination status (slide 44). Testing rates are declining across the province.

BC Fraser Interior 60 5.6% → 5.2%  $4.7\% \rightarrow 4.1\%$  $6.5\% \rightarrow 7.0\%$ Incidence Rate of Positive Cases per 100,000 Population (7-day rolling average) 198 40 132 20 -Day stin Rolling Rate Ω Vancouver Coastal Vancouver Island Northern per 100K Average  $21.5\% \rightarrow 18.2\%$  $3.5\% \rightarrow 3.2\%$ 60  $6.7\% \to 6.1\%$ 198 40 132 20 66 Aug 09-Jan 25-Apr 19-Aug 09-Mar 22-Aug 09-Jan 25-Feb 22 Mar 22 May 17 Jun 14 Jul 12 Sep 06 Oct 04 Nov 01 Jan 25 Feb 22 Apr 19 May 17 Jun 14 Jul 12 Sep 06 Oct 04 Nov 01-Feb 22 Mar 22 Apr 19 May 17 Jun 14 Jul 12 Sep 06 Oct 04 Nov 01 **Result Date** 

Case incidence rate, test percent positivity, and testing rate (Public Payers Only). Jan 1 2020 - Nov 23, 2021.

7-Day Rolling Average Percent Positivity = 0.1% to <1% = 2% to <3% = 5% to <10% 1% to <2% = 3% to <5% = 10% to <20% Data source: PLOVER 23-Nov-2021



