COVID-19: Going Forward

- Prepared for BC Ministry of Health
- August 13, 2020

Epidemiology

How and Where the Virus Has Affected People in BC

Weekly Profile of COVID-19 Cases (July 31 – August 6)

3,881	Total Cases	52	% Female Sex
290	New Last Week ↑	48	Median Age

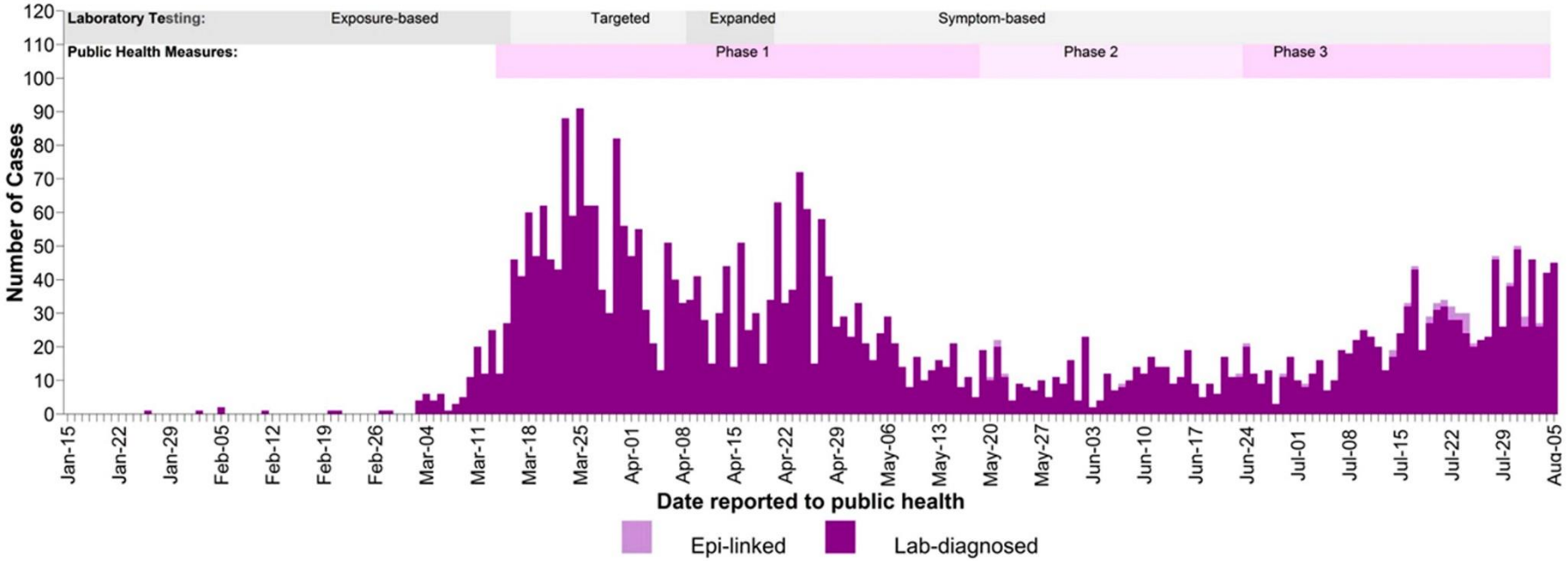
550	Ever Hospitalized	14	% Cases Hospitalized
8	New Last Week ↑	69	Median Age

195	Deaths	5	% Cases Died
1	New Last Week ↓	85	Median Age

3,315	Removed From Isolation	85	% Cases Removed
160	New Last Week	50	Median Age

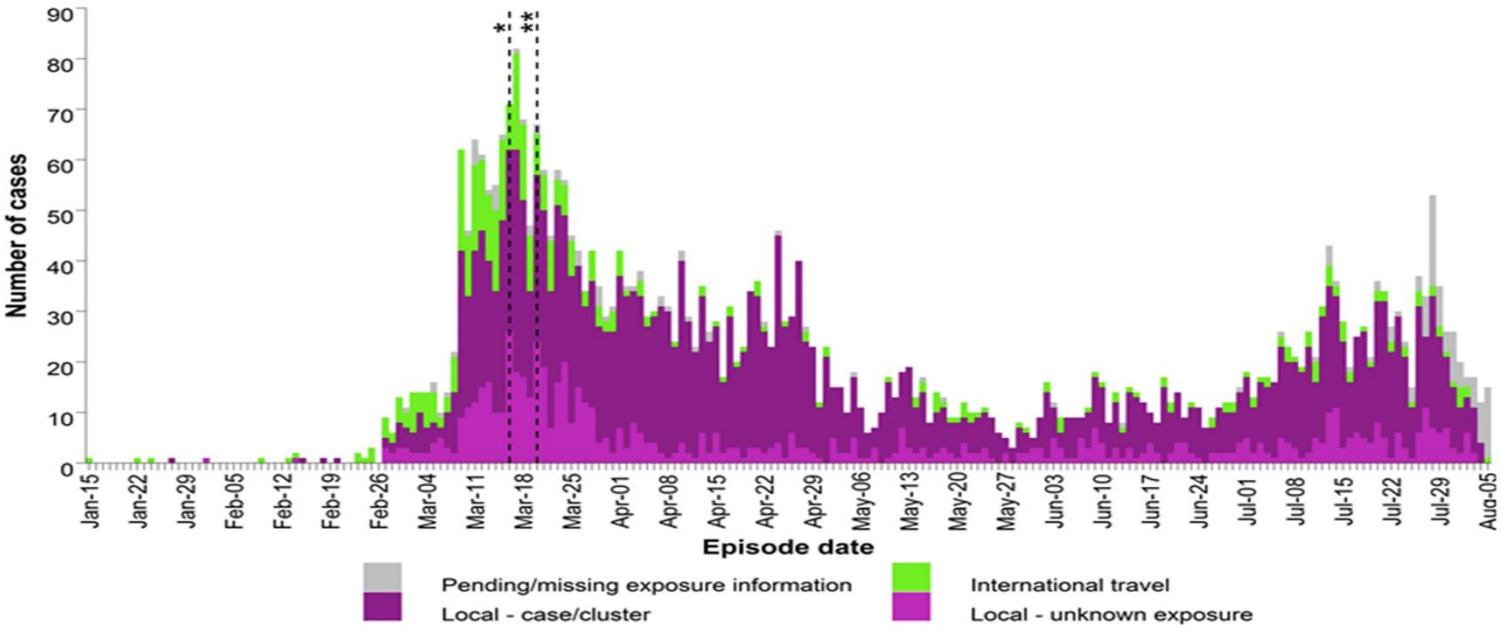
Note: Weekly comparison represents provincial data from July 31-August 6, 2020 compared to July 24-30, 2020.

Epidemic Curve: COVID-19 Cases in BC by Reported Date January 15 – August 8, 2020. (N=3,876*)



