COVID-19: Monthly Update

February 5, 2021
Epidemiology

How and Where the Virus Has Affected People in BC
Geographic Distribution of COVID-19 by Health Service Delivery Area of Case Residence

Notes: Cases are mapped by location of residence; cases with unknown residence and from out-of-country are not mapped. Data source: the 5 regional health authorities of British Columbia; we operate in a live database environment and case information from the health authorities are updated as it becomes available. Data may not be directly comparable to published counts from previous maps and reports. How to interpret the maps: The map on the left (black) illustrates the geographic distribution of all reported cases from January 1, 2020 onwards. The map on the right (brown) illustrates the reported cases during the past 7 days. Health Service Delivery Areas (HSDA) with higher rates per 100,000 population are illustrated in darker colour shading. The number of reported cases appears under each HSDA label. Note that not all COVID-19 infected individuals are tested and reported; the virus may be circulating undetected in the community, including in areas where no cases have been identified by public health. Map created February 3, 2020 by BC CDC for public release.
Geographic Distribution of COVID-19 by Local Health Area of Case Residence
Geographic Distribution of Cumulative COVID-19 by Local Health Area of Case Residence
January 27 to February 3, 2021:
Profile of COVID-19 Cases by Date Reported to Public Health

- **Total cases:** 68,780
- **New this week:** 3,061
- **Ever hospitalized:** 3,850
- **New this week:** 108
- **Deaths:** 1,234
- **New this week:** 62
- ** Removed from isolation:** 61,643
- **New this week:** 2,865

![Graph showing 7-day moving average of cases over time]
Epidemic Curve, COVID-19 Cases in B.C. by Reported Date August 1, 2020 – February 2, 2021
Likely Source of COVID-19 Infection by Episode Date, BC
January 15, 2020 (Week 3) – January 23, 2021 (Week 3)
Daily Case Count by Age August 1, 2020 to February 3, 2021 (7-day Moving Average)*

*Cases by reporting date
Daily Case Rate, Testing Rate and Percent Positivity by Health Authority August 1, 2020 to February 2, 2021

Data up to 2021-02-02
Daily Case Rate, Test Percent Positivity and Testing Rate by Age (August 1, 2020 to February 2, 2021)
Hospital and Critical Care Census
March 1, 2020 to February 2, 2021

Data from PHSA

COVID-19 IN BC
COVID-19 Virus Has a Relatively Low Infection Rate Among School-Aged Children (5 to 18 Years) in BC, From September 7, 2020 to January 31, 2021

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Number of Cases</th>
<th>Percent of Cases</th>
<th>Percent of Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 4 Years</td>
<td>1115</td>
<td>1.8</td>
<td>4.4</td>
</tr>
<tr>
<td>5 - 12 Years</td>
<td>2932</td>
<td>4.8</td>
<td>7.7</td>
</tr>
<tr>
<td>13 - 18 Years</td>
<td>3607</td>
<td>5.9</td>
<td>6.2</td>
</tr>
<tr>
<td>19+ Years</td>
<td>53625</td>
<td>87.5</td>
<td>81.8</td>
</tr>
</tbody>
</table>
Start of School Does Not Result in Significant Increases in Community Transmission of COVID-19 in BC

New daily cases (7-day moving average)

- **All ages**
- **5-18 years**
- **Start of school**

- **Sep 10, 2020**
- **Jan 4, 2021**
Daily Case Rates Across Canada

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

Data up to 2021-02-03
Daily Death Rates Across Canada

New daily **deaths** per 1M population (7-day moving average)

*Data up to 2021-02-03*
Daily Case Rates - International

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

Data up to 2021-02-02
Daily Death Rates - International

New daily deaths per 1M population (7-day moving average)
Dynamic Compartmental Modeling: Recent Trends

Provincially, our model-based estimate of $R_t$ (average daily number of new infections generated per case) continues to hover near 1.

Whenever $R_t$ is > 1, there is a risk that the number of new cases could grow rapidly.

Solid black line: median $R_t$ based on data up to Feb 2, 2021; Grey band: 5%-95% credible interval; Purple bars: all reported cases. Due to a lag from symptom onset to reporting, the most recent cases are not shown.
Our model shows that $R_t$ is relatively stable or declining in all Regional Health Authorities, but remains close to 1.

