British Columbia Weekly COVID-19 Surveillance Report*
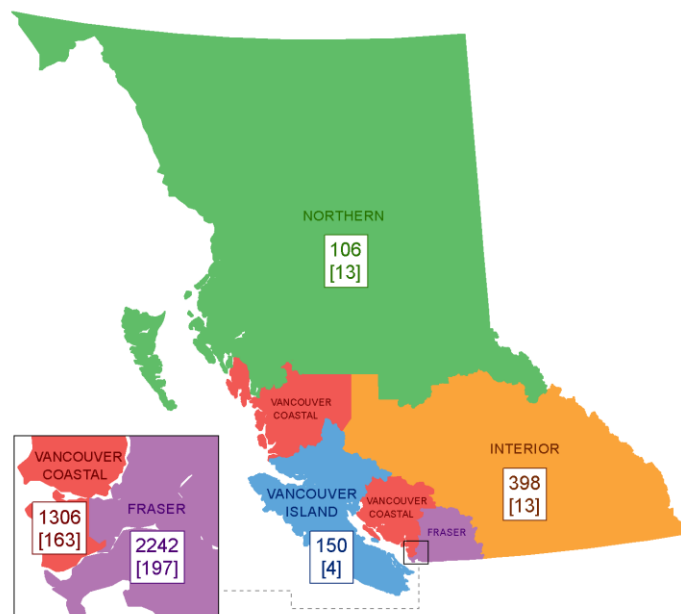
August 7 - August 13, 2020**

Key Findings

COVID-19 cases in BC are increasing, especially in 20 to 39 year olds.

- A total of 393 new cases were reported this week, a 36% increase from last week's new cases (290) (**Table 1, Fig 3**).
- Cumulative incidence remains highest in the Lower Mainland; over 90% of new cases reported in the last week were reported by Fraser and Vancouver Coastal Health (**Table 1**).
- The most likely source of infection remains contact with a local case or cluster (**Table 2**).
- The number of new cases reported per week is increasing for all age groups less than 60 years, with the largest gains in those between 20 and 39 years of age (**Fig 9**).
- Ten outbreaks are currently active with six new outbreaks reported since last week (**Fig 10**, **Table 4**).
- New hospital admissions and deaths remain low (**Fig 5**). The number of cases currently in hospital and in critical care remains low (**Fig 11**, **Fig 12**). This is likely associated with the younger age of recent cases.
- The BC outbreak trajectory remains favourable compared to other provinces and countries (**Fig 13**, **Fig 14**).

Figure 1: Map of total and new COVID-19 cases reported since last week by health authority of residence, BC, January 1 – August 13, 2020 (**N=4,274**)[^†]

^New cases reported since last week by health authority are denoted in parentheses.

[^†] Cases reported as "Out of Canada" (n=72) are not reflected on the map.

Findings are based on lab-confirmed, lab-probable, and epi-linked cases (case definition found here: http://www.bccdc.ca/health-professionals/clinical-resources/case-definitions/covid-19-(novel-coronavirus) reported from Health Authorities to BCCDC as of 10am, except where otherwise noted. Data represent a subset of actual infections and are subject to change with changes in testing recommendations and practices, changes in case definitions, data reconciliation and/or as data become more complete. As of July 3, residents of other Canadian provinces/territories are reported by that province/territory.
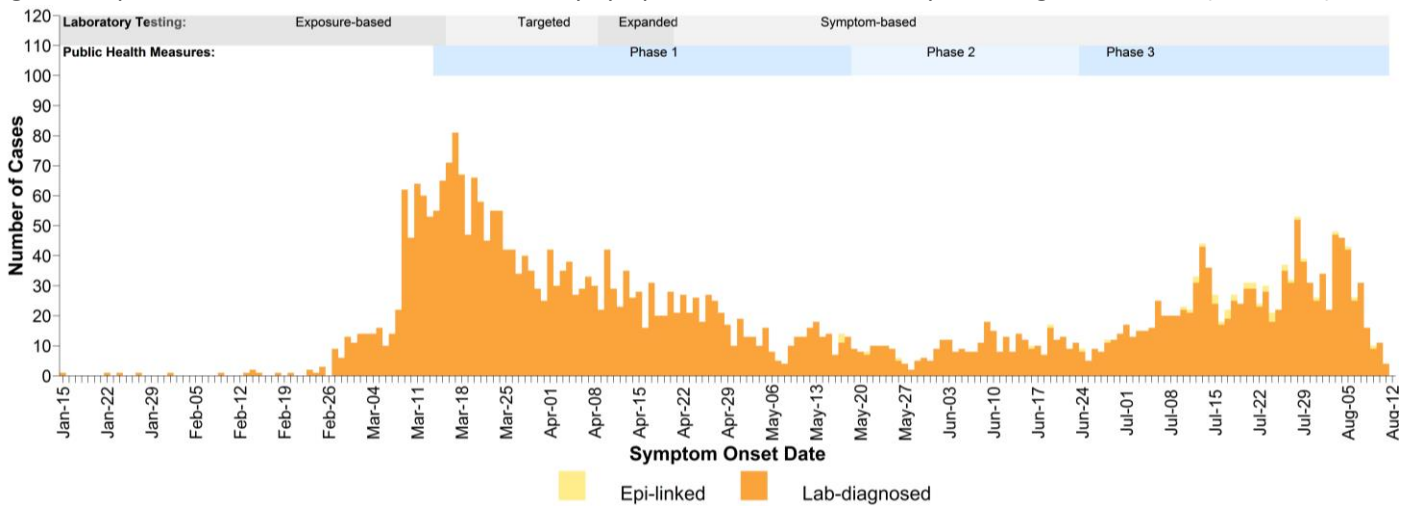
** *Produced weekly (Thursdays) effective July 16, 2020*

Table 1: Epidemiological profile of reported cases by health authority of residence, BC, January 1 – August 13, 2020 (N=4,274)