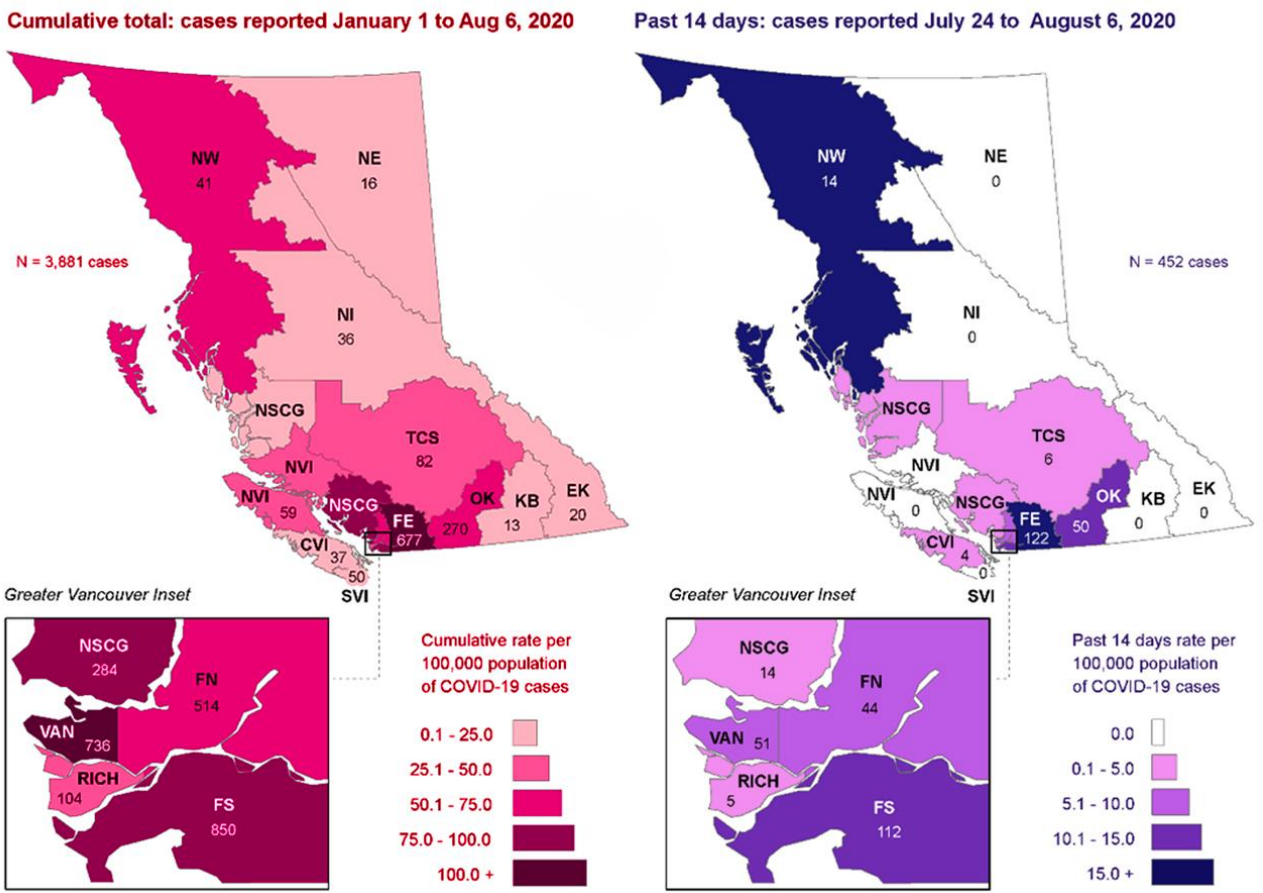
** The number of cases reported by day differs from that in Table 1 in previous reports as this figure reflects the date the case was lab-confirmed and reported to the Health Authority.*

Likely Source of Infection for COVID-19 Cases in BC by Episode Date§, January 15 – August 5, 2020. (N=3,878)



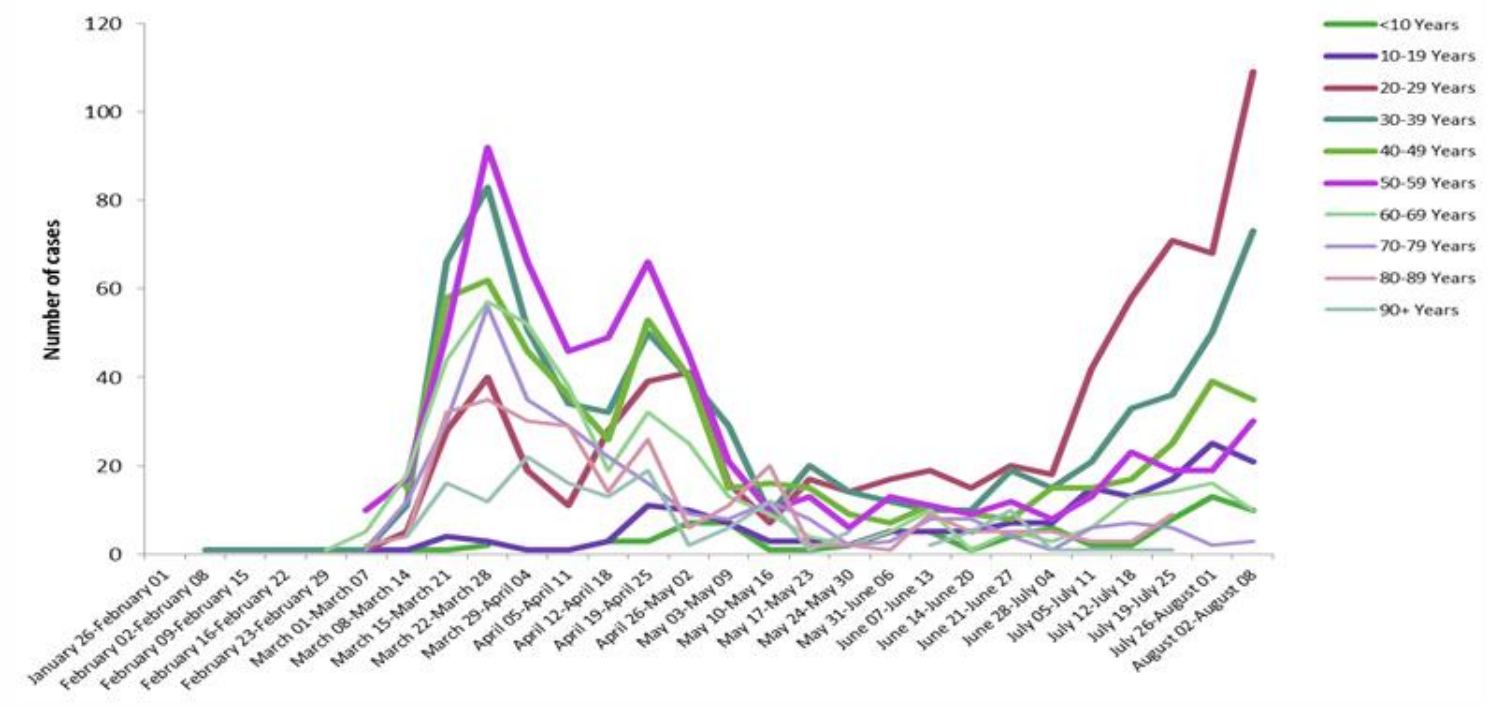
§ Episode date is based on symptom onset date (n=3,592), if not available then date COVID-19 was reported to health authority (n=286).
** March 16: Entry of foreign nationals banned; symptomatic individuals banned from flights to Canada; international flights restricted to four national airports.*
*** March 20: US/Canada border closed to non-essential travel.*

Geographic Distribution of COVID-19 by Health Service Delivery Area of Case Residence



