WEEKLY EPIDEMIOLOGY UPDATE (24-30 JUNE 2020)

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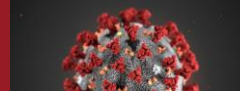|	
2 252 (+153) **NEW CASES REPORTED**[a]	**137 (-63)** **NEW DEATHS REPORTED** [a]
27% (-1[b]**)** **PERCENT OF ACTIVE CASES** [a]	**65% (+2** [b]**)** **RECOVERED CASES** [a]
38 944 (+500) **AVERAGE PEOPLE TESTED PER DAY**[c]	**0.8% (-0.2** [b]**)** **PERCENT POSITIVE**[c]

[a] Source: Provincial and Territorial MOH websites as of 30 June. [b] Difference in percentage points. [c] Data for laboratory analyses are as of 28 June.

KEY UPDATES

- From 24 to 30 June 2020, 2 252 cases and 137 deaths were reported in Canada.
  - Quebec and Ontario continue to drive the epidemic in Canada accounting for 1 789 (79%) total cases and 132 (96%) total deaths this week.
  - Ontario has the highest age-standardized incidence rate at 8.1 cases per 100 000 population.
- Compared to the previous week:
  - There is a 7% increase in the number of new cases reported nationally.
  - Saskatchewan, Quebec and New Brunswick all reported decreases in the number of new cases.
- Since 1 May 2020, a decreasing rate of cases has been observed among all age groups, particularly among those over 80 years of age (males and females).
  - Despite the decrease in number of cases overtime, the highest incidence rate per age and sex is among younger age groups, i.e., cases aged 20-29 years (9.5 and 11.6 per 100 000 population, in females and males respectively).
- Forecasting shows 103 940 to 108 130 cumulative reported cases and 8 545 to 8 865 cumulative number of deaths are predicted by 12 July.

NATIONAL TRENDS IN CASES AND DEATHS

As of 30 June 2020, a decrease in the weekly number of new cases was observed nationally (Table 1).

- Decreases in the weekly number of new cases per day were seen in Saskatchewan, Quebec and New Brunswick.
- Increases in the weekly number of new cases per day were seen in British Columbia, Alberta, Manitoba, and Ontario. Nova Scotia reported its first case in 20 days.
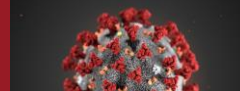- Prince Edward Island, Newfoundland, Yukon, and Northwest Territories have not reported any new cases in four weeks.

Table 1. Trends of new cases in Canada and by province or territory, as of 30 June 2020

Province/Territory	# of cases (as of 30 June)	# of cases reported		Percent change (%)[a]	Crude rate per 100 000 (as of 30 June)
		17 to 23 June	24 to 30 June		
British Columbia	2 916	60	81	+35%	57
Alberta	8 108	251	327	+30%	185
Saskatchewan	785	60	32	-47%	67
Manitoba	325	8	11	+38%	24
Ontario	35 068	1 109	1 215	+10%	241
Quebec	55 458	621	574	-8%	654
Newfoundland	261	0	0	-	50
New Brunswick	165	1	0	-100%	21
Nova Scotia	1 062	0	1	+100%	109
Prince Edward Island	27	0	0	-	17
Yukon	11	0	0	-	27
Northwest Territories	5	0	0	-	11
Nunavut[b]	0	0	0	-	0
Canada[c]	**104 204**	**2 099**	**2 252**	**+7%**	**277**

[a] *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 provinces/territories 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, YT, NT, and NU.*

[b] *Information as of 29 June 2020*

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

From 24 to 30 June 2020, 2 252 cases of COVID-19 were reported in Canada.

- The number of cases represents a **7% increase** compared to the previous week, although a downward trend is observed since mid-late April (Figure 1).