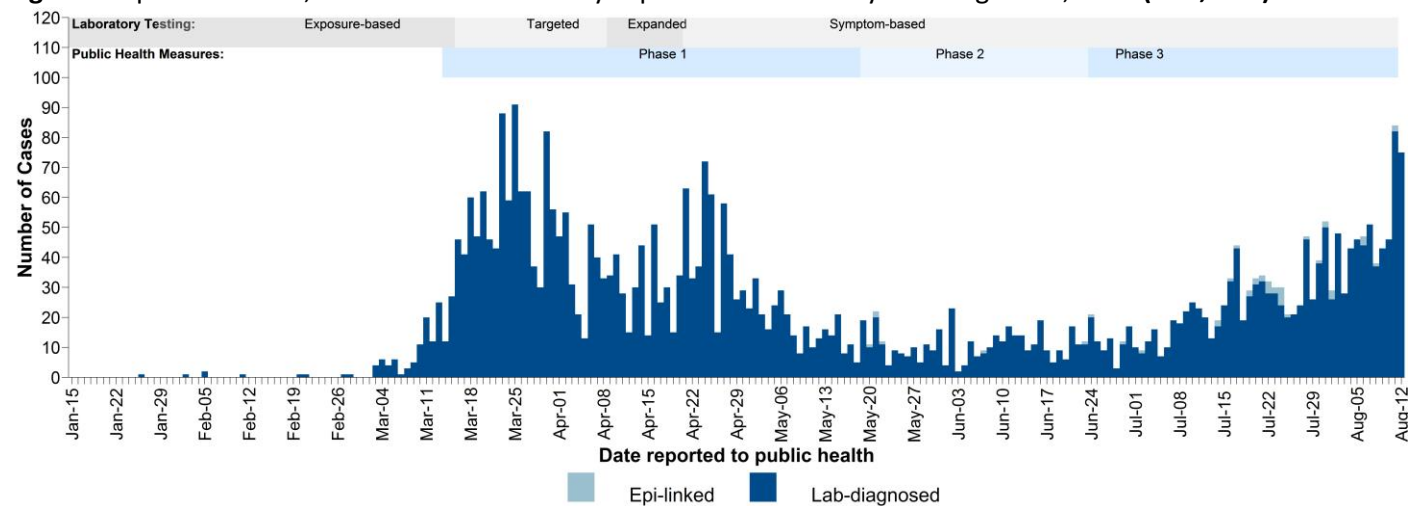|	Health Authority of Residence [c]						Total N (%)[d]
	Fraser	Interior	Vancouver Island	Northern	Vancouver Coastal	Out of Canada	
Total number of cases[a,b]	**2,242**	**398**	**150**	**106**	**1,306**	**72**	**4,274**
Number of lab-confirmed and lab-probable cases	2,232	378	146	104	1,298	71	4,229
Number of epi-linked probable cases[b,e]	10	20	4	2	8	1	45
New cases since last week (August 6)[f]	**197**	**13**	**4**	**13**	**163**	**3**	**393**
Median age in years, cases[g]	42	36	48	37	51	44	44 years (range 0-104y)
Female sex, cases	1,105	194	78	63	692	12	2,144 (51%)
Cumulative incidence per 100,000 population[h]	**116.9**	**49.7**	**17.6**	**35.3**	**105.3**	**-**	**82.2[h]**
Ever hospitalized[i]	**288**	**33**	**25**	**14**	**187**	**5**	**552 (13%)**
Median age in years, ever hospitalized[g]	69	62	72	44	69	50	68 years (range 0-98y)
Currently hospitalized[i,l]	3	2	0	0	3	1	9
Currently in critical care[j,l]	**2**	**0**	**0**	**0**	**2**	**-**	**4**
Total deaths, case fatality and cumulative mortality[h,i]	**79**	**2**	**5**	**0**	**110**	**0**	**196 (5%) 3.8 per 100,000[h]**
New deaths since last week (August 6)[f]	**0**	**0**	**0**	**0**	**1**	**0**	**1**
Median age in years, deaths[g]	83	73	85	NA	87	NA	85 years (range 47-103y)
Discontinued isolation[k]	**1,861**	**383**	**142**	**90**	**961**	**63**	**3,500 (82%)**

a. Total COVID-19 cases includes lab-confirmed, lab-probable and epi-linked cases. Case definitions can be found at: http://www.bccdc.ca/health-professionals/clinical-resources/case-definitions/covid-19-(novel-coronavirus).   As of July 3, residents of other Canadian provinces/territories are reported by that province/territory.

b. Epi-linked cases reported on or after May 19, 2020 are included.

c. As of July 9, cases are reported by health authority of residence. When health authority of residence is not available, cases are assigned to the health authority reporting the case. Cases whose primary residence is outside of Canada are reported as "Out of Canada". Previously, cases were assigned to the health authority that reported the case. Please note that the health authority of residence and the health authority reporting the case do not necessarily indicate the location of exposure or transmission.

d. Denominator for % derivation is total number of cases (N), except sex which is calculated based on those with known information on sex.

e. Epi-linked case counts may decrease if cases are tested and meet a different case classification.

f.   "New" cases and deaths reflect the difference in counts reported to the BCCDC between the day of the last report and today's report as of 10am (net new). This may not be equal to the number of cases/deaths by date reported to HAs, as: (1) cases/deaths reported prior to 10am would be included as new cases/deaths in today's report and cases reported after 10am would be included in the next report's count; (2) there may be some delays between cases/deaths being reported to HAs and then reported to BCCDC; and (3) cases may be attributed to different health authorities or may be excluded from case counts as new information is obtained.

g. Median age is calculated based on those with known information on age.

h. PEOPLE2019-2020 population estimates. Incidence and mortality rates calculated only for BC residents.

i. Serious outcome (e.g. hospitalization, death) tallies may be incomplete or out of date (i.e. under-estimates) owing to the timing and processes for case status update.

j. Source: PHSA August 13 @10am. The number of COVID cases in critical care units is reported daily by each Health Authority and includes the number of COVID patients in all critical care beds (e.g., intensive care units; high acuity units; and other surge critical care spaces as they become available and/or required). Cases are reported by health authority of hospital. Work is ongoing to improve the completeness and accuracy of the data reported.

k. Self-isolation has been discontinued per the criteria outlined in the BC guidelines for public health management of COVID-19: http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/CD%20Manual/Chapter%201%20-%20CDC/2019-nCoV-Interim_Guidelines.pdf

l. Current cases for August 13, 2020.

Figure 2: Epidemic curve, COVID-19 cases in BC by symptom onset date January 15 – August 12, 2020 **(N=3,894[†])**

[†]Only cases with symptom onset dates reported are included.

Figure 3: Epidemic curve, COVID-19 cases in BC by reported date January 15 – August 12, 2020 **(N=4,267[‡])[¥]**

