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 Nov 11

• Case rates are elevated but beginning to decrease provincially; decreasing in NH and VCH, increasing in IH, and relatively stable in FH and VIHA.

• Test positivity among public tests is stable (~6.0% provincially), and remains high in NH (20.5%).
  • Testing rates remain higher than historical trends among <12 year olds

• 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 elevated compared to Spring.
  • New hospitalizations are increasing in FH and VIHA

• 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, 9 Nov, 1 dose (2 doses): ~81% (77%) of total population, ~90% (86%) 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.
Nov 03 to Nov 08: BC COVID-19 Profile

- **Total cases**: 210,203 (3,513 new this week)
- **Ever hospitalized**: 11,737 (255 new this week)
- **Total deaths**: 2,223 (37 new this week)
- **Removed from isolation**: 203,375 (3,895 new this week)

**New daily COVID-19 cases, hospitalizations and deaths, Jan 01 2021 - Nov 08 2021**

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

Data source: PHRDW Nov-09-2021
Case rates are elevated with early signs of decrease, and new hospitalizations are elevated and relatively stable; 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

Rate of COVID-19 case, hospitalization and death by vaccination status, Jul 01 2021 - Nov 08 2021

* Data are by surveillance date for cases and deaths, and admission date for hospitalizations
Data source: PHRDW Nov-09-2021

For latest version of this figure (note: no deaths data), see COVID-19 Regional Surveillance Dashboard
Overall incidence is slightly increasing among 5 to 11 years, and relatively stable or decreasing in other age groups. Note: this graph looks different once separated out by vaccine status (next slide)
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 COVID-19 Regional Surveillance Dashboard

NB: 80+ age group not shown for the unvaccinated group due to high and very unstable rates, reflecting a small denominator.
Number of new hospital admissions is elevated and stable overall as well as across age groups. Deaths are low, but higher than in the Spring. The majority of deaths are in individuals ≥60 years.
Hospitalization counts and rates among children (0-19 years) continue to remain very low.
Critical care census is stable across province. Hospital census is increasing in FH, declining in NH, and stable in IH, VIHA and VCH.
For latest version of this map (note: change symbols not included), see COVID-19 Regional Surveillance Dashboard

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 psi-linked cases. Population denominator from BC Stats PEOPLE estimates for 2021.
COVID-19 Recent 7-Day Case Incidence Rates by CHSA (November 3 to 9, 2021)

For latest version of this map, (note: change symbols not included), see COVID-19 Regional Surveillance Dashboard
For latest version of this graph, see COVID-19 Regional Surveillance Dashboard
Average daily case rate of new cases per 100,000 population, by local health area, Nov 03 - Nov 09, 2021

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

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Vaccine coverage in BC, 9 Nov, 1 dose (2 doses): ~81% (77%) of total population, ~90% (86%) 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:

- ≈ 10x more likely to become a case
- ≈ 57x more likely to be hospitalized
- ≈ 47x 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 76% of BC’s total population, but accounted for 37% of cases and 26% 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 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 24th may not be captured by our surveillance system until Sept 29th.
Over the past month, fully vaccinated individuals accounted for 35% of cases and 23% 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 may 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 24th may not be captured in our surveillance system until Sept 29th.
COVID-19 health outcomes by vaccination status and age, BC, Oct. – Nov. 2021

Trend in % total population vaccinated with at least 1 dose

Trend in daily cases per 1M

Trend in daily hospitalizations per 1M

Trend in daily deaths per 1M

Vaccinations (all BC; n=5.2M)

Cases (n=15,539)

Hospitalizations (n=1,157)

Deaths (n=181)

Number of people

Number of cases

Number of hospitalizations

Number of deaths

Unvaccinated (n=1.0M; 20%)
Vaccinated, 1 dose (n=0.2M; 4%)
Vaccinated, 2 doses (n=3.9M; 76%)

Unvaccinated (n=9,145; 59%)
Vaccinated, 1 dose (n=935; 6%)
Vaccinated, 2 doses (n=5,459; 35%)

Unvaccinated (n=821; 71%)
Vaccinated, 1 dose (n=65; 6%)
Vaccinated, 2 doses (n=271; 23%)

Unvaccinated (n=90; 50%)
Vaccinated, 1 dose (n=6; 3%)
Vaccinated, 2 doses (n=85; 47%)

*Figures include cases from Oct 12-Nov 08, and hospitalizations and deaths from Oct 09-Nov 05, 2021
COVID-19 case rate by vaccination status and Health Authority, July 1 – Nov 8, 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

*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 list on 12 Nov 2021
COVID-19 case rate by vaccination status and age, July 1 – Nov 8, 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

*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 list on 12 Nov 2021
COVID-19 hospitalization rate by vaccination status, July 1 – Nov 5, 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

Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 4% of hospitalized unvaccinated cases since 1 July 2021.

Data extracted from health authority case line list and up to 05 Nov 2021
COVID-19 hospitalization rate by vaccination status and age, July 1 – Nov 5, 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 4% of hospitalized unvaccinated cases since 1 July 2021.

Data extracted from health authority case line list and up to 05 Nov 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.

