# **BCCDC Data Summary**

## **23 September 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 Sept 21**

- The majority of new cases (7 in 10) and hospitalizations (4 in 5) are among unvaccinated individuals.
- \*NEW\* Vaccine effectiveness estimates based on BC data show that:
  - 2 doses of any vaccine are highly protective, including against the Delta variant
  - Strong protection against infection is maintained at least 4 months after the 2<sup>nd</sup> mRNA dose
  - Protection is even stronger when the interval between 1<sup>st</sup> and 2<sup>nd</sup> doses is more than 6 weeks
- New hospitalizations are elevated but stable provincially; hospital/critical care census is increasing across BC; new deaths are low. Hospitalization rates among children continue to remain very low.
- Case rates are increasing in NH, elevated but decreasing in IH, and stable in VCH, FH and VIHA.
- Test positivity among public tests is stable (~8% provincially), and highest in IH (11%) and NH (21%).
  - Testing rates increased in children (<18 years)
- Vaccine coverage in BC, 21 Sep, 1 dose (2 doses): 78% (71%) of total population, 87% (79%) 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.





## Sep 16 to Sep 21: BC COVID-19 Profile



New daily COVID-19 cases, hospitalizations and deaths, Jan 01 2021 - Sep 21 2021







**Case** rates and new hospitalizations are stable at provincial level, but trends differ by HA – note the increase in Northern and Island; new deaths are low.





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



Case and Hospitalization Rate, BC, all ages





Number of new hospital admissions elevated and relatively stable among individuals >20 years. Deaths are low, but increasing- the majority are among individuals aged ≥60 years.



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\*Data based on admission date for hospitalizations

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#### Hospital and critical care census is increasing in most regions and stable in IH



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Reported case rate among 5-11 year olds has recently increased and is currently higher than older age groups - but note the very high testing rates in this age group, see slides 46 and 47





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.







In regions with highly vaccinated adult populations, incidence is lower in children. Some of the recent increase in incidence among <17 years started before schools opened.



#### Rising case rates in children and youth have not translated into more hospitalizations





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

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



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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





COVID-19 Recent 7-Day Case Incidence Rates by CHSA (September 15 to 21, 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, Sep 15 - Sep 21, 2021









#### Average daily rate of new cases per 100,000 population, by local health area, Sep 15 - Sep 21, 2021





## Key messages – Outcomes by vaccine status

- Most of the recent cases and hospitalizations continue to be among unvaccinated individuals
- Based on last month's data, compared with fully vaccinated individuals and after adjusting for age differences, unvaccinated individuals are
  - ≈ 12x more likely to become a case
  - ≈ 61x more likely to be hospitalized
  - ≈ 36x more likely to die
  - NB: relative rates fluctuate over time and do not represent vaccine effectiveness
- Hospitalization rates among children continue to remain very low

- Unvaccinated: no dose or <3 weeks since receipt of 1<sup>st</sup> dose
- 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 69% of BC's total population, but accounted for only 24% of cases and 14% 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.



We operate in a live database environment and data get updated retrospectively. These figures were run on Tuesday Sep 21st 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 Aug 24<sup>th</sup> may not be captured by our surveillance system until Aug 29<sup>th</sup>.





## Over the past month, fully vaccinated individuals accounted for 22% of cases and 13% 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 Sept 21st 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 Aug 24<sup>th</sup> may not be captured in our surveillance system until Aug 29<sup>th</sup>.





#### COVID-19 health outcomes by vaccination status and age, BC, Aug 23 – Sep 19, 2021



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COVID-19 case rate by vaccination status and Health Authority, July 1 – Sept 22, 2021

BC Fraser Interior 100,000 population 60 ises per 100,000 popu average of crude rate) 40 20 Rate of new daily cases Northern Vancouver Coastal Vancouver Island moving 60 (7-day 40 20 Aug Aug Jul Sep Sep Jul Aug Sep Jul Data extracted from health authority case line list on 22 Sep 2021

Unvaccinated
Vaccinated, 1 dose
Vaccinated, 2 doses

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.



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

COVID-19 case rate by vaccination status and age, July 1 – Sept 22, 2021

0-11 12-19 20-29 120 100,000 population 90 60 of crude rate) 30 0 30-39 40-49 50-59 120 moving average per 90 60 Rate of new daily cases 30 0 60-69 70-79 80+ (7-day 120 90 'LNO 60 30  $\cap$ Sep Jul Aug Sep Aug Sep Jul Aug Jul Data extracted from health authority case line list on 22 Sep 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.

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

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Unvaccinated
Vaccinated, 1 dose
Vaccinated, 2 doses

#### **COVID-19 hospitalization**

rate by vaccination status, July 1 – Sept 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.





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

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• Unvaccinated • Vaccinated, 1 dose • Vaccinated, 2 doses

#### COVID-19

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

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Unvaccinated
Vaccinated, 1 dose
Vaccinated, 2 doses

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



## 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 (see graph to the right). These figures do not represent vaccine effectiveness.



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### Illustrated differently...