[‡] The number of cases reported by day differs from that in Table 1 in previous reports as this figure reflects the date the case was lab-confirmed and reported to the Health Authority.
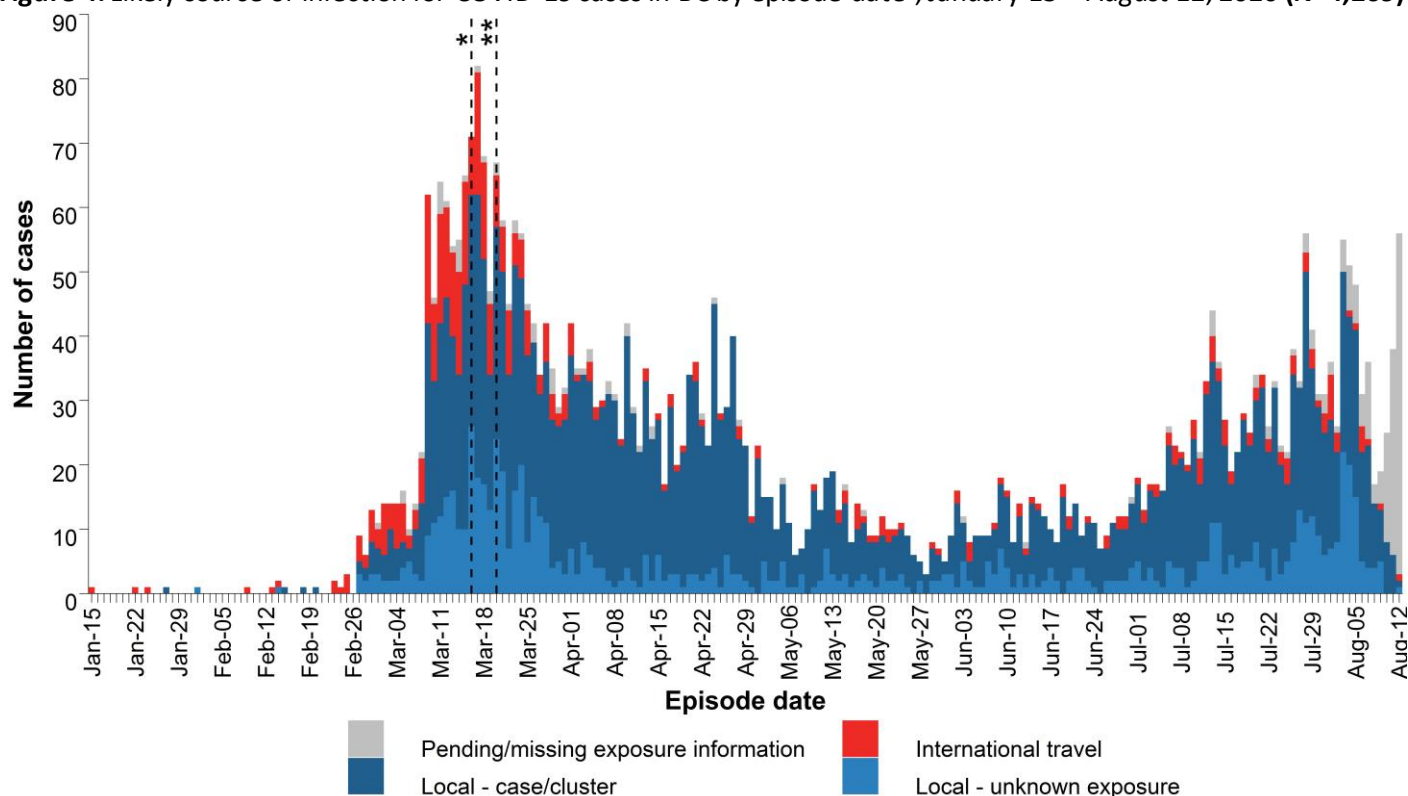[¥] On June 3, a change in the FHA reporting system led to changes in the reported date of some FHA cases and concurrent changes to the epidemic curve by reported date.

Phase 1 – Public health measures enacted: March 14: Spring break started for most schools; March 16: Mass gatherings public health order implemented (>50 people), entry of foreign nationals banned, symptomatic individuals banned from flights to Canada, international flights restricted to four national airports; March 17: BC public health emergency declared, traveller self-isolation public health order implemented; March 18: Provincial state of emergency declared, food and drink service restrictions public health order implemented; March 20: US/Canada border closed to non-essential travel; March 21: closure of personal service establishments. **Phase 2 – Start of reopening:** May 19: Restoration of health services, retail, hair salons, in-person counselling, restaurants, cafes, pubs, museums, libraries, office-based worksites, sports, outdoor spaces, and child care. June 1: Students in K-12 return to school on a gradual and part-time basis.
Phase 3 – Continued reopening: June 24: Non-essential travel within BC permitted with reopening of accommodation industry (hotels, motels, RV parks, cabins, etc.), overnight camping in BC parks, motion pictures and television production, and movie theatres. Please refer to http://www.bccdc.ca/health-info/diseases-conditions/covid-19/testing/phases-of-covid-19-testing-in-bc for laboratory testing criteria changes.
How to interpret the epidemic curves: Figure 2 shows the date that a case's illness started. Figure 3 shows the date the illness was confirmed and reported by the laboratory. There is a delay between the beginning of a person's illness (symptom onset date) and the date the laboratory confirms and reports the illness (reported date). New cases only have a reported date available and appear on the right of the curve in Figure 3, but their symptom onset would have occurred prior. As information on symptom onset becomes available through public health investigation, cases are expected to appear on earlier dates in Figure 2.

Figure 4: Likely source of infection for COVID-19 cases in BC by episode date[§], January 15 – August 12, 2020 **(N=4,269)**

§ Episode date is based on symptom onset date (n=3,894), if not available then date COVID-19 was reported to health authority (n=375).
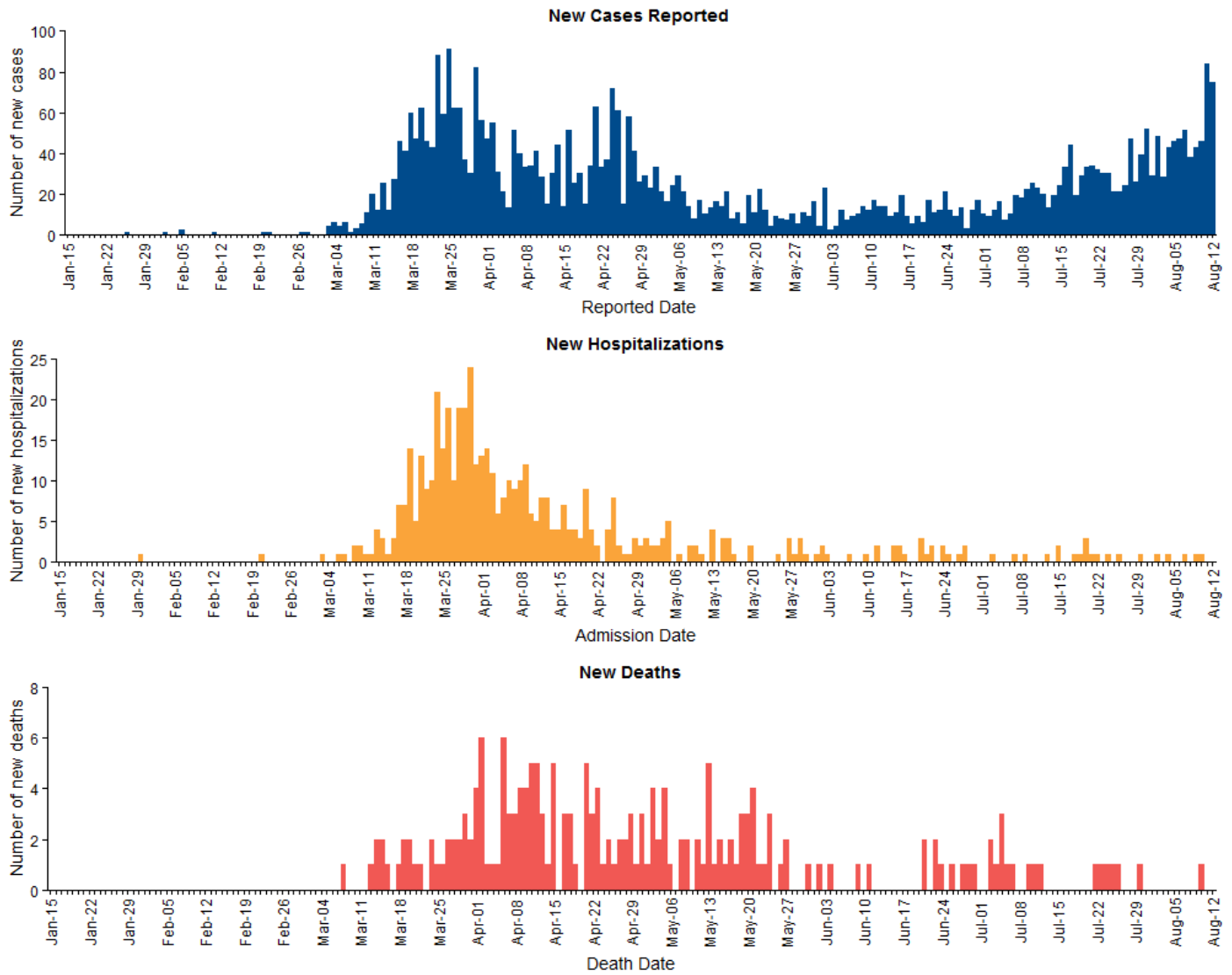* March 16: Entry of foreign nationals banned; symptomatic individuals banned from flights to Canada; international flights restricted to four national airports.
** March 20: US/Canada border closed to non-essential travel.