Solid black line: median $R_t$ based on data up to Feb 2, 2021; Grey band: 5%-95% credible interval; Purple bars: all reported cases. Due to a lag from symptom onset to reporting, the most recent cases are not shown.
Dynamic Compartmental Modeling: Recent Trends

Solid blue line: median model fit; shaded bands: 50% and 90% credible intervals; Open circles: all reported cases, excluding reportable outbreaks, March 1, 2020 – Feb 2, 2021.
Dynamic Compartmental Modeling: Recent Trends

Our model outputs describe stable or declining trends in all Regional Health Authorities.

Solid blue line: median model fit; shaded bands: 50% and 90% credible intervals; Open circles: all reported cases, March 1, 2020 – Feb 2, 2021. Cases are shown by reporting date.
Dynamic Compartmental Modeling: Scenarios

Our modeling scenarios are consistent with an average infectious contact rate of 50% of normal.

Infectious contact rate: 40% of normal

Infectious contact rate: 50% of normal

Infectious contact rate: 60% of normal

Infectious contact rate: 70% of normal

Solid blue line: median model fit; shaded bands: 50% and 90% credible intervals; Open circles: all reported cases, March 1 – Feb 2, 2021. Cases are shown by reporting date.
## Vaccine Doses Received, Administered to Date (February 4, 2021)

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Received to Date (Up to Feb 3)</th>
<th>Administered to Date (Up to Feb 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>156,250</strong></td>
<td><strong>145,567</strong></td>
</tr>
<tr>
<td>Pfizer Vaccine</td>
<td><strong>115,050</strong></td>
<td><strong>107,000</strong></td>
</tr>
<tr>
<td>Moderna Vaccine</td>
<td><strong>41,200</strong></td>
<td><strong>38,567</strong></td>
</tr>
</tbody>
</table>

**Notes:**
- Numbers reflect doses administered and received up to February 3, 2021.
Long-Term Care Residents

19% of vaccines administered to long-term care residents.

1st Dose 87%
2nd Dose 2%

Target ~31,000

1st Dose 26,895
2nd Dose 525
28% of vaccines administered to long-term care staff.

1st Dose: 89%
2nd Dose: 15%

Target ~39,000

1st Dose: ~34,658
2nd Dose: ~5,676
Assisted Living Residents

7% of vaccines administered to assisted living residents.

1st Dose: 119%
2nd Dose: 0%

Target: ~8,000

1st Dose: 9,544
2nd Dose: 15

COVID-19 IN BC
Assisted Living Staff

3% of vaccines administered to assisted living staff.

1st Dose 90%
2nd Dose 4%

Target ~5,000

1st Dose 4,483
2nd Dose 186

COVID-19 IN BC
There have been 14 AEFI reports for every 10,000 doses administered.

Over 145,000 Doses of Vaccine Have Been Administered in British Columbia

From December 20, 2020 to February 4, 2021 there have been 205 adverse events following immunization (AEFI) reports.

55 are classified as serious. For example, a severe allergic reaction called anaphylaxis.

Some reported events happen after vaccination but are likely not caused by the vaccine.

No Safety Signals Have Been Identified With Either COVID-19 Vaccine in British Columbia
Variant Detection Strategy in BC

**Sequencing**
- Whole genome sequencing is the best way to confirm variants of concern (VOC)
- BC generates 750 genomes per week

**Screening**
- Screening for key mutations; need to confirm positives with sequencing
- BC can screen 1000s of samples per week
Since December 1, BC Has Sequenced ~4,500 Cases; Variants of Concern Have Been Detected in 28 Cases

Case Count

- B.1.1.7 (UK variant)
  - Travel Acquired: ~14 cases
  - Local Acquired: ~4 cases
- B.1.351 (SA variant)
  - Travel Acquired: ~1 case
  - Local Acquired: ~7 cases
- P.1 (Brazil variant)
  - Travel Acquired: ~2 cases
  - Local Acquired: ~0 cases
Variants of Concern Are Still Rare in BC *(Shown in Blue)*

N501Y mutation is found in the UK, SA and Brazil variants
Genomics is a Key Tool in Responding to Outbreaks in BC
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