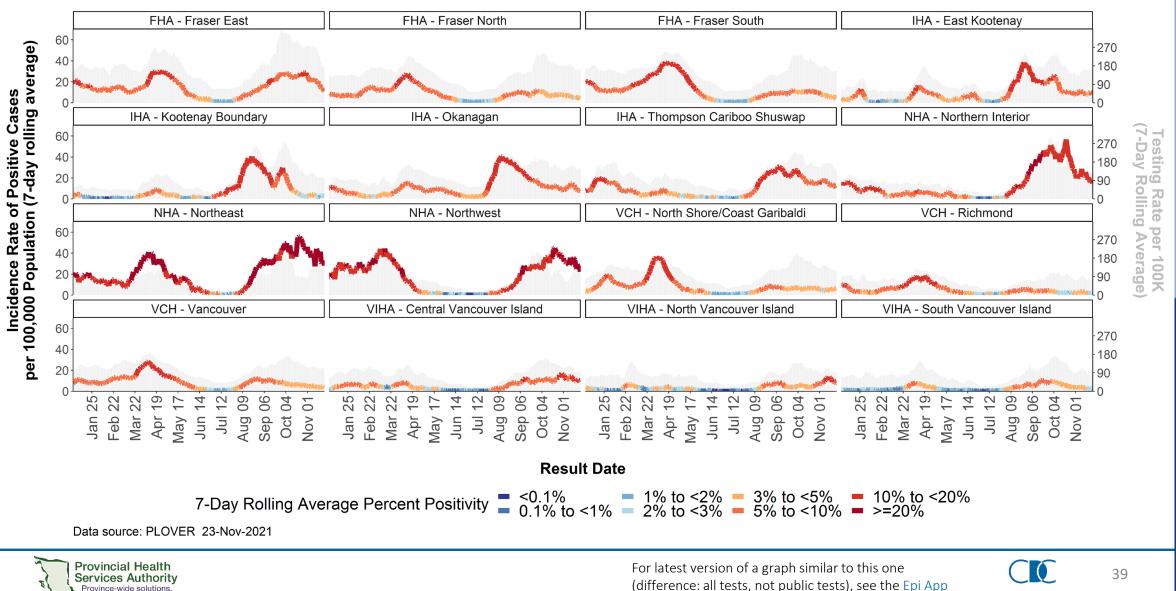


**-** >=20%

#### Test positivity and incidence remain highest in NH but are decreasing

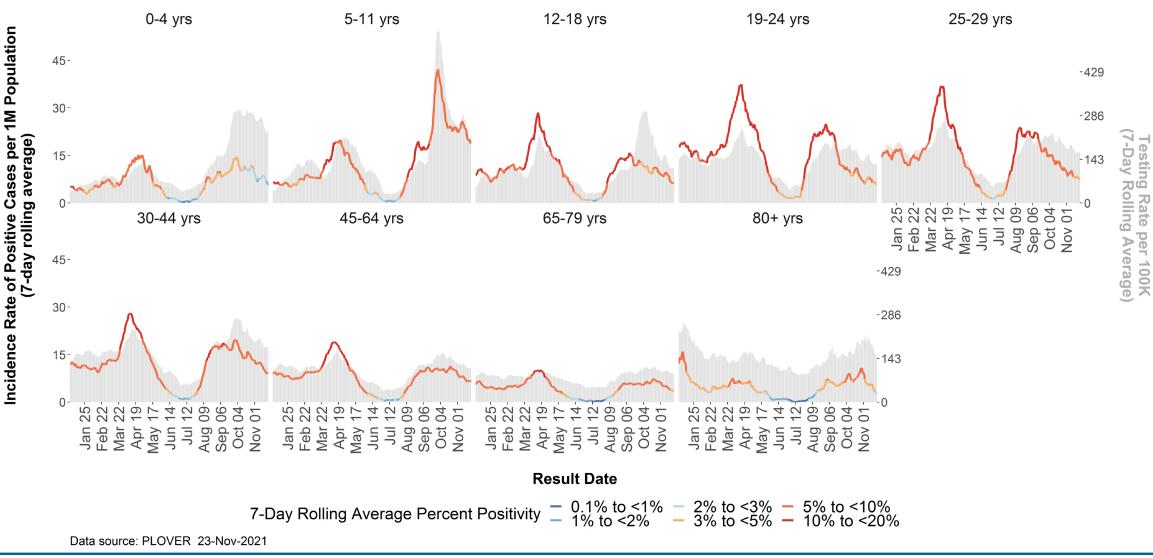
Better health

Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only). Jan 1 2021 - Nov 23, 2021.



#### Testing rates remain higher than historical trends among <12 year olds, but are declining

Case incidence rate, test percent positivity, and testing rate by age (Public Payers Only). Jan 1 2020 - Nov 23, 2021.

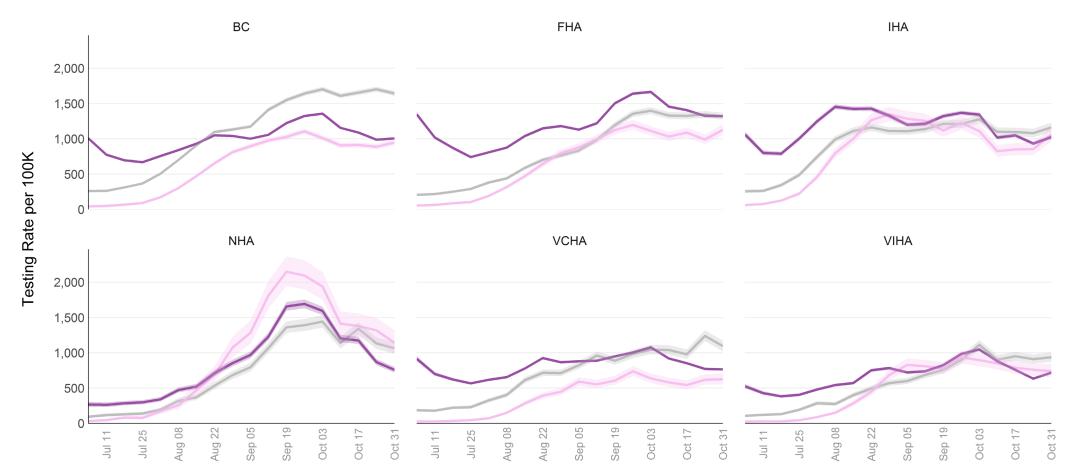


40



### In every region, testing rates are broadly similar by vaccination status

MSP Only Testing Rate by Vaccination Status and Epiweek of Collection Date (12+ year olds) Jul 4 - Nov 6, 2021



Epidemiological Week (based on collection date)