Table 2: Number and proportion of likely source of infection for COVID-19 cases in BC by phase of epidemic, January 15 – August 12, 2020 **(N=4,269)**
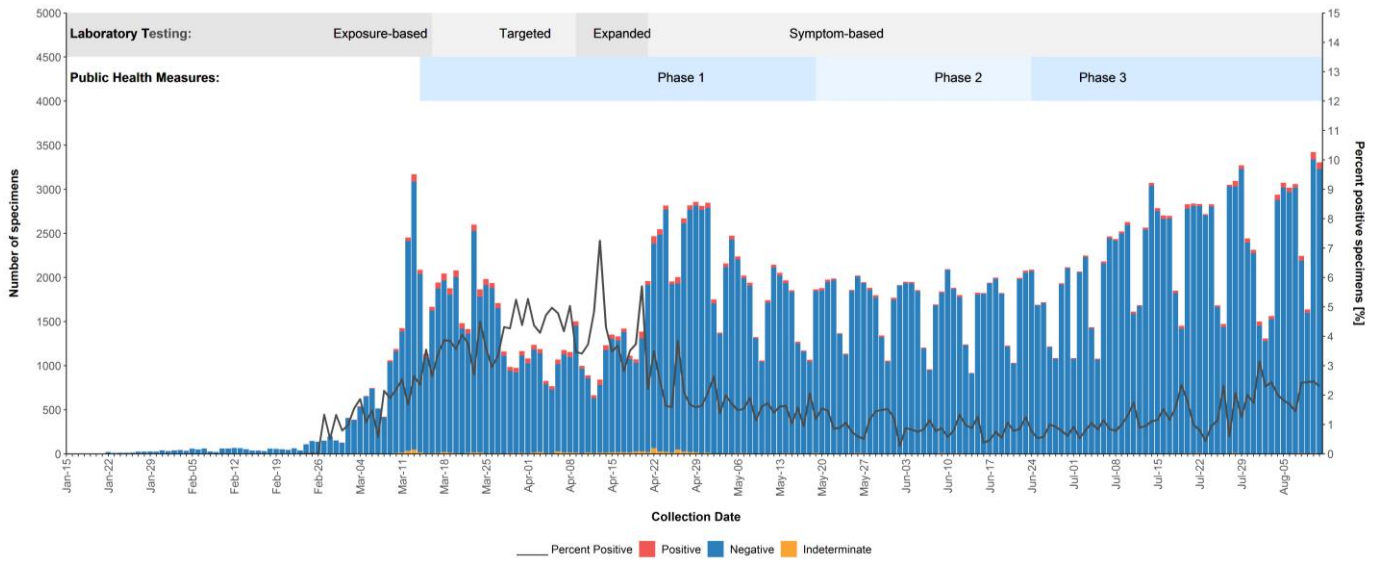
Phase of epidemic	International travel n (%)	Local – case/cluster n (%)	Local – unknown source n (%)	Pending/missing info n (%)	Total N (%)
Jan 15 – Mar 13 (Pre-Phase 1)	126 (32.0)	175 (44.4)	80 (20.3)	13 (3.3)	**394 (100)**
Mar 14 – May 18 (Phase 1)	201 (9.5)	1477 (69.8)	392 (18.5)	46 (2.2)	**2,116 (100)**
May 19 – yesterday (Phase 2 & 3)	117 (6.7)	1099 (62.5)	365 (20.8)	178 (10.1)	**1,759 (100)**
Total	**444 (10.4)**	**2,751 (64.4)**	**837 (19.6)**	**237 (5.6)**	**4,269 (100)**

Figure 5. Number of COVID-19 cases, hospital admissions, and deaths by event date, BC, January 15 – August 12, 2020 (N=4,267*)

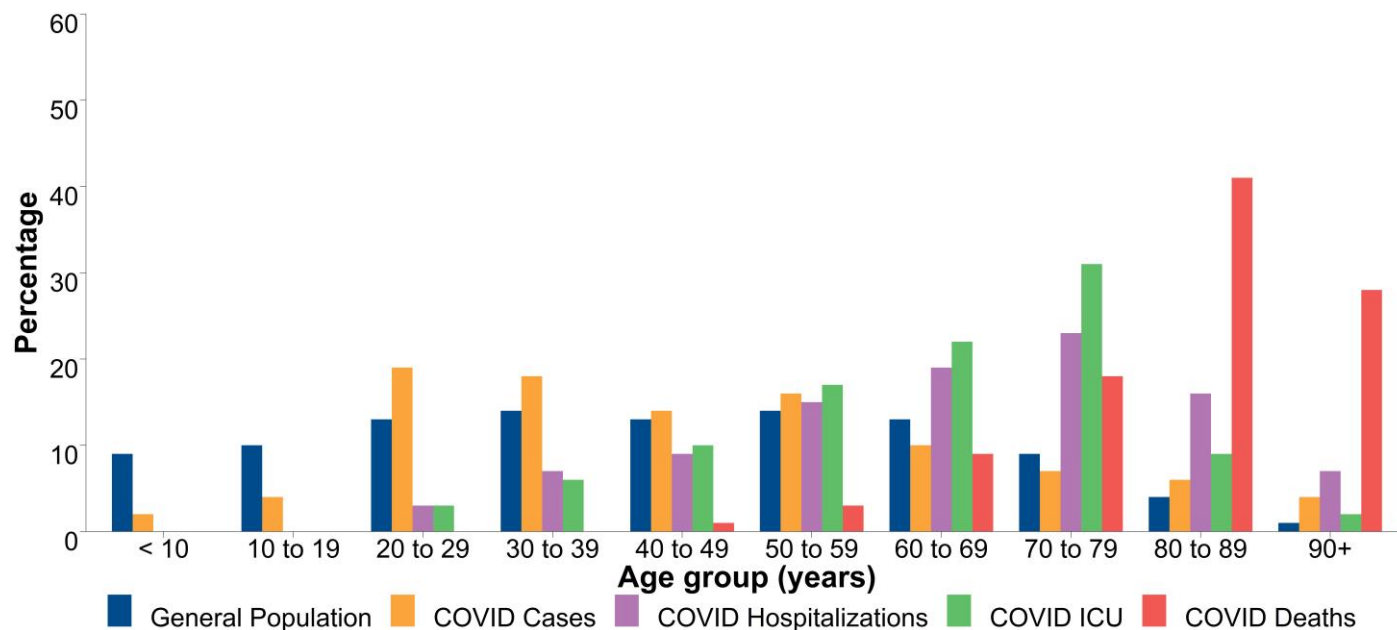New Cases Reported

New Hospitalizations

New Deaths

* On June 3, a change in the FHA reporting system led to changes in the reported date of some FHA cases and concurrent changes to the epidemic curve by reported date. Excludes hospitalizations with unknown admission dates or admission dates which precede symptom onset and/or discharge date.

