# **BCCDC COVID Data Summary**

21 October 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.





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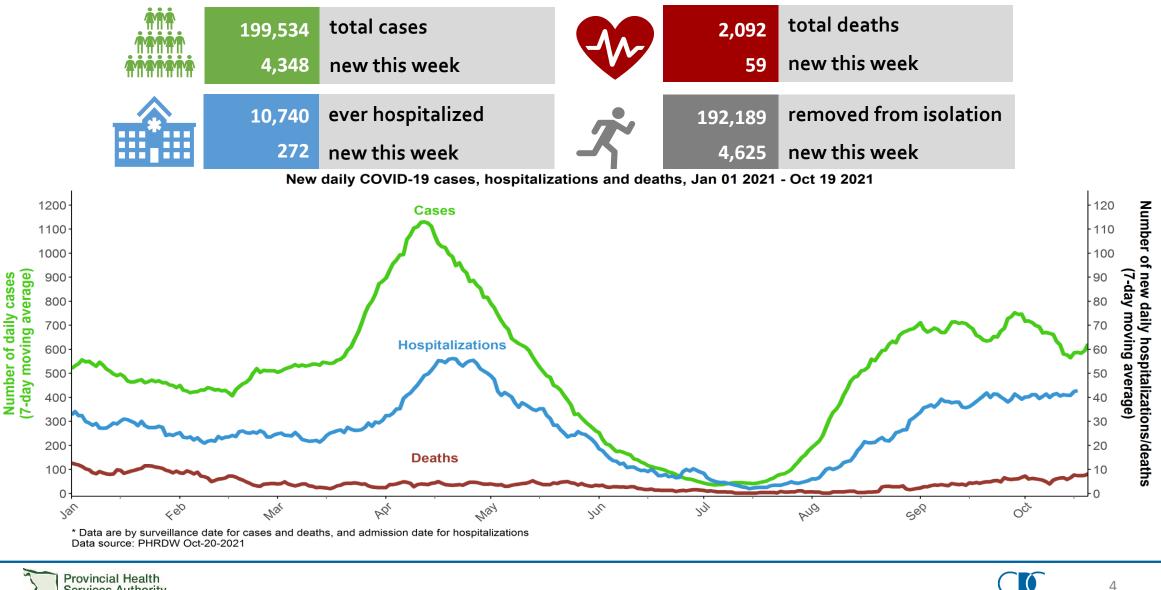
## **Overall Summary for surveillance data to Oct 21**

- Case rates are elevated and increasing across NH, decreasing in IH, and stable in VCH, FH and VIHA.
- Test positivity among public tests is stable (~6% provincially), and is high and increasing in NH (22%).
  - Testing rates are high but decreasing in children
- New hospitalizations are elevated and rising slowly provincially; hospital/critical care census is stable provincially, but there is variation across BC; new deaths are low but slowly increasing.
- 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, 19 Oct, 1 dose (2 doses): ~80% (75%) of total population, ~89% (83%) of 12+ eligible population. Lower vaccine coverage in Interior and Northern and among younger individuals.
- The Delta variant continues to account for  $\approx 100\%$  of all positive tests in BC.





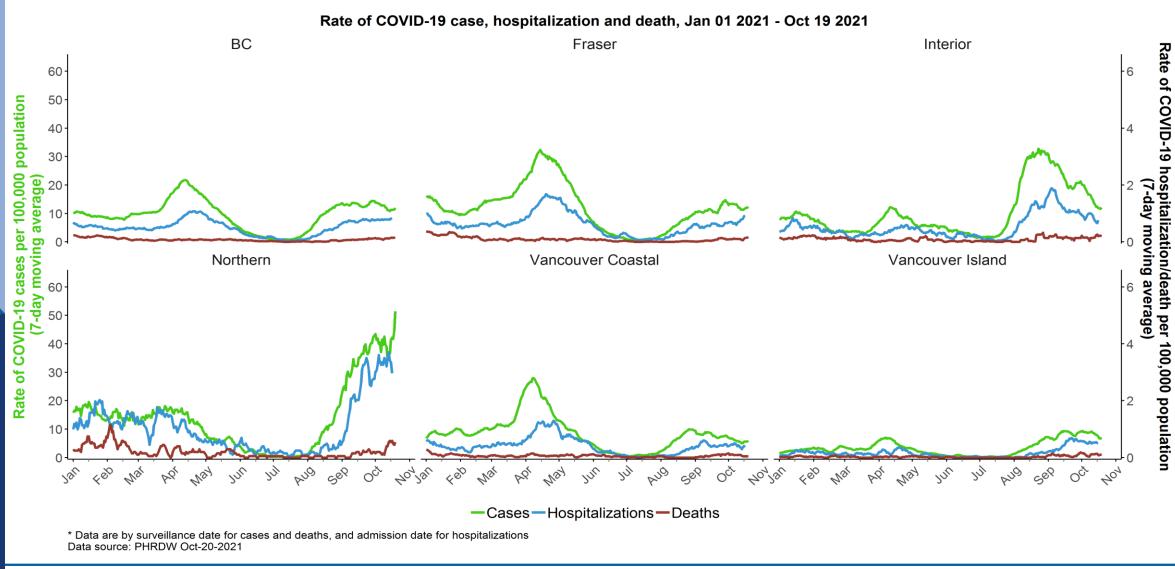
# Oct 14 to Oct 19: BC COVID-19 Profile



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**Case** rates are elevated and stable and new hospitalizations are elevated and rising slowly at provincial level, but trends differ by HA ; new deaths are low but slowly increasing.

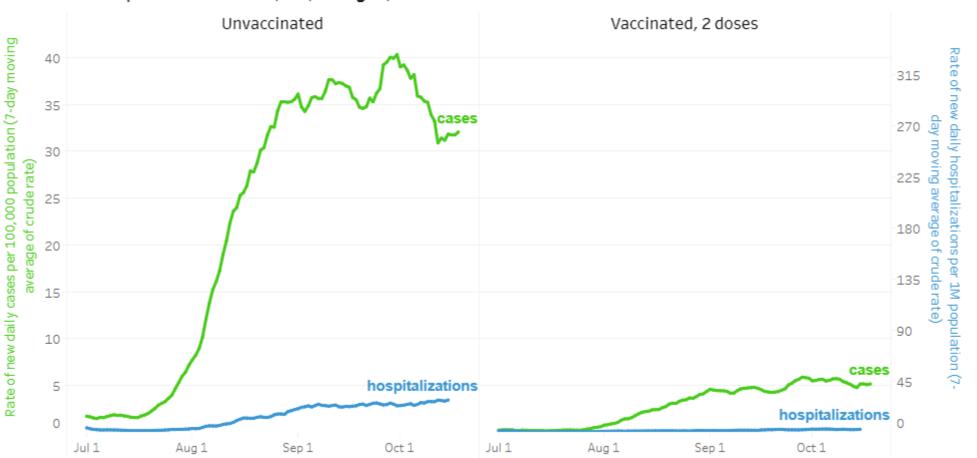




For latest version of a graph similar to this one (difference: hospital census, not new hospitalizations), see the Epi App

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

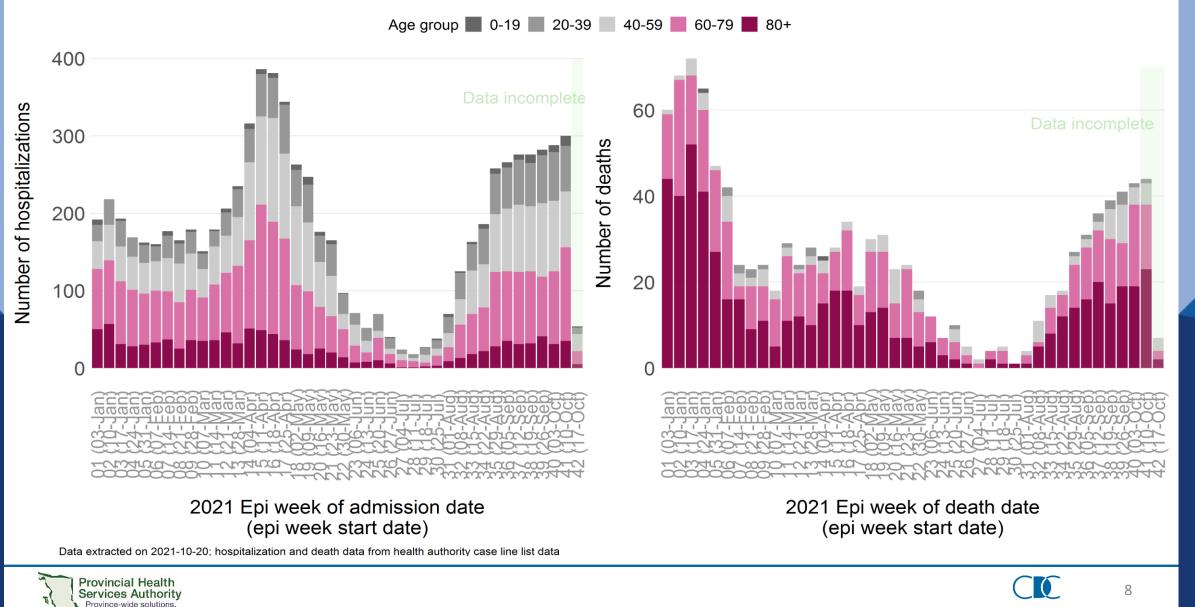






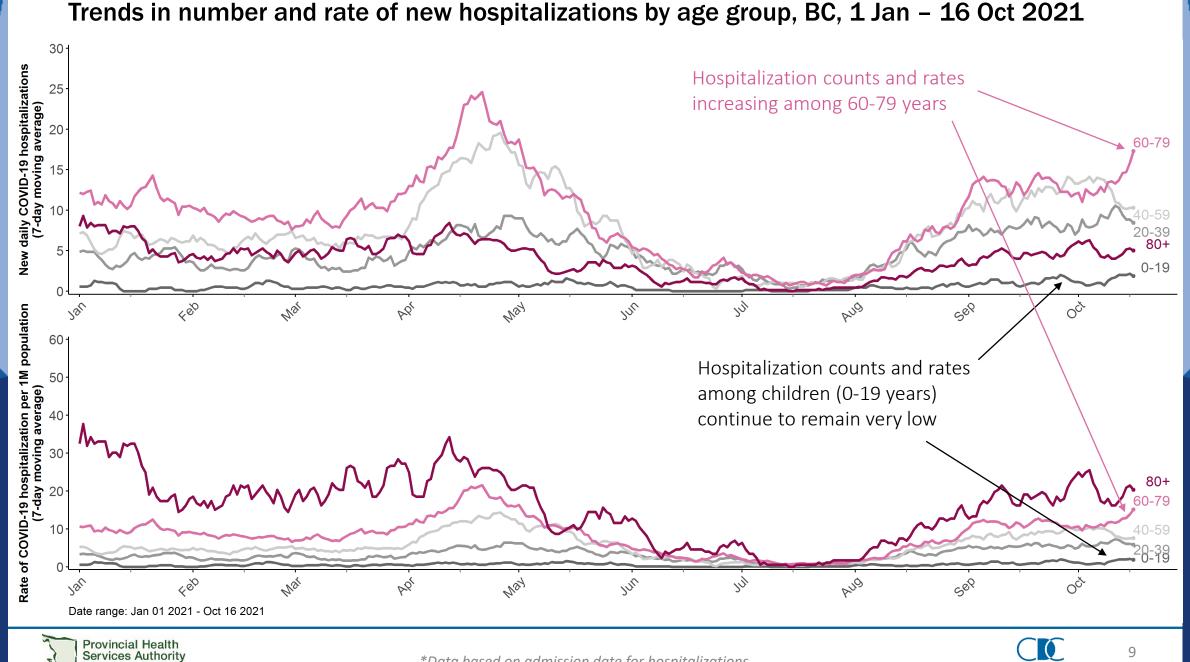


Number of new hospital admissions is elevated and rising slowly, most increase among 60-79 years. Deaths are low, but slowly increasing, majority are in individuals ≥ 60 years.



