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 up to 3 Aug

- **Case rates** have increased recently; **test positivity** for public tests is ~7% provincially.
  - Recent increases in cases primarily driven by Interior Health.
  - Increase in incidence and positivity greatest in 19-29 year olds.
  - Percent positivity >10% in IH.

- **New hospitalizations** are low and stable in each region; **hospital/critical care census** is low and stable across BC; **new deaths** are stable and very low.

- Majority of the cases, hospitalizations and deaths over the past month were among unvaccinated individuals. Severe outcomes in fully vaccinated individuals are infrequent.

- **Vaccine** coverage in BC, 3 Aug: ~90% of 70+ and ~81% of 12+ have received their 1\(^{st}\) dose; ~60% of the total population has received their 2\(^{nd}\) dose. Lower vaccine coverage among <50 year olds in Interior and Northern.

- The share of **VOCs** among all positive tests in BC is ~100% from July 25\(^{th}\) to August 1\(^{st}\); Delta is the dominant VOC (95%) compared to Gamma (3%) and Alpha (2%) which have recently declined.

- Studies consistently show that both mRNA and AstraZeneca vaccines remain highly effective against the Delta variant, especially against severe outcomes. Vaccinated individuals tend to have milder illness if they get infected and are also less likely to pass virus on than unvaccinated individuals.
Jul 29 to Aug 03: BC COVID-19 Profile

- Total cases: 150,973
- New this week: 1,529
- Ever hospitalized: 8,162
- New this week: 37
- Total deaths: 1,772
- New this week: 1
- Removed from isolation: 147,409
- New this week: 653

New daily COVID-19 cases, hospitalizations and deaths, Jan 01 2021 - Aug 03 2021

* Data are by surveillance date for cases and deaths, and admission date for hospitalizations

Data source: PHRDW Aug-04-2021
Most of the cases, hospitalizations and deaths over the past month were among unvaccinated individuals.

*Also see slides 17 and 18
Case rates are starting to increase provincially, with particularly driven by Interior; new hospitalizations are stable and low in all HAs except for Interior, which increased recently; new deaths are stable and very low.

Rate of COVID-19 case, hospitalization and death, Jan 01 2021 - Aug 03 2021

For latest version of a graph similar to this one (difference: hospital census, not new hospitalizations), see the Epi App.
Incidence and % positivity have increased in all HAs. IH reporting record high incidence and % positivity. Note the lower vaccination coverage in individuals <60 years in IH (slide 16).
Hospital and critical care census is stable and low in all regions.

Current COVID-19 hospitalizations, Jan 01 2021 - Aug 03 2021

- BC
- Fraser
- Interior
- Northern
- Vancouver Coastal
- Island

Daily occupancy per 100,000 population (7-day moving average)

* Data are by census date for hospitalizations
Data source: PHSA Provincial COVID19 Monitoring Solution (PCMS) Aug-04-2021
Number of new hospital admissions is stable and low. Deaths are stable and low.
For latest version of this map, see the new (note: change symbols not included) COVID-19 Surveillance Dashboard

Data source: Public Health Reporting Data Warehouse (PHRDW) integrated COVID-19 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.
For latest version of this map, see the new (note: change symbols not included) COVID-19 Surveillance Dashboard.
Total cases by local health area, Jul 28 - Aug 03, 2021

For latest version of this map, see the new COVID-19 Surveillance Dashboard
Average daily rate of new cases per 100,000 population, by local health area, Jul 28 - Aug 03, 2021

For latest version of this map, see the new COVID-19 Surveillance Dashboard
Vaccination progress in BC over time by age group and dose number up to 3 August

Data updated 2021-08-03
Data Source: Provincial Immunization Registry, PHSA
Vaccination progress in BC by Health Authority, age group and dose number as of August 3rd

*Note: BC numbers include individuals where health authority of residence was not assigned

Blue lines at 80% are for visual reference only for easier navigation across panels

Data source: Provincial Immunization Registry, PHSA
Over the past month (24 Jun-24 Jul), fully vaccinated individuals accounted for only ~7% of hospitalizations and deaths.*

This % is expected to increase as more people get fully vaccinated and there are fewer unvaccinated people. If 100% of the population gets fully vaccinated, then any new cases, hospitalizations, or deaths will be among vaccinated people. Percentages for severe outcomes among partially or fully vaccinated need to be interpreted with caution given small numbers in this 4 week snapshot.