Figure 6: Number and proportion of SARS-CoV-2 positive respiratory specimens, BC, Jan 15– Aug 11, 2020 **(N=296,708; Positive=1.84%)**

Data source: PLOVER extract on August 13, 2020. Methods and caveats: SARS-CoV-2 specimens are tallied at the specimen level by date the specimen was collected. The proportion positive on a given date may include new positive cases and retested positive cases; this may over-estimate proportionate positivity. Similarly, individuals may be tested repeatedly after becoming negative; this may under-estimate proportionate positivity. Refer to http://www.bccdc.ca/health-info/diseases-conditions/covid-19/testing/phases-of-covid-19-testing-in-bc for description of laboratory testing phases. Refer to footnotes on page 3 for description of public health measures.

Figure 7: Percentage distribution of COVID-19 cases, hospitalizations, ICU admissions and deaths by age, compared to the general population[†] of BC, January 1 – August 13, 2020 (**N=4,229***)

*Only cases with age information available are included.
† PEOPLE2019-2020 population estimates
Note: COVID hospitalizations have been reported in the <10y and 10-19y age groups but represent <1% of hospitalizations and are therefore not visible.
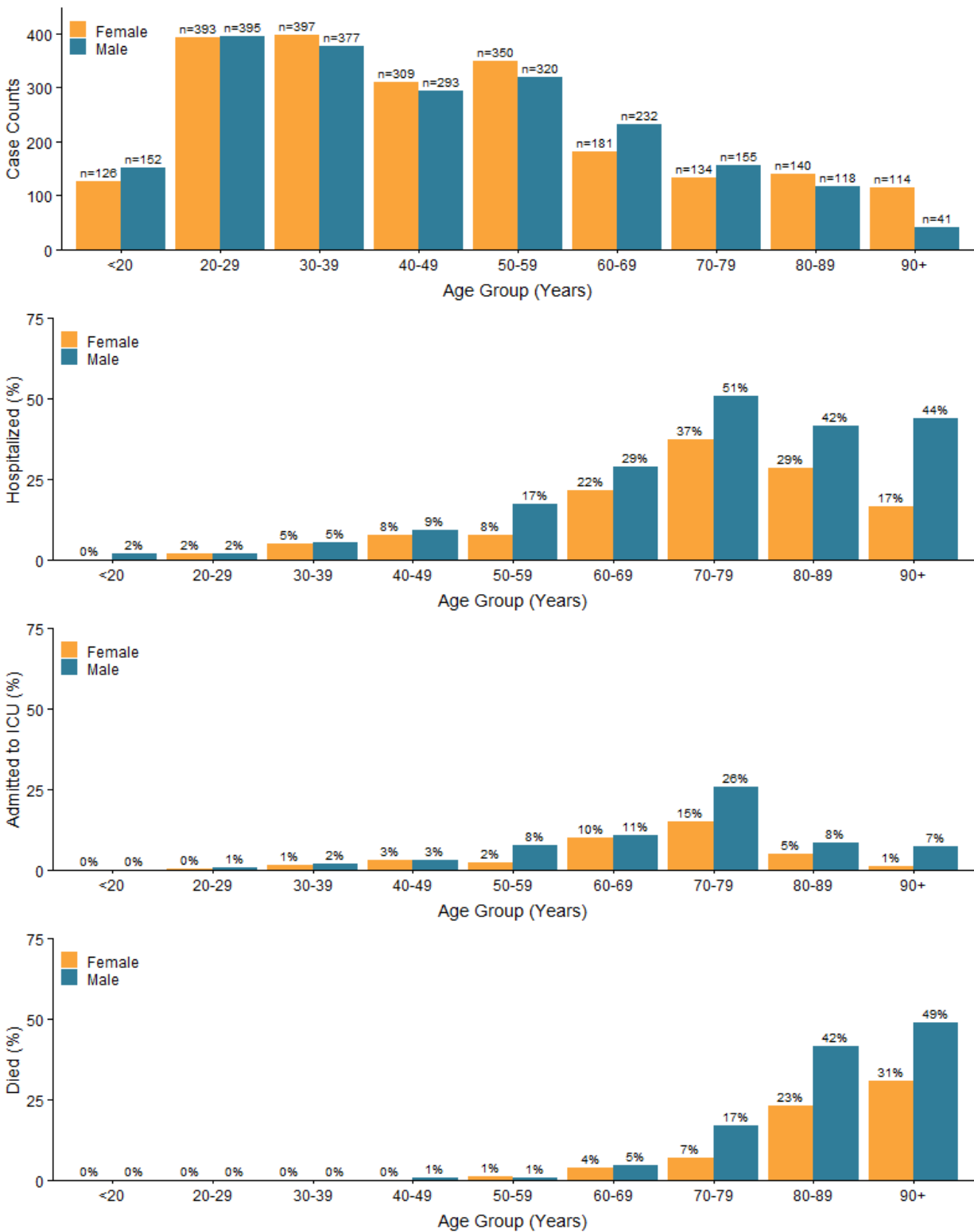
Table 3: Number and percentage distribution of COVID-19 cases, hospitalizations, ICU admissions and deaths by age, compared to the general population of BC, January 1 – August 13, 2020 (**N=4,229***)

Age group	COVID cases n (%)	Cases ever hospitalized n (%)	Cases ever in ICU n (%)	COVID deaths n (%)	General population† n (%)
<10 Years	94 (2)	2 (<1)	0 (0)	0 (0)	468,280 (9)
10-19 Years	184 (4)	1 (<1)	0 (0)	0 (0)	507,197 (10)
20-29 Years	788 (19)	16 (3)	5 (3)	0 (0)	684,681 (13)
30-39 Years	775 (18)	39 (7)	12 (6)	0 (0)	730,523 (14)
40-49 Years	602 (14)	51 (9)	19 (10)	2 (1)	647,790 (13)
50-59 Years	670 (16)	82 (15)	33 (17)	5 (3)	721,355 (14)
60-69 Years	413 (10)	106 (19)	43 (22)	18 (9)	675,632 (13)
70-79 Years	290 (7)	129 (23)	60 (31)	35 (18)	436,179 (9)
80-89 Years	258 (6)	89 (16)	17 (9)	81 (41)	188,010 (4)
90+ Years	155 (4)	37 (7)	4 (2)	55 (28)	50,876 (1)
Total	**4,229**	**552**	**193**	**196**	**5,110,523**