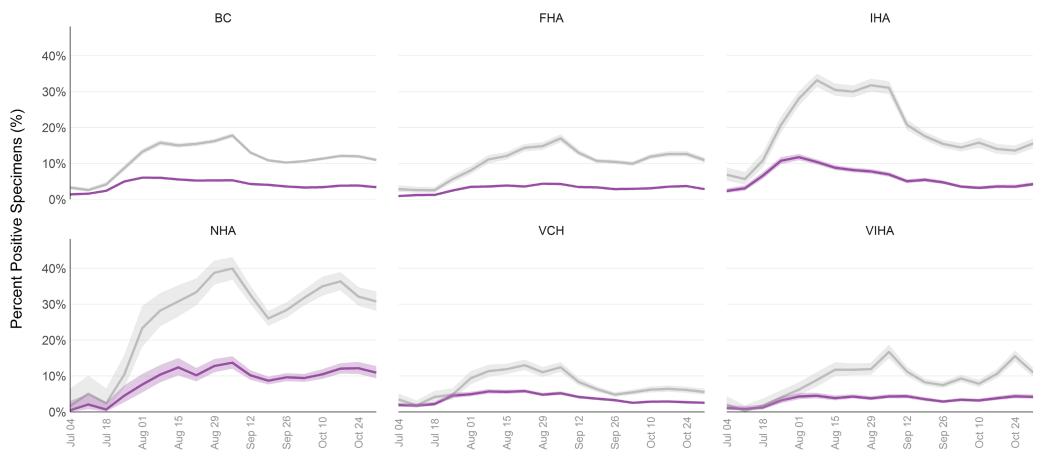
Unvaccinated or underprotected Vaccinated 1 dose >= 21 days Vaccinated 2 doses >= 14 days





## In every region over the past 3 months, test positivity for publicly funded tests has been consistently ~2-3x higher among the unvaccinated than in fully vaccinated individuals

MSP Only Percent Positive Specimens by Vaccination Status and Epiweek of Collection Date Jul 4 - Nov 6, 2021



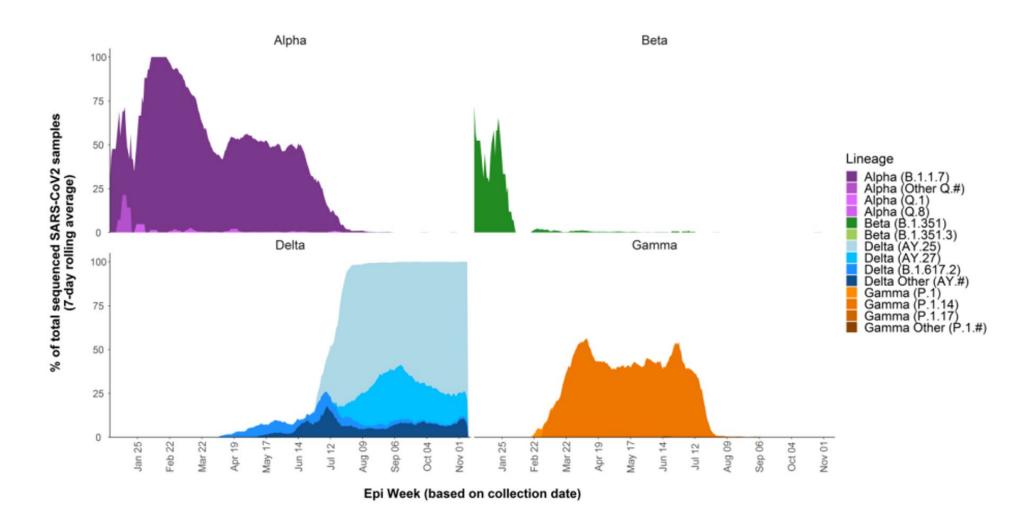
Epidemiological Week (based on collection date)

Unvaccinated or underprotected Vaccinated 2 doses >= 14 days





**Delta** is the most prevalent COVID-19 variant in BC representing ~100% of all sequenced specimens in most recent week; there are 2 main Delta sub-lineages: AY.25 and AY.27



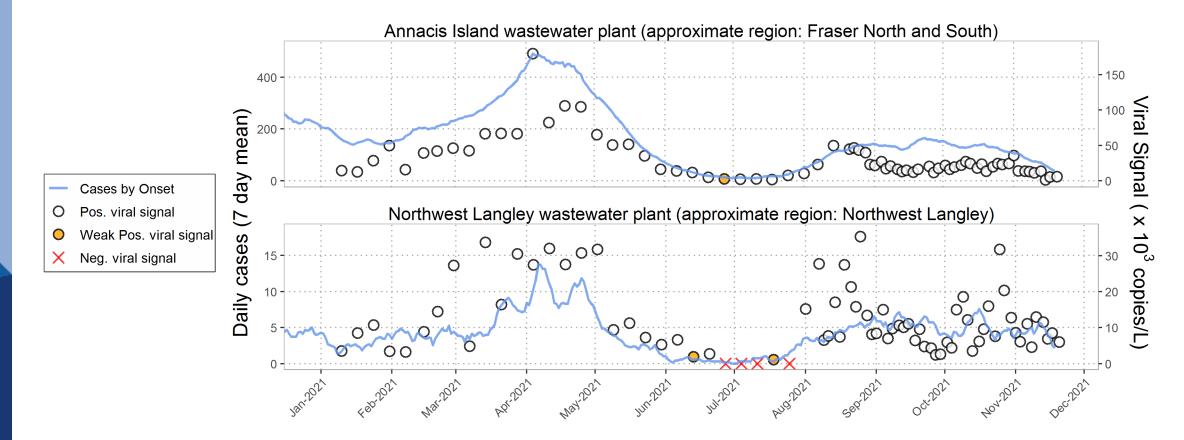
# indicates an additional numerical value (e.g. AY.1)



