BCCDC Weekly Data Summary

13 May 2021
Purpose

The weekly 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 Weekly Summary

- **Case rates** continue to decline in all HAs; **test positivity** is at 9% provincially for publicly funded tests and 7% for all tests.

- **New hospitalizations** are elevated, but beginning to decline; **hospital/critical care census** is stable or declining in all HAs; **new deaths** are stable and low.
  - Majority of hospitalizations are among individuals aged >40 years; declines occurring in individuals ≥ 60 years
  - Majority of deaths in individuals aged >80 years

- The share of **VOCs** among screened cases in BC is ~83% in epi week 18 (May 2-8). Among sequenced samples provincially based on information for epi week 17, P.1 (~42%) and B.1.1.7 (~57%) remain two dominant VOCs.

- As of May 13, 51% of adult population in BC has received first dose of **vaccine**; 85% of those over 70 years and 73% of those 55-69 years have been vaccinated.
  - The number of outbreaks in LTCFs remains very low following vaccination campaign
  - Nationally, BC’s vaccination rate is very close to Canadian average; internationally, Canada is one of the most vaccinated countries in the world, closely following UK’s vaccination trajectory
May 06 to May 12: BC COVID-19 Profile

- Total cases: 137,223
  - New this week: 4,298
- Ever hospitalized: 7,217
  - New this week: 330
- Total deaths: 1,627
  - New this week: 33
- Removed from isolation: 129,524
  - New this week: 5,272
Case rates continue to decline in each HA; new hospitalizations are starting to decline; new deaths are stable and low.
Hospital and critical care census is stable or declining in all regions.

Data source: DARE (Data, Analytics, Evaluation and Reporting), PHSA
Hospital admissions are declining for individuals aged ≥60 years
Hospital admissions are decreasing recently, primarily among individuals ≥60 years. The number of hospital admissions among <40 years remains relatively low. Deaths are decreasing, primarily among individuals ≥60 years.
COVID-19 Recent 7-Day Case Incidence Rates by CHSA (May 5 to 11, 2021)
Proportion to total cases & population by local health area, May 05 - May 11, 2021

Fraser
- Abbotsford
- Murray
- Langley
- Chilliwack
- Mission
- Mobile Health

Interior
- Kamloops
- Vernon
- North Okanagan
- Okanagan Health

Northern
- Prince George
- Prince Rupert
- Whitehorse

Vancouver Coastal
- Richmond
- Vancouver

Vancouver Island
- Greater Victoria
- Nanaimo
- Port Alberni

% of COVID-19 cases
% of BC population
Total cases by local health area, May 05 - May 11, 2021

Fraser
- Surrey
- Abbotsford
- Burnaby

Interior
- Tri-Cities
- Maple Ridge/Pitt Meadows
- Agassiz/Harrison

Northern
- Central Okanagan
- Armstrong/Salmo/Lake Country

Vancouver Coastal
- Vancouver - South
- Vancouver - Northeast
- Vancouver - City Centre

Vancouver Island
- Greater Victoria
- Vancouver Island North
Incidence is decreasing or stable in all HAs. Percent positivity remains >10% in FH.


<table>
<thead>
<tr>
<th>Region</th>
<th>Incidence Rate</th>
<th>Percent Positivity</th>
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<tbody>
<tr>
<td>BC</td>
<td>9.0%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Fraser</td>
<td>10.8%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Interior</td>
<td>5.4%</td>
<td>10.8%</td>
</tr>
<tr>
<td>Northern</td>
<td>9.4%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Vancouver Coastal</td>
<td>8.9%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Vancouver Island</td>
<td>2.4%</td>
<td>8.9%</td>
</tr>
</tbody>
</table>

Data source: PLOVER 12-May-2021
The majority of cases continue to be related to local acquisition through a known case or cluster

Likely source of COVID-19 infection by episode date, BC January 15, 2020 (week 3) to May 1, 2021 (week 17) (N= 132,717)

This figure can also be found in the weekly Situation Report
Overall the number of new outbreaks declared remains low, and no new outbreaks declared in acute care and long-term care facilities week of May 2-8, 2021

Number of outbreaks by week

- Long term care facility
- Acute care facility

A slightly different version of this figure can also be found in the weekly Situation Report.
Vaccinations—key message

• BC as of May 13th: Individuals ≥ 70 years at 85%; 55-69 years at 73%; 40-54 years at 46%. Overall, half of adult population in BC has received at least 1 dose.

• Rate of cases per 100,000 population continued to drop continuously in Prince Rupert since mid-March compared with individuals living in other parts of NHA.

• The number of cases among health care workers and residents 70+ working or living in long-term care or assisted living facilities declined following vaccination roll-out compared with individuals not working or living in these settings.