Figure 1. Daily number of reported COVID-19 cases in Canada (and 7-day moving average[a]), as of 30 June 2020 (N= 104 204)
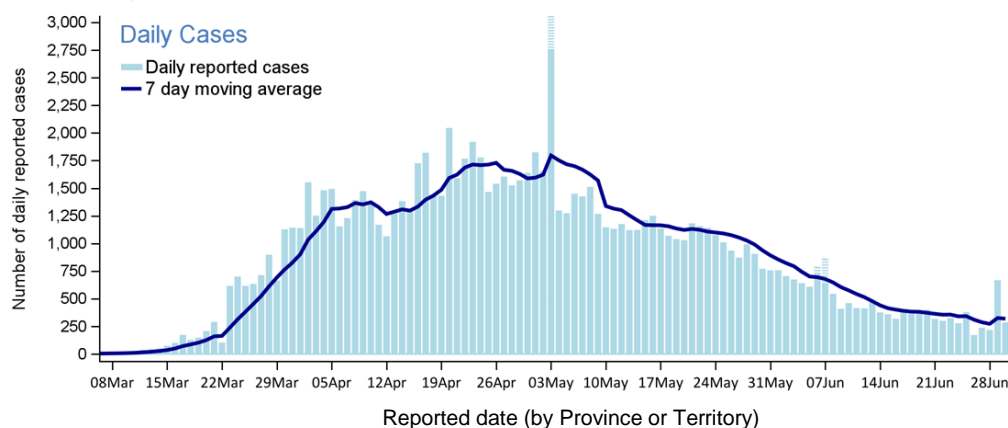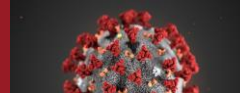

[a] *The 7-day moving average is a trend indicator that captures the arithmetic mean of the daily reported deaths over the previous seven days. The moving average helps smooth out day-to-day variability in reporting, filtering out the "noise" of short-term fluctuations. The hatched blue bars correspond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

Figure 2 and Table 2 present the age-standardized rate by province or territory for the week of 24 to 30 June.

- All provinces, with the exception of British Columbia, Saskatchewan and Nova Scotia, had a decrease or no change in the age-standardized incidence rate (see table A2 in annex).
- Ontario has the highest age-standardized incidence rate in Canada, with 8.1 cases per 100 000 population (Figure 2 and Table 2).

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

Figure 2. COVID-19 age-standardized incidence rate per 100 000 population[a] by province or territory for week 24 to 30 June 2020
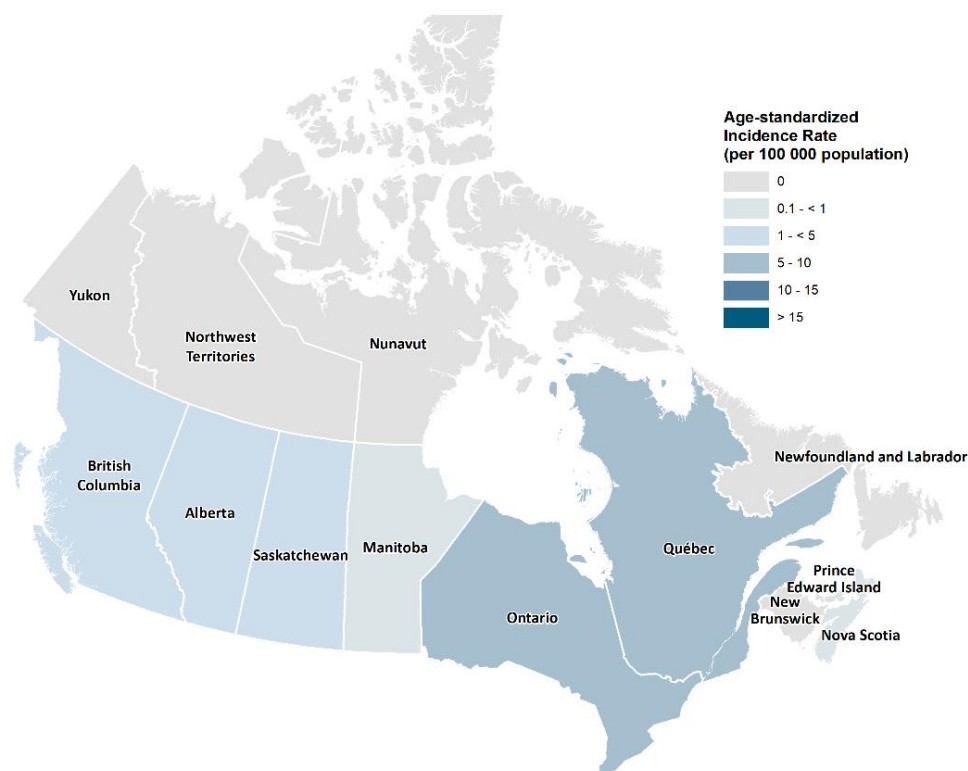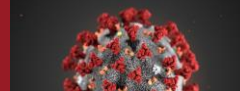

