

## WEEKLY EPIDEMIOLOGY UPDATE (17-23 JUNE, 2020)

Published: 26 June 2020

**2 099 (-629)**  
NEW CASES REPORTED\*

**200 (-94)**  
NEW DEATHS REPORTED\*

**28% (-3%)**  
PERCENT OF CASES ARE ACTIVE\*

**63% (+1%)**  
RECOVERED CASES\*

**38 444 (+2 124)**  
AVERAGE PEOPLE TESTED PER DAY<sup>v</sup>

**1.0% (-0.2%)**  
PERCENT POSITIVE<sup>v</sup>

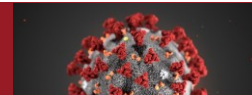
### KEY UPDATES

- As of 23 June 2020, a 10% decrease in the weekly number of new cases was observed nationally compared to the previous week
  - British Columbia, Ontario, Quebec and New Brunswick all reported decreases in the number of new cases compared to the previous week
  - Despite decreased case counts in Quebec and Ontario, these two provinces continue to drive the epidemic in Canada accounting for 1 730 total cases and 195 total deaths this week.
    - Quebec accounts for 126 deaths this week
  - Although Ontario has reported the most cases of any province or territory this week, Quebec remains to have the highest age standardized incidence rate at 9.9 cases per 100 000 and Saskatchewan's age standardized incidence rate has almost tripled in the last week from 1.9 to 5.9 cases per 100,000
  - The number of active cases within Canada has decreased by 3%
  - Ontario has reported its first death of a case under the age of 19 and investigation is ongoing
- Outbreaks are continuing to occur within residential, health care, and workplace settings and are driving the national case counts
- Since May 1, we have observed a decreasing rate of cases in all age groups, particularly with the highest declines in those over 80 years of age (males and females). Rates amongst those in 20-29 have not shown a substantial decline
- The median age of cases this week has dropped to 40 years. This in part is related to the notable decline of cases in the older age groups rather than an increase in younger age groups
- The highest incidence rates in age and gender remain in those over 80 years (14 per 100 000 and 9 per 100 000, in females and males, respectively) and younger adults age 20 to 29 years (11 cases per 100 000 and 10 cases per 100 000 in females and males, respectively)
- This week, there were more female deaths over the age of 80 than the previous week with a death rate of 31 per million compared to 24 per million last week
- With the overall expansion in testing, the incidence of cases has continued to decrease across all age groups, and the percent positivity continues to decline. This signals a reduction in transmission, as seen in the  $R(t)$  which remains below 1
- Forecasting shows 101 650 to 105 820 cumulative reported cases and 8 390 to 8 900 cumulative number of deaths are predicted by 5 July

\*Source: Provincial and Territorial MOH websites as of 23 June <sup>v</sup>Data for laboratory analyses are as of 21 June

# COVID-19 IN CANADA

## NATIONAL TRENDS IN CASES AND DEATHS



As of 23 June 2020, a decrease in the weekly number of new cases were observed nationally (Table 1).

- Decreases in the weekly number of new cases per day were seen in British Columbia, Ontario, Quebec and New Brunswick
- Increases in the weekly number of new cases per day were seen in Alberta, Saskatchewan, and Manitoba
  - Saskatchewan have reported larger increases in cases this past week, including localized outbreaks in Northern Saskatchewan

**Table 1.** Trends of new cases in Canada and by Province/Territory, as of 23 June 2020

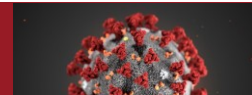
	# of cases (as of 23 June)	# of cases reported			Crude rate per 100 000 (as of 23 June)
		10 to 16 June	17 to 23 June	Percent change (%)*	
BC	2 835	76	60	-21%	56
AB	7 781	206	251	+22%	178
SK	753	26	60	+131%	64
MB	314	4	8	+100%	23
ON	33 853	1 213	1 109	-9%	232
QC	54 884	805	621	-23%	647
NL	261	0	0	-	50
NB	165	12	1	-92%	21
NS	1 061	0	0	-	109
PE	27	0	0	-	17
YK	11	0	0	-	27
NT	5	0	0	-	11
NU**	0	0	0	-	0
<b>Canada***</b>	<b>101 963</b>	<b>2 342</b>	<b>2 099</b>	<b>-10%</b>	<b>277</b>

\*The percentage is calculated on the difference in the total number of cases in the past 7 days over the past 7 days prior. Note that for PTs with low case counts, an increase or decrease of only a few cases leads to a large percentage change. There was no change in the 7-day average for MB, NL, NS, PE, YK, NT, and NU.

\*\*Information as of 22 June 2020

\*\*\* Includes 13 cases identified in repatriated travellers (Grand Princess Cruise ship travelers) who were under quarantine in Trenton in March 2020.

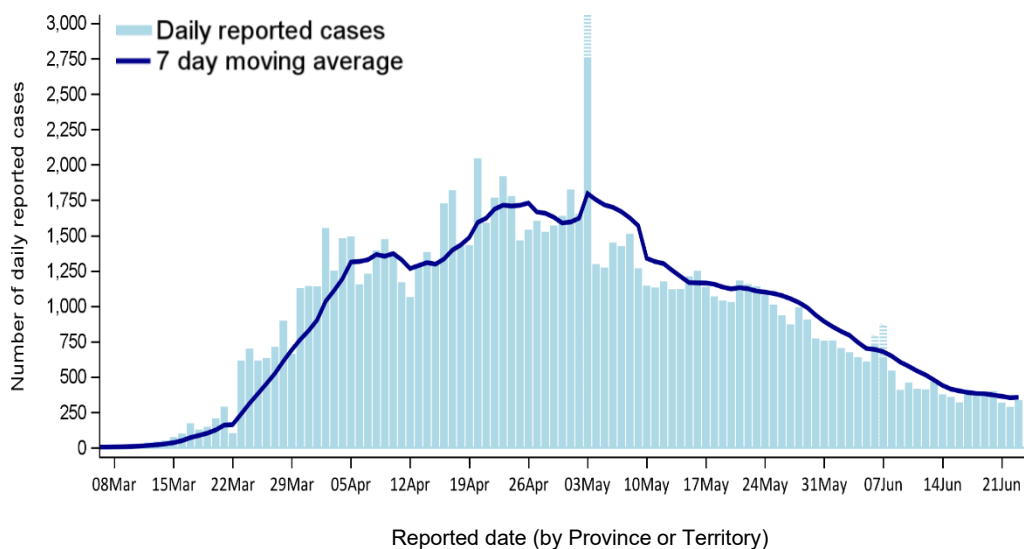
# COVID-19 IN CANADA



From 17 to 23 June 2020, 2 099 cases of COVID-19 were reported.

- This represents an **11.3% decrease** compared to the previous 7-day period (10 to 16 June), and a continuation of this downward trend since mid-late April (Figure 1).

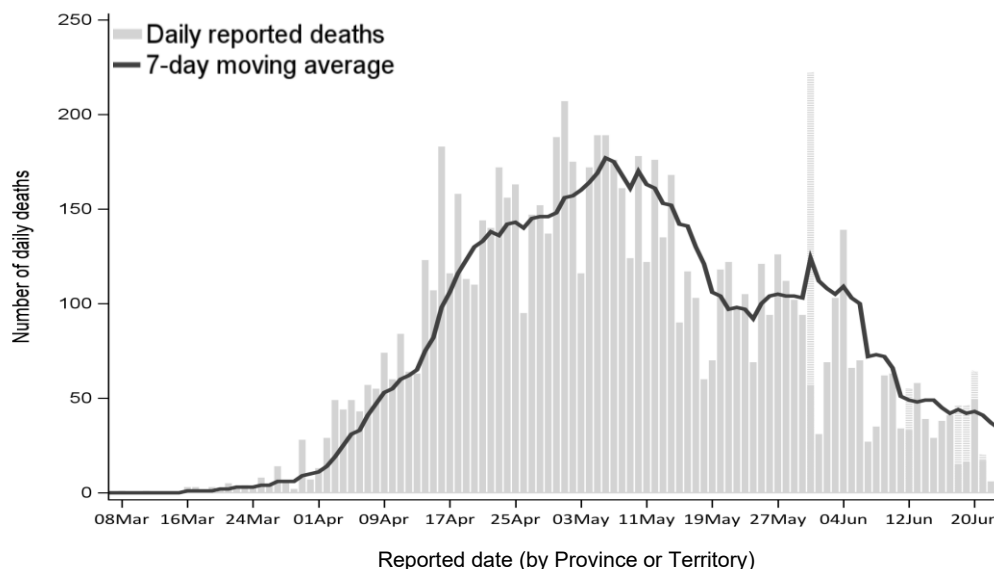
**Figure 1.** Daily number of reported COVID-19 cases in Canada (and 7-day moving average\*) as of 23 June 2020 (n=101 963)



From 17 to 23 June 2020, 200 deaths were reported.

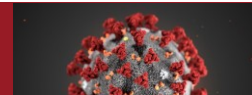
- This represents a **23.2% decrease** compared to the previous 7-day period (10 to 16 June), and a continuation of this downward trend since early May (Figure 2).

**Figure 2.** Daily deaths in Canada (and 7-day moving average) as of 23 June 2020 (n=8 454)



**Note:** The 7-day moving average is a trend indicator that captures the arithmetic mean of the daily reported deaths over the previous seven days. The moving average helps smooth out day-to-day variability in reporting, filtering out the “noise” of short term fluctuations. The hatched blue bars in Figure 1 and Figure 2 corresponds to cases that were originally detected at an earlier date (excluded from moving average calculation).