• Rate of cases per 100,000 population among individuals 70+ has gone up less during the recent resurgence compared with individuals aged 40-60. Rate of hospitalizations per 100,000 population has been declining faster among individuals 70+ since mid-April compared with individuals aged 40-60.

• Nationally, BC’s vaccination rate is very close to Canadian average; internationally, Canada is one of the most vaccinated countries in the world, closely following UK’s vaccination trajectory.
Vaccination progress in BC by age group as of May 13

- Hospitalizations by admission date, deaths by report date
- Data sources: hospitalizations and deaths – BCCDC, vaccinations – DARE, PHSA
Geographic Distribution of COVID-19 Vaccination Coverage by LHA and CHSA

Ages 18+: 1st Dose up to May 10, 2021

Vaccination coverage rate (%) of adults 18+

- 1 - 20%
- 21 - 40%
- 41 - 60%
- 61 - 80%
- > 80%

Notes: Vaccine coverage data from MoH HSAR: population 18+ data from Client Roster.
COVID-19 Vaccination Coverage by CHSA: Ages 18+ 1st Dose (up to May 10, 2021)
COVID-19 Vaccination Coverage by CHSA: Ages 55+ 1st Dose (up to May 10, 2021)
Rate of cases per 100,000 population continued to drop continuously in **Prince Rupert** since mid-March compared with individuals living in other parts of NHA.

Both testing rates and test positivity declined since March; overall drop in case rate reflects the impact of both the vaccination campaign as well as public health measures.

Blue line = comparison local health areas (LHAs) in NH; these exclude LHAs with high vaccination rate and those with very low case rates.

*On the same date, vaccination rate for comparison LHAs were all lower.*
The number of cases among **health care workers** working in **long-term care or assisted living facilities** declined following vaccination roll-out compared with individuals not working in these settings.

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The majority of other settings include independent living in the community.
The number of cases among residents aged ≥70 years living in long-term care or assisted living facilities declined following vaccination roll-out and remained low throughout the recent resurgence in the community.

Also note the sharp drop in cases throughout April among community-dwelling adults aged 70+, reflecting, at least in part, the impact of vaccination campaign.
Rate of **cases** per 100,000 population among **individuals 70+** has gone up less during the recent resurgence compared with individuals aged 40-60.
Rate of hospitalizations per 100,000 population has been declining faster among individuals 70+ since mid-April compared with individuals aged 40-60.
Nationally, BC’s vaccination rate is very close to Canadian average; internationally, Canada is one of the most vaccinated countries in the world, closely following UK’s vaccination trajectory.

Data source: COVID-19 Tracker Canada
Visualization: BCCDC

Data source: Our World in Data
Visualization: BCCDC

Data to May 11
Lab - Key Messages

1. **Percent positivity** among publicly funded tests is 9.0% and among all tests, it is 7.3%.
   • Testing rates decreased 9% this week (~63,000 total tests May 2 to 8)

2. There are regional differences in percent positivity, which range from 2.4 % in VIHA to 10.8% in FH.

3. Incidence is elevated but continues to decline in individuals <65 years and low and stable in individuals ≥65 years. Percent positivity is >10% in individuals aged 13 to 29 years.

4. The provincial weekly median **turnaround time** (time from specimen collection to lab result) is 14 hours, indicating good testing capacity; only 1 in 4 tests took ≥22 hours to result.

5. Among SARS-COV-2 screened samples, the proportion that were presumptive VOCs for the past epi week was ~83%.

6. **VOCs** have been detected in all regions of the province.
   • Among sequenced samples provincially based on information for epi week 17, P.1 and B.1.1.7 remain two dominant VOCs, accounting for roughly 42% and 57% of VOCs respectively.
**Weekly Summary of ALL lab tests performed**

<table>
<thead>
<tr>
<th>Total Specimens Tested</th>
<th>New This Epi Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,601,784</td>
<td>63,132</td>
</tr>
</tbody>
</table>

**Total Positive Specimens**

<table>
<thead>
<tr>
<th>Total Positive Specimens</th>
<th>New Positive This Epi Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>143,126</td>
<td>4,636</td>
</tr>
</tbody>
</table>

**Mean Turnaround Time (TAT)**

- 15 hours
- Median [9-22] TAT

**Weekly Summary of Lab tests paid Publicly**

<table>
<thead>
<tr>
<th>Total Specimens Tested</th>
<th>New This Epi Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,145,339</td>
<td>51,232</td>
</tr>
</tbody>
</table>

**Total Positive Specimens**

<table>
<thead>
<tr>
<th>Total Positive Specimens</th>
<th>New Positive This Epi Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>141,788</td>
<td>4,613</td>
</tr>
</tbody>
</table>

**Data source:** PLOVER extract at 10:30am on May 13, 2021.

Epi week 18 (May 2 – 8)

- **7.3% positivity**
- **↓ 0.7% absolute change from last week**
- **↓ 9% TAT relative to last week**

- **9% relative to last week**
- **9.0% positivity**
- **↓ 0.5% absolute change from last week**
COVID-19 Recent 7-Day Test Positivity by CHSA (May 5 to 11, 2021)

Includes all tests
Percent positivity among publicly funded tests is 9%. The total number of tests resulted has declined over last few weeks.