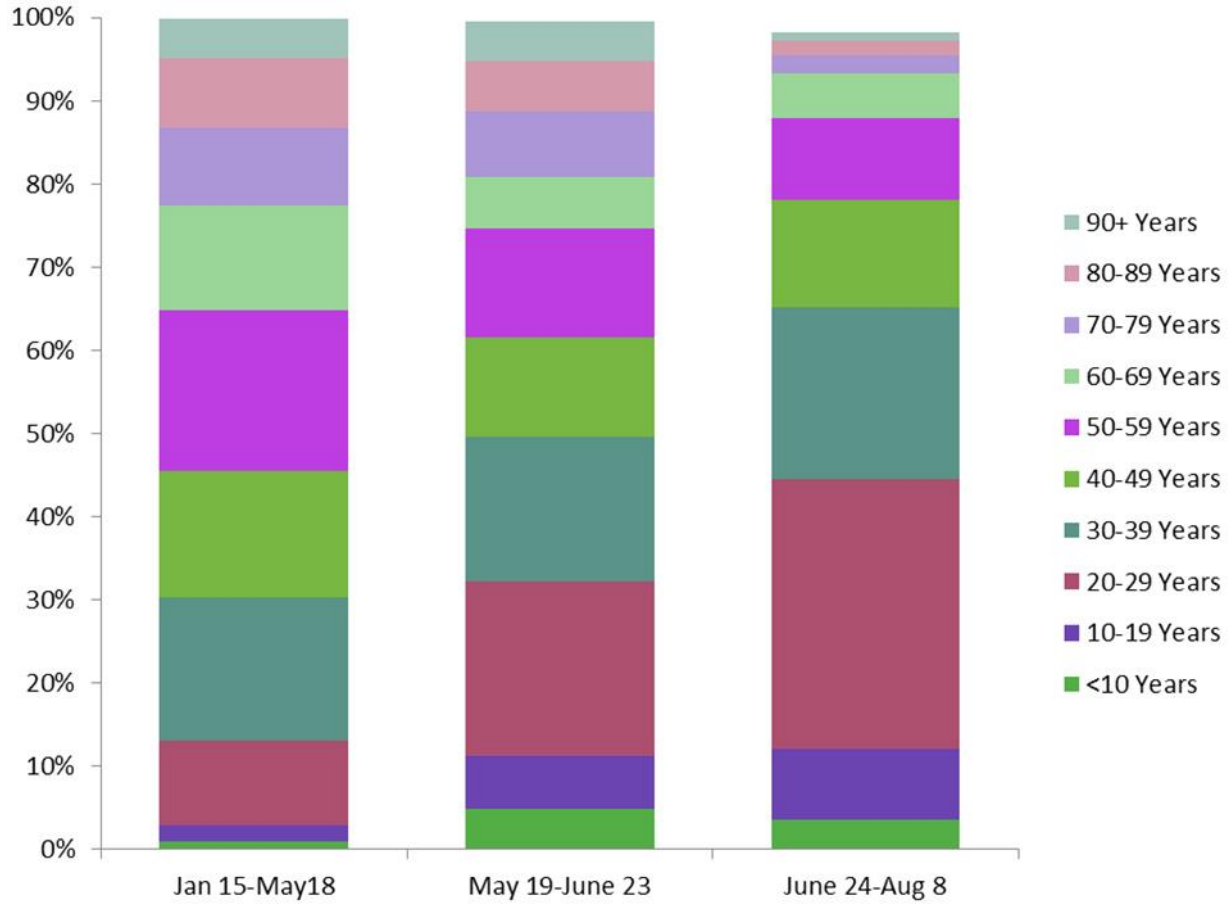
Notes: 1. Cases mapped by location of residence; cases with unknown HSDA and from out of province not mapped. 2. Data from the case line lists of the five regional health authorities of British Columbia. 3. COVID-19 may be circulating undetected in the community including where no cases have been identified by public health.

Number of Cases by Week Reported and Age Group, BC, January 26 - August 8, 2020 (N=3,999*)

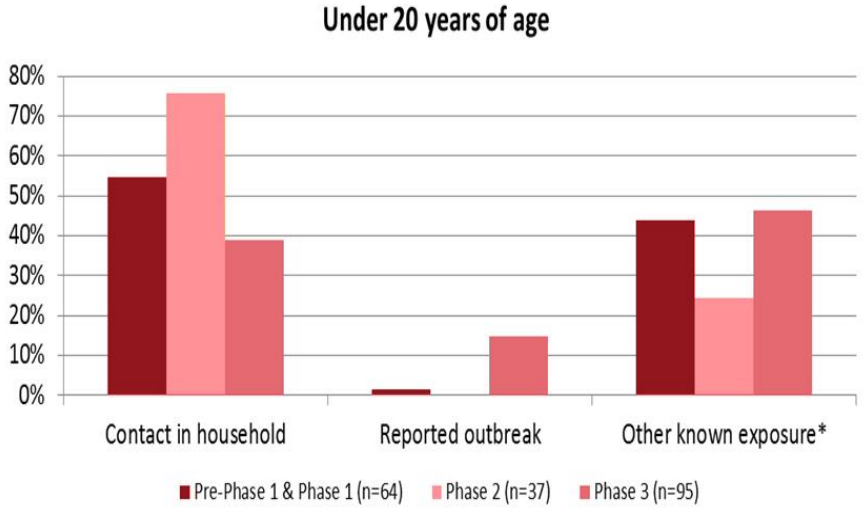


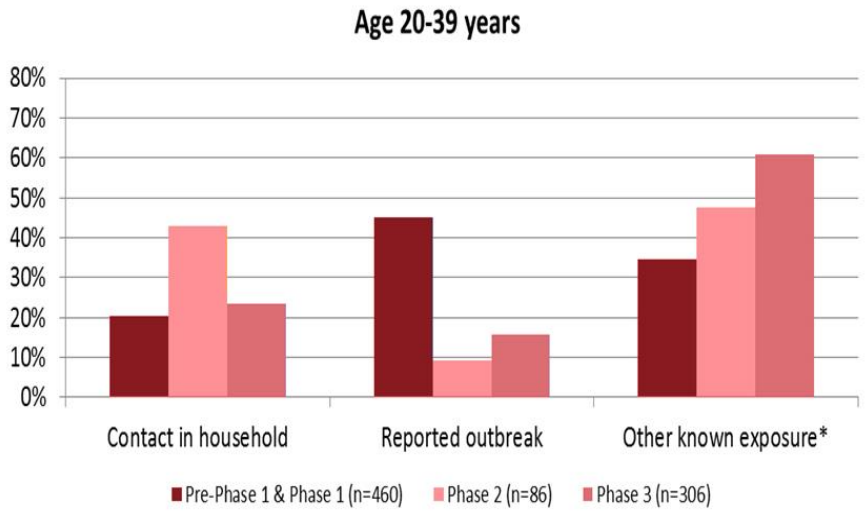
**20 cases without age are excluded from analysis.*

Proportion of Cases by Phase and Age Group, BC, January 15 - August 8, 2020



Local Known Exposures Reported by COVID-19 Cases by Phase and Age Group, Cases Aged <20 Years and 20-39 Years, BC, January 15 - August 1, 2020





Note: No children were exposed to COVID-19 in childcare or school settings.

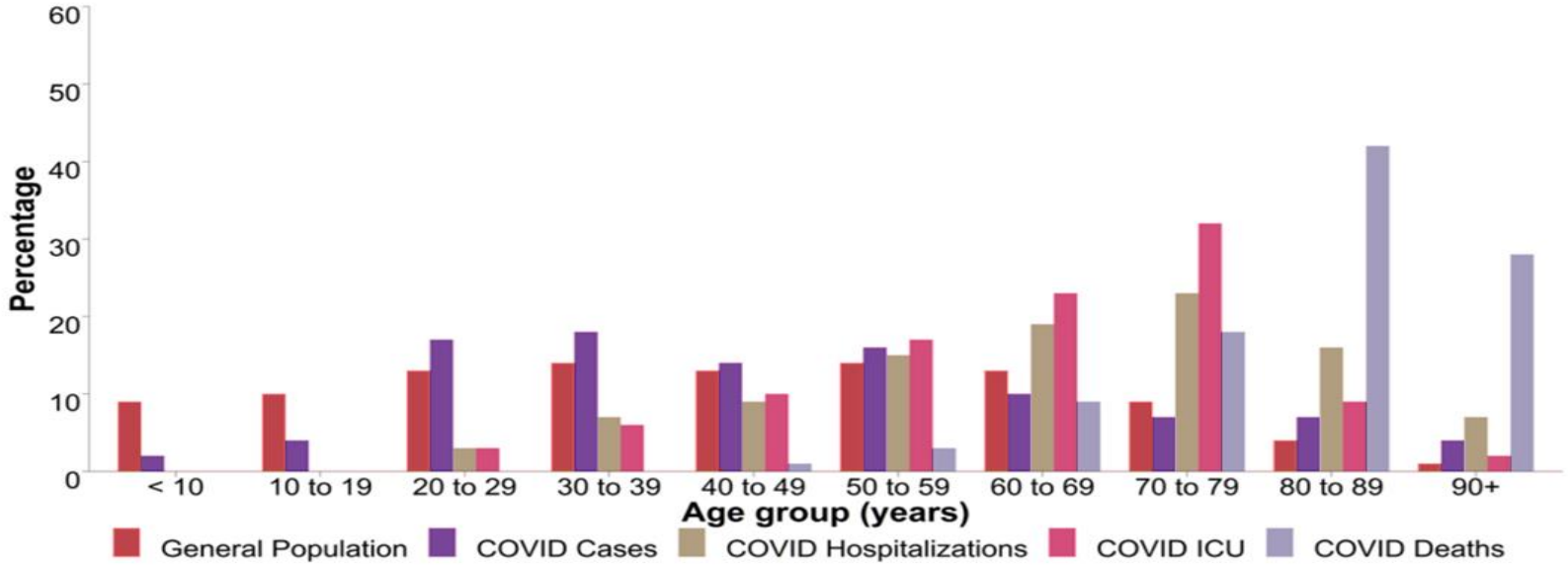
Pre-phase 1 & Phase 1 - cases before May 19, 2020. Phase 2 – cases between May 19 and June 23. Phase 3 – cases between June 24 and August 1.
** **Other known exposures** include contact with a COVID-19 case outside of the household and exposure to clusters not reported as outbreaks.*