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

Data include cases from Oct 12-Nov 08, and hospitalizations and deaths from Oct 09-Nov 05, 2021.
Vaccination progress in BC over time by age group and dose number up to Nov. 9, 2021

Data updated 2021-11-09
Data Source: Provincial Immunization Registry, PHSA
Vaccination progress in BC and by Health Authority as of Nov. 9, 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
For latest version of this map, see COVID-19 Regional Surveillance Dashboard.
For latest version of this map, see COVID-19 Regional Surveillance Dashboard
COVID-19 Vaccination Coverage by CHSA: Ages 12+ 1st Dose (up to November 8, 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 November 8, 2021)

For latest version of this map, see COVID-19 Regional Surveillance Dashboard
• **Test positivity** among publicly funded tests was stable this week (~6.0%)
  - Test positivity varies by HA, ranging from 3.5% in VCH to 20.5% in NH
  - Test positivity is consistently ~2-3x higher among unvaccinated individuals than in 2 dose recipients

• Publicly funded **testing** is stable (~60K total public tests)
  - 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 15 hours, indicating good testing capacity.

• **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>Total Specimens Tested</th>
<th>New this Epi Week</th>
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<tbody>
<tr>
<td>4,369,495</td>
<td>91,544</td>
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<table>
<thead>
<tr>
<th>Total Positive Specimens</th>
<th>New Positive this Epi Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>220,421</td>
<td>3,668</td>
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</table>

- **Mean Turnaround Time (TAT):** 17 hr, Median [10-23] TAT
- **Relative Change:** 2% TAT relative to last week
- **Positivity:** 4.0%
- **Absolute Change:** -0.5% from last week

### Weekly Summary of Lab tests paid Publicly

<table>
<thead>
<tr>
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<table>
<thead>
<tr>
<th>Total Positive Specimens</th>
<th>New Positive this Epi Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>217,643</td>
<td>3,594</td>
</tr>
</tbody>
</table>

- **Positivity:** 6.0%
- **Absolute Change:** -0.8% from last week
- **Relative Change:** 1% relative to last week

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**Data Source:** PLOVER extract at 10:30am on November 10, 2021.
Epi week 44 (Oct 31 – Nov 6)
For latest version of this map, see the new (note: change symbols not included) COVID-19 Surveillance Dashboard
COVID-19 Recent 7-Day Test Positivity by CHSA (November 3 to 9, 2021) Includes all tests

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 (~6.0%), and testing rates are stable.
Percent positivity is stable provincially, but varies by region: lowest in VCH (3.5%), high in NH (20.5%). Testing rates are elevated and declining across the province.
Test positivity remains high throughout NH

For latest version of a graph similar to this one (difference: all tests, not public tests), see the Epi App.
Testing rates remain higher than historical trends among <12 year olds
In every region, testing rates are broadly similar by vaccination status.
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

The graphs show the percentage of positive specimens by vaccination status for different regions and epiweeks. The x-axis represents the epidemiological week (based on collection date), and the y-axis represents the percent positive specimens (%). The graphs indicate a consistently higher positivity rate among the unvaccinated or underprotected compared to those vaccinated 2 doses at least 14 days prior.
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 $R_t$ remains near 1 in all regions. Estimates are shown for last week → this week, with 90% range of possible values given next to most recent estimate.

**BC** 0.94 → 0.92 [0.7–1.1]

**Fraser** 0.86 → 0.83 [0.7–1.0]

**Vancouver Coastal** 0.91 → 0.90 [0.7–1.1]

**Interior** 0.96 → 0.91 [0.6–1.2]

**Vancouver Island** 0.95 → 0.94 [0.7–1.4]

**Northern** 1.05 → 1.08 [0.8–1.6]

*Solid line: median $R_t$, modeled using all reported cases up to Nov 14, 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 fit estimate from (last week → this week; 5%-95% credible interval). Only January 2021 onward shown here. Data source: BC/CDHa line list.*
Pediatric Report - Key Messages

• Case numbers in <18 years remain relatively stable, with signs of a downward trend
  • Incidence varies regionally and by pediatric age group
• Case rates are highest in regions with lower 12+ vaccine coverage
• Severe outcomes continue to remain rare in children
• Among youth 12-17 years old, vaccination coverage is ~84% provincially, but varies significantly by local area

Also see the Data for K-12 Schools October report posted on the BCCDC website:
### Nov 03 to Nov 09: Pediatric COVID-19 Profile

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<tr>
<td><strong>5,658</strong></td>
<td><strong>118</strong></td>
<td><strong>12</strong></td>
<td><strong>2</strong></td>
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<td><strong>new this week</strong></td>
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<table>
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<td><strong>611</strong></td>
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<table>
<thead>
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<td><strong>12,602</strong></td>
<td><strong>52</strong></td>
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<td><strong>1</strong></td>
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<td><strong>new this week</strong></td>
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<td><strong>new this week</strong></td>
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</tbody>
</table>

* New hospitalizations and critical care census numbers are as of Nov 08 2021
* New cases and new deaths are net new between Line lists of Nov 02 and Nov 09
Incidence varies regionally and by pediatric age group

Masking for grades K-3

Date range: Jan 01 2021 - Nov 08 2021
Data source: PHRDW Nov-09-2021
Number of new daily hospitalizations remains 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 Nov-09-2021
Case rates are relatively stable among children and youth.

Hospitalization rates remain low.

For latest version of this figure, see [COVID-19 Regional Surveillance Dashboard](https://www.healthy庚ate.bc.ca/coronavirus-case-data).
COVID-19 vaccination coverage with 1st dose among 12-17 year olds, by Local Health Area, up to Nov. 8, 2021: there is more variation in this age group compared with older age groups.
Testing rates among 5-17 year olds have recently decreased 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%).
Testing rates among 0-4 year olds remain high in all HSDAs. Percent positivity is variable; very low in VCH.
Testing rates among 5-17 year olds remain high in all HSDAs. Percent positivity is high throughout NH.
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](#)