**164.3** cases hospitalized per **100,000** people unvaccinated

2.7 cases hospitalized per 100,000 people vaccinated, 2 doses



Data from August 20 - September 16, 2021 Data source: health authority case line list











#### Vaccination progress in BC over time by age group and dose number up to Sept 21



Data updated 2021-09-21 Data Source: Provincial Immunization Registry, PHSA





Vaccination progress in BC and by Health Authority as of Sept 21, 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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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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For latest version of this map, see <u>COVID-19</u> Regional Surveillance Dashboard

## COVID-19 vaccination coverage with 1st dose among 12-17 year olds, by Local Health Area, up to Sept 20, 2021: there is more variation in this age group compared with older age groups

COVID-19 Vaccination Coverage (first dose), 12-17, Sep. 20







Nationally, BC's vaccination rate is very close to the Canadian average; internationally, Canada is one of the countries with the highest proportion of the population with at least one dose.





For latest vaccination progress statistics in BC, Canada and internationally, see the Epi App



BC's case rate has flattened and has diverged from the continuing increasing trends in AB and SK, but it is higher than in other provinces.

BC's hospital census is increasing more slowly than AB and SK.

For most up to date figures, and to make your own comparisons, please go to the  $\underline{\sf Epi} \; \underline{\sf App}$ 



New daily cases per 100K population (7-day moving average)



New daily **hospitalization census** per 100K population (7-day moving average)



Data up to 2021-09-19 BC Centre for Disease Control

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Case rate is stable in the US and elevated in Israel. Case rates for European countries shown here are stable or declining.

Over the past two months, BC's case rate has been similar to Germany's and lower than US, UK and Israel. New daily **hospitalization census** per 100K population (7-day moving average)



For most up to date figures, and to make your own comparisons, please go to the Epi App



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New daily **cases** per 100K population (7-day moving average)

## Lab - Key Messages

- Test positivity among publicly funded tests is stable ~8%
  - Test positivity varies by HA, ranging from 5.8% in VCH to 21% in NH.
  - Test positivity is high in Fraser East and most HSDAs in NH and IH
- Publicly funded testing rates were stable this week
  - Testing rates increasing in children (<19 years)
- The provincial weekly median turnaround time (time from specimen collection to lab result) remains low, at 14 hours indicating good testing capacity; 1 in 4 tests took > 22 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 September 21, 2021. Epi week 37 (Sep 12 – Sep 18)



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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Percent positivity decreased slightly in the most recent week (~8%), in parallel with an increase in the number of publicly funded specimens tested.





NH case incidence continues to increase considerably and has high test positivity (~21%). Incidence is stable or declining in other regions; test positivity still high in IH (~11%).

BC Fraser Interior 45 Incidence Rate of Positive Cases per 100,000 Population (7-day rolling average) 189 30 6.7% 26 Percent % = 7.9% (7-Day 15 11% 63 -Day Rolling Average) 0 Northern Vancouver Coastal Vancouver Island 45 21% 189 30 126 7.6%<sub>63</sub> 5.8% Aug 09-Sep 06-Sep 06-Aug 09-Sep 06-May 17 Jun 14 Jan 25-Aug 09-Jan 25 Mar 22 Apr 19-25 22 19 Jul 12 Feb 22 Mar 22 19 May 17 Jul 12 22 May 17 Jun 14 Jul 12 22 4 Jan Mar Apr Apr Jun Feb Feb **Result Date** 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% **-** >=20% Data source: PLOVER 21-Sep-2021

Case incidence rate, test percent positivity, and testing rate (Public Payers Only). Jan 1 2020 - Sep 21, 2021.

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#### Test positivity high and incidence increasing in Fraser East and Northern Interior

Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only). Jan 1 2021 - Sep 21, 2021.



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For latest version of a graph similar to this one (difference: all tests, not public tests), see the Epi App



There was a steep rise in testing rates among children 5-11, the highest of any age group and the highest testing rate at any point in the pandemic so far

Case incidence rate, test percent positivity, and testing rate by age (Public Payers Only). Jan 1 2020 - Sep 21, 2021.







#### Increase in testing is seen in all pediatric age groups

Case incidence rate, test percent positivity, and testing rate by age (Public Payers Only). Jan 1 2020 - Sep 22, 2021.



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## Among sequenced VOC samples provincially based on information for September 12 to 18, the dominant VOC continues to be Delta ~100%

Relative Proportion of VoCs in BC by Epiweek of Collection Date 100% Alpha (%) ≈ 0% 75% **Relative Proportion** 50% Delta (%) ≈ 100% 25% Gamma (%) ≈ 0% 0% Feb 28 May 09-May 23-Aug 15-Aug 29. Jan 03 Jan 17 Feb 14 Mar 14 Mar 28 Apr 11 Apr 25 Jun 06 Jun 20 Aug 01 Sep 12 Jan 31 Jul 18 Jul 04

Epidemiological Week (based on collection date)

📕 Alpha 📕 Beta 📃 Delta 📕 Gamma



Wastewater samples can act as a population-level sentinel surveillance toolviral signals found in wastewater are highly correlated with disease incidence in population.

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



Annacis Island (Fraser North and South)





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







## Dynamic modeling: recent trends

Modelling indicates that  $R_t$  is near 1 and declining in most 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, modeled using all reported cases up to Sept 21, 2021; Red band: 5%-95% credible interval; Green band: estimate based on partial data. Purple bars: all reported cases. Due to lag provincial Health from symptoms on set to recent case counts and  $R_t$  are not shown. 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.

## **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 here
- PHAC's COVID-19 Epidemiology update can be found <u>here</u>