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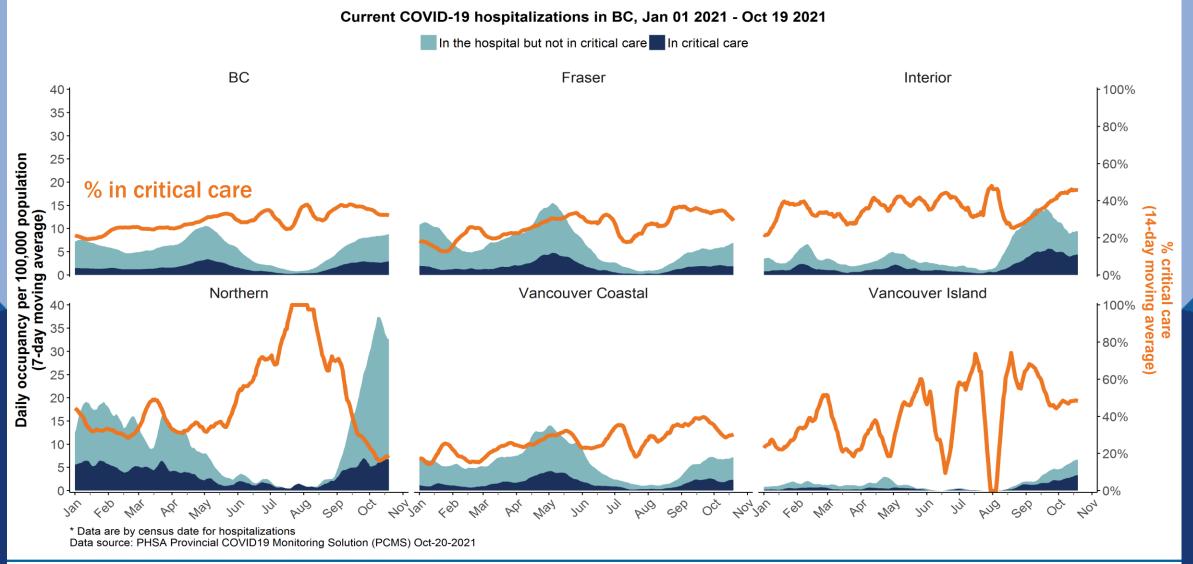
#### \*Data based on admission date for hospitalizations

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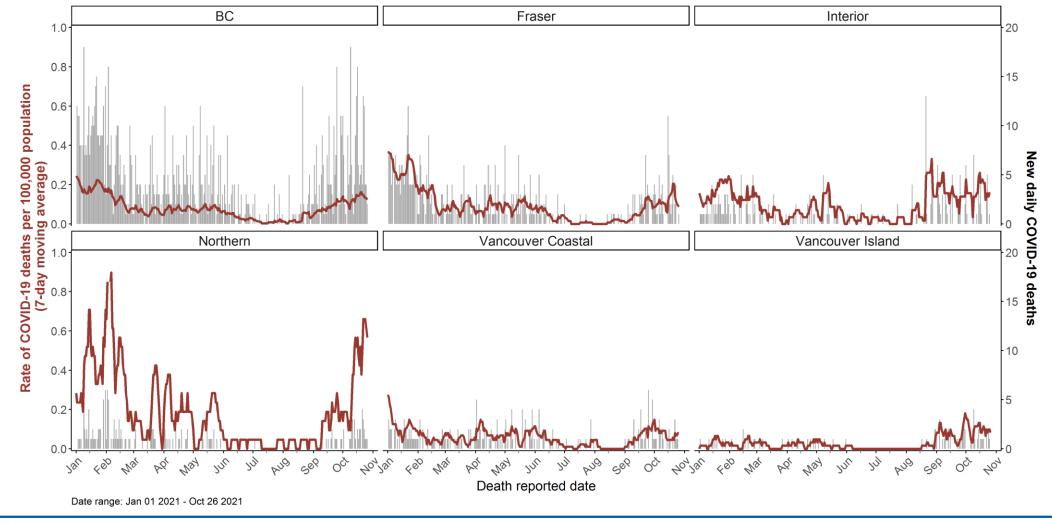
Critical care census is stable across province. Hospital census is elevated in NH, elevated and stable in IH, low and increasing in VIHA, and stable in FH and VCH. (note: census captures the location of hospitalization, not residence of individual cases)







# Deaths are slowly increasing provincially; elevated per capita rate of death in Northern, followed by Interior and Fraser Health







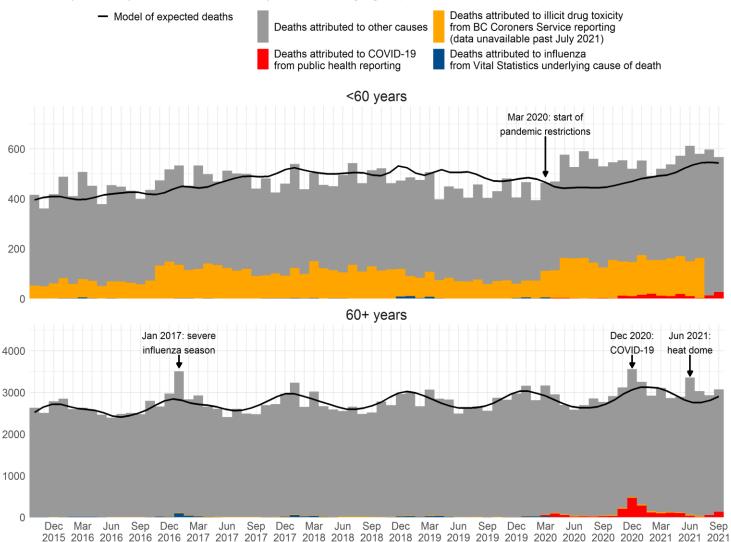
Excess mortality in BC can be attributed to different factors at different times.

In the context of strong public health interventions, monthly peak excess mortality due to COVID in those aged 60+ was comparable with monthly peak excess mortality due to influenza in prior years in the absence of such interventions.

Excess mortality attributed to the heat dome in those aged 60+ was comparable with monthly peak mortality due to respiratory viruses.

Count

There was a significant increase in excess mortality in those <60 years at the beginning of the pandemic that corresponds with a significant increase in drug toxicity deaths

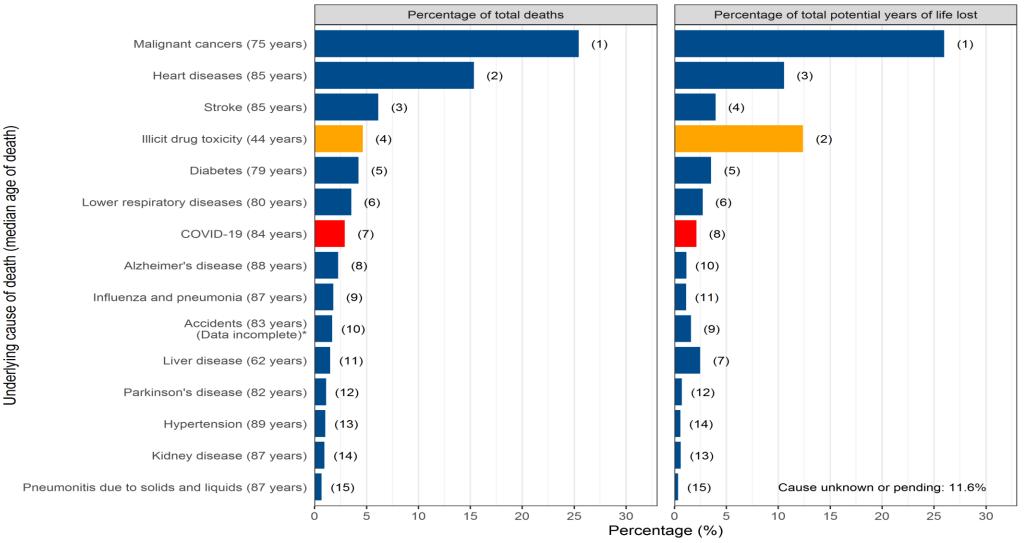


Monthly mortality in British Columbia by cause and age group, October 2015 to September 2021





#### Top 15 causes of death (ranking) in British Columbia from March 2020 to July 2021

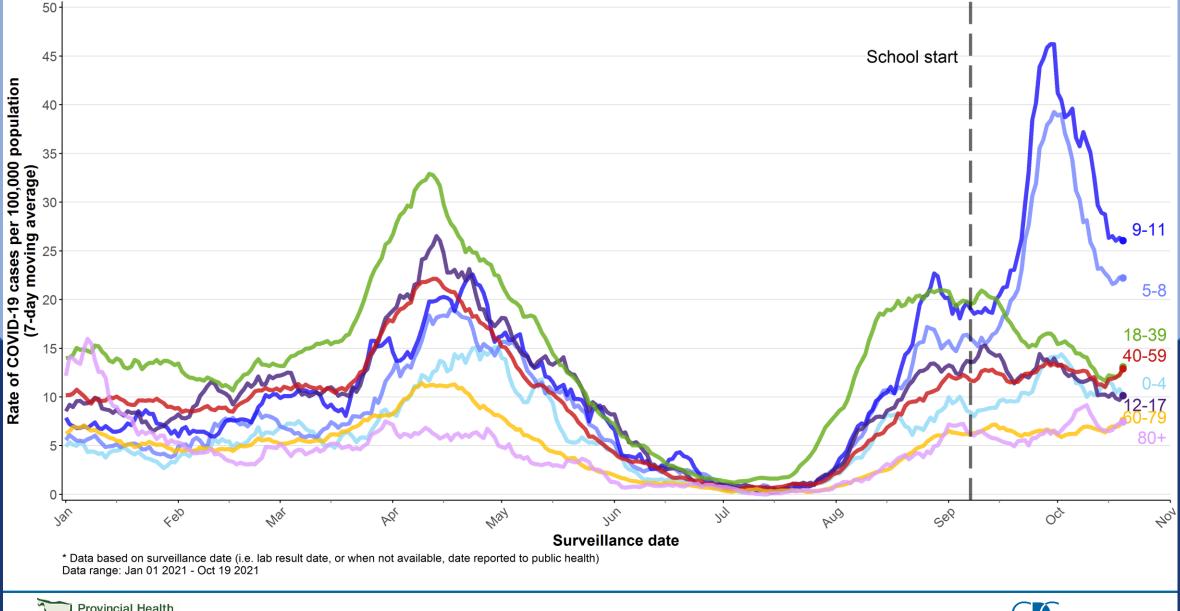


\*External causes of death (other than illicit drug toxicity) incomplete due to reporting delay and will rise in ranking as data become complete. Data sources: 1) BC Vital Statistics; 2) Data on illicit drug toxicity deaths provided to BCCDC by BC Coroners Service; 3) Statistics Canada Table 13-10-0114-01 Life expectancy and other elements of the life table, Canada, reference period 2017-2019.





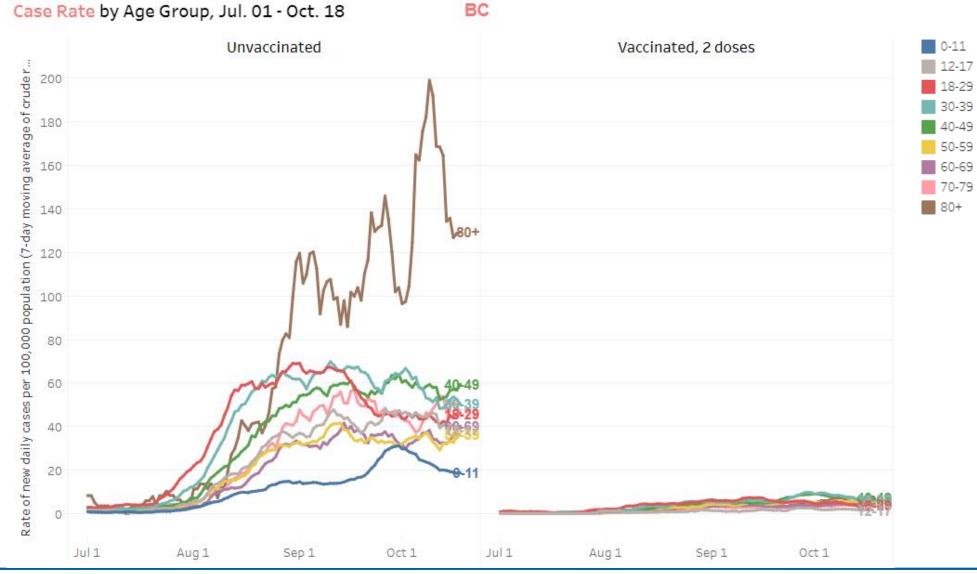
### Incidence among 0-11 year olds is elevated and stable. Note: testing rates among children are high, see slides 44 and 45







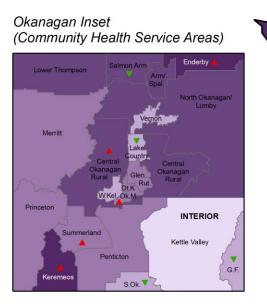
For all age groups, those who are vaccinated have very low case rates. Among those unvaccinated, case rate is the lowest in the 0-11 age group even with higher testing rates.