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 6, 2020 (N=3,863*)

Age group	COVID cases n (%)	Cases ever hospitalized n (%)	Cases ever in ICU n (%)	COVID deaths n (%)	General population† n (%)
<10 Years	78 (2)	2 (<1)	0 (0)	0 (0)	468,280 (9)
10-19 Years	162 (4)	1 (<1)	0 (0)	0 (0)	507,197 (10)
20-29 Years	648 (17)	16 (3)	5 (3)	0 (0)	684,681 (13)
30-39 Years	691 (18)	38 (7)	11 (6)	0 (0)	730,523 (14)
40-49 Years	558 (14)	51 (9)	19 (10)	2 (1)	647,790 (13)
50-59 Years	635 (16)	82 (15)	32 (17)	5 (3)	721,355 (14)
60-69 Years	399 (10)	106 (19)	43 (23)	17 (9)	675,632 (13)
70-79 Years	288 (7)	129 (23)	60 (32)	35 (18)	436,179 (9)
80-89 Years	254 (7)	89 (16)	17 (9)	81 (42)	188,010 (4)
90+ Years	150 (4)	36 (7)	3 (2)	55 (28)	50,876 (1)
Total	**3,863**	**550**	**190**	**195**	**5,110,523**

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

Percentage Distribution of COVID-19 Cases, Hospitalizations, ICU Admissions and Deaths by Age, Compared to the General Population † of BC, January 1 – August 6, 2020 (N=3,863*)



** 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.

Weekly Summary of COVID-19 Lab Testing

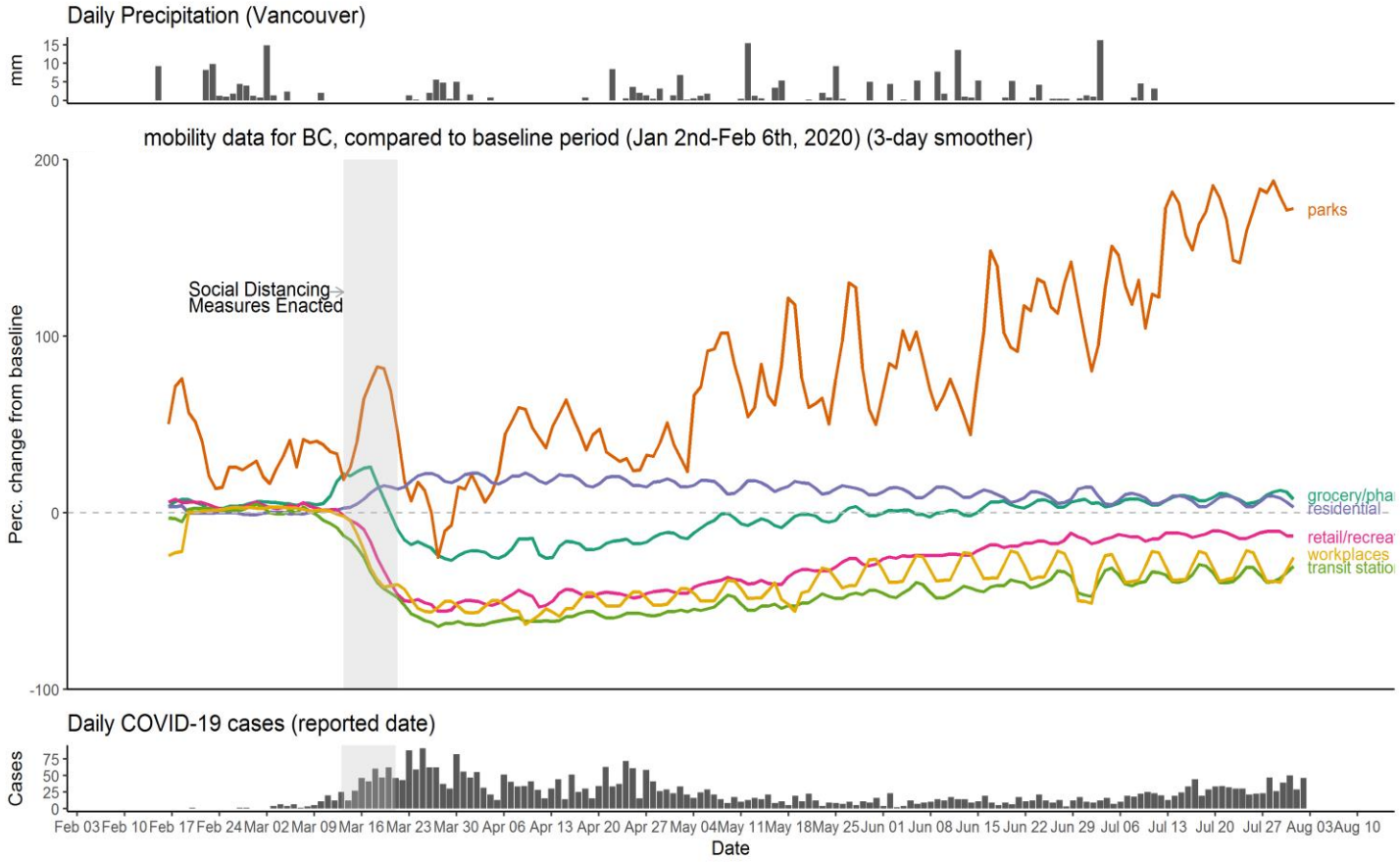
280,027	Total Specimens Tested	54,794	Tests Per Million
11,525	New This Week		
5,114	Total Positive Specimens	1.93 Positivity Rate	
177	New Positive This Week	⬆ 13% From Last Week	
22.2	Mean Turnaround Time	Lab Capacity:	
⬇ 8%	Change Since Last Week	Good	

Data source: PLOVER extract at 10:45 on Aug 7th, 2020. Current epi week is truncated to Thursday.

British Columbians' Mobility

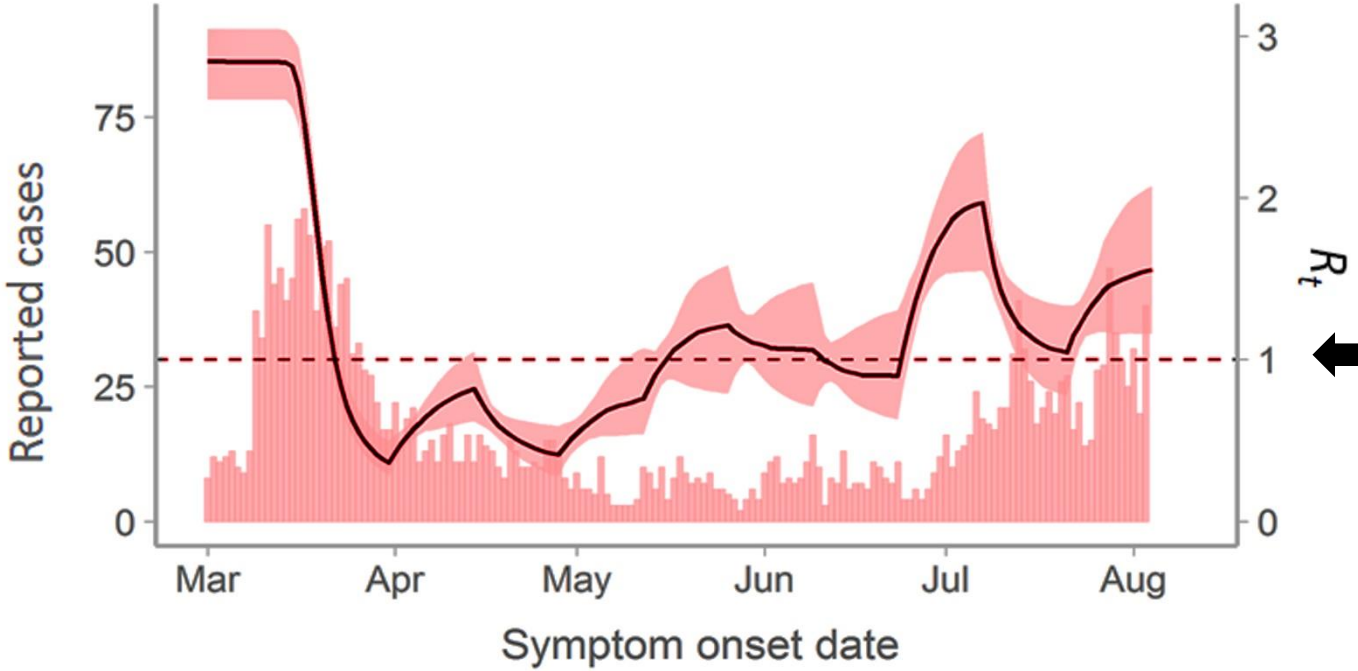
Mobility data indicates a return to pre-intervention activity levels with higher park usage, decrease in time spent in residential spaces and increase in other activities such as groceries/pharmacies, retail, workplace and transit stations.