# COVID-19 IN CANADA

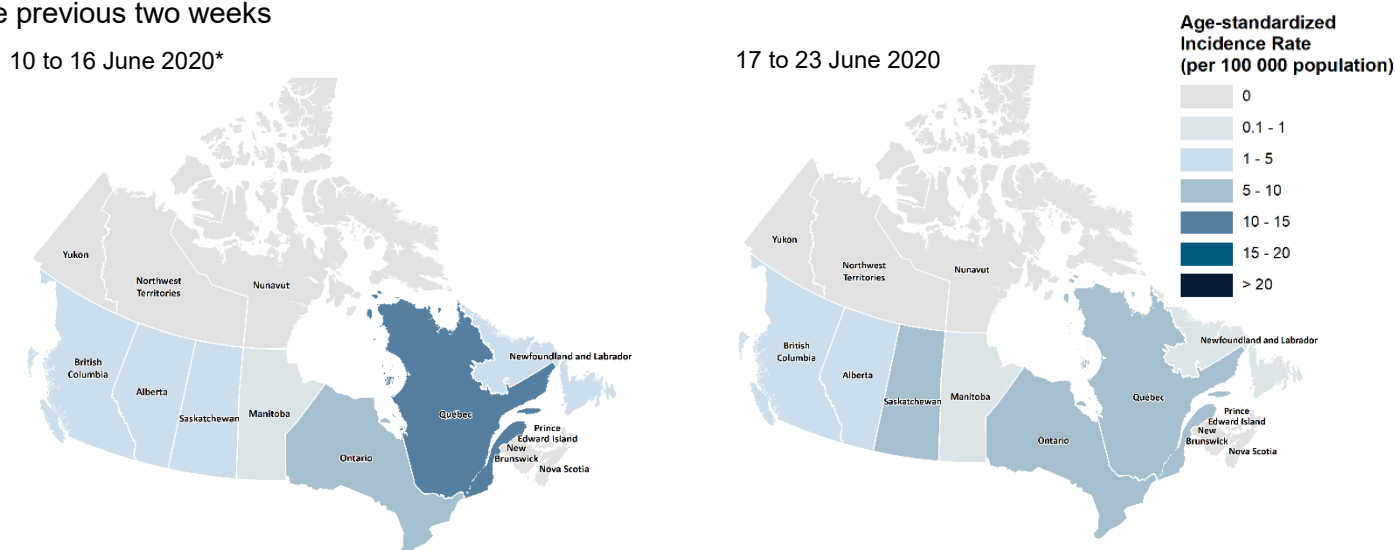


During the week of 17 to 23 June, Quebec had the highest age-standardized incidence rate reported (9.9 per 100,000), followed by Ontario (8.5 per 100,000) and Saskatchewan (5.9 per 100,000).

- All provinces, with the exception of Saskatchewan and Manitoba, had decreases or no change in the age-standardized incidence rate (Figure 3 and Table 2).
- Although Ontario has reported the most cases of any province or territory this week, Quebec remains to have the highest age standardized incidence rate at 9.9 cases per 100 000 and Saskatchewan's age standardized incidence rate has almost tripled in the last week from 1.9 to 5.9 cases per 100,000
- Prince Edward Island, Newfoundland, Yukon, and Northwest Territories have not reported any new cases in three weeks.
- Nunavut has not reported any cases to date.

Age standardised rates takes into account the differences in age structure within Canada to allow for a representative picture of the outbreak.

**Figure 3.** COVID-19 age-standardized incidence rate per 100 000 population\* by Province or Territory (PT) for the previous two weeks



Data source: Case report forms submitted to PHAC by provinces and Territories. Map from NML Geomatics

\*Standardized to the July 1 2019 postcensal population estimate

**Table 2.** Age-standardized incidence rates by Province or Territory for the previous two weeks

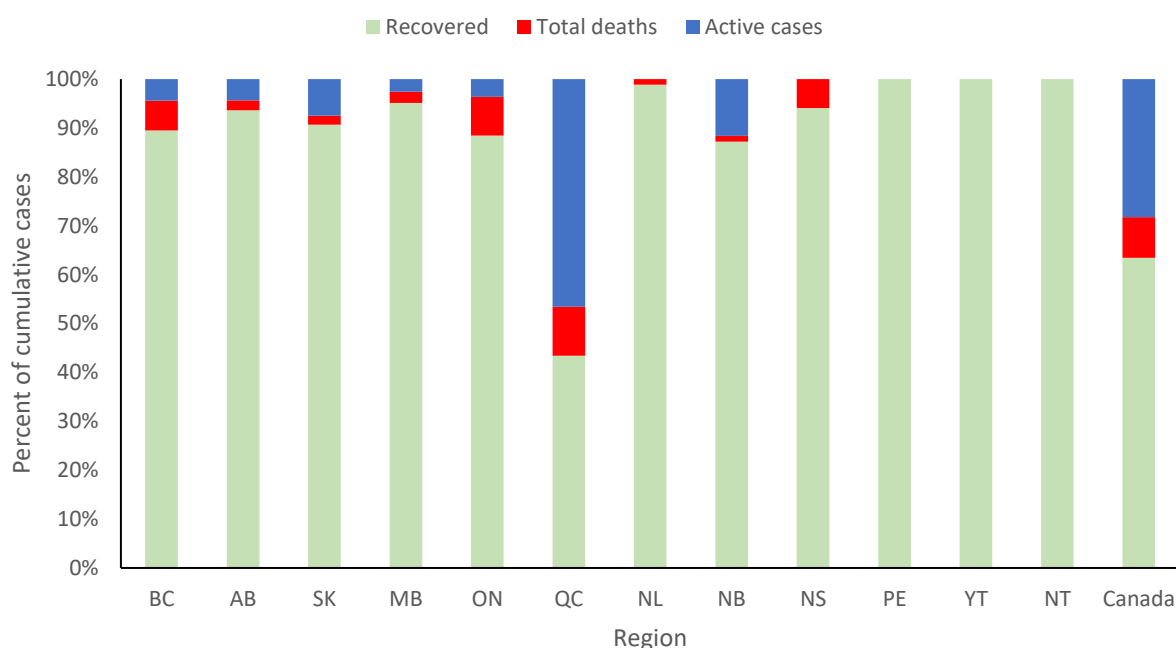
Province/Territory	Age-standardized incidence per 100 000 (10 to 16 June)	Age-standardized incidence per 100 000 (17 to 23 June)	Province/Territory	Age-standardized incidence per 100 000 (10 to 16 June)	Age-standardized incidence per 100 000 (17 to 23 June)
British Columbia	1.8	1.3	New Brunswick	2.0	0.3
Alberta	4.9	4.8	Prince Edward Island	0.0	0.0
Saskatchewan	1.9	5.9	Nova Scotia	0.0	0.0
Manitoba	0.3	0.7	Newfoundland	0.0	0.0
Ontario	9.9	8.5	Yukon	0.0	0.0
Quebec	11.8	9.9	Northwest Territories	0.0	0.0

# COVID-19 IN CANADA



In Canada, 63% of cases have recovered as of 23 June, and 28% of cases remain active (Figure 4). Among the active cases, Quebec continues to have the highest number (n=23 620) and proportion (88%) of active cases in Canada. Aside from Quebec, all provinces and territories have over 87% of recovered cases. For the detailed breakdown of cumulative cases, recoveries and deaths in Canada by jurisdiction please see **Table A1** in the Annex.

**Figure 4.** Proportion of COVID-19 cases in Canada, by current status and the active cases in Canada by jurisdiction, as of 23 June 2020 (n=101 963)

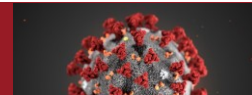


\*Note that the definition and reporting of 'recovered' cases varies by PT. Reporting of recovered cases may be delayed.

Table 3 summarizes the total cases, recoveries and deaths for 17 to 23 of June:

- British Columbia, Ontario, Quebec, New Brunswick, and Nova Scotia reported more recoveries than cases
- Manitoba, Saskatchewan, and Alberta reported more cases than recoveries
- Newfoundland, Nova Scotia, Prince Edward Island, Yukon, Northwest Territories do not have any active cases

# COVID-19 IN CANADA



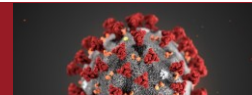
**Table 3.** Summary of COVID-19 cases, recoveries, and deaths reported in Canada by location for 17 to 23 June 2020

Location	New cases	New recoveries	New deaths
BC	60	69	2
AB	251	203	2
SK	60	9	0
MB	8	0	0
ON	1 109	1 323	69
QC	621	1 071	126
NL	0	1	0
NB	1	10	0
NS	0	1	1
PE	0	0	0
YK	0	0	0
NT	0	0	0
NU	0	0	0
<b>Total</b>	<b>2 099</b>	<b>2 687</b>	<b>200</b>

## DEMOGRAPHIC DISTRIBUTION

- Cases newly reported to PHAC from 17 to 23 June (n=2 424) ranged in age from less than one year to 105 years old, with a median age of 40 years. For the demographic distribution of cases reported prior to 9 June, see **Table A2** in the annex.
- The age distribution of cases by gender reported to PHAC from 17 to 23 June is younger than the cumulative age distribution (Table 4):
  - Those less than 20 years comprise 12% of cases reported in the past week, but only 7% of total cases in the Canadian outbreak. This age group is still under-represented in the overall outbreak, as they represent 22% of the Canadian population.
  - Both sexes aged 20-29 years comprise of 22% of the cases reported in the past week, but only 14% of the total cases in the Canadian outbreak. This age group is now over-represented in recently reported cases, as they comprise just 14% of the Canadian population.
- The increase in proportion of cases in younger age groups may be due to multiple factors, including the following:
  - Several jurisdictions have recently expanded testing strategies that were previously restricted to those with severe illness, at high-risk, or vulnerable populations. The expansion of testing strategies may be detecting cases in individuals who would not have been tested earlier in the outbreak.
  - Younger individuals may be having increased in-person physical connections, either as a result of return to workplaces and associated activities (i.e. commuting) or due to reduced adherence to physical distancing measures.
- The highest incidence rates in age and gender remain in females over the age of 80 years (14 cases per 100 000) followed by females and males 20 to 29 years (11 cases per 100 000 and 10 cases per 100 000) and males over 80 years (9 cases per 100 000)
- Incidence rates across sex and age groups have declined in comparison to previous week with the exception of females ages 20 to 29 for this week (11 cases per 100 000)