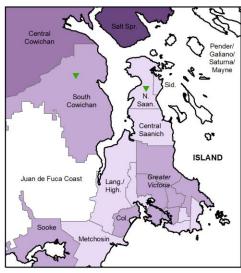


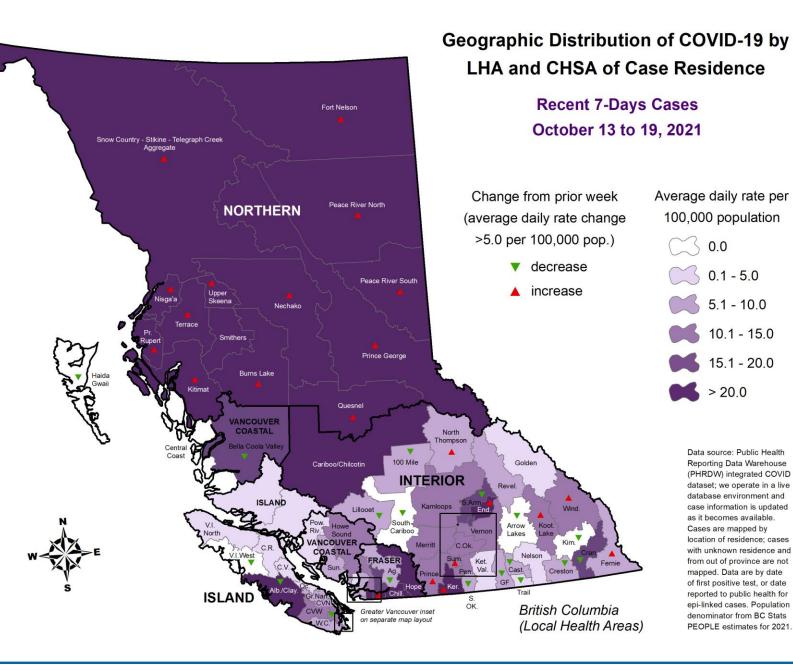
\*\*\*NEW\*\*\*For latest version of this figure, see COVID-19 Regional Surveillance Dashboard





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.

0.0

0.1 - 5.0

5.1 - 10.0

10.1 - 15.0

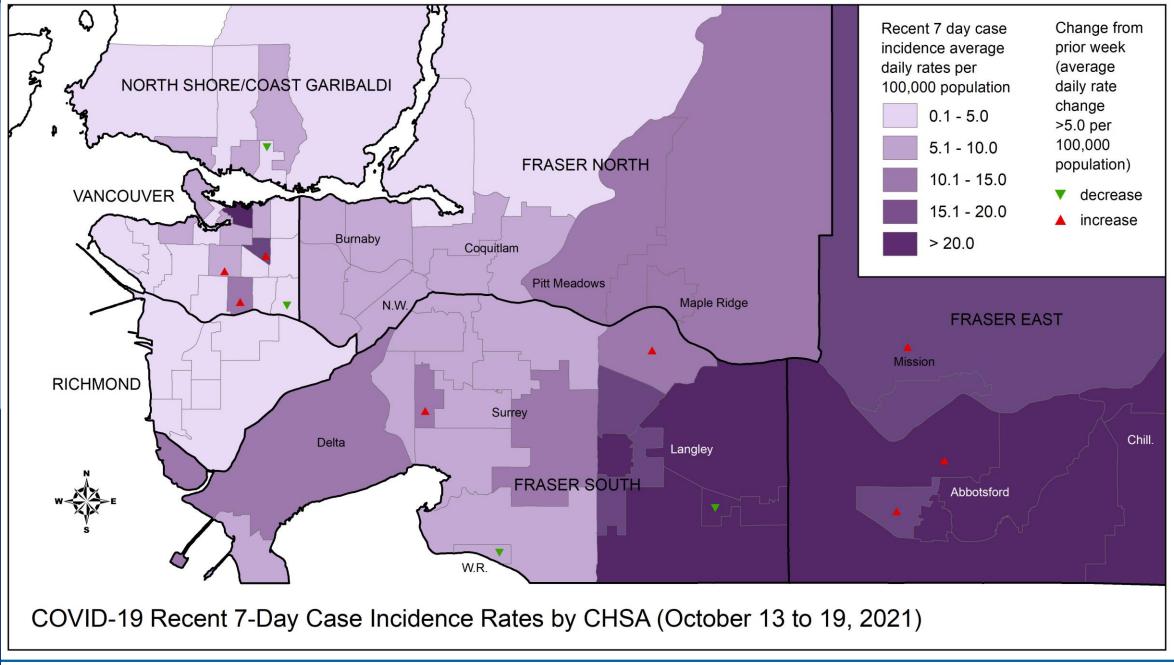
15.1 - 20.0

> 20.0



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



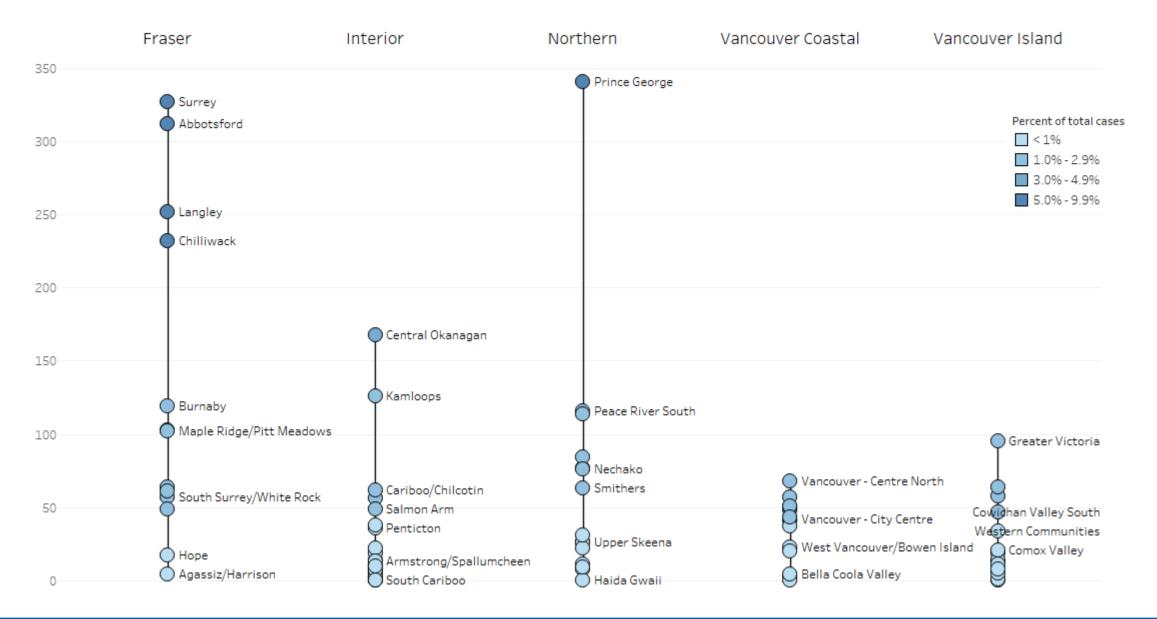




For latest version of this map, (note: change symbols not included), see <u>COVID-19 Regional Surveillance Dashboard</u>



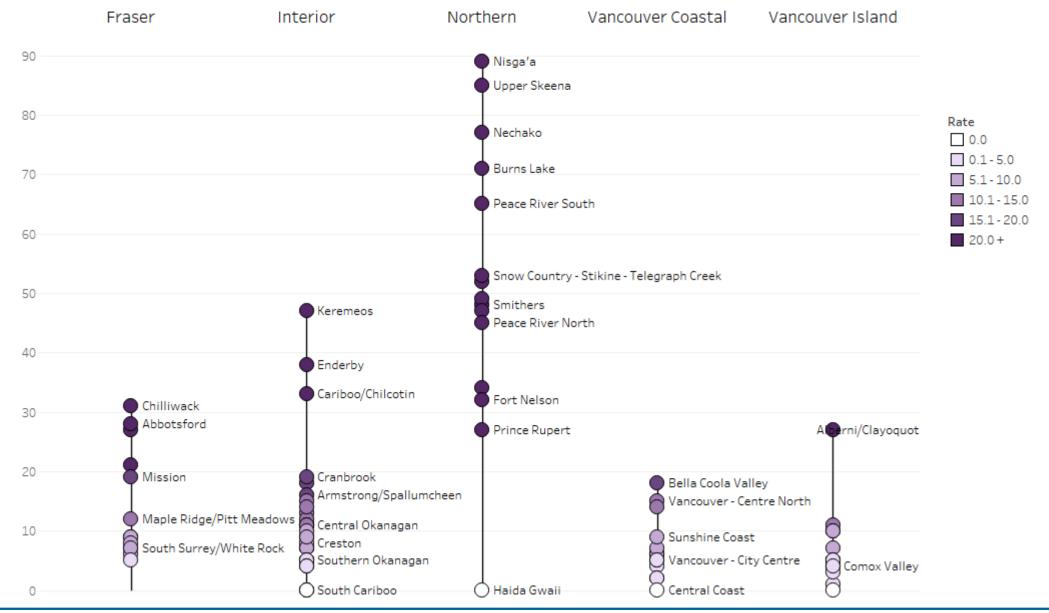
### Total cases by local health area, Oct 13 - Oct 19, 2021





18

### Average daily case rate of new cases per 100,000 population, by local health area, Oct 13 - Oct 19, 2021





For latest version of this graph, see <u>COVID-</u> <u>19 Regional Surveillance Dashboard</u> BC Centre for Disease Control

## Key messages – Outcomes by vaccine status

- 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
  - ≈ 9x more likely to become a case
  - ≈ 43x more likely to be hospitalized
  - ≈ 36x more likely to die
  - NB: relative rates fluctuate over time and do not represent vaccine effectiveness

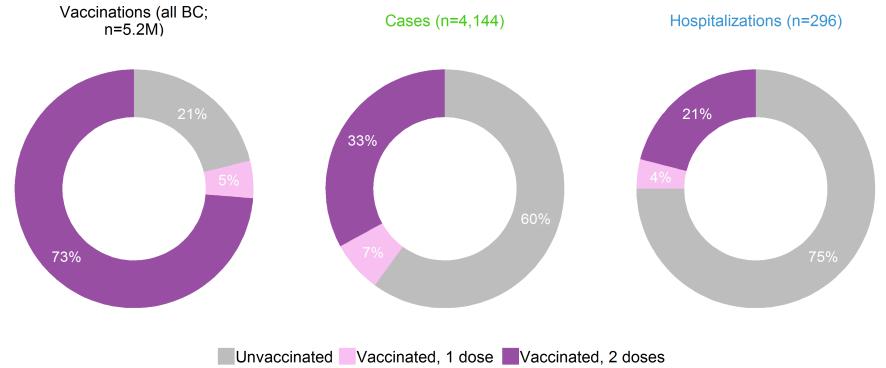
- Unvaccinated: no dose or not yet protected (<3 weeks since receipt of 1<sup>st</sup> dose; <10% of unvaccinated cases)
- Partially vaccinated = 1 dose: ≥3 weeks since receipt of 1<sup>st</sup> dose and <2 weeks after 2<sup>nd</sup> dose
- Fully vaccinated = 2 doses: 2 weeks or more after receipt of 2<sup>nd</sup> dose





# Over the past week, fully vaccinated individuals represented 73% of BC's total population, but accounted for only 33% of cases and 21% 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.



Data include cases from Oct 12-Oct 18, and hospitalizations from Oct 09-Oct 15, 2021

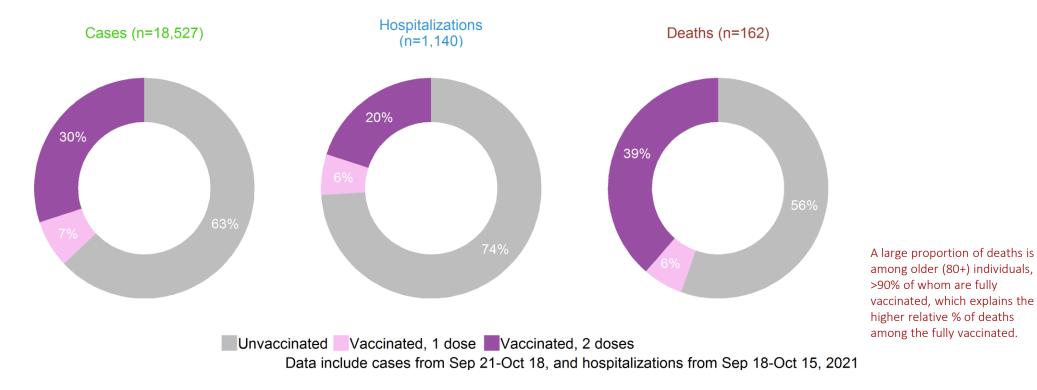
We operate in a live database environment and data get updated retrospectively. These figures were run on Thursday Oct 14 and may differ slightly from previously reported counts. Cases are captured based on surveillance date. Hospitalizations are by admission date. Please note that there is often a multiple-days 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, fully vaccinated individuals accounted for 30% of cases and 20% of hospitalizations.