Please see the latest <u>VOC report</u> for more details



# In FHA, the viral signal from wastewater reflects the trends in case counts in this region

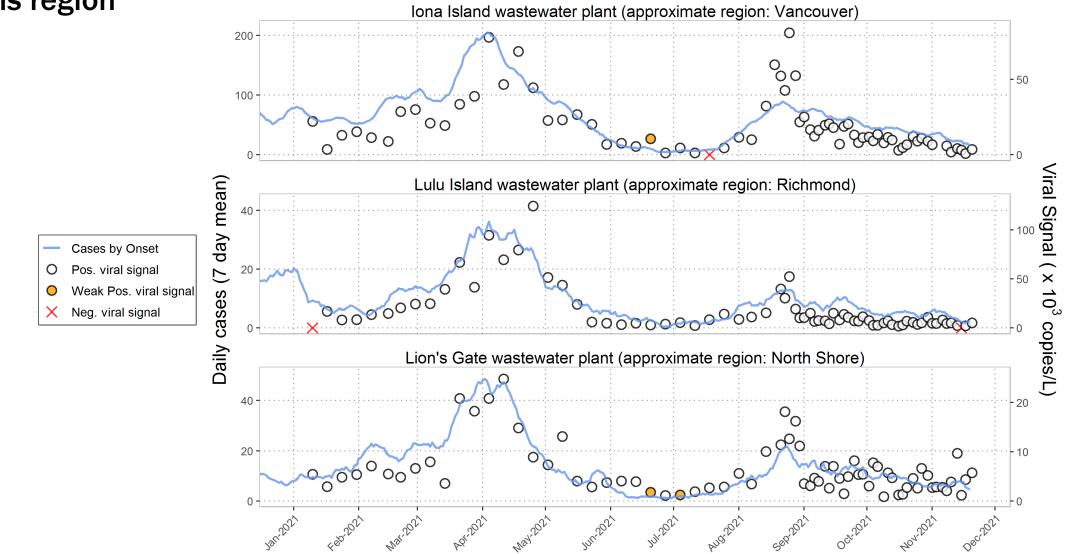


Time-series plots show weekly or bi-weekly viral signals from each wastewater plant (right y-axis), overlaid with rolling 7-day mean of daily new cases within wastewater catchment area (left y-axis).

Plot title shows wastewater plant name, followed by approximate catchment area.



### In VCH, the viral signal from wastewater reflects the declining trends in case counts in this region



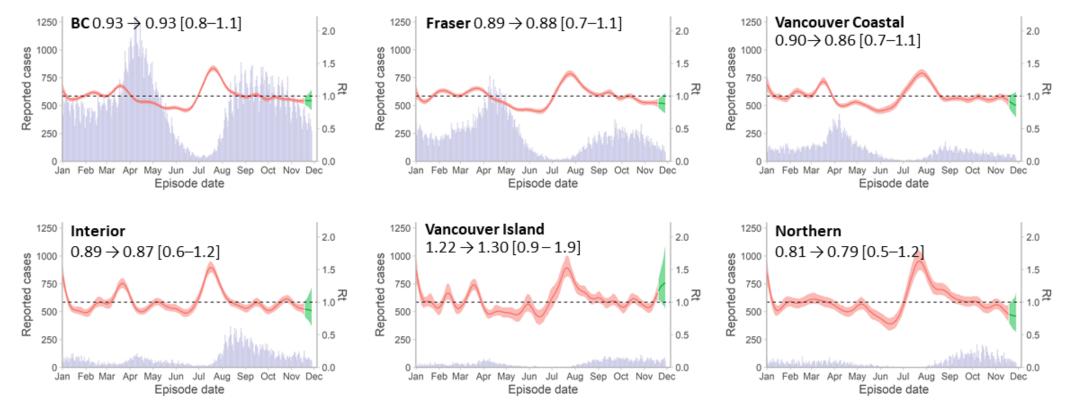
Time-series plots show viral signals from each wastewater plant (right y-axis), overlaid with rolling 7-day mean of daily new cases within wastewater catchment area (left y-axis). Plot title shows wastewater plant name, followed by approximate catchment area.