* Only cases with age information available are included.
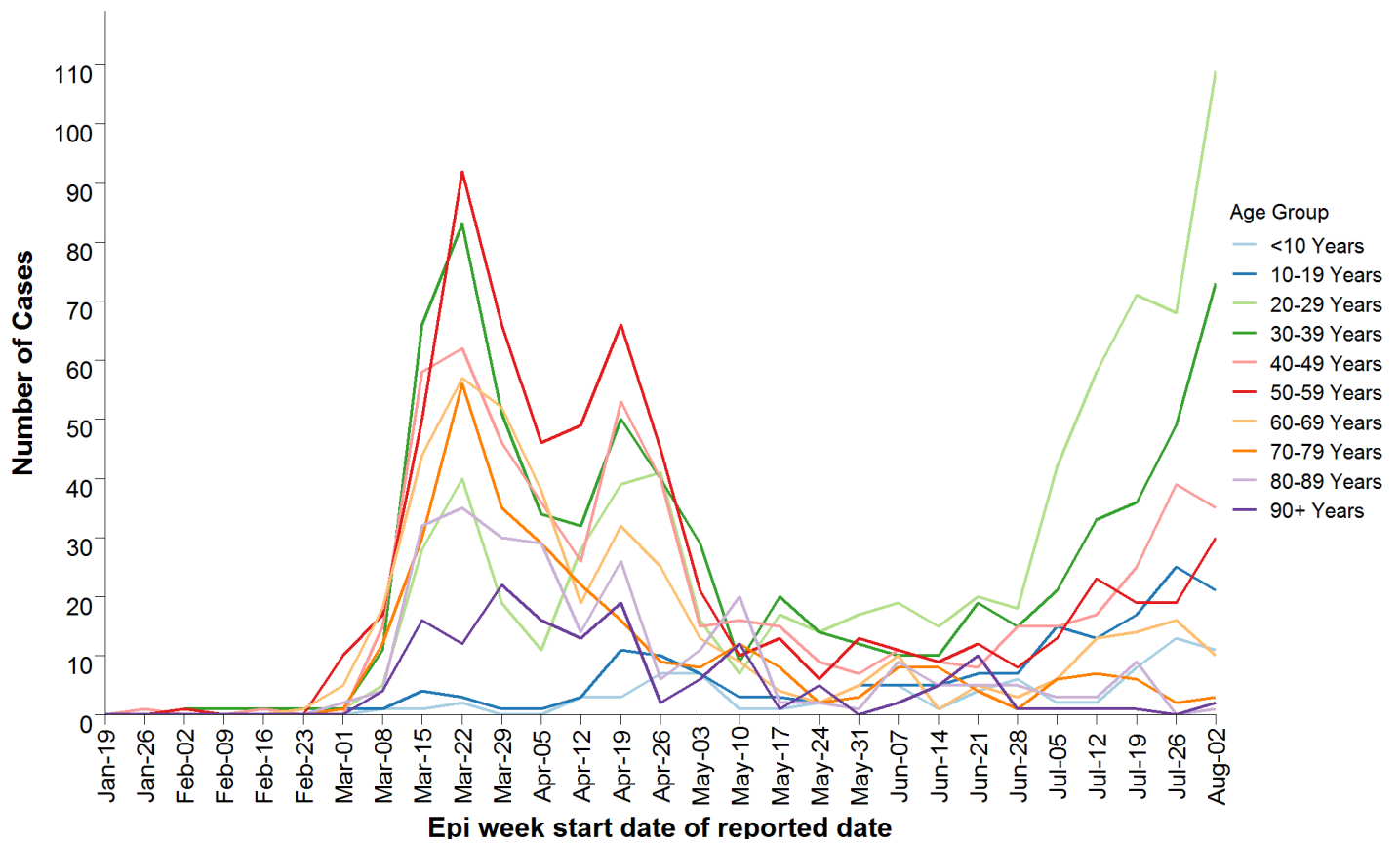† PEOPLE2019-2020 population estimates

Figure 8: Counts of COVID-19 cases and proportions ever hospitalized, ever admitted to ICU, and with outcome of death by gender and age group, BC, January 1 – August 13, 2020 **(N=4,227*)**
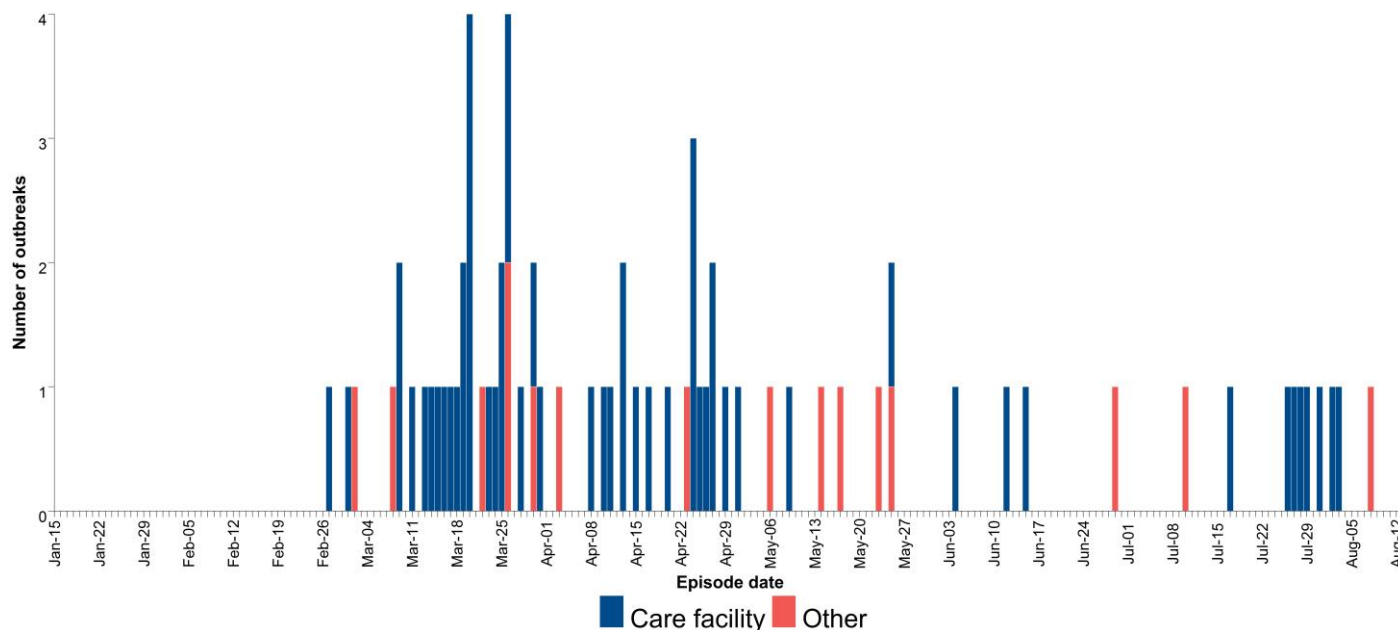

* Includes cases with sex and age information available.
Note: Proportions calculated using the total number of cases in each gender and age group (displayed in top figure) as the denominator.

Figure 9: Counts of COVID-19 cases by ten year age groups and epidemiological week of report, BC, January 19 – August 8, 2020 **(N=3,999*)**

* Only cases with age information available are included.