Data source: PLOVER extract at 10:30am on May 13, 2021.
Epi week 18 (May 2 – 8)
Incidence remains elevated, but is stable or decreasing across regions; positivity is >10% in health service delivery areas in FH, VCH and NH
Incidence is elevated but continues to decline in individuals <65 years and low and stable in individuals ≥65 years. Percent positivity is >10% in individuals aged 13 to 29 years.
The proportion of screened samples remains high >85%

As of week 13, we now include dual assay qPCR SNP screening for N501Y and E484K mutations for BCCDC PHL
Of all COVID-19 positive test samples in epi week 18 (May 02 - May 08) in BC, ~83% were presumptive VOCs. Note that in Northern, the proportion was substantially lower, ~45%.

This figure can also be found in the weekly VOC report.
Among sequenced samples provincially based on information for epi week 17, P.1 (~42%) and B.1.1.7 (~57%) remain two dominant VOCs.

* the B.1.1.7 VoC lineage is captured either by qPCR SNP screen or WGS for randomly selected samples; all other circulating VoCs are WGS confirmed and exclude samples sequenced for cluster and outbreak investigation. In week 12, we used a qPCR SNP that is comprised of a dual N501Y and E484K assay.
Overview of the screening and sequencing process applied to positive COVID-19 tests in BC, May 2021

Please note the differences in turnaround time for screening and sequencing: screening results usually come back within 1-2 days, while sequencing results come back after approximately one week, but it could also take longer if there are lab backlogs.

This figure can also be found in the weekly VOC report.
Across Canada, cases are trending up in MB; recent stabilization seen in AB, NS, NWT, and NU. Declining in BC, ON, QC, and SK. Death rates have recently increased in ON and MB.
Compared with other large provinces, BC currently has the 2\textsuperscript{nd} lowest case rate and hospitalization census.
BC’s case rate and hospitalization census is similar to what is observed in the Nordic countries.
• The effective reproduction number (Rt) for BC on May 11, 2021, estimated using date of illness onset, was 0.79. Rt remains below one in all regions in BC with largest decrease in Fraser (0.83 – 0.77).

• The dynamic modelling forecast for BC projects case incidence to decrease over the next week in BC under current anticipated rates of infectious contact, vaccination, and proportion of VoC. Hospitalization trajectories under range of infectious contact scenarios indicate a downward trend in all regions. Uncertainty around trend is greater in regions with relatively smaller numbers of hospitalizations.
Dynamic compartmental modeling: recent trends

Our model shows that $R_t$ remains below 1 in all regions of BC. Whenever $R_t > 1$, there is a risk that the number of new cases will grow.

Solid black line: median $R_t$, data up to May 11, 2021; Grey band: 5%-95% credible interval; Purple bars: all reported cases. Due to lag from symptom onset to reporting, most recent cases are not shown. Recent trend shown comparing 7 day average $R_t$ from (last week → this week).
Scenarios of case, hospitalization, and death trajectories in BC by rate of infectious contact
Scenarios of cases trajectories by rate of infectious contact by Health Authority
Scenarios of hospitalization trajectories by rate of infectious contact in Fraser and Vancouver Coastal health authorities
Model notes and assumptions

- **Rt 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 following caveats apply to these results:
  - 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

- **Scenarios going forward**: levels of infectious contact characterized by historic estimated rates:
  - 40% would be similar to what was observed after the 8th September, 2020 announcement
  - 50% would be similar to changes observed after 7th November 2020 announcement
  - 60% would be similar rate of contact observed at beginning of 2021.

- Current BC Vaccination schedule incorporated into model fitting and projections incorporating variable rates of contact and susceptibility by age. Note vaccination of higher contact workers not explicitly included, which may under-estimate total impact of vaccination.

- Vaccination was modeled using the current proposed one dose schedule by age group, with all eligible age groups vaccinated by end of June, adjusting for age-dependent impact on transmission. Further assumed a 15% hesitancy of all age groups.

- Establishment of VoC varied by region and estimated from sequencing of cases. Estimates used were: Fraser: 20th January, Vancouver Coastal: 7th February, Interior: 15th March, and 25th March Vancouver Island and Northern.

- Dominance of VoC assumed to be 7 weeks in line with other jurisdictions. 50% increased transmission and disease severity selected to reflect experienced changes in other jurisdictions.
Additional Resources

• 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](#).