These % are expected to increase over time as more people get fully vaccinated and there are fewer unvaccinated people. If 100% of population gets fully vaccinated (which is almost the case for many long term care residents for example), then any new cases, hospitalizations, or deaths will be among vaccinated people.

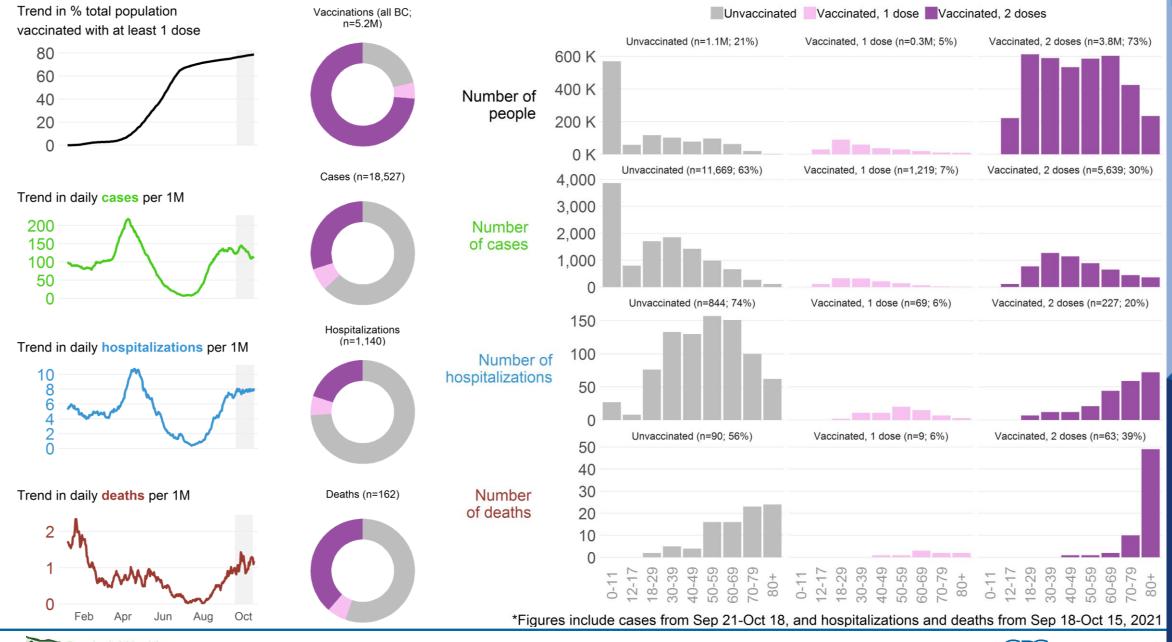


We operate in a live database environment and data get updated retrospectively. These figures were run on Oct 14<sup>th</sup> and thus will differ slightly from previously reported counts. Cases are captured based on surveillance date. Hospitalizations are by admission date. Deaths are by date of death. Please note that there is often a multiple-days lag in recording hospitalizations and deaths, e.g. some hospital admissions that occurred on Sept 24<sup>th</sup> may not be captured in our surveillance system until Sept 29<sup>th</sup>.





### COVID-19 health outcomes by vaccination status and age, BC, Sep 21 – Oct 18, 2021



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

Denominators for each vaccine status group are dynamic and change daily

unvaccinated to protected by 1 dose to protected by 2 doses. Therefore,

the denominators are different across

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as people flow from being

groups and over time.

BC Fraser Interior population 75 crude rate) 50 100,000 25 average of 0 per of new daily cases Northern Vancouver Coastal Vancouver Island moving 75 50 (7-day 25 Rate  $\left( \right)$ Aug Sep Oct Oct Aug Sep Oct Aug Sep Jul Jul Jul

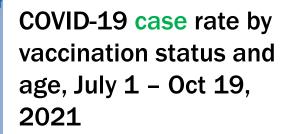
Vaccinated, 1 dose
Vaccinated, 2 doses

\*Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 7% of the total unvaccinated cases since 1 July 2021. Data extracted from health authority case line list on 19 Oct 2021

Unvaccinated\*







0-11 12-17 18-29 200 population 150 100 (7-day moving average of crude rate) 50 0 100,000 30-39 40-49 50-59 200 per 150 100 cases 50 0 Rate of new daily 70-79 80+ 60-69 200 150 100 50  $\mathbf{C}$ Aug Sep Oct Jul Aug Sep Oct Jul Oct Aug Sep Jul

> \*Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 7% of the total unvaccinated cases since 1 July 2021. Data extracted from health authority case line list on 19 Oct 2021

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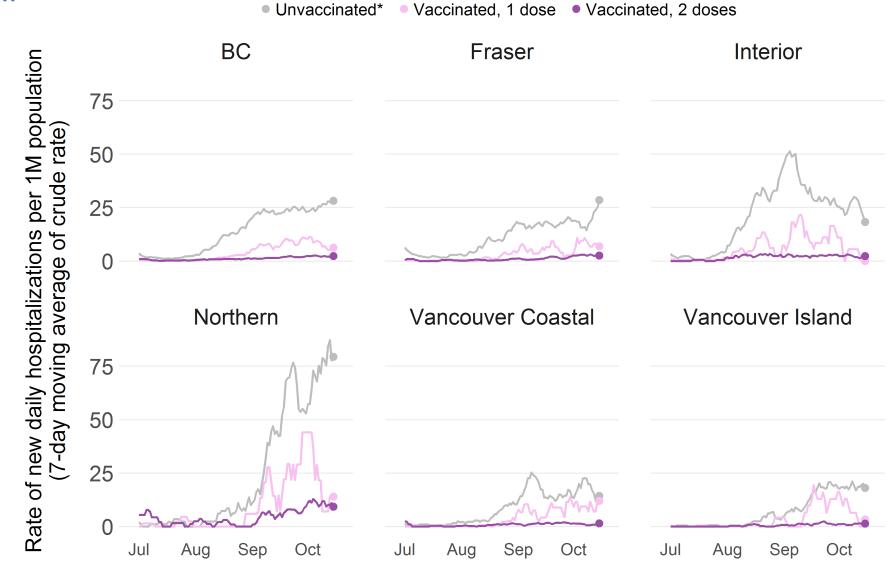


Unvaccinated\*
Vaccinated, 1 dose
Vaccinated, 2 doses

### **COVID-19 hospitalization**

rate by vaccination status, July 1 – Oct 15, 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 15 Oct 2021



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

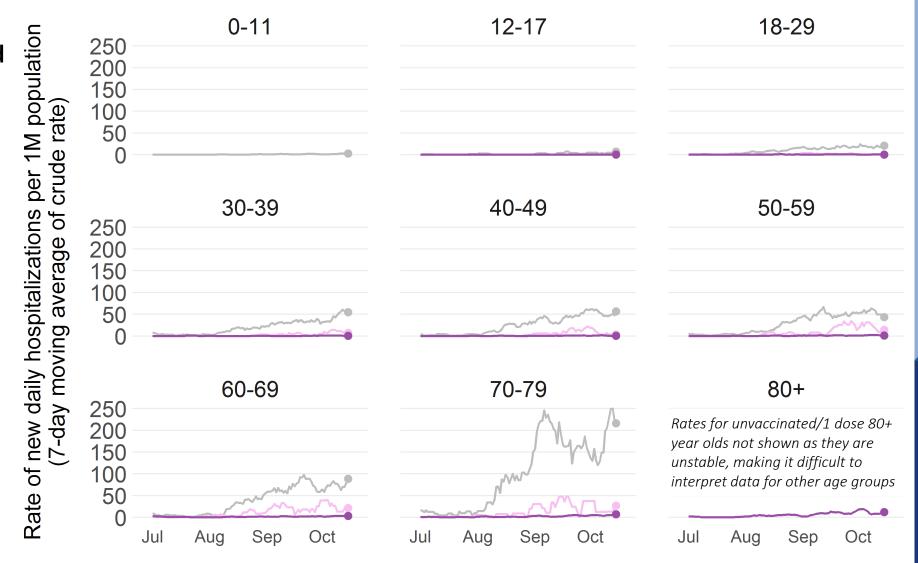


### COVID-19

#### Unvaccinated\* Vaccinated, 1 dose Vaccinated, 2 doses

hospitalization rate by vaccination status and age, July 1 – Oct 15, 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.

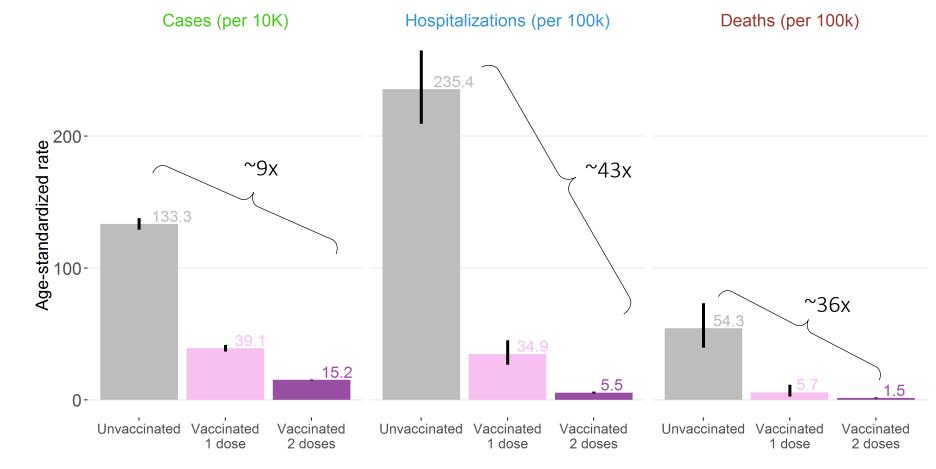


\*Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 5% of hospitalized unvaccinated cases since 1 July 2021. Data extracted from health authority case line list and up to 15 Oct 2021



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

Relative rate fluctuates over time. These figures do not represent vaccine effectiveness.

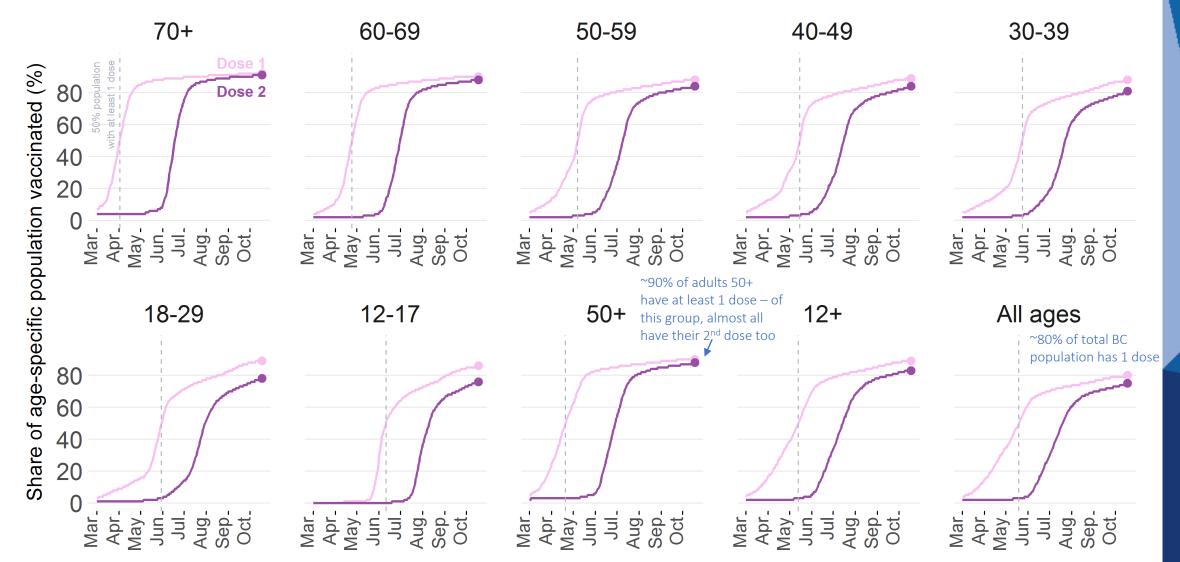


Data include cases from Sep 21-Oct 18, and hospitalizations and deaths from Sep 18-Oct 15, 2021





### Vaccination progress in BC over time by age group and dose number up to Oct. 19, 2021



Data updated 2021-10-19 Data Source: Provincial Immunization Registry, PHSA





## Vaccination progress in BC and by Health Authority as of Oct 19, 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.