Mobility index based on GPS data from smartphone users who have location services set to "on" (opt-in). It shows how visits to, and length of stay at, different location types compare to a baseline period Jan 3-Feb 6.
Data Source



Dynamic Compartmental Modelling: Recent Trends

Our model-based estimate of R_t (average daily number of new infections generated per case) shows that BC is above the threshold for epidemic control.

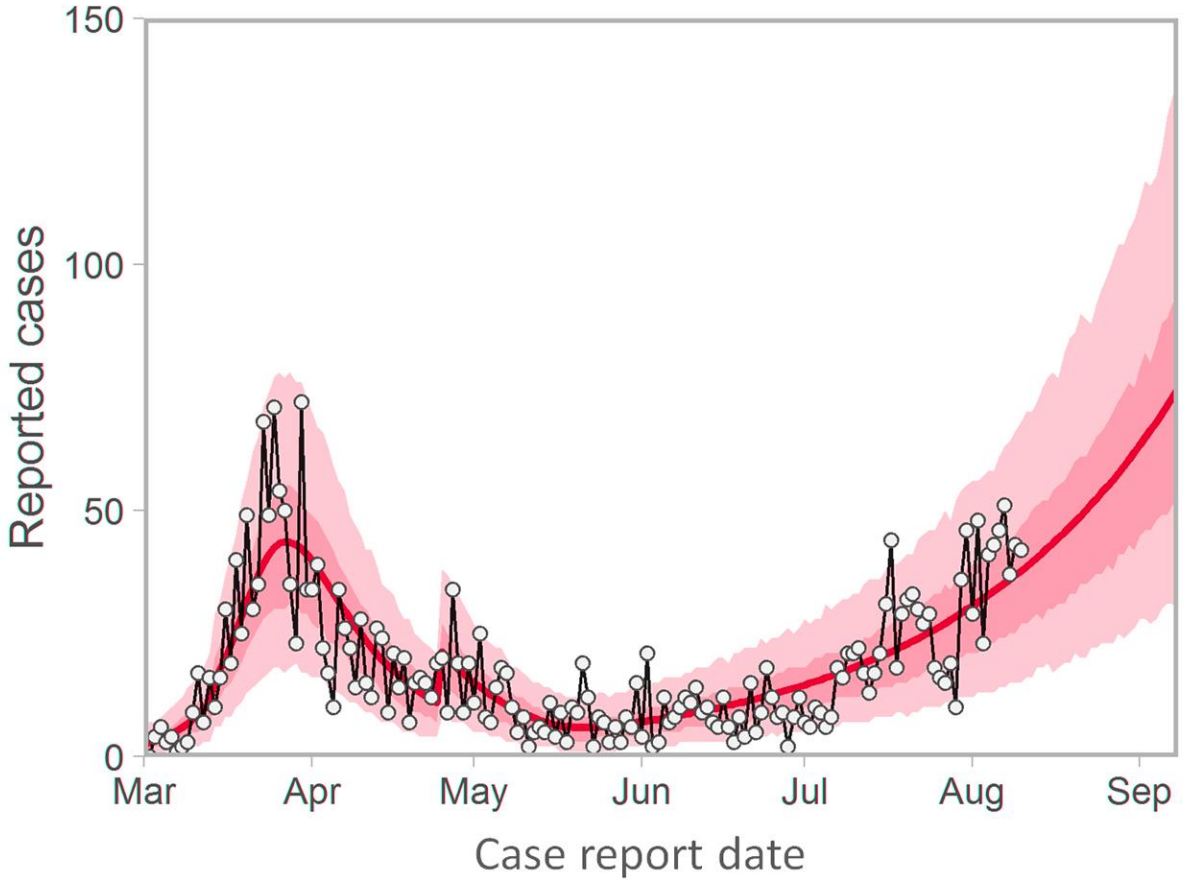


Threshold for sustained growth in new cases

Solid line: median R_t; light band: 95% credible intervals; Pink bars: reported cases, excluding those attributed to outbreak clusters; The most recent case counts and R_t values are not shown due to data lags from transmission to case reporting.

Dynamic Compartmental Modelling: Projections

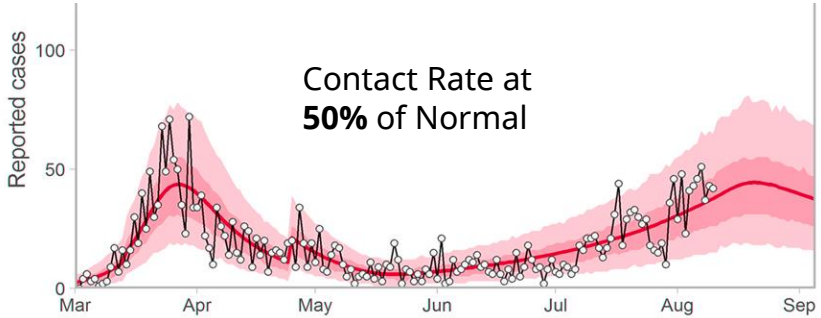
- Our model projections suggest that the number of new cases may continue to increase during the summer.
- These projections are based on the assumption that recent trends in new cases will continue.

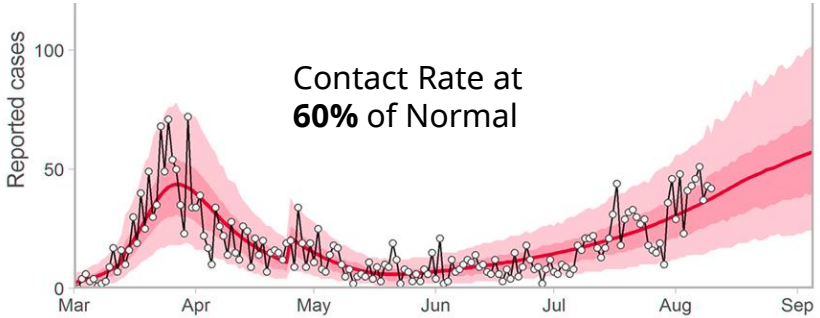


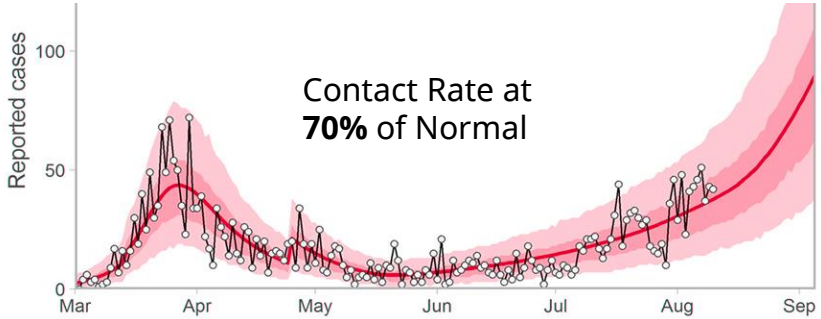
Solid line: mean; shaded bands: 50% and 90% credible intervals; Open circles: reported cases. Cases used for model fitting exclude those attributed to outbreak clusters.