### Dynamic modeling: recent trends

Modelling indicates that *R*<sub>t</sub> is hovering below 1 in most regions. Uncertainty is high for recent estimates from Vancouver Island, due to small numbers and fluctuating case counts.



Estimates are shown for last week  $\rightarrow$  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 Nov 28, 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. Recent trend shown comparing median Rt estimate from (last week  $\rightarrow$  this week; 5% - 95% credible interval). Only January 2021 onward shown here. Data source: BCCDC HA linelist.





### **Pediatric Report - Key Messages**

- Case numbers in <18 years remain relatively stable
  - Incidence varies regionally and by pediatric age group
- Case rates are highest in regions with lower 12+ vaccine coverage
- Severe outcomes are rare in children
- Among youth 12-17 years old, vaccination coverage is ~85% provincially, but varies significantly by local area

Also see the Data for K-12 Schools November report posted on the BCCDC website: <a href="http://www.bccdc.ca/Health-Info-Site/Documents/COVID\_sitrep/K12\_Situation\_Report/SitRep\_K-12\_November\_2021.pdf">http://www.bccdc.ca/Health-Info-Site/Documents/COVID\_sitrep/K12\_Situation\_Report/SitRep\_K-12\_November\_2021.pdf</a>





### Nov 18 to Nov 24: Pediatric COVID-19 Profile

<b>***</b> ****** *****							
Age group: 0-4		Age group: 0-4		Age group: 0-4		Age group: 0-4	
5,914	total cases	123	ever hospitalized	12	ever in critical care	2	total deaths
91	new this week	1	new this week	0	new this week	0	new this week
Age group: 5-11		Age group: 5-11		Age group: 5-11		Age group: 5-11	
16,032	total cases	63	ever hospitalized	5	ever in critical care	0	total deaths
474	new this week	1	new this week	0	new this week	0	new this week
Age group: 12-17		Age group: 12-17		Age group: 12-17		Age group: 12-17	
12,961	total cases	56	ever hospitalized	8	ever in critical care	0	total deaths
146	new this week	2	new this week	0	new this week	0	new this week

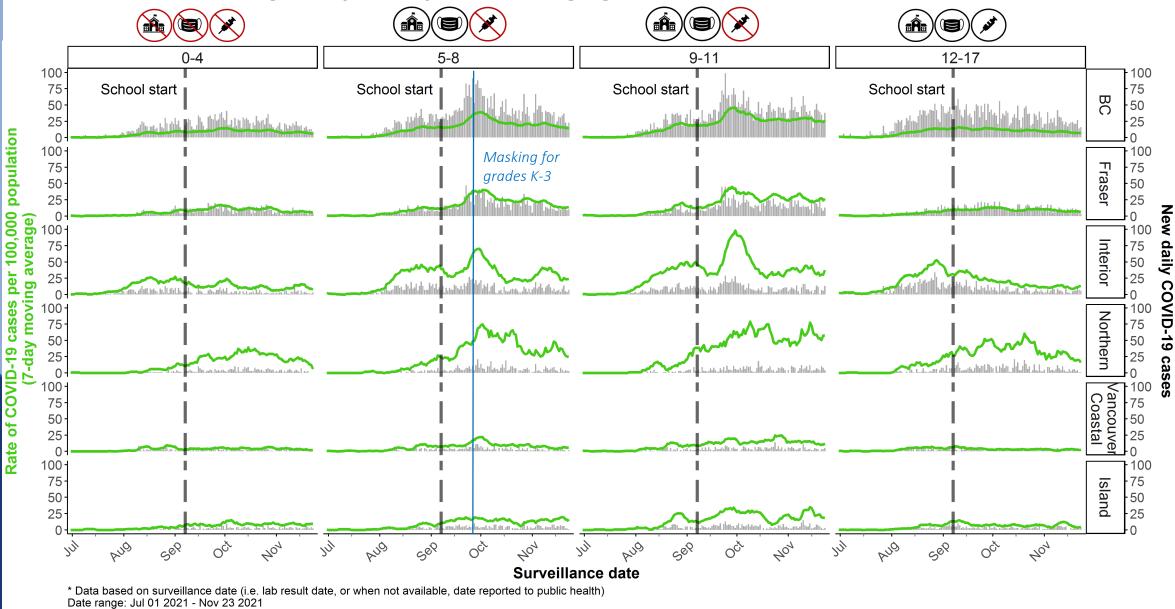
\* New hospitalizations and critical care census numbers are as of Nov 23 2021