# COVID-19 IN CANADA

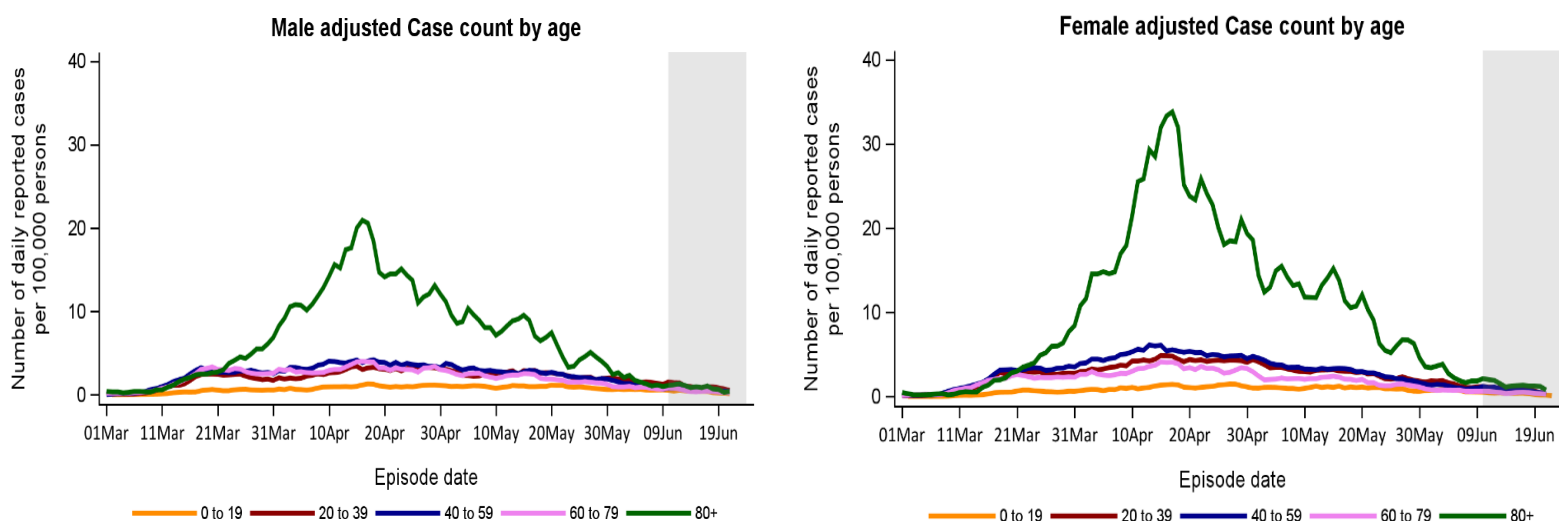


**Table 4.** Age distribution and incidence rate per 100 000 by sex cases reported to PHAC for the previous two weeks

Age groups	10-16 June						17-23 June					
	Female			Male			Female			Male		
	n	%	Rate	n	%	Rate	n	%	Rate	n	%	Rate
≤ 19	167	12	4	191	14	5	138	11	3	140	12	3
20-29	244	17	10	297	22	11	258	21	11	272	23	10
30-39	197	14	8	226	17	9	170	14	7	213	18	8
40-49	233	16	10	186	14	8	173	14	7	162	14	7
50-59	202	14	8	177	13	7	181	15	7	154	13	6
60-69	113	8	5	120	9	5	116	9	5	109	9	5
70-79	101	7	7	76	6	6	59	5	4	65	6	5
80+	169	12	17	79	6	12	137	11	14	58	5	9
<b>Total</b>	<b>1 426</b>			<b>1 352</b>			<b>1 232</b>			<b>1 173</b>		

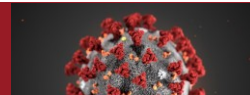
- Figure 5 visualize cases by episode date, stratified by sex and adjusted for population at the national
- Canadians aged 80 years or more had substantially higher rates of reported cases compared to all other age categories, particularly in females (figure 5).
- Since May 1, we have observed a decreasing trend in all ages, with the exception of those in the youngest age group (0 to 19). Cases reported in this age group have not declined as quickly as others (figure 5 and 6)

**Figure 5.** Daily cases (3-day moving average) by age and sex, population adjusted as of 23 June

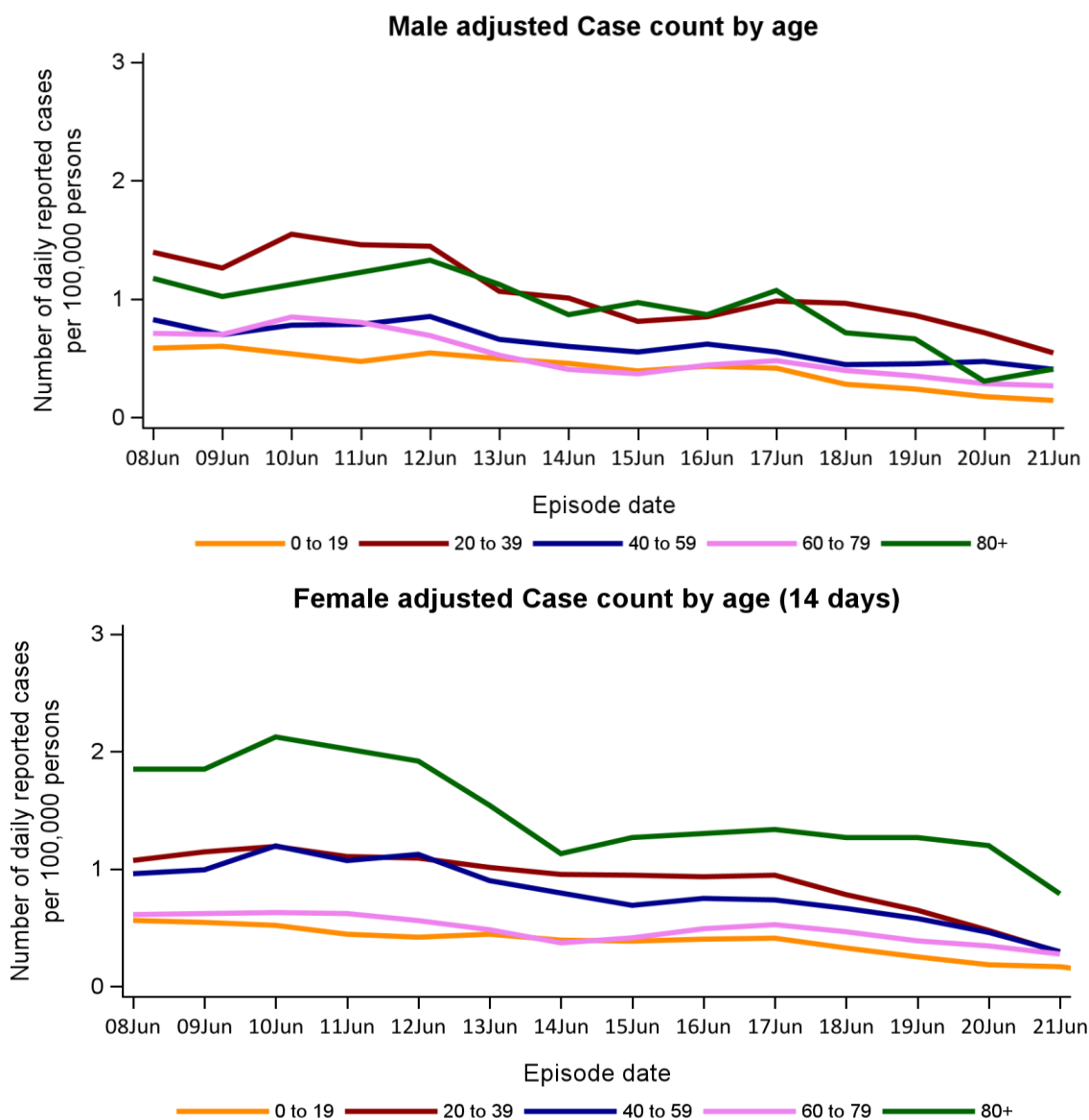


**Note:** The shaded area represents a period of time (lag time) where it is expected that cases have occurred but have not yet been reported nationally.

\*If date of illness onset was not available, the earliest of the following dates was used as an estimate in the following order: Specimen Collection Date and Laboratory Testing Date.



**Figure 6.** Daily cases (3-day moving average) by age and sex, population adjusted from the last two weeks\*

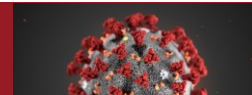


\* The lag time from illness onset to PHAC report date is approximately two weeks and data within this period is subject to change.



