BCCDC Data Summary

7 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 5

- The majority of new cases and hospitalizations are among unvaccinated individuals.
- New hospitalizations are elevated and stable 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.
- Case rates are increasing in NH and FH, stable and elevated in IH, and stable in VCH and VIHA.
  - All health authorities have local health regions with high case rates
- Test positivity among public tests is stable (~6% provincially), and is high and stable in NH (18%).
  - Testing rates are high and continue to increase in children (<18 years) and adults 30-44 years.
- Vaccine coverage in BC, 5 Oct, 1 dose (2 doses): 79% (73%) of total population, 88% (82%) of 12+ eligible population. Lower vaccine coverage in Interior and Northern and among younger individuals.
- The Delta variant continues to account for ≈100% of all positive tests in BC.
Sep 30 to Oct 05: BC COVID-19 Profile

- **Total cases**: 191,124
  - New this week: 4,879
- **Ever hospitalized**: 10,162
  - New this week: 289
- **Total deaths**: 1,992
  - New this week: 39
- **Removed from isolation**: 182,786
  - New this week: 5,057

New daily COVID-19 cases, hospitalizations and deaths, Jan 01 2021 - Oct 05 2021

*Data are by surveillance date for cases and deaths, and admission date for hospitalizations. Data source: PHRDW Oct.05-2021*
Case rates and new hospitalizations are elevated and stable at provincial level, but trends differ by HA – note the steep rise in Northern region; 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.
The majority of new cases and hospitalizations continue to be among unvaccinated individuals.
Number of new hospital admissions elevated and relatively stable. Deaths are low, but have increased in individuals 40-59 years in last couple of weeks.
Trends in number and rate of new hospitalizations by age group, BC, 1 Jan – 2 Oct 2021

Hospitalization counts and rates among children (0-19 years) continue to remain very low

*Data based on admission date for hospitalizations
Hospital census is elevated and increasing in NH, elevated and decreasing in IH and stable elsewhere. Critical care census is stable across province.

Current COVID-19 hospitalizations in BC, Jan 01 2021 - Oct 05 2021

* Data are by census date for hospitalizations
Data source: PHSA Provincial COVID19 Monitoring Solution (PCMS) Oct-06-2021
Incidence among 0-11 year olds is elevated, but decreasing. Note: testing rates among children are very 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.
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 COVID-19 Regional Surveillance Dashboard.
Total cases by local health area, Sep 29 - Oct 05, 2021

Prince George and Chilliwack have both high number of cases and high case rates

For latest version of this graph, see COVID-19 Regional Surveillance Dashboard
Prince George and Chilliwack have both high number of cases and high case rates.
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:
- ≈ 10x more likely to become a case
- ≈ 52x more likely to be hospitalized
- ≈ 44x 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 1st dose; <10% of unvaccinated cases)

Partially vaccinated = 1 dose: ≥3 weeks since receipt of 1st dose and <2 weeks after 2nd dose

Fully vaccinated = 2 doses: 2 weeks or more after receipt of 2nd dose
Over the past week, fully vaccinated individuals represented 71% of BC’s total population, but accounted for only 30% of cases and 19% 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 Oct 5 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 24th may not be captured by our surveillance system until Aug 29th.
Over the past month, fully vaccinated individuals accounted for 26% of cases and 16% 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.

A large proportion of deaths is among older (80+) individuals, >90% of whom are fully vaccinated, which explains the higher relative % of deaths among the fully vaccinated.

We operate in a live database environment and data get updated retrospectively. These figures were run on Oct 5th 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 24th may not be captured in our surveillance system until Aug 29th.
COVID-19 health outcomes by vaccination status and age, BC, Sep 7 – Oct 4, 2021

*Figures include cases from Sep 07-Oct 04, and hospitalizations and deaths from Sep 04-Oct 01, 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.
COVID-19 case rate by vaccination status and age, July 1 – Oct 6, 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.

For latest version of this figure, see COVID-19 Regional Surveillance Dashboard
COVID-19 hospitalization rate by vaccination status, July 1 – Sept 30, 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.