\* New cases and new deaths are net new between Line lists of Nov 17 and Nov 24





#### Incidence varies regionally and by pediatric age group



Data source: PHRDW Nov-24-2021





### Number of new daily hospitalizations remains very low and stable; deaths are extremely rare

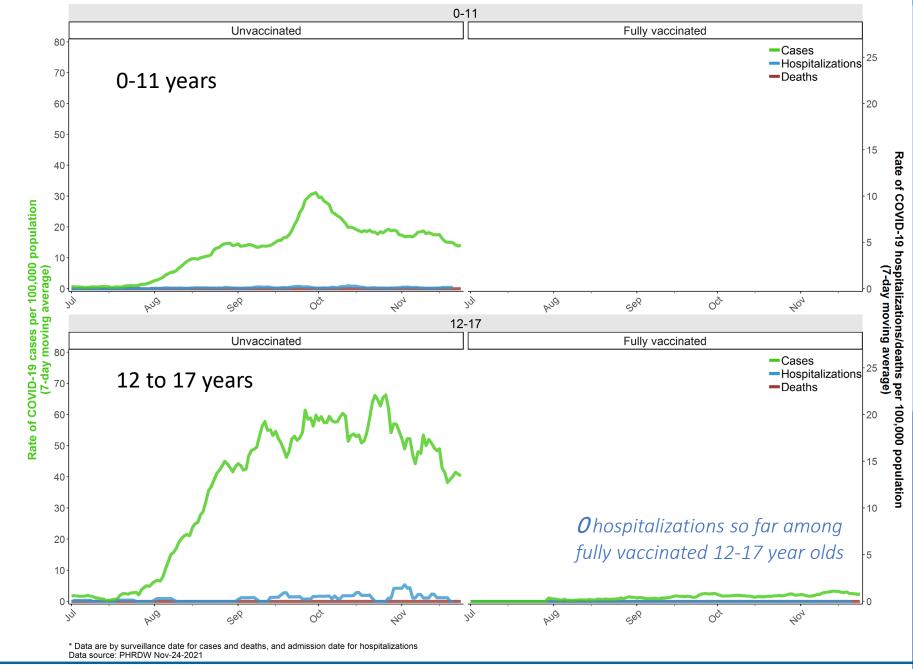
New daily COVID-19 cases, hospitalizations and deaths, Jan 01 2021 - Nov 23 2021 0-4 5-8 100 5 80 Note: Absolute number of new hospitalizations still low (see y-axis on right) Number 60 40 ç f new daily (7-dav ההיי Number of daily cases (7-day moving average) 20 2 mo 0 ving average) hospitalizations/deaths 9-11 12-17 100 5 80 60 40 20 0 AUG AUG Ser 404 JUN Ser 400 0<sup>č</sup> Jan May JUL ADY Nat 1) SI Nat Nay 11 Cases — Hospitalizations — Deaths \* Data are by surveillance date for cases and deaths, and admission date for hospitalizations Data source: PHRDW + BCCW Nov-24-2021





### Case rates are relatively stable among children and youth.

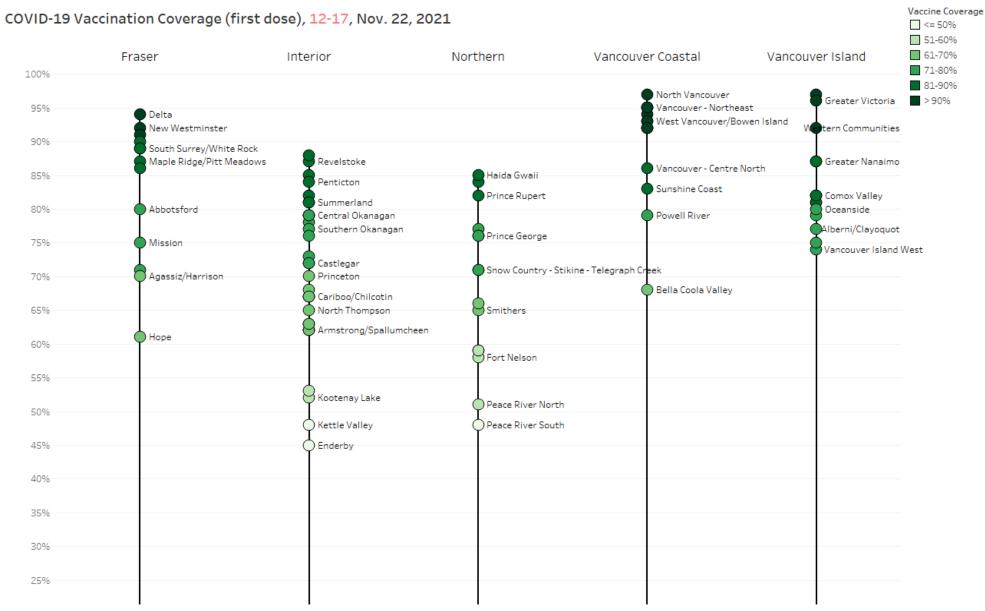
Hospitalization rates remain low.