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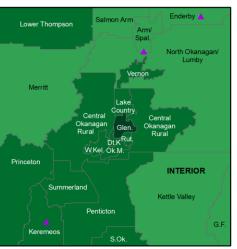
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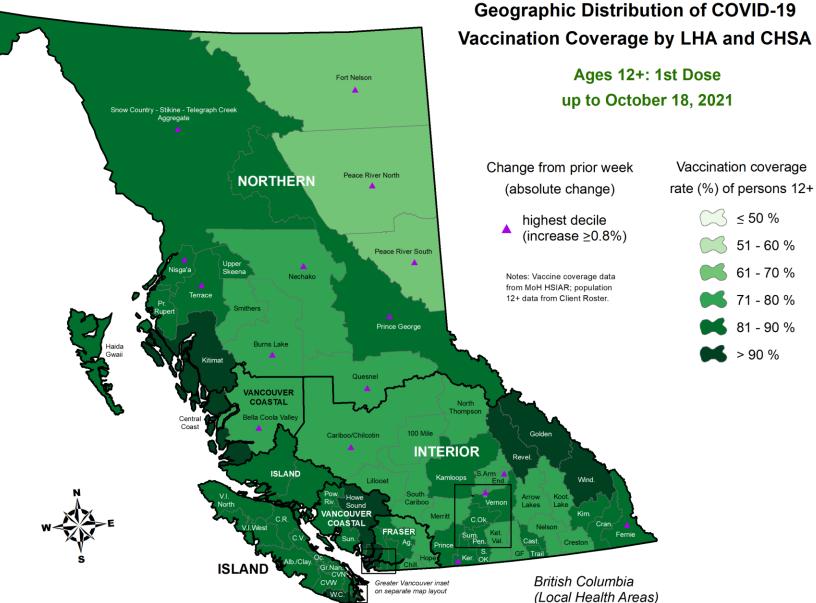
30

#### Okanagan Inset (Community Health Service Areas)



Greater Victoria Inset (Community Health Service Areas)







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

31 **BC Centre for Disease Control** 

≤ 50 %

51 - 60 %

61 - 70 %

71 - 80 %

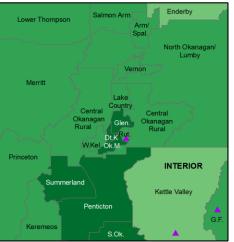
81 - 90 %

**>** 90 %

Vaccination Coverage by LHA and CHSA

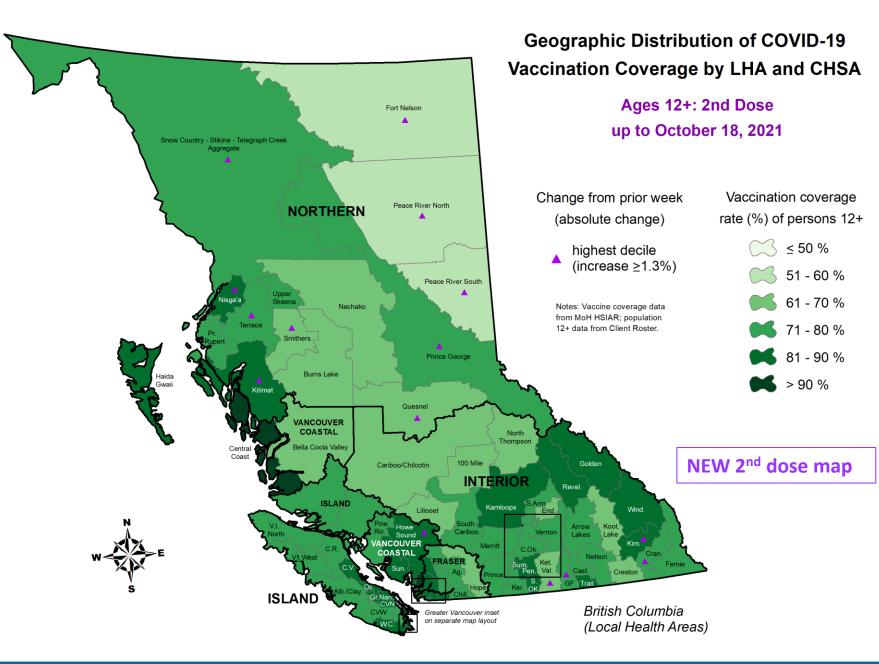
### Ages 12+: 1st Dose up to October 18, 2021

#### Okanagan Inset (Community Health Service Areas)



Greater Victoria Inset (Community Health Service Areas)

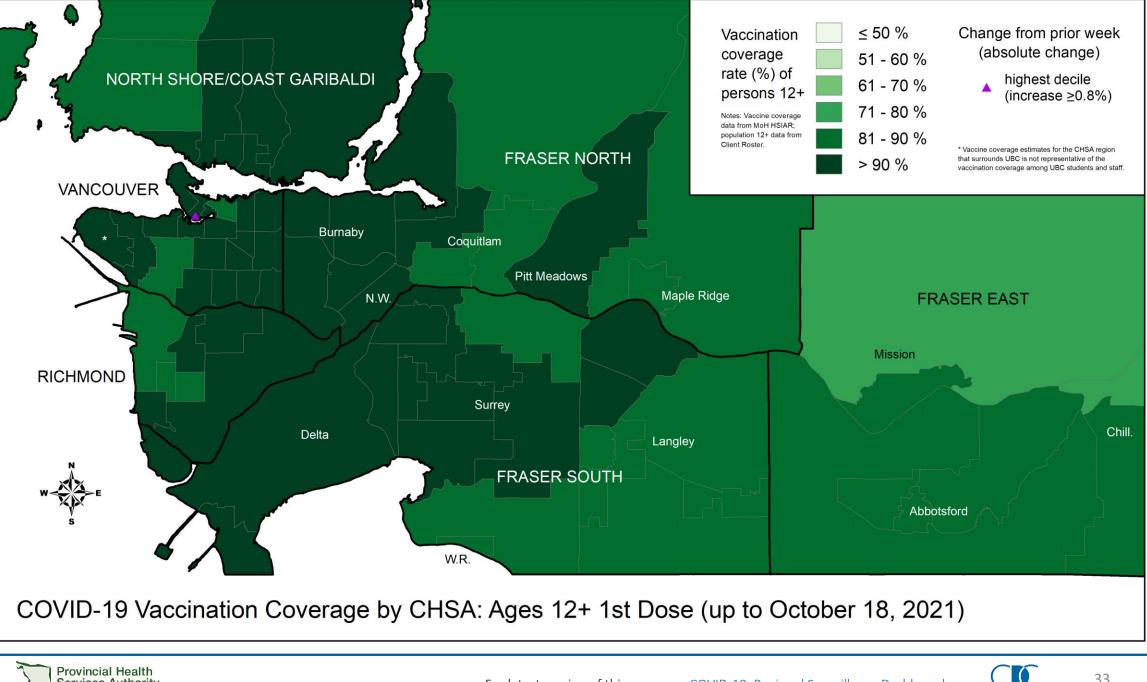






For latest version of this map, see <u>COVID-19 Regional Surveillance Dashboard</u>

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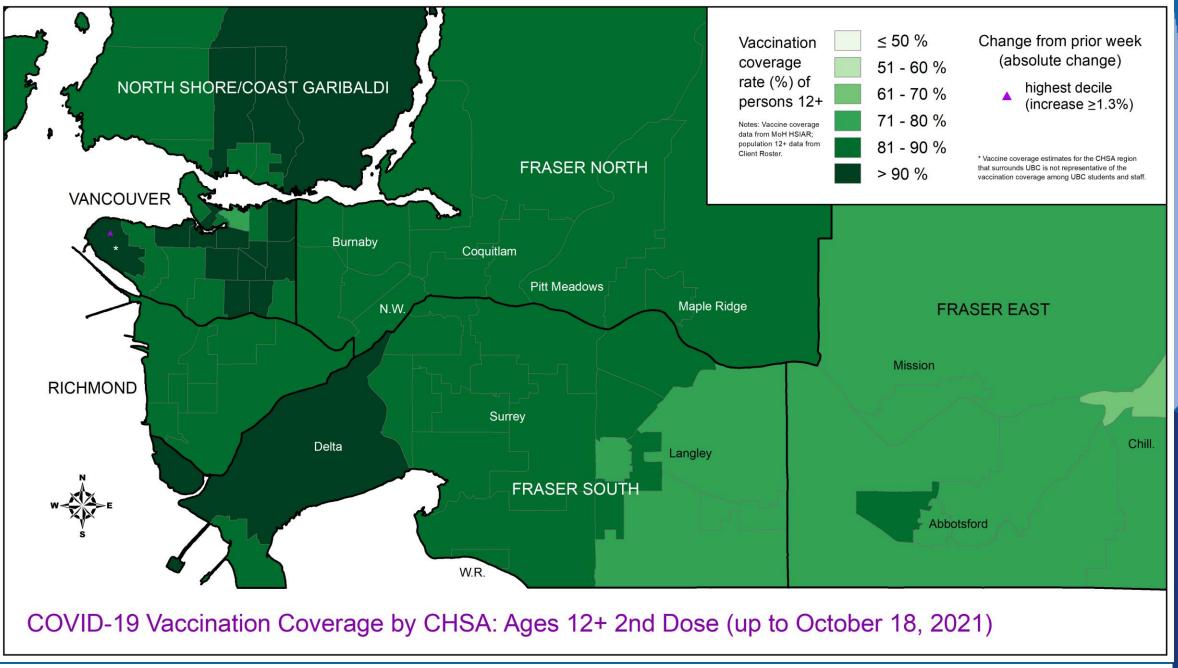






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For latest version of this map, see <u>COVID-19 Regional Surveillance Dashboard</u>



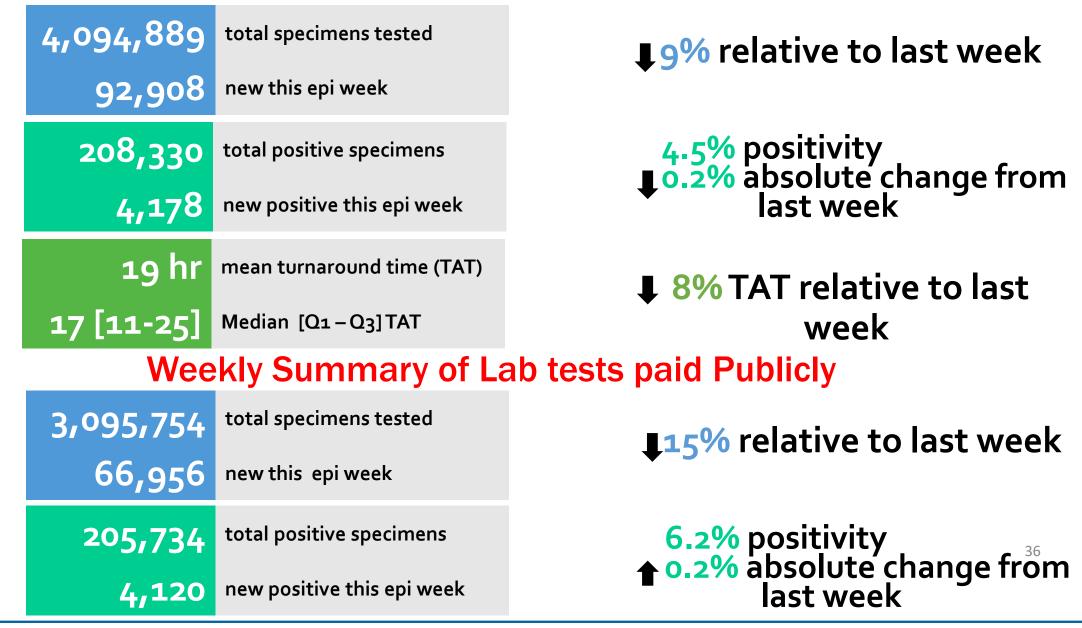
## Lab - Key Messages

- Test positivity among publicly funded tests was stable this week (current ~6%)
  - Test positivity varies by HA, ranging from 4% in VCH to 22% in NH.
  - Test positivity is high in Fraser East and most HSDAs in NH and IH
- Publicly funded testing decreased 15% this week (~67K total public tests)
  - Testing rates elevated but decreasing in children (<19 years) and adults (30-44 years)
- The provincial weekly median turnaround time (time from specimen collection to lab result) remains low at 17 hours, indicating good testing capacity; 3 in 4 tests took ≤ 25 hours to result.
- Delta is the most prevalent COVID-19 variant in BC representing ~100% of all sequenced specimens in most recent week.
- 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