For latest version of this figure, see COVID-19 Regional Surveillance Dashboard
COVID-19 hospitalization rate by vaccination status and age, July 1 – Sept 30, 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 04 Oct 2021

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 individuals. Relative rate fluctuates over time (see graph to the right). These figures do not represent vaccine effectiveness.
Vaccination progress in BC over time by age group and dose number up to Oct. 5, 2021

~90% of adults 50+ have at least 1 dose – of this group, almost all have their 2nd dose too

~80% of total BC population has 1 dose

Data updated 2021-10-05
Data Source: Provincial Immunization Registry, PHSA
Vaccination progress in BC and by Health Authority as of Oct 5, 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.

Blue line is for visual reference only; note the change to 90%
For latest version of this map, see [COVID-19 Regional Surveillance Dashboard](https://www2.gov.bc.ca/gov/content/health/services/public-health/public-health-topics/coronavirus-covid-19/whoERALHCICLES/COVID-19RegionalSurveillanceDashboard).
For latest version of this map, see COVID-19 Regional Surveillance Dashboard
COVID-19 Vaccination Coverage by CHSA: Ages 12+ 1st Dose (up to October 4, 2021)

For latest version of this map, see COVID-19 Regional Surveillance Dashboard
COVID-19 Vaccination Coverage by CHSA: Ages 12+ 2nd Dose (up to October 4, 2021)

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

- **Test positivity** among publicly funded tests has decreased in last few weeks (current ~6%)
  - Test positivity varies by HA, ranging from 4.0% in VCH to 18.4% in NH.
  - Test positivity is high in Fraser East and most HSDAs in NH and IH

- Publicly funded **testing** increased 8% this week (~80K total public tests)
  - Testing rates remain elevated 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 18 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

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total specimens tested</td>
<td>3,898,543</td>
<td>5% relative to last week</td>
</tr>
<tr>
<td>New this epi week</td>
<td>103,893</td>
<td></td>
</tr>
<tr>
<td>Total positive specimens</td>
<td>199,434</td>
<td>4.9% positivity</td>
</tr>
<tr>
<td>New positive this epi week</td>
<td>5,088</td>
<td>0.4% absolute change from last week</td>
</tr>
</tbody>
</table>

- Mean turnaround time (TAT): 19 hr

### Weekly Summary of Lab tests paid Publicly

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total specimens tested</td>
<td>2,949,696</td>
<td>8% relative to last week</td>
</tr>
<tr>
<td>New this epi week</td>
<td>80,179</td>
<td></td>
</tr>
<tr>
<td>Total positive specimens</td>
<td>196,952</td>
<td>6.3% positivity</td>
</tr>
<tr>
<td>New positive this epi week</td>
<td>5,022</td>
<td>0.7% absolute change from last week</td>
</tr>
</tbody>
</table>

**Data source:** PLOVER extract at 10:30am on October 6, 2021. Epi week 39 (Sep 26 – Oct 2)
COVID-19 Recent 7-Day Test Positivity by CHSA (September 29 to October 5, 2021)  Includes all tests

For latest version of this map, see the new (note: change symbols not included) COVID-19 Surveillance Dashboard.
Percent positivity decreased slightly in the most recent week (~6%), in parallel with an increase in the number of publicly funded specimens tested.
Case incidence rates decreased or remained stable in all HAs. Fraser Health and Northern Health Authorities have the highest testing rates in the province.


<table>
<thead>
<tr>
<th>Region</th>
<th>Incidence Rate</th>
<th>Test Percent Positivity</th>
<th>Testing Rate (7-Day Rolling Average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC</td>
<td>6.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fraser</td>
<td>5.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior</td>
<td>8.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern</td>
<td>18.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vancouver Coastal</td>
<td>4.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vancouver Island</td>
<td>5.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data source: PLOVER 04-Oct-2021
Test positivity high in NH and East Kootenay; incidence is increasing in Fraser East and NHA and remains elevated in IH, NH and Fraser East.

Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only).
Testing rates continue to increase for individuals <19 years, and individuals 30-44 years.


Incidence Rate per 1M Population (7-day rolling average)

Result Date

7-Day Rolling Average Percent Positivity

Data source: PLOVER 04-Oct-2021
Among sequenced VOC samples provincially based on information for September 26 to October 2, the dominant VOC continues to be Delta ~100%
Wastewater samples can act as a population-level sentinel surveillance tool – viral signals found in wastewater are highly correlated with disease incidence in population.