# COVID-19 IN CANADA

## OUTCOMES



Within the last week (17 to 23 June), 1 231 cases with data on hospitalization status reported to PHAC, among those:

- **122 cases (10%)** were hospitalized, of whom:
  - **21 (17%)** were admitted to ICU, and
  - **2 (2%)** required mechanical ventilation

This compares with the 66 209 cases with data on hospitalization status reported to PHAC since the start of the outbreak, where:

- **10 063 cases (15%)** were hospitalized, of whom:
  - **2 058 (20%)** were admitted to ICU, and
  - **431 (4%)** required mechanical ventilation

A decline in severity has been observed in the past 2 weeks, see **Table 4**. For absolute counts and cumulative rates related to severity please refer to **Table A3, and Figures A1-A3** in the Annex.

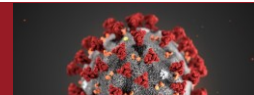
- Both female and male cases over the age of 80 are reporting the largest weekly changes.
  - Hospitalized males over 80 have declined
  - ICU admissions across all age groups and sex continues to decline
  - Those over the age of 80 continue to have the higher rates of death per 1 000 000 cases
  - The rate of deaths have increased for females over 80 and decreased for males over 80

**Table 4:** The rate per 1 000 000 population of hospitalization, ICU admission, and death, in the previous two weeks by age and gender\*

Age groups	Hospitalizations				Admitted to ICU				Deceased			
	10-16 June		17-23 June		10-16 June		17-23 June		10-16 June		17-23 June	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
≤ 19	1	0	1	0	0	0	0	0	0	0	0	0
20-39	1	2	1	1	0	0	0	0	0	0	0	0
40-59	3	5	2	2	0	1	0	1	0	1	0	0
60-79	12	12	6	7	2	4	1	1	2	2	1	2
80+	41	48	24	26	1	5	2	2	24	37	31	23

\*The information presented is based on cases reported to PHAC from 10-23 June. These values may change weekly due to updates in disease progression and disposition

# COVID-19 IN CANADA

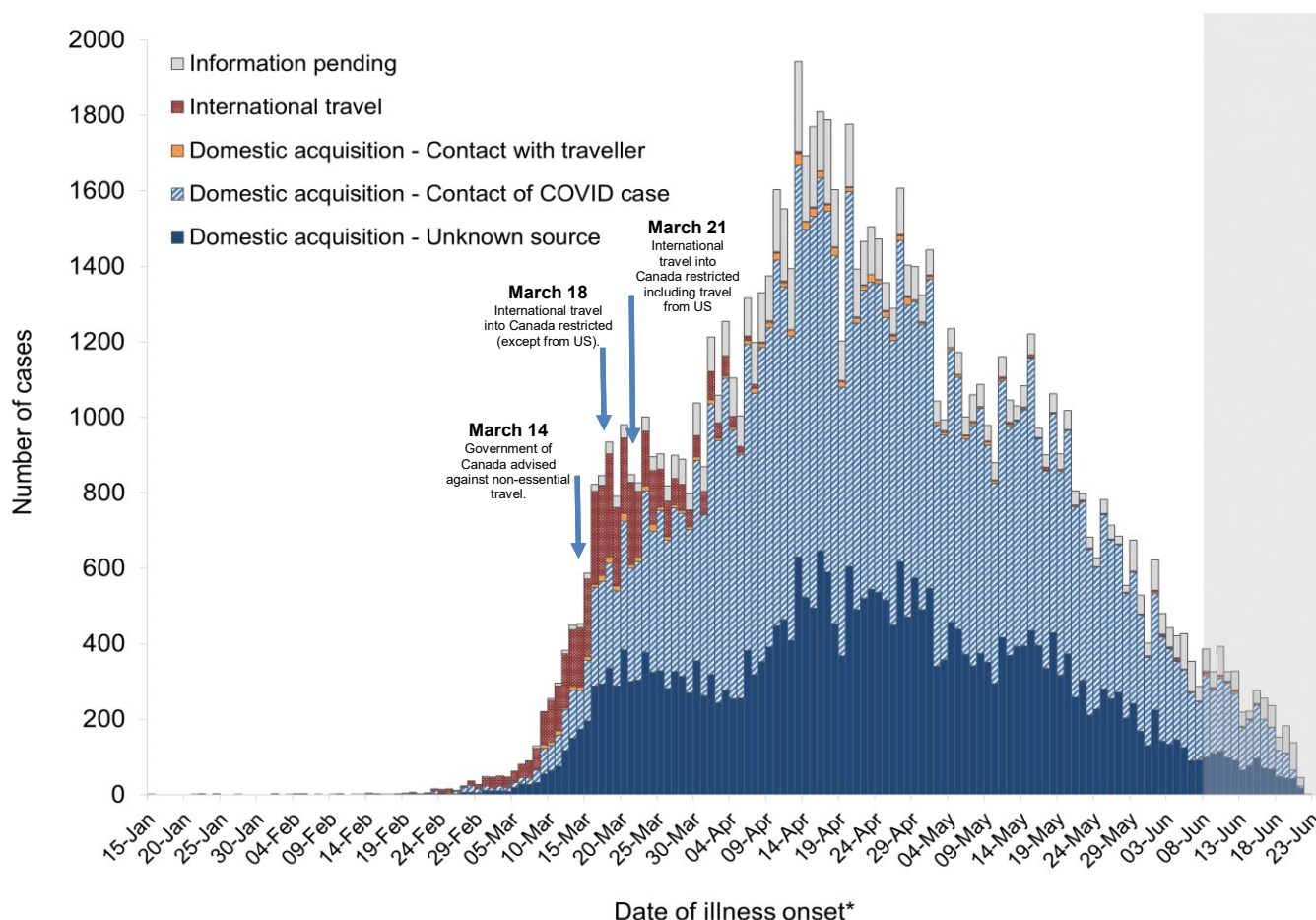


## Temporal Distribution by exposure category

Information on exposure is available for 755 cases with illness onset\* in the week of 17 to 23 June. Of these, less than 5 cases (<1%) reported having travelled outside of Canada during the exposure period, 271 cases (36%) were due to exposure in Canada to either a known COVID-19 case; 257 (34%) have information on exposure pending. Jurisdictions update exposure status on an ongoing basis as case investigations are completed, which may result in information currently pending changing exposure category in the future. Conversely, some cases which have information pending from early in the outbreak may be lost to follow up, and exposure category may not be identified (Figure 7).

Of the 100 020 cases with information on exposure provided, 4 144 cases (4%) reported having travelled outside of Canada during the exposure period, 54 106 (54%) cases were due to exposure in Canada to either a known COVID-19 case or to someone who had travelled; 7 201 (7.2%) have information on exposure pending.

**Figure 7.** Number of reported COVID-19 cases in Canada, by date of illness onset and exposure category as of 23 June (n=95 825)

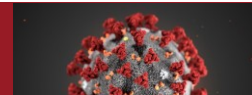


\*If date of illness onset was not available the earliest of the following dates was used as an estimate in the following order: Specimen Collection Date and Laboratory Testing Date.

**Note:** The shaded area represents a period of time (lag time) where it is expected that cases have occurred but have not yet been reported nationally.

# COVID-19 IN CANADA

## TRAVEL RELATED EXPOSURES



From 17 to 23 June, 5 cases of COVID-19 in Canada associated with international travel were reported to PHAC (Table 5). Three cases reported travel from Pakistan, and two from the United States.

Of the cases reported to PHAC, 4 144 cases have been associated with international travel. On March 14, the Government of Canada published a global Travel Health Notice advising Canadians against non-essential travel and advised Canadians abroad to return to Canada. By March 21, the Government of Canada prohibited all non-essential travel into Canada by foreign nationals. Since that time, COVID-19 cases associated with international travel have decreased substantially.

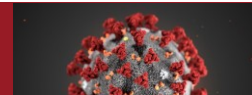
**Table 5:** The number and proportion of COVID-19 cases associated with international travel by month

Month	Number of COVID-19 cases associated with international travel	Proportion of COVID-19 cases associated with international travel*
January	6	85.7%
February	67	36.2%
March	3571	20.6%
April	310	0.7%
May	89	0.3%
June	64	1.0%

\*Only includes cases which have an onset, specimen collection, or lab test date, as well as information on exposure

## OUTBREAKS

- Outbreaks have been important contributors to the spread of COVID-19 in Canada, and have been detected in a variety of settings. **Table 6** identifies common locations of outbreaks identified, as well as the number of cases and deaths associated with each.
- These are occurring in settings where people are congregated together for long periods of time, where physical distancing is difficult or are due to vulnerable or medical reasons
- The successful control of outbreaks requires early identification of cases and the implementation of measures to mitigate spread.
- Within a few weeks of Canada's first imported case of COVID-19, outbreaks were identified in long-term care and seniors' homes.
  - High mortality associated with outbreaks in long-term care settings reflects the vulnerability of this population.
- Additionally, outbreaks in other congregate living, workplace, and agricultural settings have been detected.
  - Canada's largest outbreak occurred at the Cargill meat processing plant in Alberta with 1 560 cases among workers, household, and community members.
  - A significant risk associated with workplace outbreaks is the spread of the virus into communities
- Movement of workers, whether between workplaces, across jurisdictions or across borders, has initiated additional chains of transmission.
  - Health care workers working at more than one facility can spread COVID-19 between facilities
  - An outbreak in northern Saskatchewan was linked to work camp in Alberta
  - There have been several outbreaks associated with agricultural and congregate living settings.



- COVID-19 outbreaks have also been detected in other congregate living settings such as correctional facilities and shelters.
- The outbreaks continue to drive the national case counts, however cases are reported to PHAC on provincial case classification. Outbreaks within the agricultural settings are complicated by temporary foreign workers and are only captured if they meet provincial classification of COVID-19 cases.