For latest version of this figure, see <u>COVID-19 Regional Surveillance Dashboard</u>

#### COVID-19 vaccination coverage with 1st dose among 12-17 year olds, by Local Health Area, Nov. 22, 2021



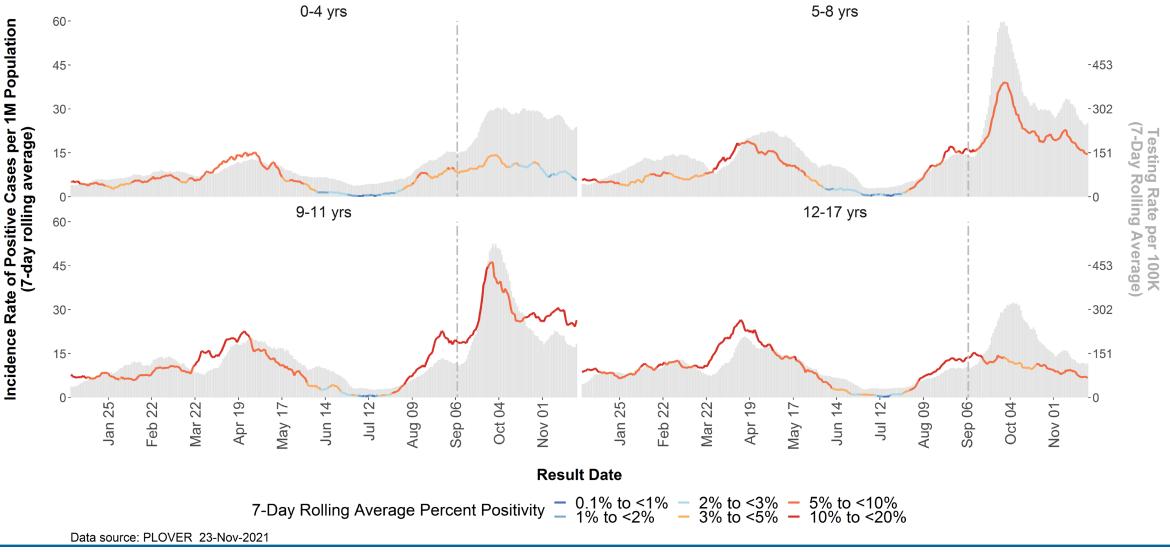






### Testing rates among 5-17 year olds continue to decrease but remain elevated and stable among 0-4 year olds. Test positivity is highest among 9-11 year olds (>10%) and lowest in the 0-4 year olds (<3%).

Case incidence rate, test percent positivity, and testing rate by age (Public Payers Only). Jan 1 2020 - Nov 23, 2021.