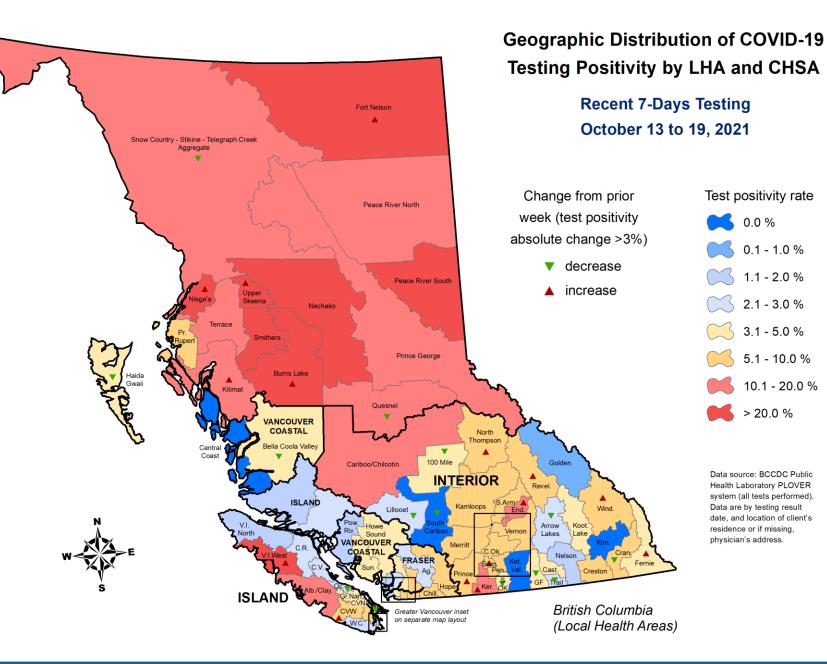
**Data source:** PLOVER extract at 10:30am on October 20, 2021. Epi week 41 (Oct 10 – 16)

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Greater Victoria Inset (Community Health Service Areas)

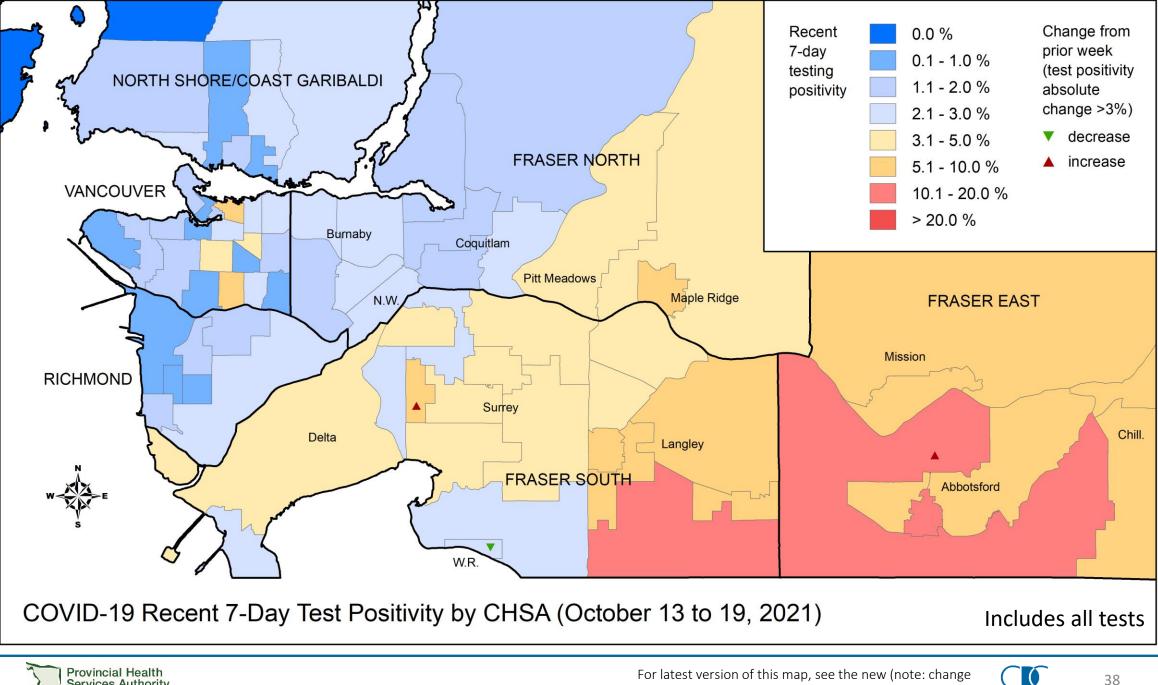






For latest version of this map, see the new (note: change symbols not included) <u>COVID-19 Surveillance Dashboard</u>



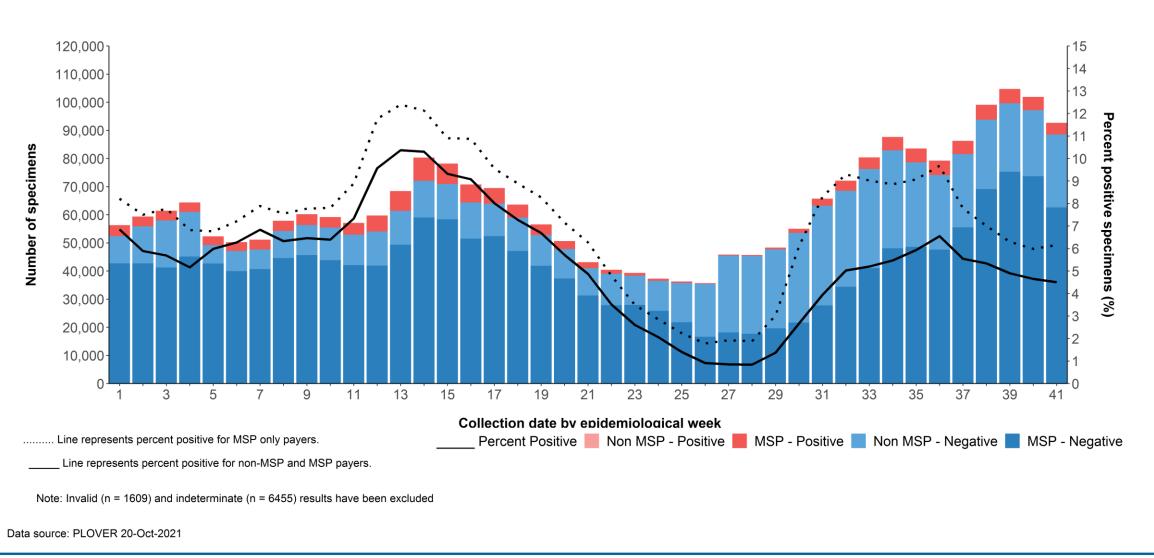


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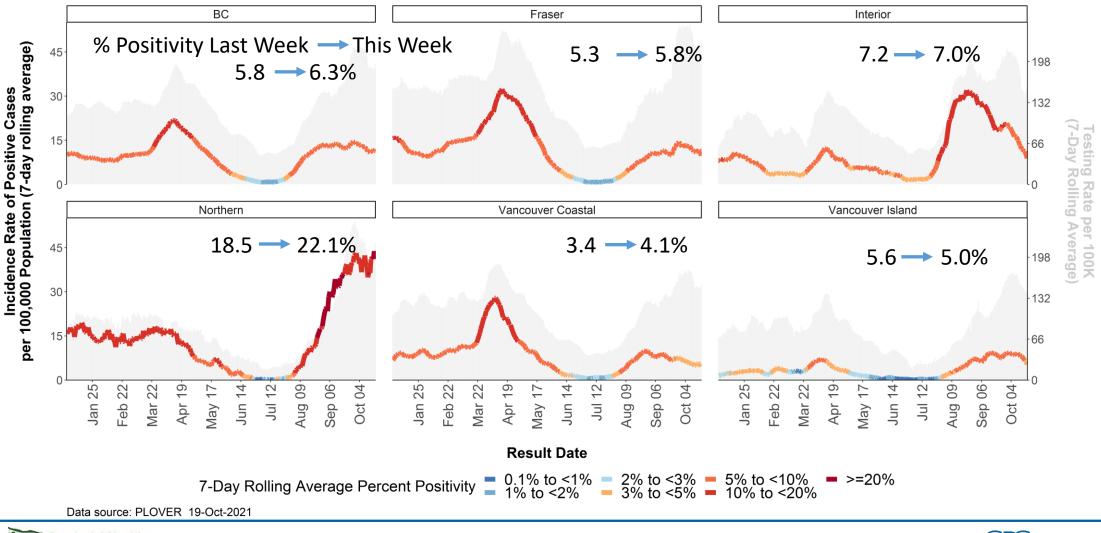
For latest version of this map, see the new (note: change symbols not included) COVID-19 Surveillance Dashboard



Among publicly funded specimens, percent positivity is stable (~6%), and testing rates have decreased 15% in the last week.



#### Percent positivity is stable provincially, but elevated and increasing in NH. Testing rates are elevated and declining across the province (highest in Fraser Health and Northern Health)



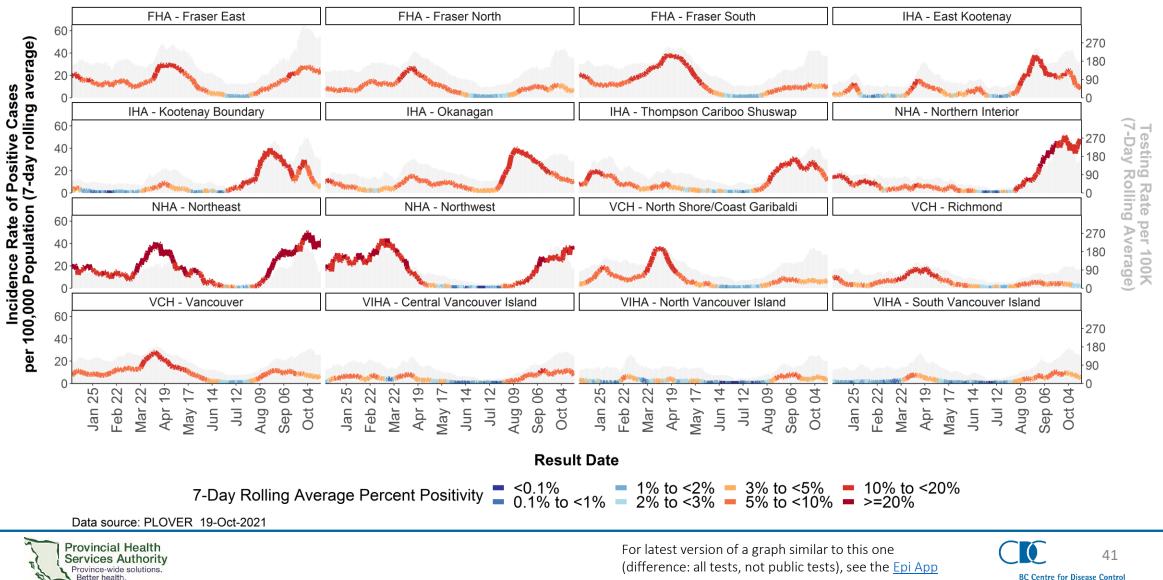
Case incidence rate, test percent positivity, and testing rate (Public Payers Only). Jan 1 2020 - Oct 19, 2021.