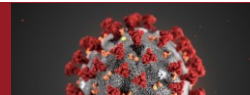
**Table 6.** Total number of COVID-19 clusters, cases, and deaths by outbreak setting in Canada since June 23

Outbreak setting	Reported number of outbreaks	Reported number of cases	Reported number of deaths
Long term care and senior's homes	998	20 596	6 291
Hospital	124	1 644	184
Workplace (work camps)	83	944	<5
Agricultural setting (includes temporary foreign workers and resident workers)	21	952	<5
Group homes, residential Care, and supported housing	58	594	76
Shelter	31	582	<5
Correctional facility	26	818	5
Meat processing plant	13	3 025	6
Mass gathering*	5	179	<5

\*Mass gatherings are defined as an event which brings together a large amount of people, examples of mass gatherings include: conferences, funerals, and sporting events.

# COVID-19 IN CANADA

## FLUWATCHERS



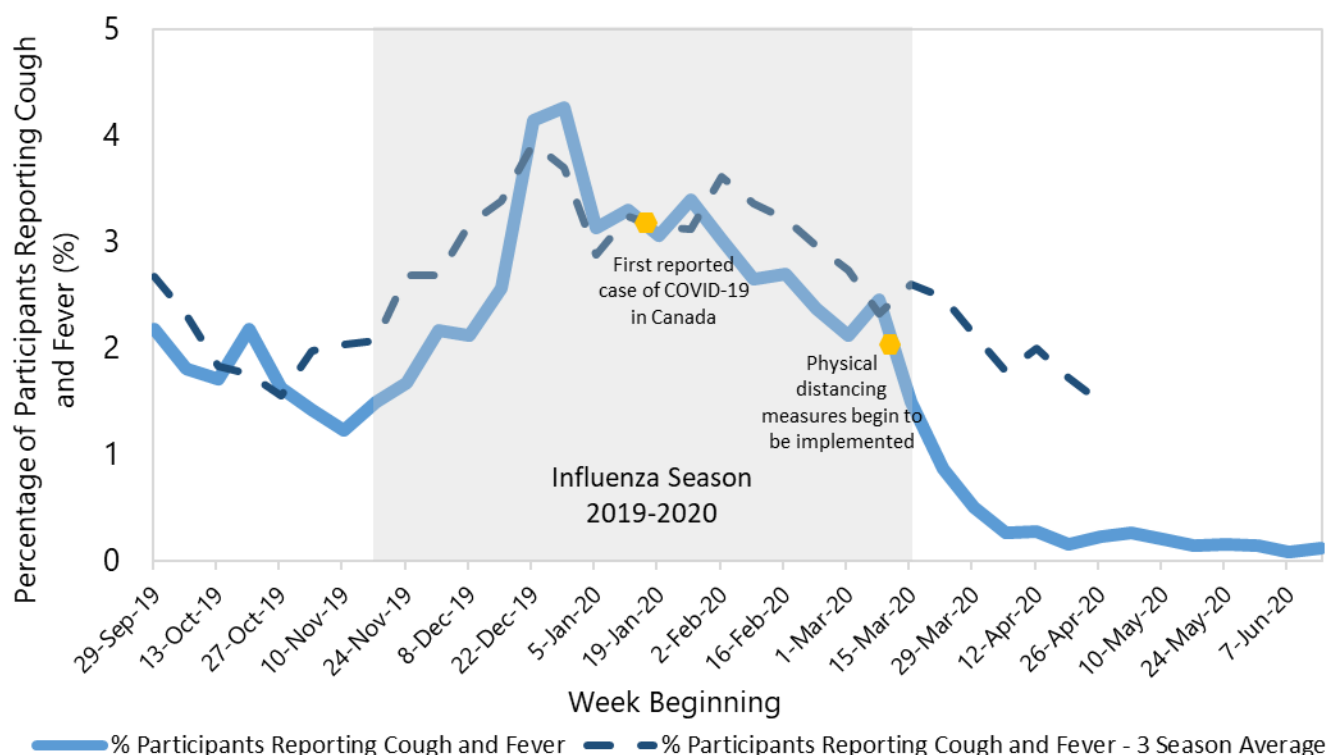
**FluWatchers** is an online health surveillance system that relies on volunteer reports to track spread of flu-like illness (ILI) across Canada. Mild COVID-19 illness presents with symptoms similar to ILI; therefore, FluWatchers is shifting focus to track COVID-19 symptoms over the spring and summer months.

In the week of 14 June 2020, 10 669 participants reported into the FluWatchers program. A total of 13 participants (0.12%) reported cough and fever (Figure 8). The participants reporting cough and fever were not restricted to a single jurisdiction. As FluWatchers does not normally collect data during the summer months, this cannot be compared to historical Canadian data. Similar participatory ILI surveillance programs in other countries are also reporting historically low levels. These low levels may be due to a combination of factors, including physical distancing.

Among the 13 participants reporting cough and fever:

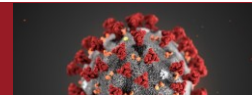
- 5 (38%) sought medical attention;
- 4 (31%) were tested (1 test was positive for COVID-19, 2 tests were negative for COVID-19 and 1 result was unavailable at the time of reporting).

**Figure 8:** Percentage of FluWatchers Participants Reporting Cough and Fever (N=10 669 the week of 14 June 2020)



# COVID-19 IN CANADA

## LABORATORY TESTING



For the week of 15 to 21 June 2020, **262 573** persons were tested and the weekly average percent positive was **1.0%** (Figure 9). The observed decrease in the percent positivity may be due to increased testing, lower incidence of disease, or a combination of the two. The percent positivity has been trending down since the week of 6 April, despite the increase in the number of people tested.

Overall, **2 415 365** people have been tested for COVID-19 in Canada as of 21 June 2020, and the cumulative percent positive to date is **3.9%**(Table 7).

**Table 7.** Summary of COVID-19 testing reported between 15 and 21 June 2020 in Canada by PT

Location	Total number of people tested (as of June 21)	Difference since last report	Average # people tested daily in past 7 days	People tested per 1 000 000 pop'n	Percent positivity (15 to 21 June)
BC	152 568	5 856	1 428	0.3	0.8%
AB	345 952	27 676	6 008	1.4	0.7%
SK	53 481	23 54	520	0.4	2.2%
MB	56 847	2 643	586	0.4	0.2%
ON	1 136 313	99 920	23 609	1.6	0.8%
QC	55 1352	18 219	5 212	0.6	2.6%
NL	15 960	869	183	0.4	0%
NB	36 375	1 383	346	0.5	0.3%
NS	52 229	1 336	328	0.3	0%
PE	9 810	647	201	1.3	0%
YK	1 250	5	2	0.1	0%
NT	2 239	12	9	0.2	0%
NU	989	40	12	0.3	0%
<b>Total**</b>	<b>2 415 365</b>	<b>160 884</b>	<b>38 444</b>	<b>1.0</b>	<b>1.0%</b>

*For provinces and territories which report the number of tests completed, mathematical formula is used to estimate the number of unique people tested.*

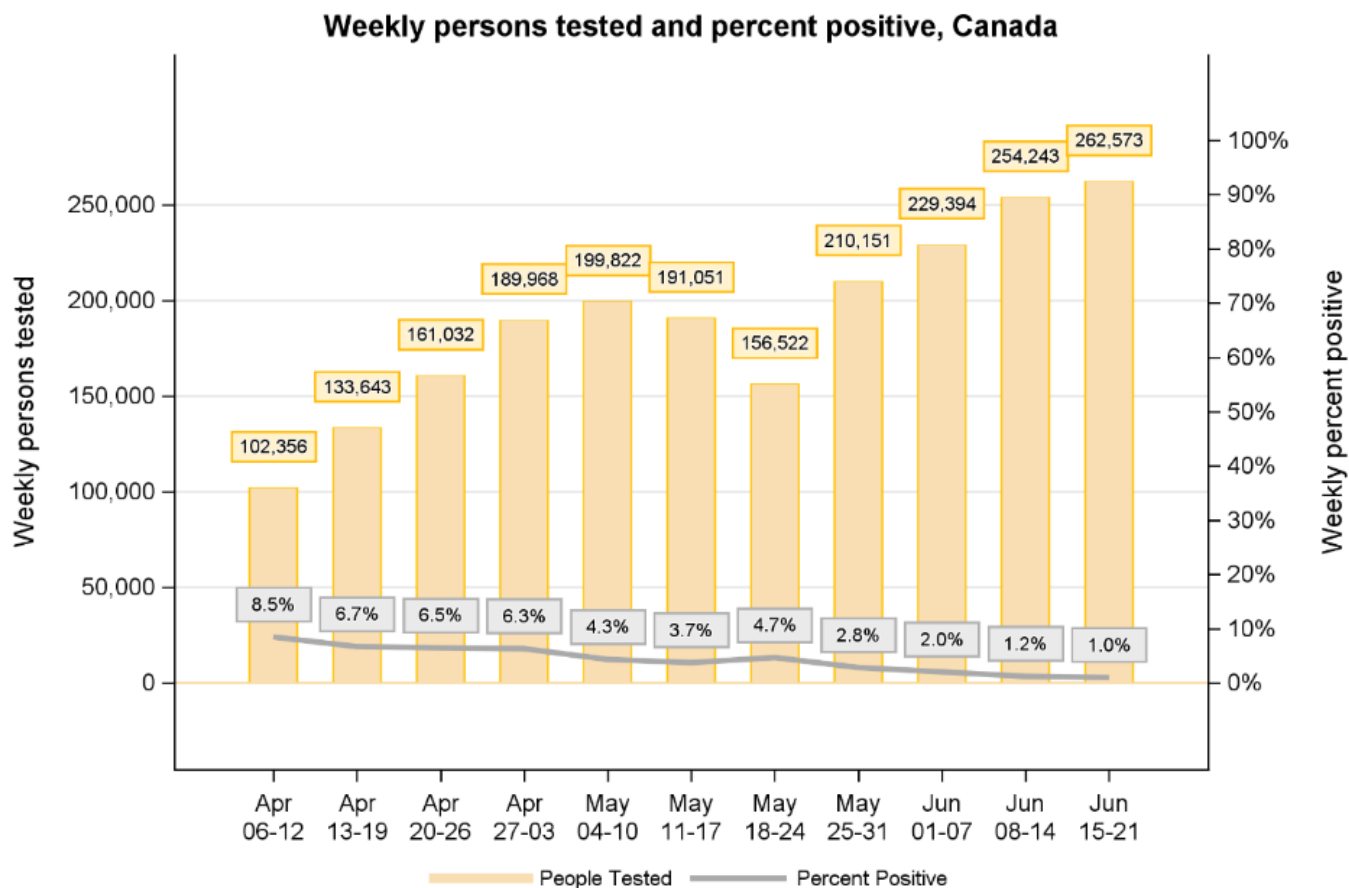
*\*\*Includes 76 repatriated travellers tested.*

**Note:** Laboratory testing numbers may be underestimated due to reporting delays and may not include additional sentinel surveillance or other testing conducted in the province or territory.