*see next slide for more details

Data source: Health Authority case line list

Note: % may not add to 100 due to rounding
Number of Cases

Number of hospitalizations

Number of deaths

Trend* in % total population vaccinated with at least 1 dose

Trend* in daily cases per 100K

Trend* in daily hospitalizations per 100K

Trend* in daily deaths per 100K

*Figures include data for 24 Jun – 24 July 2021
Unvaccinated cases and hospitalized individuals are younger compared to fully vaccinated cases and hospitalized individuals.

<table>
<thead>
<tr>
<th>Vaccine status*</th>
<th>Median age (years)</th>
<th>Cases N=1,683</th>
<th>Hospitalizations N=136</th>
<th>Deaths N=18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unvaccinated</td>
<td></td>
<td>28</td>
<td>50</td>
<td>72</td>
</tr>
<tr>
<td>Vaccinated, 1 dose</td>
<td></td>
<td>31</td>
<td>43</td>
<td>66</td>
</tr>
<tr>
<td>Vaccinated, 2 doses</td>
<td></td>
<td>49</td>
<td>73</td>
<td>67</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30</td>
<td>52</td>
<td>68</td>
</tr>
</tbody>
</table>

This table is based on data for 24 Jun – 24 July 2021

*Unvaccinated is defined as no doses or within 3 weeks of 1st dose; Vaccinated, 1 dose is defined as >3 weeks after 1st dose and <1 week after 2nd dose, if applicable; Vaccinated, 2 doses is defined as >1 week after 2nd dose

**Percentages for severe outcomes among partially or fully vaccinated need to be interpreted with caution given small numbers in this 4 week snapshot.

Data sources: Health Authority case line list
For latest version of this map, see the new COVID-19 Surveillance Dashboard

Geographic Distribution of COVID-19 Vaccination Coverage by LHA and CHSA

Ages 12+: 1st Dose up to August 2, 2021

Change from prior week (absolute change)

- highest decile (increase >0.9%)

Vaccination coverage rate (%) of persons 12+

- ≤ 50 %
- 51 - 60 %
- 61 - 70 %
- 71 - 80 %
- > 80 %

Notes: Vaccine coverage data from MHLHISAR; population 12+ data from Client Regist.
For latest version of this map, see the new COVID-19 Surveillance Dashboard

COVID-19 Vaccination Coverage by CHSA: Ages 12+ 1st Dose (up to August 2, 2021)
For latest version of this map, see the new COVID-19 Surveillance Dashboard.
For latest version of this map, see the new COVID-19 Surveillance Dashboard
Nationally, BC’s vaccination rate is very close to Canadian average; internationally, Canada is one of the countries with the highest proportion of the population with at least one dose.

Data source: Open Data
Visualization: BCCDC

For latest vaccination progress statistics in Canada and internationally, see the Epi App
• **Percent positivity** among publicly funded tests doubled in last week (from 3.2 to 6.3 %)
  - Test positivity varied by HA, ranging from 3.8% in FH to 14.3% in IH.
  - Increase in incidence and positivity in individuals aged < 45 years; most marked increase in individuals 19 to 29 years.

• Testing rates increased 10% this week (~52,000 total tests July 25 to 31)

• The provincial weekly median **turnaround time** (time from specimen collection to lab result) is 15 hours, indicating good testing capacity; only 1 in 4 tests took ≥24 hours to result.

• The share of **VOCs** among all positive tests in BC is ~100% from July 25 to 31.