Figure 10: COVID-19 outbreaks* by earliest date**, BC, January 15 – August 13, 2020 **(N=72)**

* Care facility (acute/long term care/independent living) outbreaks have at least one lab-confirmed COVID-19 staff or resident. Other outbreaks have two or more lab-confirmed COVID-19 cases diagnosed within a 14-day period in closed or common settings (e.g. penitentiary, shared living or work setting).
** Based on the earliest date available for the first case in the outbreak (symptom onset date or, if not available, reported date). Earliest dates are subject to change as data are updated.
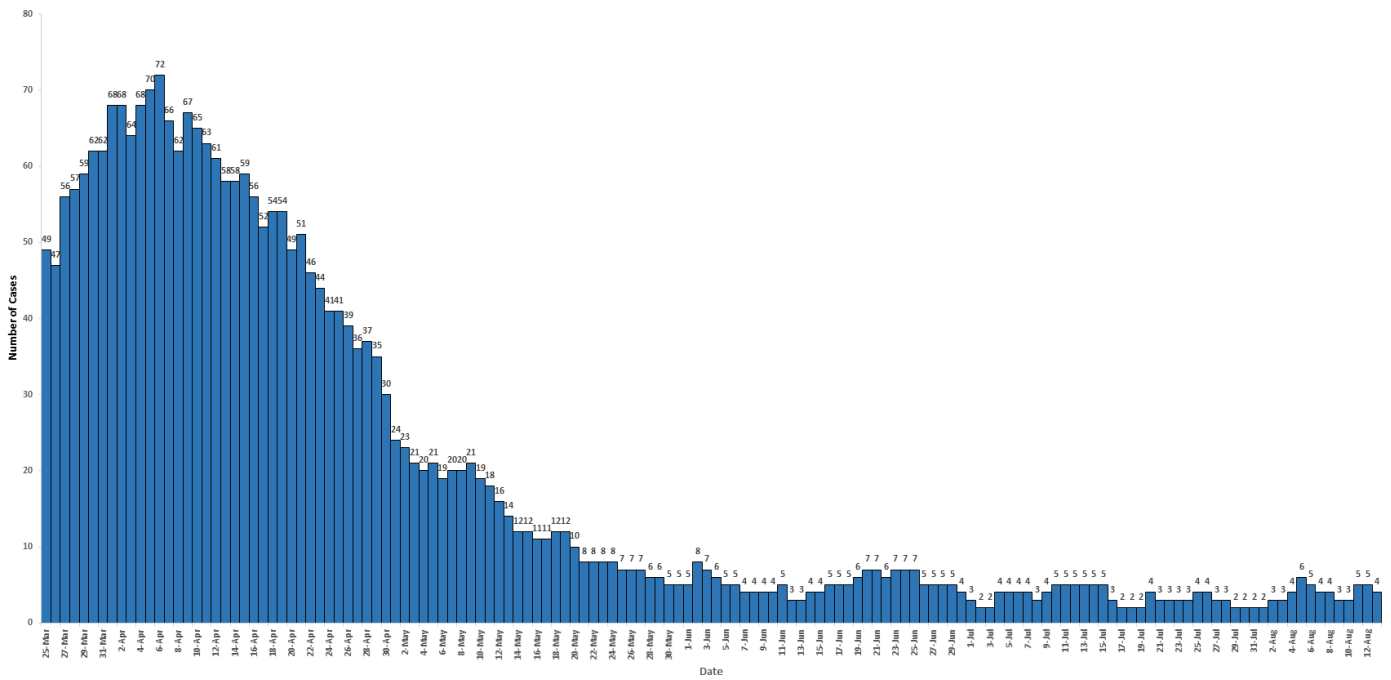
Table 4: Outbreak and case counts of reported COVID-19 outbreaks*, BC, January 15 – August 13, 2020 (**N=72**)

	Care facility	Other settings	Total
Outbreaks			
Total outbreaks	**56**	**16**	**72**
New since last week (August 6)	5	1	6
Active outbreaks	8	2	10
Outbreaks declared over	48	14	62
Outbreak cases**			
Total cases	**679**	**478**	**1,157**
Residents/patients	409	122	531
Staff/other	270	356	626
Total deaths	**143**	**2**	**145**
Residents/patients	143	1	144
Staff/other	0	1	1

* Care facility (acute/long term care/independent living) outbreaks have at least one lab-confirmed COVID-19 staff or resident. Other outbreaks have two or more lab-confirmed COVID-19 cases diagnosed within a 14-day period in closed or common settings (e.g. penitentiary, shared living or work setting).
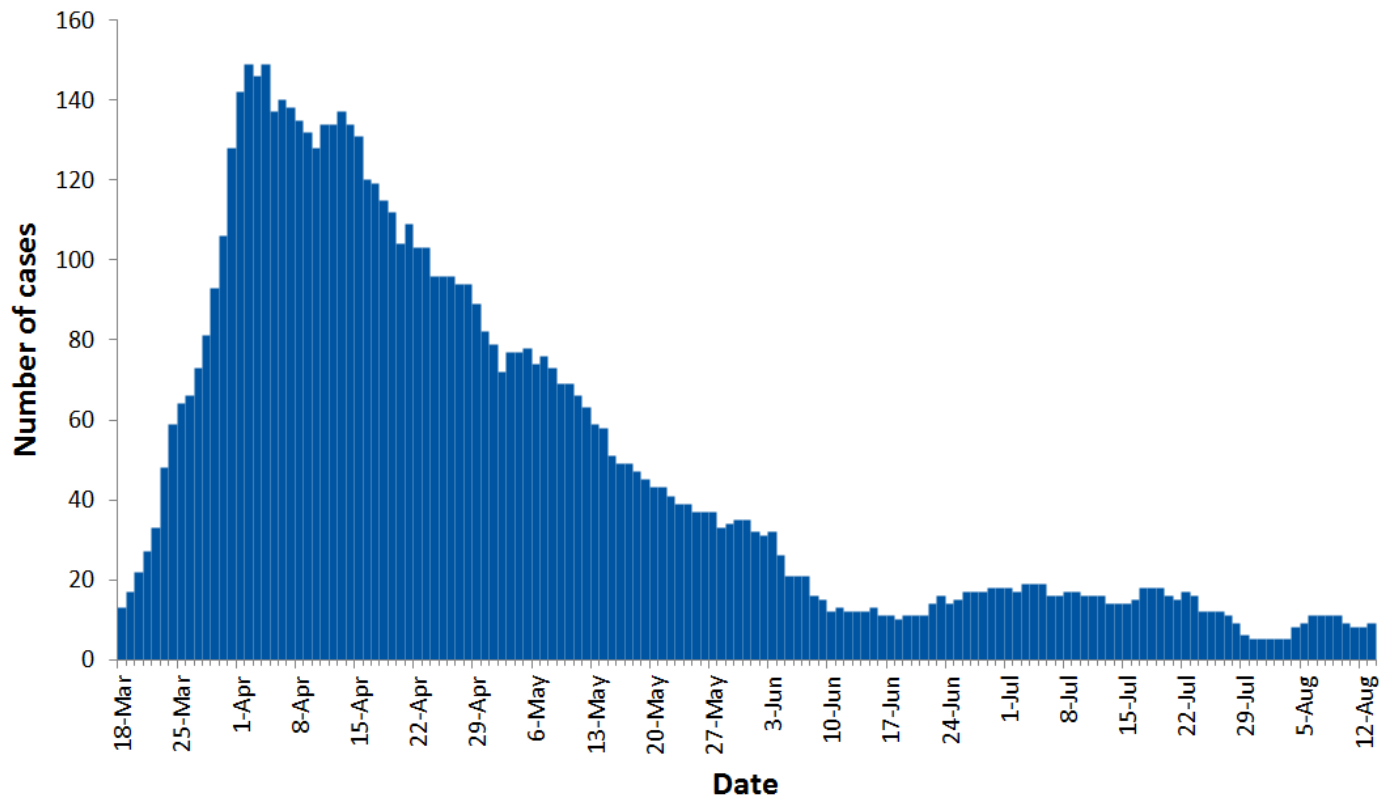** Cases include lab-confirmed, lab-probable and epi-linked cases. Case definitions can be found at: http://www.bccdc.ca/health-professionals/clinical-resources/case-definitions/covid-19-(novel-coronavirus). As of July 3, residents of other Canadian provinces/territories are reported by that province/territory.