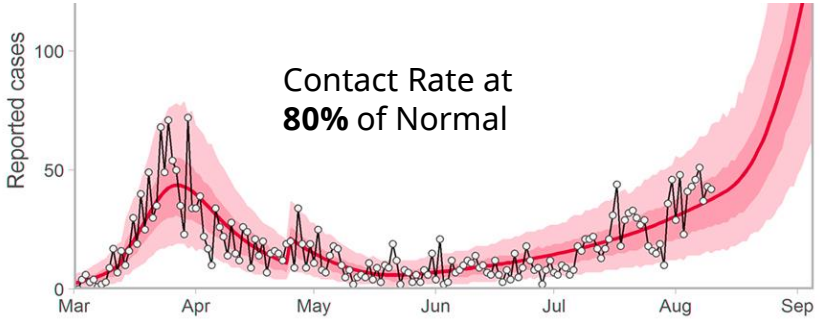
Dynamic Compartmental Modelling: Scenarios

Scenarios from our model illustrate the importance of reducing infectious contacts.
Poorer compliance with public health advice could lead to a rebound in new cases.



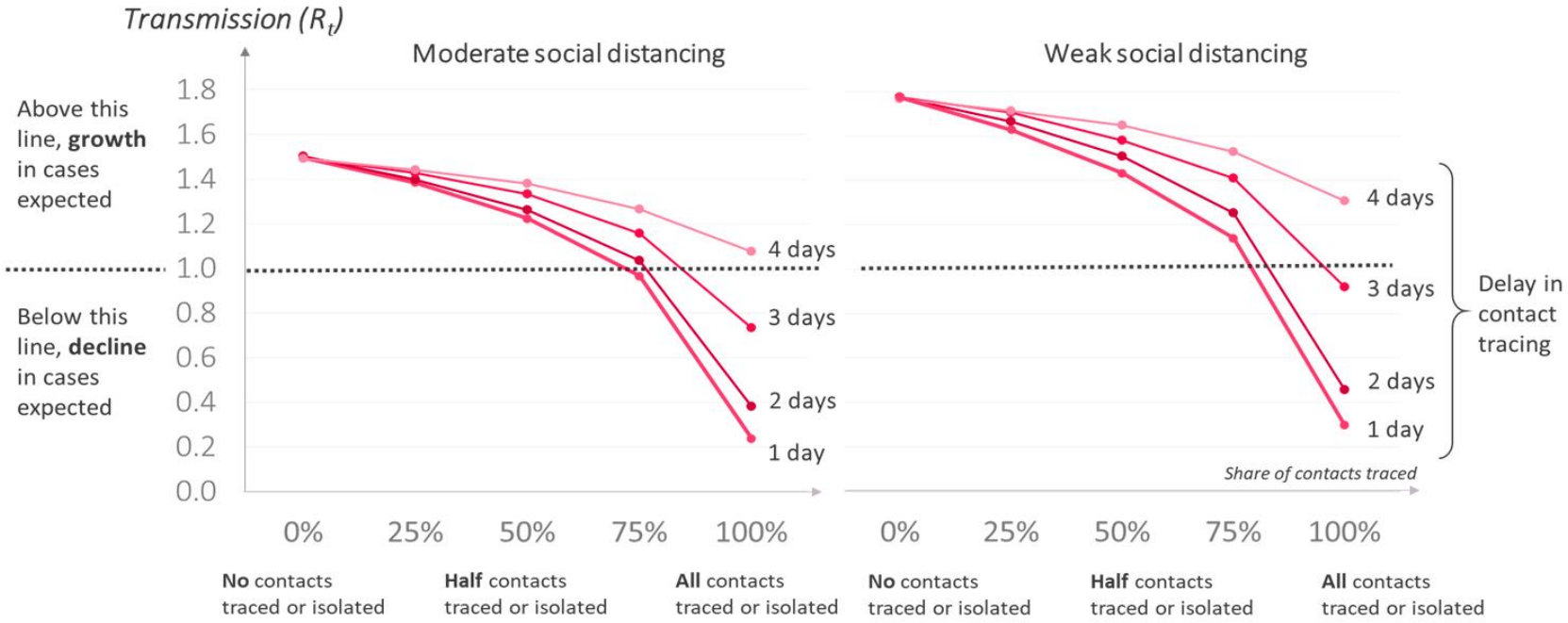






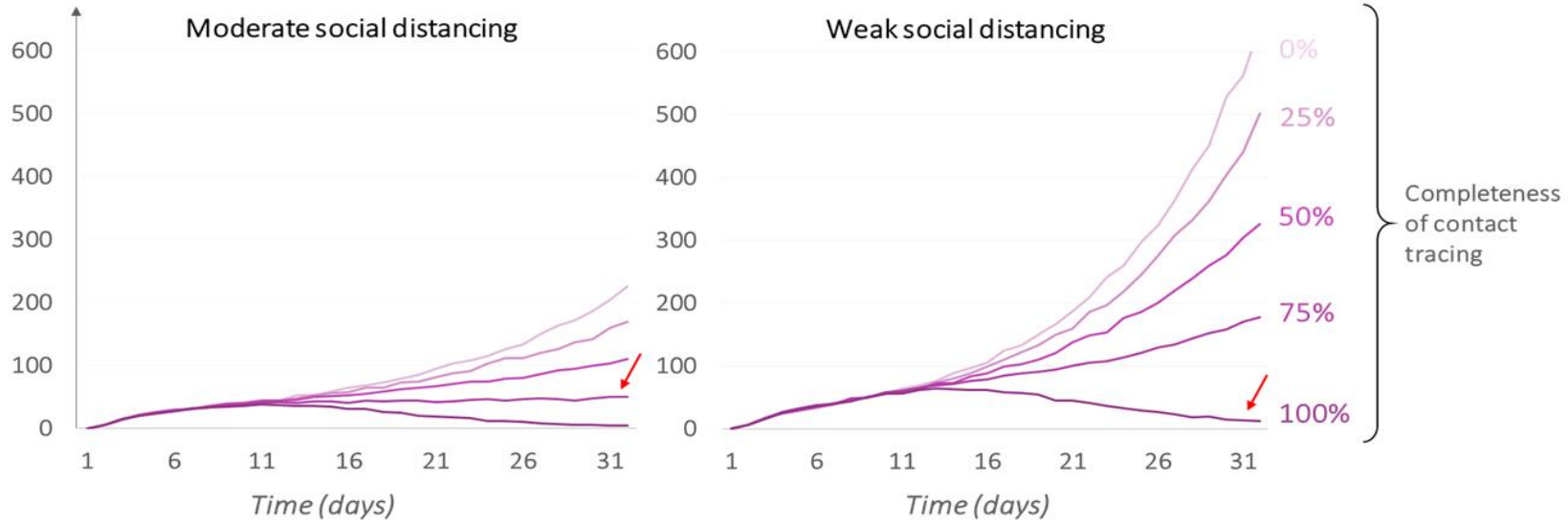
Contact Trace Modelling: Scenarios

With relaxed distancing, contact tracing needs to be both <u>complete</u> and <u>prompt</u> in order to prevent sustained transmission.



Contact Trace Modelling: Scenarios

Complete contact tracing helps to ensure epidemic control when population level restrictions are relaxed.