#### Test positivity and incidence are elevated in NH; incidence remains high in Fraser East.

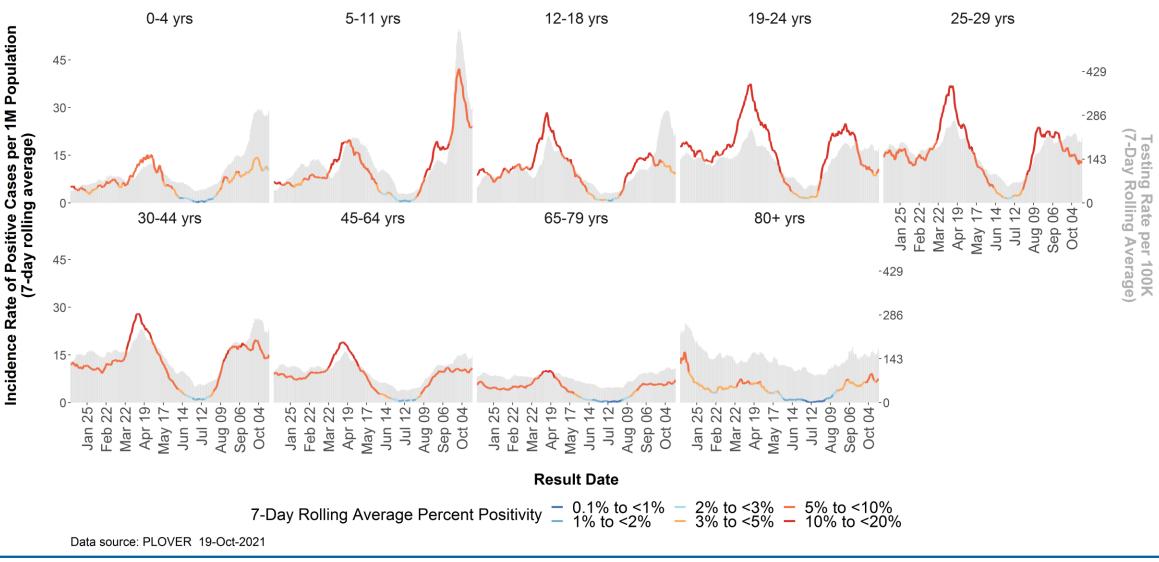
Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only). Jan 1 2021 - Oct 19, 2021.



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#### Testing rates elevated but decreasing for individuals <19 years, and individuals 30-44 years.

Case incidence rate, test percent positivity, and testing rate by age (Public Payers Only). Jan 1 2020 - Oct 19, 2021.



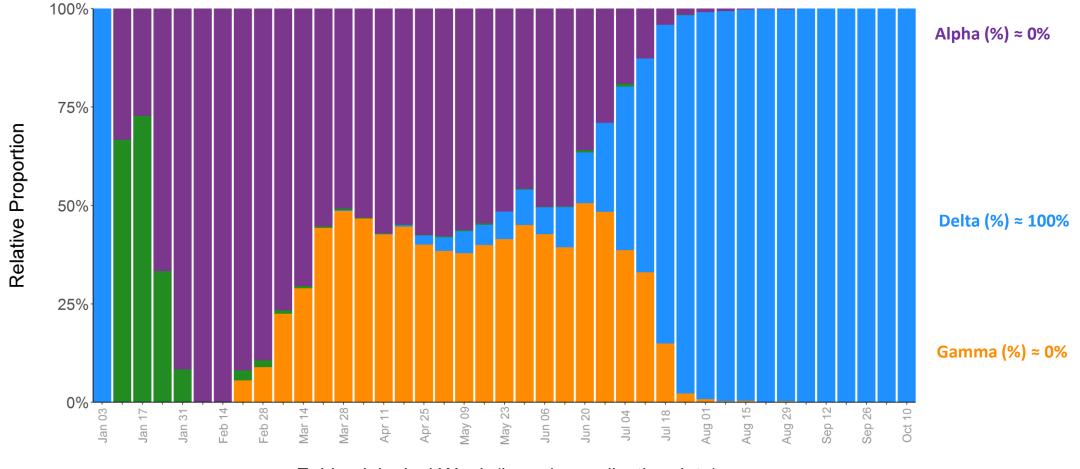
42

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## Among sequenced VOC samples provincially based on information for Oct 10 to 16, the dominant VOC continues to be Delta ~100%

Relative Proportion of VoCs in BC by Epiweek of Collection Date

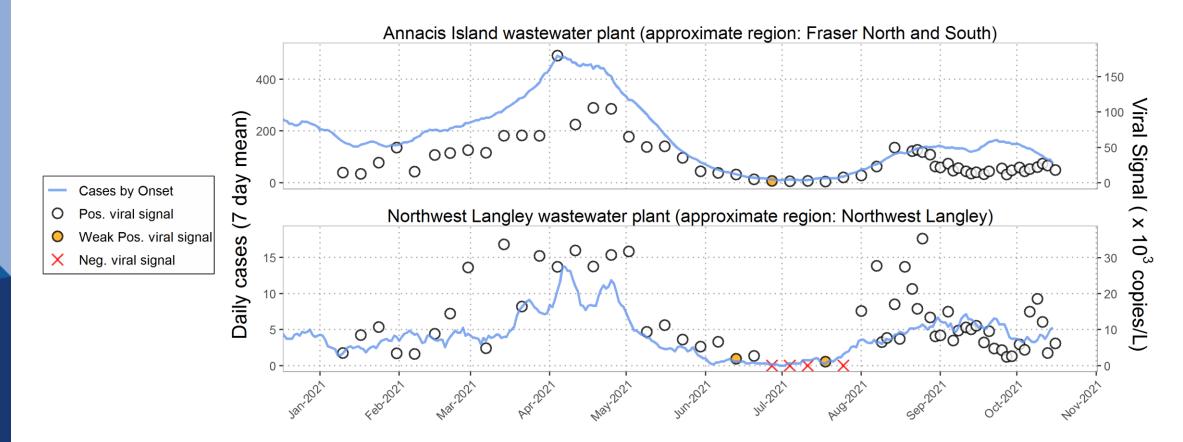


Epidemiological Week (based on collection date)

📕 Alpha 📕 Beta 📃 Delta 📕 Gamma



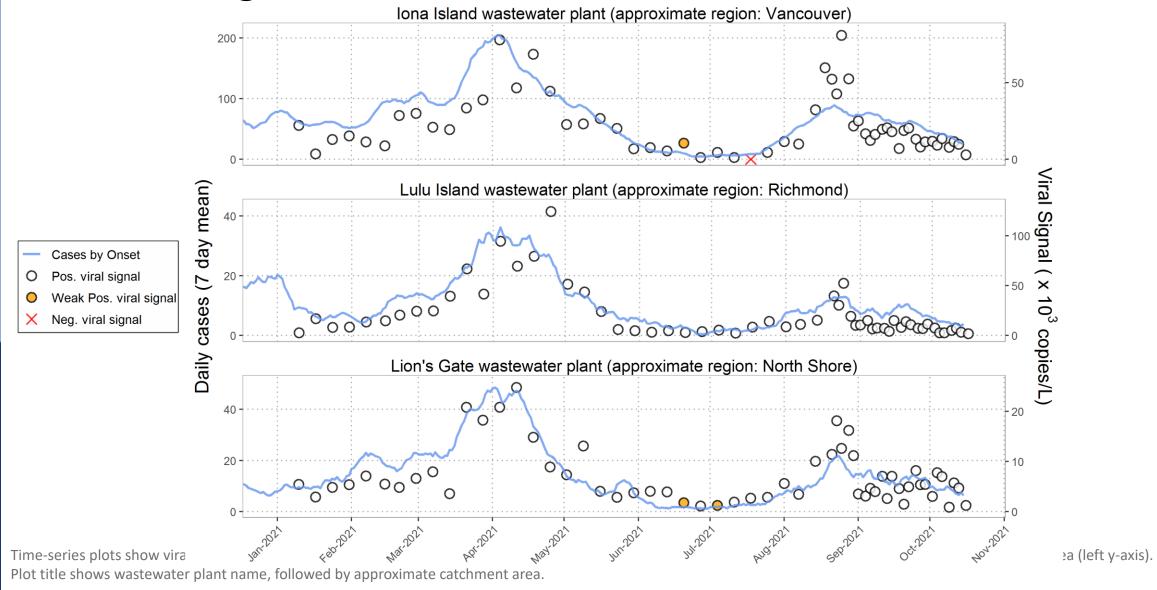
## In FHA, the viral signal from wastewater reflects the trends in case counts in this region



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.

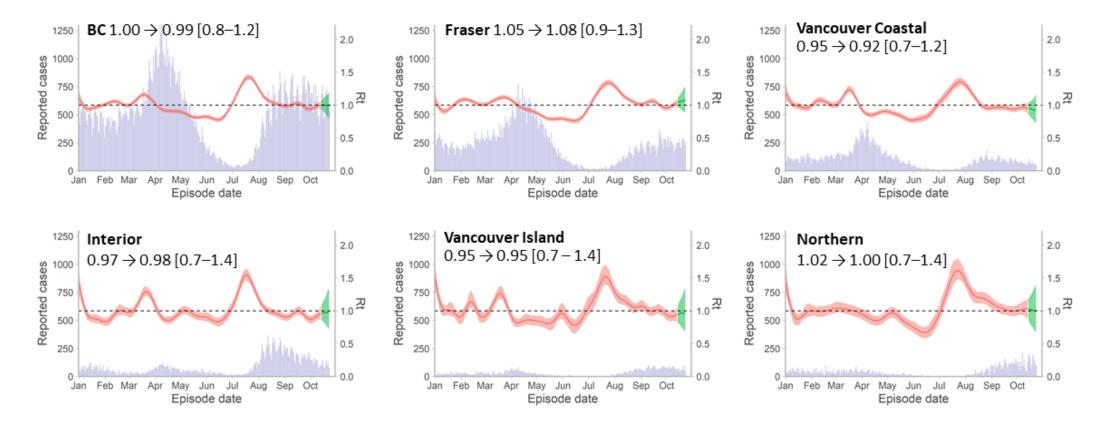
# In VCH, the viral signal from wastewater reflects the declining trends in case counts in this region





### Dynamic modeling: recent trends

Modelling indicates that  $R_t$  remains near 1 in all regions. 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 Oct 23, 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 elevated, but are beginning to decrease
  - Incidence varies regionally: decreasing in IH, elevated in NH and FE; low in VIHA and VCH
  - Incidence highest among elementary school age 5 to 11 years, but declining
- Rates are highest in regions with lower 12+ vaccine coverage
- Severe outcomes are very rare in children
- Testing rates elevated but decreasing for pediatric age groups

See the Data for K-12 Schools report posted on the BCCDC website http://www.bccdc.ca/Health-Info-Site/Documents/COVID\_sitrep/K12\_Situation\_Report/SitRep\_K-12\_October\_2021.pdf





### Oct 14 to Oct 20: Pediatric COVID-19 Profile

<b>***</b> ****** *****							
Age group: 0-4		Age group: 0-4		Age group: 0-4		Age group: 0-4	
5,245	total cases	114	ever hospitalized	11	ever in critical care	2	total deaths
164	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	
13,335	total cases	50	ever hospitalized	3	ever in critical care	0	total deaths
578	new this week	0	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	
12,015	total cases	48	ever hospitalized	7	ever in critical care	0	total deaths
218	new this week	2	new this week	0	new this week	0	new this week

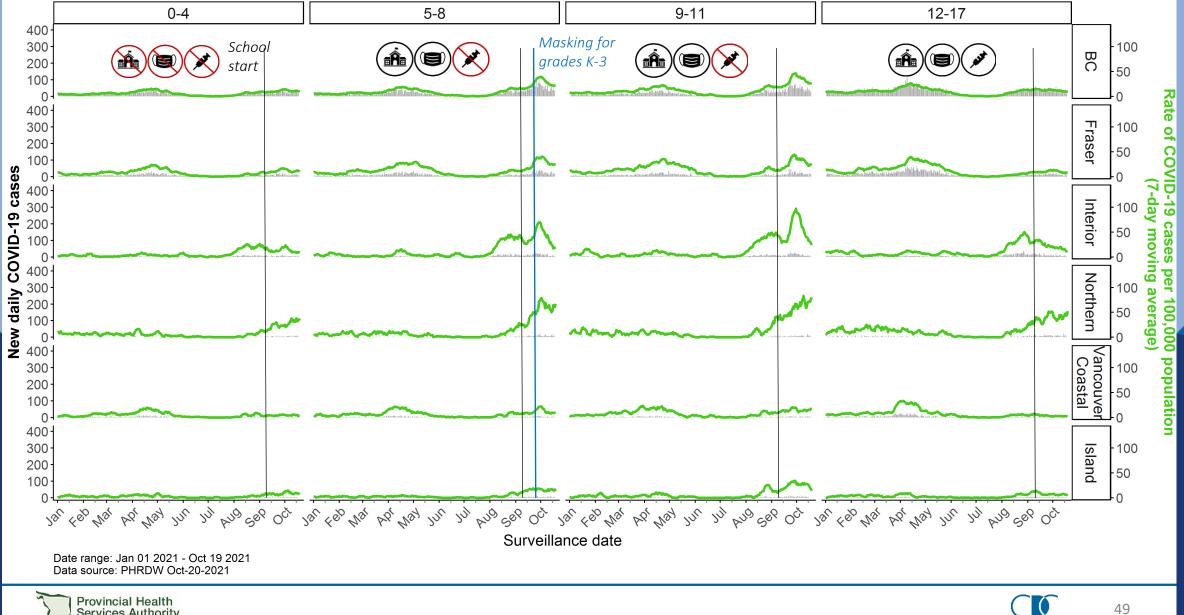
\* New hospitalizations and critical care census numbers are as of Oct 19 2021