In Fraser Health, 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 Vancouver Coastal Health, the viral signal from wastewater reflects the declining 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.
Dynamic modeling: recent trends

Modelling indicates that $R_t$ remains close to 1 and is stable or declining in most regions. Estimates are shown for last week → this week, with 90% range of possible values given next to most recent estimate.

- **BC**: 0.89 → 0.84 [0.7–1.0]
- **Fraser**: 0.87 → 0.81 [0.6–1.0]
- **Vancouver Coastal**: 0.90 → 0.90 [0.7–1.1]
- **Interior**: 0.81 → 0.77 [0.6–1.1]
- **Vancouver Island**: 1.03 → 1.06 [0.8–1.5]
- **Northern**: 0.96 → 0.95 [0.6–1.5]

Solid line: median $R_t$ modeled using all reported cases up to Oct 10, 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 $R_t$ estimate from (last week → this week; 5%-95% credible interval).

Only January 2021 onward shown here. Data source: BCCDC HA line list.
Pediatric Report - Key Messages

• New mask mandate implemented for school grades K-3
• Case numbers in <18 years remain elevated, but are beginning to decrease
  • Incidence varies regionally: elevated in Fraser East and most of IH and NH; low in VIHA and VCH
  • Incidence highest among elementary school age 5 to 11 years
• Rates are highest in regions with lower 12+ vaccine coverage
• Severe outcomes are very rare in children
• Testing rates remain high for all pediatric age groups
### Sep 30 to Oct 06: Pediatric COVID-19 Profile

<table>
<thead>
<tr>
<th>Age group: 0-4</th>
<th>Age group: 0-4</th>
<th>Age group: 0-4</th>
<th>Age group: 0-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,920 total cases</td>
<td>103 ever hospitalized</td>
<td>11 ever in critical care</td>
<td>2 total deaths</td>
</tr>
<tr>
<td>204 new this week</td>
<td>3 new this week</td>
<td>1 current this week</td>
<td>0 new this week</td>
</tr>
<tr>
<td>Age group: 5-11</td>
<td>Age group: 5-11</td>
<td>Age group: 5-11</td>
<td>Age group: 5-11</td>
</tr>
<tr>
<td>12,132 total cases</td>
<td>44 ever hospitalized</td>
<td>3 ever in critical care</td>
<td>0 total deaths</td>
</tr>
<tr>
<td>877 new this week</td>
<td>1 new this week</td>
<td>0 current this week</td>
<td>0 new this week</td>
</tr>
<tr>
<td>Age group: 12-17</td>
<td>Age group: 12-17</td>
<td>Age group: 12-17</td>
<td>Age group: 12-17</td>
</tr>
<tr>
<td>11,575 total cases</td>
<td>45 ever hospitalized</td>
<td>7 ever in critical care</td>
<td>0 total deaths</td>
</tr>
<tr>
<td>267 new this week</td>
<td>2 new this week</td>
<td>1 current this week</td>
<td>0 new this week</td>
</tr>
</tbody>
</table>

* Hospital census numbers are as of Oct 05 2021
* New cases and new deaths are net new between Line lists of Sep 29 and Oct 06
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.
Elevated case rates in children and youth have not translated into more hospitalizations

0-11 years

12 to 19 years

***NEW*** For latest version of this figure, see COVID-19 Regional Surveillance Dashboard
Hospitalization rates remain very low and stable; deaths are extremely rare.

Note: Absolute number of new hospitalizations still low (see y-axis on right).

* Data are by surveillance date for cases and deaths, and admission date for hospitalizations.
Data source: PHRDW + BCCW Oct-06-2021
COVID-19 vaccination coverage with 1st dose among 12-17 year olds, by Local Health Area, up to 4 Oct 2021: there is more variation in this age group compared with older age groups.
Testing rates among all pediatric age groups have recently stabilized but remain high.


Data source: PLOVER 05-Oct-2021
Testing rates among 0-17 years remain high in all HSDAs. Percent positivity is high in NH, East Kootenay, Kootenay Boundary and Thompson Cariboo Shuswap. Incidence is elevated in Fraser East, and across NH and IH.
Additional Resources

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