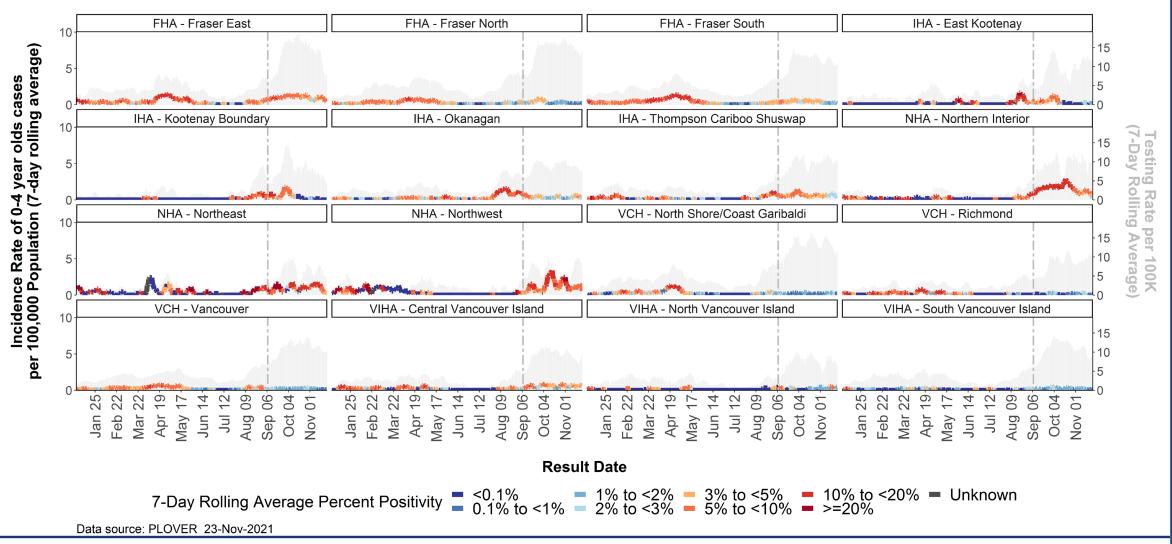






#### Testing rates among 0-4 year olds remain high in all HSDAs. Percent positivity is variable; very low in VCH.

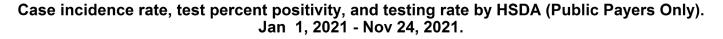
Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only). Jan 1, 2021 - Nov 23, 2021.

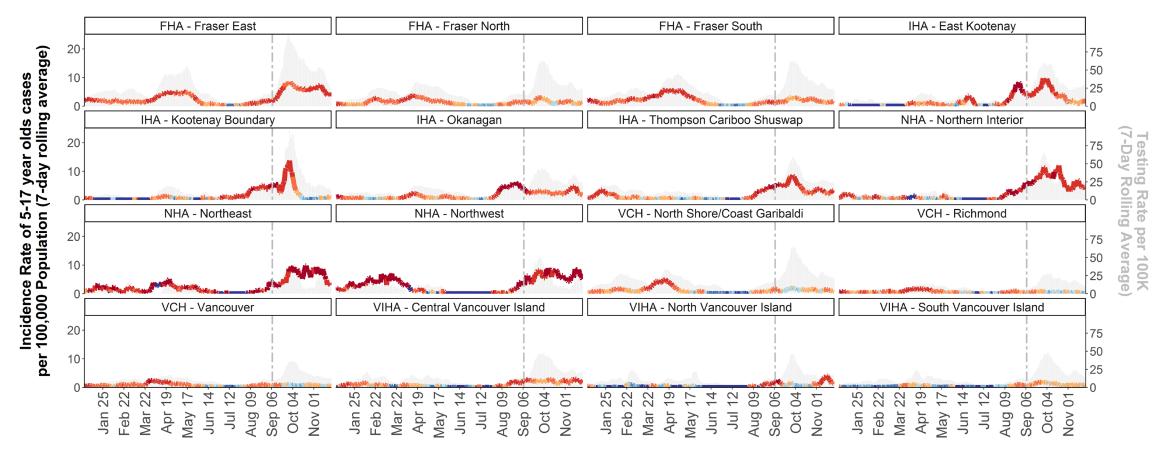






#### Testing rates among 5-17 year olds remain high in all HSDAs. Percent positivity is high throughout NH.





**Result Date** 

7-Day Rolling Average Percent Positivity = <0.1% = 1% to <2% = 3% to <5% = 10% to <20% = Unknown = 2% to <3% = 5% to <10% = >=20%

Data source: PLOVER 24-Nov-2021





### **Additional Resources**

- BCCDC COVID-19 Regional Surveillance Dashboard showing maps, vertical plots, and trends by LHA can be found <u>here</u>
- More BC COVID-19 data, including the latest Situation Report, maps, and BC COVID-19 public dashboard, can be found <u>here</u>
- For more information on variants of concern and whole genome sequencing, the latest report is posted <u>here</u>
- To put BC provincial, Health Authority, and HSDA trajectories into national and international context, see <u>BCCDC COVID-19 Epidemiology app</u>
- <u>COVID SPEAK 2020 Round 1 Survey results</u>
- Slides for previous public and modelling briefings by Dr. Bonnie Henry can be found <u>here</u>
- PHAC's COVID-19 Epidemiology update can be found <u>here</u>