\* New cases and new deaths are net new between Line lists of Oct 13 and Oct 20





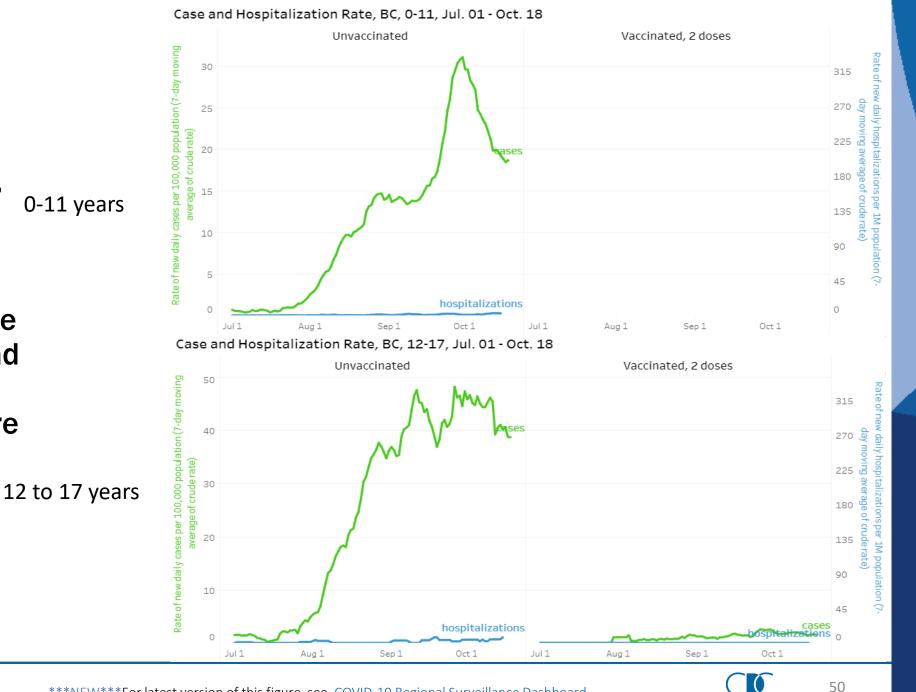
## Incidence in children has decreased in Interior and Fraser, remains elevated in Northern Health, and is low in Vancouver Coastal and Island.



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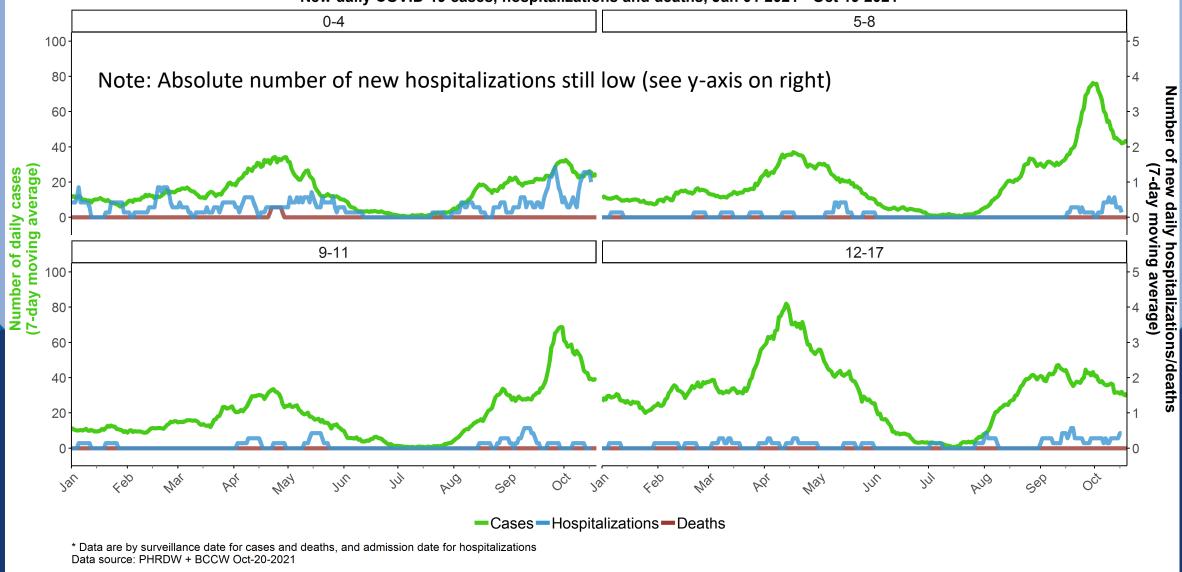
**Incidence** has decreased among unvaccinated children <11 years, 0-11 years and is stable in unvaccinated children 12 to 17 years. Elevated case rates in children and youth have not translated into more hospitalizations





### Hospitalization rates remain very low and stable; deaths are extremely rare

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

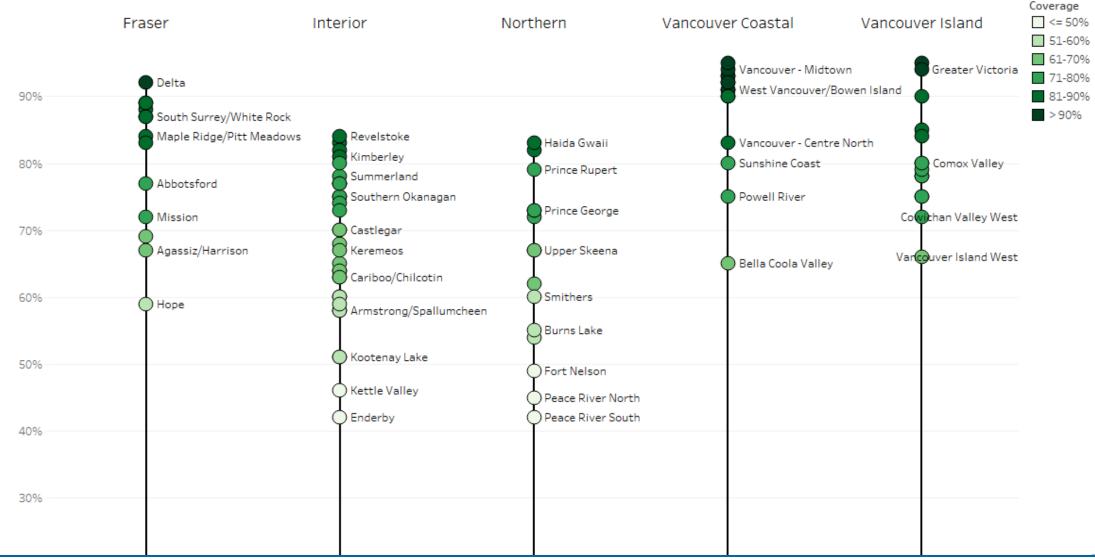






### COVID-19 vaccination coverage with 1st dose among 12-17 year olds, by Local Health Area, up to 18 Oct 2021: there is more variation in this age group compared with older age groups

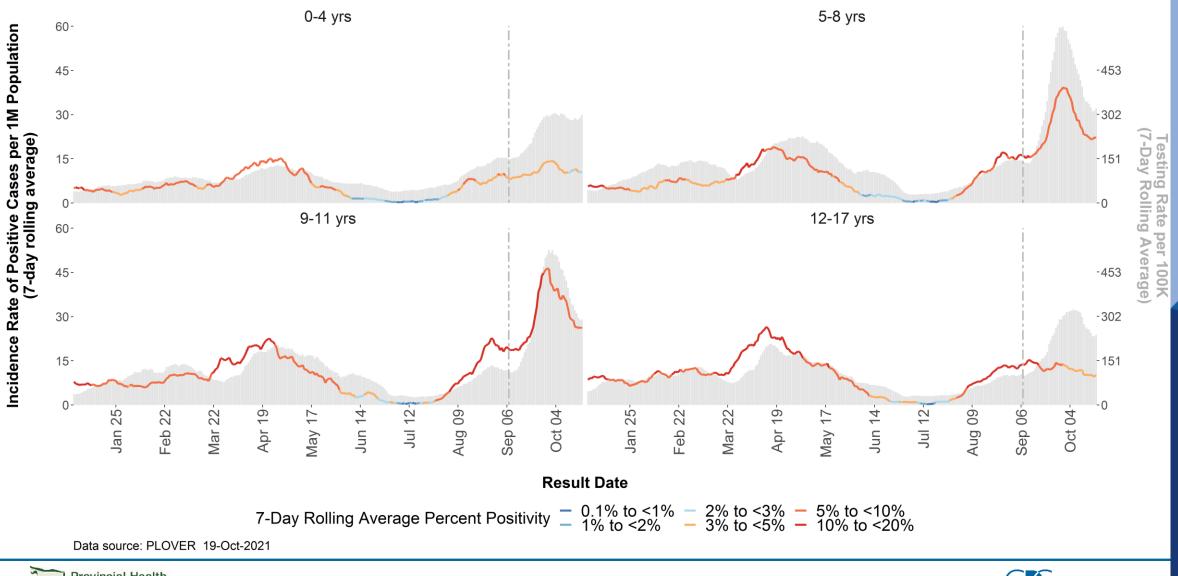
COVID-19 Vaccination Coverage (first dose), 12-17, Oct. 18, 2021





#### Testing rates among all pediatric age groups have recently decreased but remain high

Case incidence rate, test percent positivity, and testing rate by age (Public Payers Only). Jan 1 2020 - Oct 19, 2021.



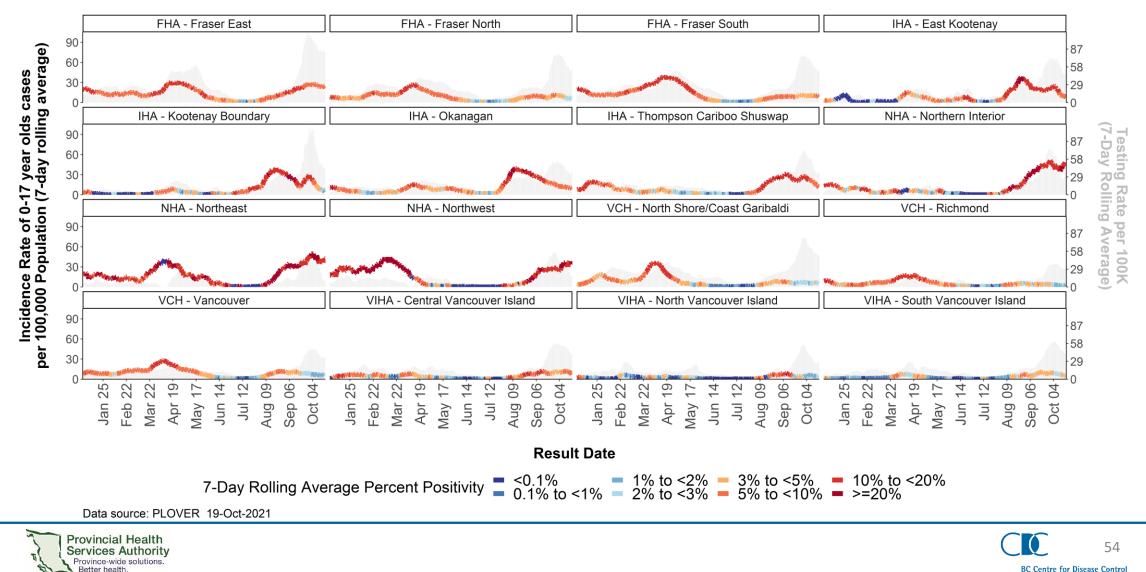
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#### Testing rates among 0-17 years remain high in all HSDAs. Percent positivity is high in NH. Incidence is elevated in Fraser East, and across NH; incidence is decreasing in IH.

Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only). Jan 1 2021 - Oct 19, 2021.



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### **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>