Need to trace **at least 75% of contacts** to maintain epidemic control

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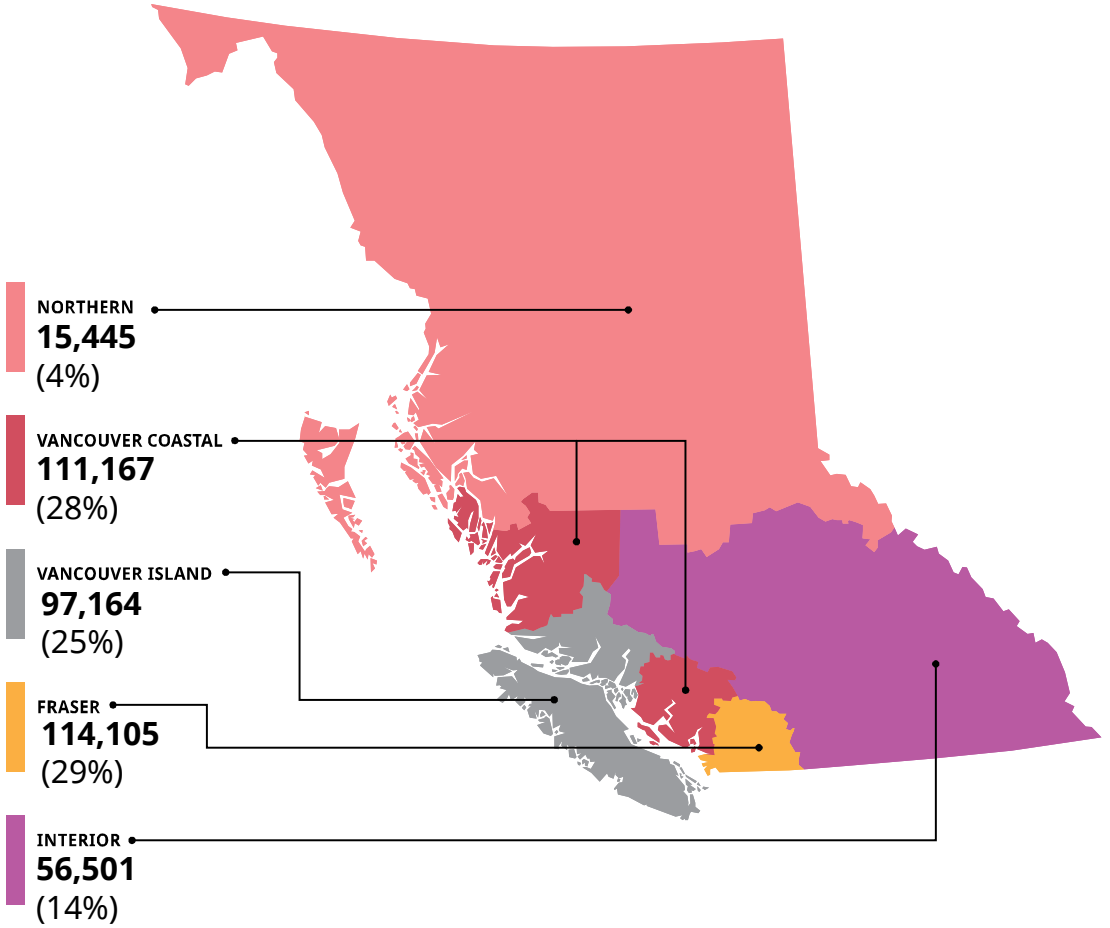
Contact Tracing Modelling: Key Messages

- As we have relaxed distancing measures, strong contact tracing in BC has provided a buffer against renewed growth of cases.

- As we further relax, the completeness and rapidity of contact tracing will be even more important for controlling transmission, in combination with self-isolation by sick individuals and strict hygiene practices.

BC COVID-19 Population Health Survey: Your Story, Our Future

1 in 10 adult British Columbians completed the survey (n = 394,382).

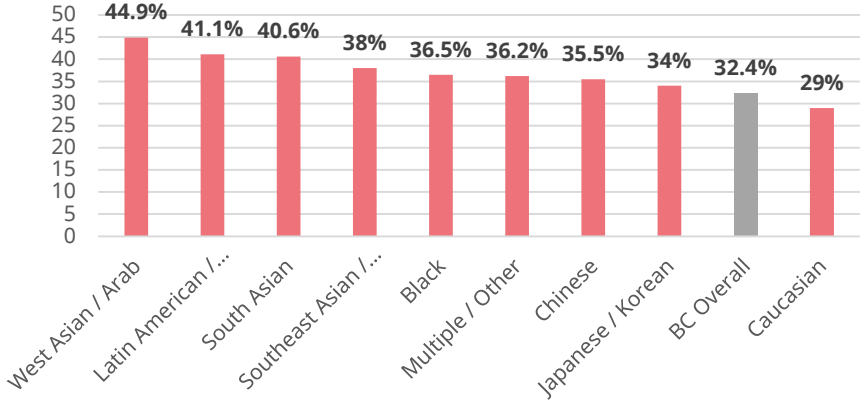


This survey was funded by the BCCDC Foundation for Public Health.

Impact on People of Different Racial and Ethnic Backgrounds

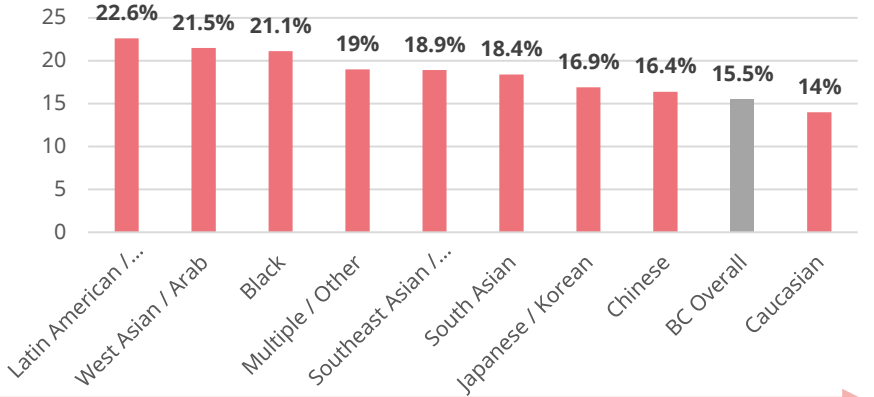
West Asian, Latin American and South Asian respondents were the most likely to report increased difficulty meeting financial needs.

Percent of respondents reporting increased difficulty meeting financial needs.



Latin American, West Asian and Black respondents were the most likely to report not working due to COVID-19.

Percent of respondents not working due to COVID-19.



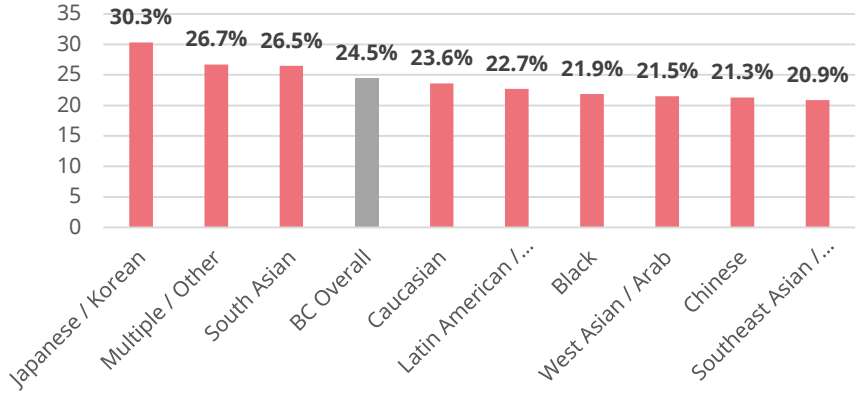
Caucasian Respondents...

- Had less difficulty making ends meet
- Fewer were not working due to COVID-19
- Were less likely to avoid health care
- Had less food insecurity

Impact on People of Different Racial and Ethnic Backgrounds

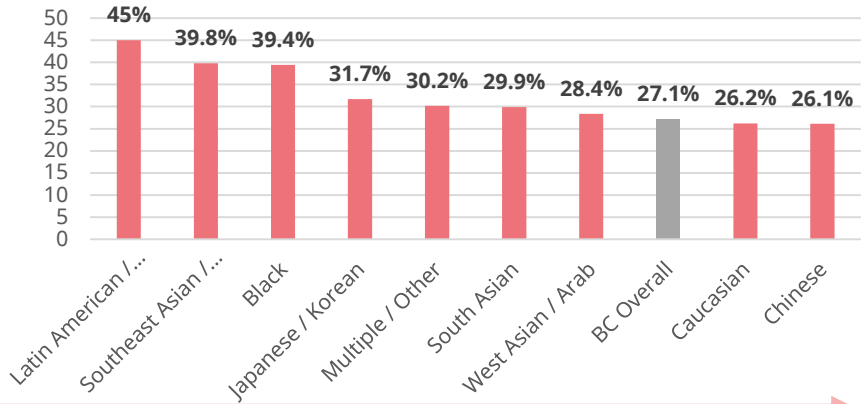
Japanese, Korean, multi-ethnic and South Asian respondents were the most likely to report having difficulty accessing healthcare.