# COVID-19 IN CANADA

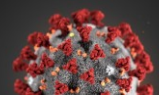


**Figure 9:** Number of persons tested for COVID-19 and percent positivity by week (data to 21 June)



Data source: Provided by the NML, who receive lab testing data from provincial labs





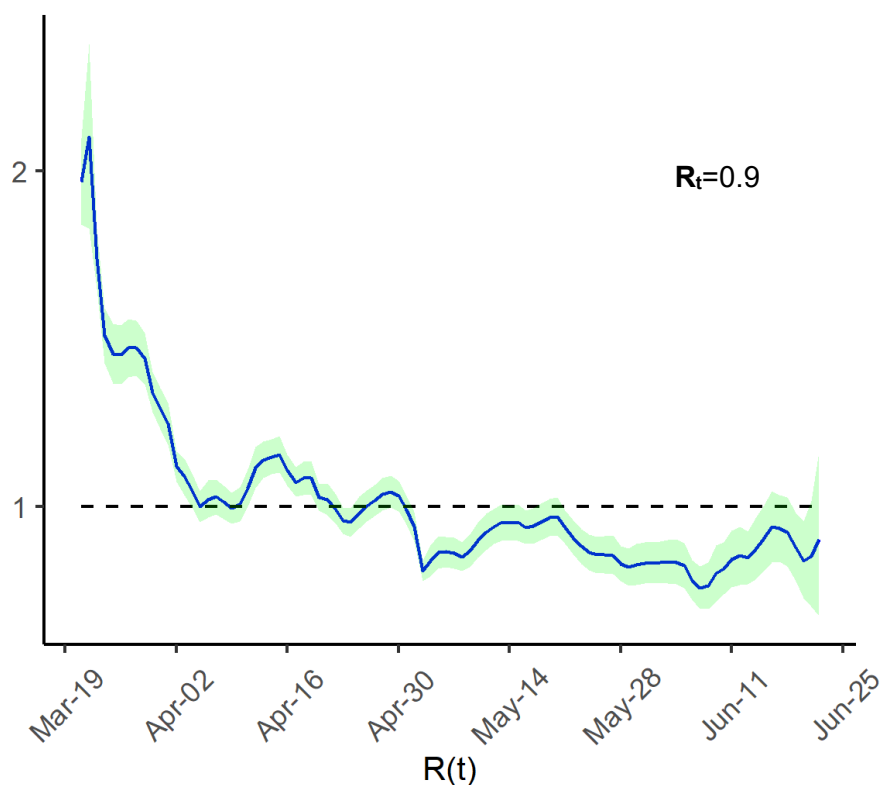
### Estimates of transmission rates in Canada: Effective reproductive rate ( $R_t$ )

$R_t$  is the time variable reproduction rate, representing the average number of new infected people for each infected person. If  $R_t$  is less than 1 at a particular time ( $t$ ), then the average number of people infected by one infected person is less than one, so the epidemic is being brought under control. If  $R_t$  is greater than 1, the average number of people infected by one infected person is greater than one, and the epidemic is growing.

Figure 10 shows the  $R_t$  over time

- The graph shows how the reproductive rate in Canada has remained below 1 for nearly 8 weeks, suggesting public health measures are being effective in controlling the epidemic.
- These fluctuations reflect ongoing transmission in some communities and settings across the country, especially in and around Canada's most populous cities, Toronto and Montreal.
- Until we can keep  $R_t$  consistently below 1, the epidemic will continue to smolder.
- Canada does not depend only on the value of  $R_t$  to assess the state of epidemic control.

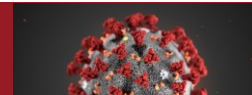
**Figure 10.** Reproductive rate in Canada, 22 June 2020





# COVID-19 IN CANADA

## FORECASTING



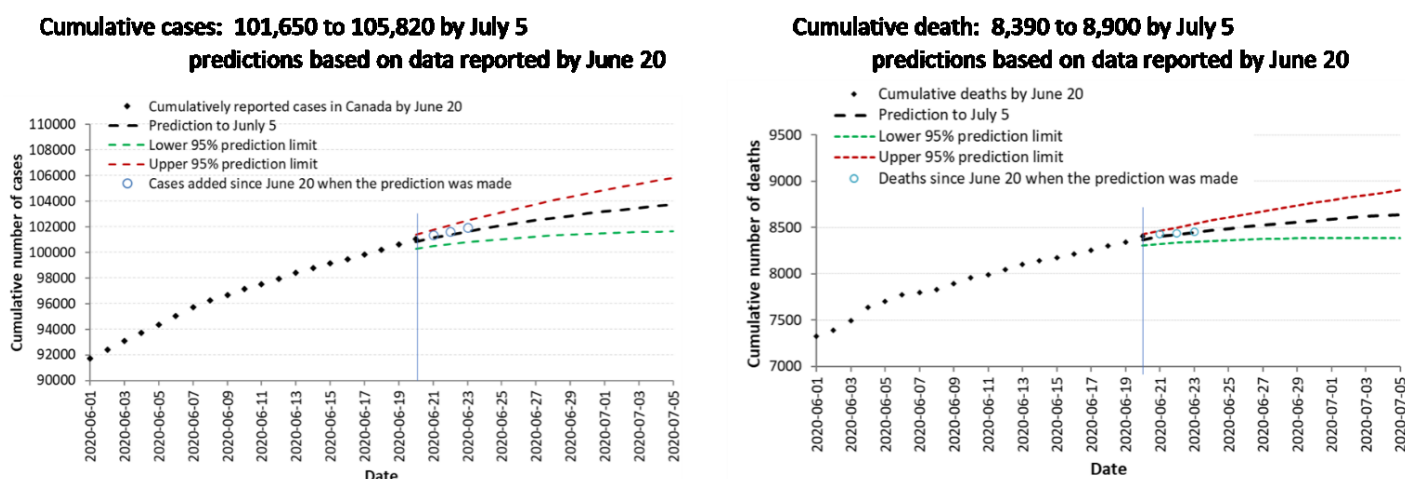
Canada's approach to modelling:

Models cannot predict what will happen, but rather can help us understand what might happen to ensure we can plan for worst cases and drive public health action to achieve the best possible outcome. Models can support decisions on public health measures and help the health care sector plan for the number of expected COVID-19 patients.

**Forecasting models** use data to estimate how many new cases we might expect to see in the coming week. Figure 11 below shows the projected number of cases and deaths in Canada, with a 95% prediction interval.

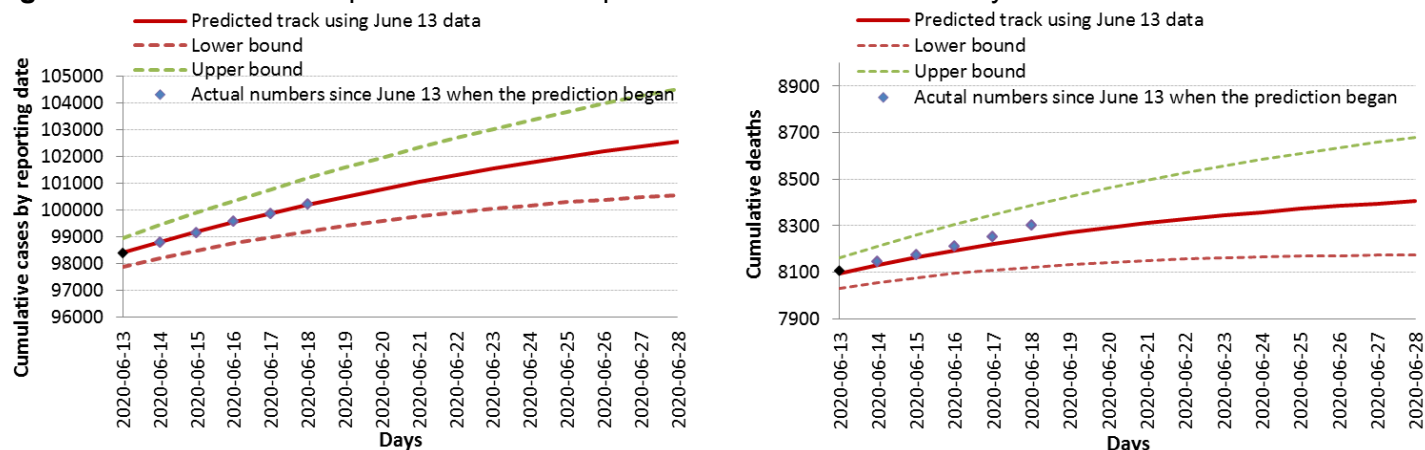
- Forecasting shows **101 650 to 105 820** cumulative reported cases and **8 390 to 8 900** cumulative number of deaths are predicted by 5 July.