Figure 11: Total COVID-19 cases in critical care by day, BC, March 25 - August 13, 2020

Data source: PHSA August 13. Note: critical care data may change over time due to small adjustments and improvements in data quality.

Figure 12: Number of COVID-19 cases in hospital by day, BC, March 18 - August 13, 2020

Data available starting March 18. For dates with no data available (April 12; Sundays from May 10 onwards; and Saturdays from June 7 onwards), the previous day's value was used. Hospitalization data may be incomplete or out of date (i.e., under-estimates) owing to the timing and process for case status update.

International and National Epidemiological Comparisons

Figure 13: Daily new and cumulative diagnosed COVID-19 case and death rates by select countries vs BC and Canada
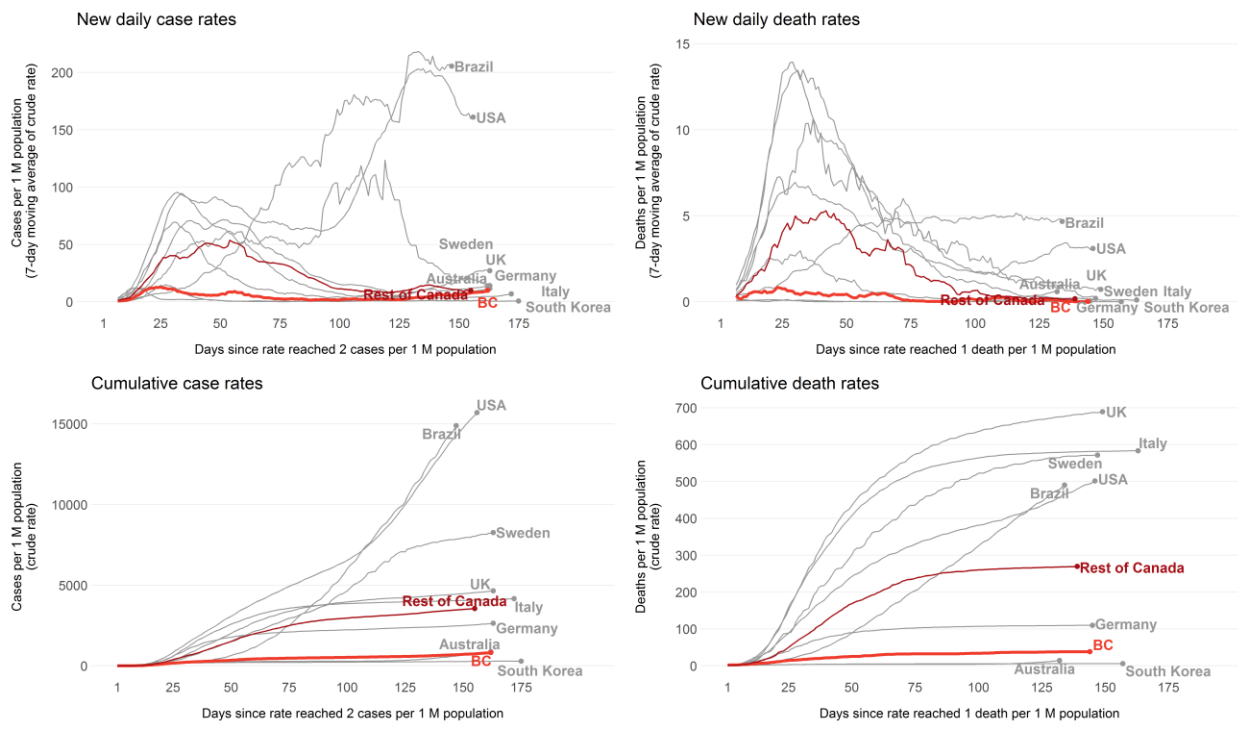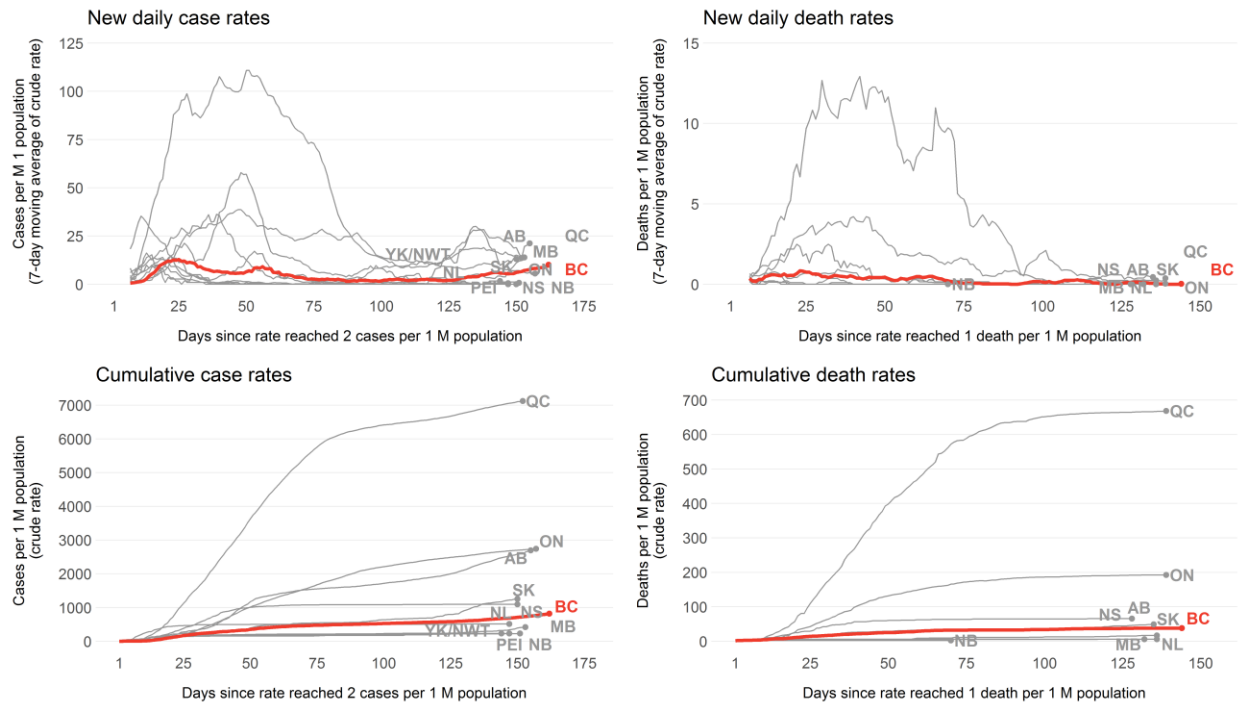

Figure 14: Daily new and cumulative diagnosed COVID-19 case and death rates in Canada

Data sources for international and national epidemiological comparison (all extracted August 12, 2020):
JHU CSSE for global cases and deaths, and Canadian provincial deaths outside of BC: https://github.com/CSSEGISandData/COVID-19
For Canadian provincial cases: Provincial data sources
BC cases and deaths: BCCDC
Global population denominator from the United Nations