Percent of respondents reporting difficulty accessing healthcare.



Latin American, Southeast Asian and Black respondents were the most likely to report increased connection to family.

Percent of respondents reporting increased connection to family.



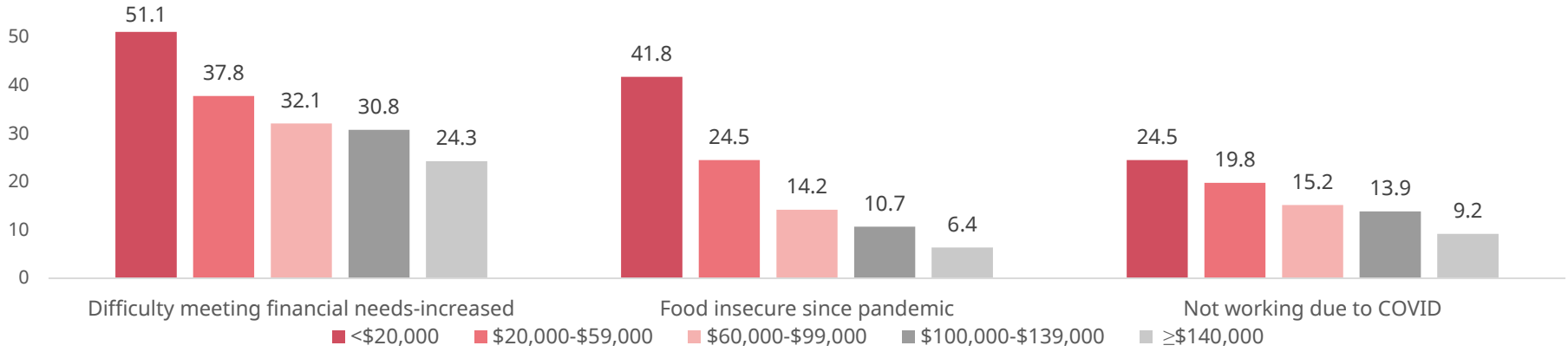
Caucasian Respondents...

- Had less impact on recreational/ physical activity
- Lower impact of child screen time
- Fewer concerns about their own health
- More likely to report increased alcohol consumption

Individuals with Lower Income Suffer More Negative Economic and Health Consequences

Individuals with incomes less than $60,000 had increased difficulty meeting financial need, were more food insecure and were more likely to be out of work.

Percent of respondents reporting economic impacts since pandemic.



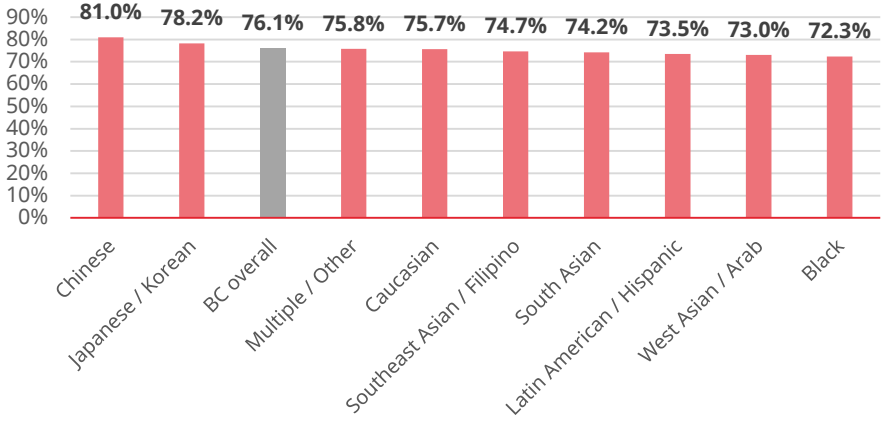
Individuals With Lower Income...

- More likely to have ≥ 1 chronic health condition
- Experienced increased concern for health
- Less able to stay home from work when sick
- More difficulty accessing healthcare

Impact on People of Different Racial and Ethnic Backgrounds Among Households With School-aged Children

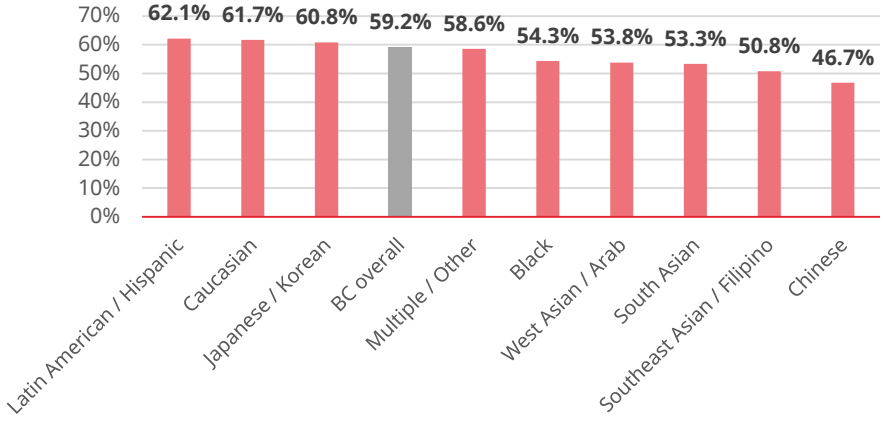
Chinese, Japanese, Korean and multi-ethnic households were the most likely to report their children experiencing impaired learning.

Percent of households with children reporting experiencing impaired learning.



Latin American, Caucasian, Japanese and Korean households were the most likely to report increased child stress.

Percent of households with children reporting increased child stress.



Among Households With School-aged Children…

76%
had their children's learning impaired

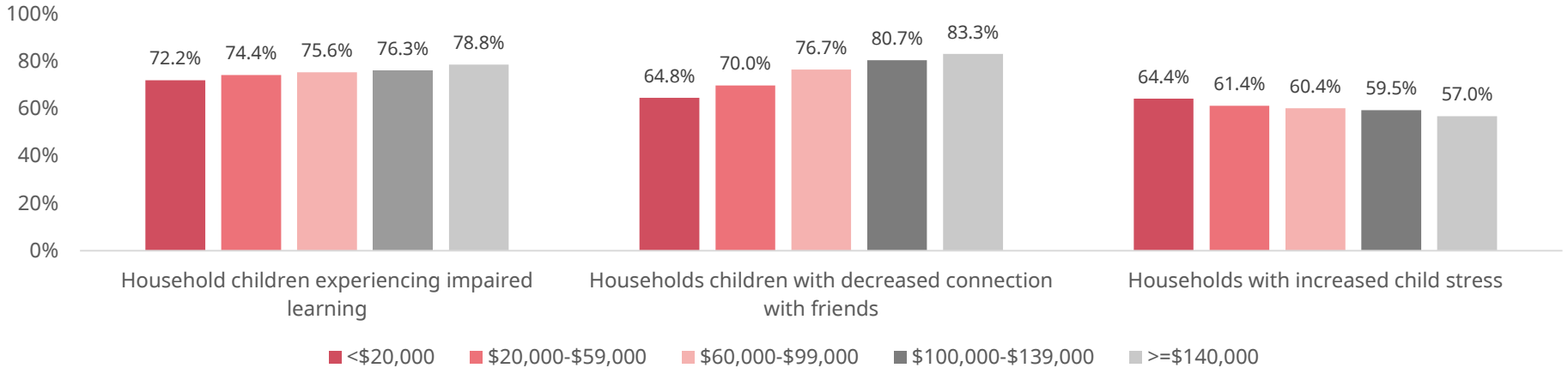
78%
report decreased connection with friends

59%
report increased child stress

Economic Differences Among Households with School-aged Children

Among households with children, lower income households had increased child stress, decreased connection with friends and higher levels of impaired learning.

Percent of households with children reporting social and education impacts since pandemic



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