**Figure 11.** Projected numbers to 5 July 2020 and 95% prediction intervals based on data as reported by 20 June 2020. Scattered dots are data that have been reported since 20 June



To assess the performance of these predictions, Figure 12 compares what were predicted and what were observed in previous prediction cycle: from 13 to 28 June, 2020

**Figure 12.** Assessment of performance of the predictions in the recent two cycles.



For more information, please visit:

<https://www.canada.ca/en/public-health/services/publications/diseases-conditions/covid-19-using-data-modelling-inform-public-health-action.html>

# COVID-19 IN CANADA

## INTERNATIONAL



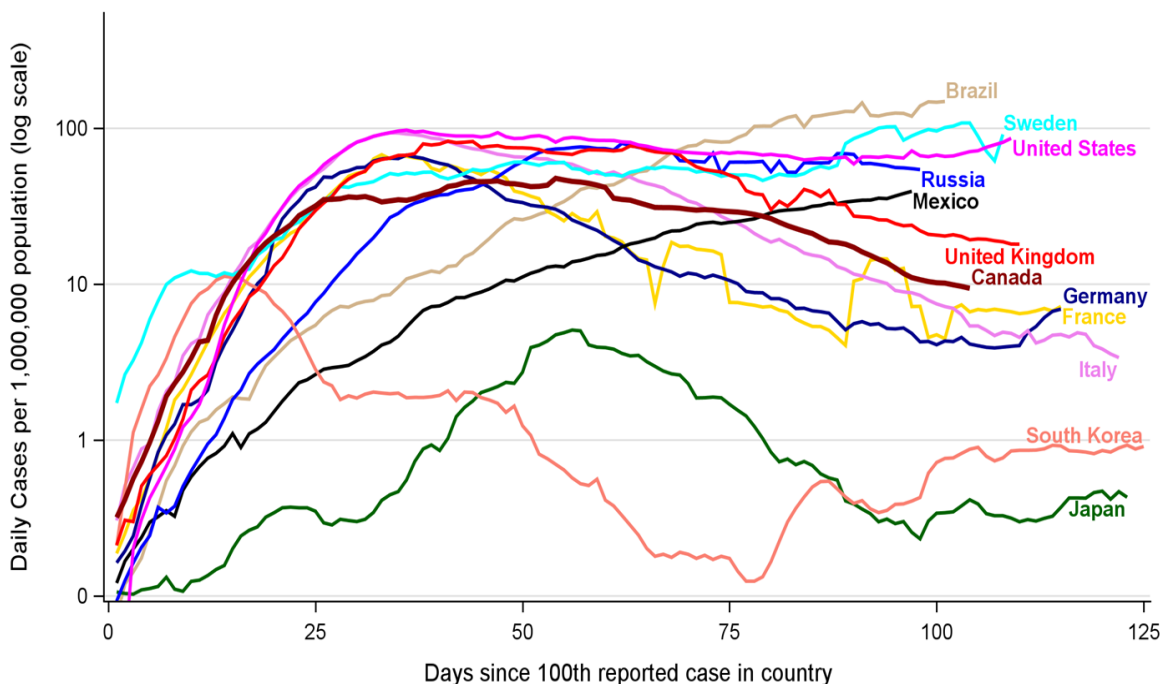
- As of 23 June, globally, there have been over 9 million confirmed cases of COVID-19 with over 471 000 reported deaths.
- Despite Canada's proximity to the states, Canada's public health measures, including border measures, are facilitating in the control of imported cases.
- Since 7 June, there has been over 100 000 cases reported globally each day. This may be due the exponential growth observed within areas such as Latin America, the Middle East and South Asia.
- Latin America continues to be the epicenter of the pandemic. As of 23 June, Brazil has the second-highest number of COVID-19 cases (n= 1 106 470) and deaths (n=51 271) reported. Elsewhere in the region, Peru has reported 254 936 cases, Chile 246 963, and Colombia 71 183.
- In Asia, China has reported 153 new cases between 17 to 23 June. In South Asia, India has reported more than 10 000 new cases daily since 11 June.
- The Hajj Pilgrimage within Saudi Arabia held on June 28, will only limit a few thousand individuals under the age of 65, rather than the usual 2.5 million to limit transmission, but will increase the risk both globally and nationally.
- As countries reduce public health measures, the resurgence of cases is being observed in countries such as Germany and South Korea

The 7-day moving average of new daily COVID-19 cases in Canada compared to other countries can be seen in **Figure 13**.

Up-to-date country-specific risk levels may be found on [travel health notices](#).

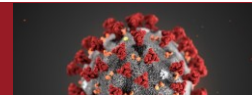
For more information on COVID-19 internationally, please refer to the [World Health Organizations' COVID-19 Situation Report](#).

**Figure 13.** Daily new cases of COVID-19 in Canada compared to other countries as of 23 June 2020 (7-day moving average, population adjusted)



# COVID-19 IN CANADA

## ANNEX



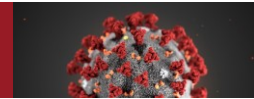
**Table A1.** Summary of COVID-19 cases, recoveries, and deaths, reported in Canada by location as of 23 June

Location	Total cases	Recovered	Total deaths
BC	2 835	2 491	170
AB	7 781	7 096	153
SK	753	642	13
MB	314	293	7
ON	33 853	29 107	2 619
QC	54 884	23 620	5 424
NL	261	258	3
NB	165	143	2
NS	1 061	998	63
PE	27	27	0
YK	11	11	0
NT	5	5	0
NU	0	0	0
<b>Total*</b>	<b>101 963</b>	<b>64 704</b>	<b>8 454</b>

\* Includes 13 cases identified in repatriated travellers (Grand Princess Cruise ship travelers) who were under quarantine in Trenton in March 2020. Update on their status is not available.

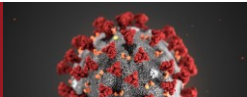
**TABLE A2:** The rate per 100 000 population and demographic characteristics of COVID-19 cases reported to PHAC as of 23 June 2020

Age groups	To 9 June						10-16 June						17-23 June					
	Female			Male			Female			Male			Female			Male		
	n	%	Rate	n	%	Rate	n	%	Rate	n	%	Rate	n	%	Rate	n	%	Rate
≤ 19	3 287	6	83	3 152	8	76	167	12	4	191	14	5	138	11	3	140	12	3
20-29	6 941	13	283	5 644	14	213	244	17	10	297	22	11	258	21	11	272	23	10
30-39	7 192	13	279	5 969	14	229	197	14	8	226	17	9	170	14	7	213	18	8
40-49	8 229	15	339	6 482	16	271	233	16	10	186	14	8	173	14	7	162	14	7
50-59	8 154	15	309	6 612	16	253	202	14	8	177	13	7	181	15	7	154	13	6
60-69	4 693	9	199	4 838	12	215	113	8	5	120	9	5	116	9	5	109	9	5
70-79	3 681	7	244	3 585	9	263	101	7	7	76	6	6	59	5	4	65	6	5
80+	11 941	22	1 228	5 360	13	822	169	12	17	79	6	12	137	11	14	58	5	9
<b>Total</b>	<b>54 118</b>			<b>41 642</b>			<b>1 426</b>			<b>1 352</b>			<b>1 232</b>			<b>1 173</b>		

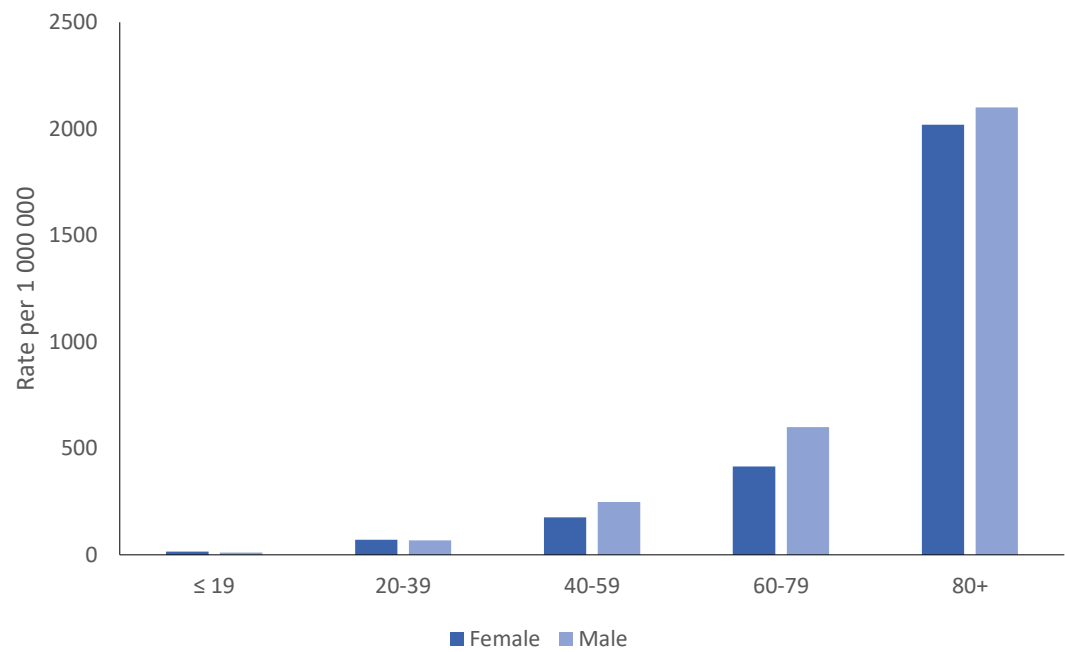


**TABLE A3:** Age and sex distribution of Hospitalizations, ICU admissions, and deaths reported to PHAC as of 23 June 2020