• Sequencing-based VOC prevalence for July 25 to 31 shows distribution of lineages among VOC samples: predominant B.1.617.2 (Delta) ~95%. P.1 (Gamma) ~3%, and B.1.1.7 (Alpha)~2%.
### 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>3,099,755</td>
<td></td>
</tr>
<tr>
<td>New this epi week</td>
<td>52,130</td>
<td>+10% relative to last week</td>
</tr>
<tr>
<td>Total positive specimens</td>
<td>158,387</td>
<td>2.8% positivity</td>
</tr>
<tr>
<td>New positive this epi week</td>
<td>1,462</td>
<td>+1.4% absolute change from last week</td>
</tr>
<tr>
<td>Mean turnaround time (TAT)</td>
<td>21 hr</td>
<td></td>
</tr>
<tr>
<td>Median [Q1 – Q3] TAT</td>
<td>15 [9-24]</td>
<td>+54% TAT relative to last week</td>
</tr>
</tbody>
</table>

### 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>2,424,899</td>
<td>+17% relative to last week</td>
</tr>
<tr>
<td>New this epi week</td>
<td>22,467</td>
<td></td>
</tr>
<tr>
<td>Total positive specimens</td>
<td>156,743</td>
<td>6.3% positivity</td>
</tr>
<tr>
<td>New positive this epi week</td>
<td>1,413</td>
<td>+3.1% absolute change from last week</td>
</tr>
</tbody>
</table>

**Data source:** PLOVER extract at 10:30am on August 4, 2021.  
Epi week 30 (July 25 - 31)
COVID-19 Recent 7-Day Test Positivity by CHSA (July 28 to August 3, 2021) Includes all tests

For latest version of this map, see the new (note: change symbols not included) COVID-19 Surveillance Dashboard
In epi week 30, percent positivity among publicly funded tests has nearly doubled as compared with epi week 29 (6.3% and 3.2% respectively).

Note: Invalid (n = 1131) and indeterminate (n = 4483) results have been excluded

Data source: PLOVER 04-Aug-2021
Incidence is increasing rapidly in the Okanagan and Kootenay Boundary HSDAs, but remains low in other HSDAs.

Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only).

Data source: PLOVER 03-Aug-2021
Increase in incidence and positivity in individuals aged < 45 years; most marked increase in individuals 19 to 29 years.
Over the past epi week, the majority of COVID-19 positive samples were VOCs (~100%). Note: the absolute number of VOC samples is small but has increased recently.

Prevalence of VOC, by epi week in BC and Health Authorities, Jul 25 - Jul 31

This figure can also be found in the weekly VOC report.
Prevalence of the Delta variant among all sequenced samples* has increased substantially over the past few weeks

Estimated sample prevalence of VOCs by lineage by epi week of collection date, Jan 3 – Jul 24, 2021

*Not all sequenced samples are VOCs; only VOCs are illustrated in this figure

Given the sequencing turnaround time, specimens collected in the last epi week continue to be analyzed.

This figure can also be found in the weekly VOC report
Among sequenced VOC samples provincially based on information for July 25th to July 31st, the relative proportion of Delta has increased to 95% and is now the dominant variant, while Gamma (3%) and Alpha (2%) and have both declined.

Weeks 13 onward include specimens from qPCR SNP screening that resulted as presumptive positive for B.1.1.7 and P.1.
Dynamic compartmental modeling: recent trends

Our model shows that $R_t$ is trending upward and is now above 1. Note that in areas with small case numbers, fluctuations in $R_t$ are driven by clusters of cases and may not be indicative of the greater community transmission.

**BC (2.0 → 2.1)**

**Fraser (1.6 → 1.8)**

**Vancouver (1.6 → 1.9)**

**Coastal**

**Rest of BC (2.4 → 2.3)**

Solid black line: median $R_t$, modeled using all reported cases up to July 27, 2021. Grey band: 5%-95% credible interval. Purple bars: all reported cases. Due to lag from symptom onset to reporting, most recent case counts and $R_t$ are not shown. Recent trend shown comparing 7 day average $R_t$ from (last week → this week). Only January 2021 onward shown here. Data source: BC CDC/HA line list.
Model notes and assumptions

- $R_t$ modelling: a dynamic compartmental model was fit to COVID-19 data for BC using a Bayesian framework (Anderson et al. 2020. PLoS Comp. Biol. 16(12): e1008274). Results are presented as provincial and regional time-varying estimates of average daily transmission rate ($R_t$).
  - the model does not consider importation of cases, hence all transmission is assumed to arise from local cases
  - the model does not distinguish cases arising from variants of concern (VoCs) versus ‘wild-type’ COVID-19, hence model estimates represent average rates of transmission
Additional Resources

• BCCDC COVID-19 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](#).