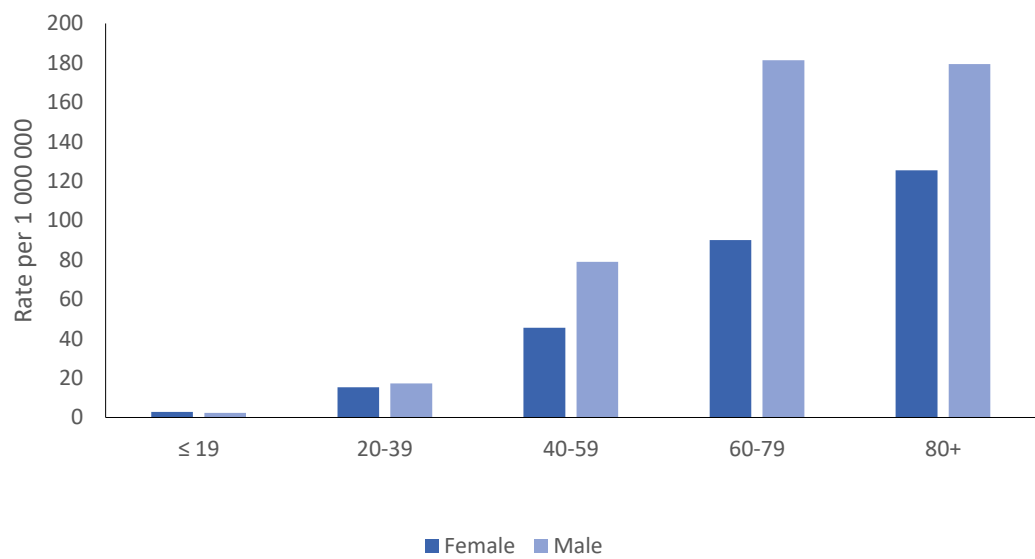
Age groups	Hospitalizations						Admitted to ICU						Deceased					
	To 9 June		10-16 June		17-23 June		To 9 June		10-16 June		17-23 June		To 9 June		10-16 June		17-23 June	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
≤ 19	54	45	2	1	2	1	11	10	0	0	0	0	0	0	0	0	1	0
20-39	345	339	5	8	7	4	76	86	1	2	0	1	7	15	0	0	0	0
40-59	864	1 198	13	24	8	12	225	380	2	7	2	6	87	138	2	3	1	0
60-79	1 523	2 091	48	42	22	25	334	633	7	13	4	4	843	1 233	9	8	3	7
80+	1 901	1 321	40	31	23	17	119	113	1	3	2	1	3 566	2 394	23	24	30	15
<b>Total</b>	<b>4 687</b>	<b>4 994</b>	<b>108</b>	<b>106</b>	<b>62</b>	<b>59</b>	<b>765</b>	<b>1 222</b>	<b>11</b>	<b>25</b>	<b>8</b>	<b>12</b>	<b>4 503</b>	<b>3 780</b>	<b>34</b>	<b>35</b>	<b>35</b>	<b>22</b>



**Figure A1:** Rate per 100 000 population in hospitalizations by age and gender per 1 000 000 reported to PHAC as of 23 June 2020

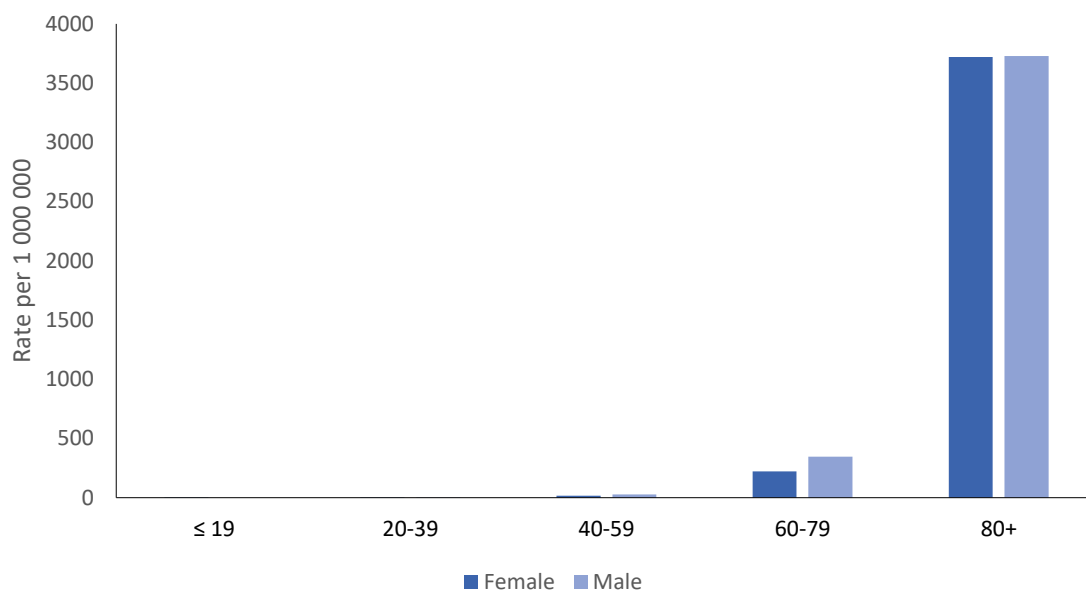


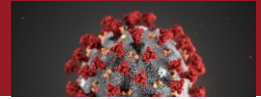
**Figure A2:** Rate per 100 000 in ICU admissions by age and gender per 1 000 000 reported to PHAC as of 23 June 2020





**Figure A3:** Rate per 100 000 in deaths by age and gender per 1 000 000 reported to PHAC as of 23 June 2020





The data in the report are based on information from various sources described below. The information presented for case-based analyses is that available as of **23 June at 8 p.m. EDT**. The information presented for trend analyses is that available as of **23 June at 8 p.m. EDT**. The information presented for laboratory analyses is that available as of **21 June at 8 p.m. EDT**.

### DATA SOURCES AND DATA CAVEATS

#### Provincial and territorial case counts

Provincial and territorial (P/T) information on case counts, recoveries, and deaths associated with COVID-19 are collected from publicly available P/T websites.

- Only cases and deaths meeting P/T's definition for case classification are reported. For details on case definitions, please consult each P/T ministry of health website.

#### Laboratory information

Laboratory data on number of people tested per P/T are received from the National Microbiology Laboratory.

- Laboratory testing numbers may be an underestimate due to reporting delays and may not include additional sentinel surveillance or other testing performed. They are subject to changes as updates are received.
- Some provinces may report the number of tests conducted, and not the number of people tested. In this case, a mathematical formula is used to estimate the number of unique people tested.

#### Epidemiological data

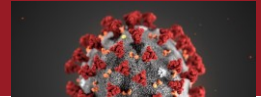
Epidemiological data for this report are based on detailed case information received by PHAC from P/Ts. This information is housed in the PHAC COVID-19 database. Case counts and level of detail in case information submitted to PHAC varies by P/T due to:

- Possible reporting delay between time of case notification to the P/T public health authority and when detailed information are sent/received by PHAC.
- Preliminary data may be limited and data are not complete for all variables.
- Data on cases are updated on an ongoing basis after received by PHAC and are subject to change
- Variation in approaches to testing and testing criteria over time within and between P/Ts.
- The lag time from illness onset to PHAC report date is approximately two weeks and data within this period is subject to change.

Data on case severity are likely under-estimated due to underreporting of these variables, as well as events that may have occurred after the completion of public health reporting, therefore not captured in the case report forms.

#### Outbreak data

Reporting delays and gaps in information that is available at the federal level present difficulties in reporting on local outbreaks. To ensure timely information is available, PHAC utilizes web-scraping techniques to gather outbreak data from media and provincial/territorial public health agency websites. There are several important limitations to this data:



- A national standardized outbreak definition does not exist. Clusters are defined and vary according to P/T.
- The data do not represent all outbreaks that have occurred in Canada over the course of the pandemic, but they do provide a summary of clusters reported via non-traditional data sources. Data collection on outbreaks began March 12 and are as of June 24 9am EDT.
- Case-level data is generally not available for outbreaks detected via non-traditional data sources. Information presented is at the aggregate level only.
- The methods for defining an outbreak are currently in development and may change over time
  - Outbreaks from agricultural settings have been removed from workplace and specified as their own setting. As a result, the number of workplace related cases and deaths have decreased.
  - A data entry error has been fixed resulting in a decrease in the number of cases within correctional facilities

## Population data

- Canadian population data from Statistics Canada Population estimates on 1 July 2019 is used for age-standardized rate calculations.

## International data

International data are retrieved from various reputable data source, mainly the European Centre for Disease Prevention and Control (ECDC) Situation update, Johns Hopkins Resource Center and various country's MOH website.

- Given that the pandemic is rapidly evolving and the reporting cycles from government sources are different, the case numbers may not necessarily match what is being reported publicly. Rather, this reflects what is publicly available from the sources listed above.
- International comparisons should be interpreted with caution. Number of tests conducted, indications for testing, and diagnostic capacity by country have a large influence on total number of reported cases. Therefore, the data displayed may not represent the true incidence of disease within each country