Data source: Case report forms submitted to PHAC by provinces and territories. Map from National Microbiology Laboratory (NML) Geomatics

Table 2. Age-standardized incidence rates by province or territory for week 24 to 30 June 2020

Province/Territory	Age-standardized incidence per 100 000 (24 to 30 June)	Rate difference from previous week (17 to 23 June)
British Columbia	1.6	-0.4
Alberta	4.3	+0.2
Saskatchewan	2.4	-4.6
Manitoba	0.8	+0.1
Ontario	8.1	-1.4
Quebec	7.1	-2.6
New Brunswick	0.0	-0.4
Newfoundland	0.0	0
Nova Scotia	0.1	+0.1
Prince Edward Island	0.0	0
Yukon	0.0	0
Northwest Territories	0.0	0

Table 3 summarizes the total cases, recoveries and deaths for 24 to 30 June:

- British Columbia, Saskatchewan, Ontario, Quebec, and New Brunswick have reported more recoveries than new cases.
- Alberta and Manitoba reported more cases than recoveries.

Table 3. Summary of COVID-19 cases, recoveries, and deaths reported by province or territory, for week 24 to 30 June 2020

Province/Territory	New cases	New recoveries	New deaths
British Columbia	81	99	4
Alberta	327	311	1
Saskatchewan	32	42	0
Manitoba	11	7	0
Ontario	1 215	1 237	53
Quebec	574	1 178	79
New Brunswick	0	16	0
Newfoundland	0	0	0
Nova Scotia	1	0	0
Prince Edward Island	0	0	0
Yukon	0	0	0
Northwest Territories	0	0	0
Nunavut	0	0	0
Canada	**2 252**	**2 890**	**137**

DEMOGRAPHIC DISTRIBUTION

- From 24 to 30 June 2020, cases newly reported to PHAC (n=2 092) ranged in age from less than one year to 110 years old, with a median age of 40 years. For more information on the demographic distribution, see **Table A3** in the Annex.
- The age distribution of cases by sex reported to PHAC for the period 24 to 30 June is younger than the cumulative age distribution by sex (**Table A3** in the Annex):
  - o Those less than 20 years comprise 11% 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.
  - o Both sexes aged 20-29 years comprise 26% of the cases reported in the past week, but only 14% of the total cases overall. This age group is now over-represented in recently reported cases, as they comprise just 14% of the Canadian population.
- Possible explanations for the increase in proportion of cases in younger age groups, include:
  - o 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.
  - o 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.
- Compared to the week of 17 to 23 June, cases tend to be younger among those reported from 24 to 30 June.
  - o The highest incidence rate in age and sex is among female cases aged 20 to 29 years, followed by female cases 80 years and over (9.5 and 9.0 cases per 100 000 population respectively).
  - o Among male cases, those aged 20 to 29 years present the highest age group, followed by male cases aged 30 to 39 years (11.6 and 8.2 cases per 100 000 population respectively).
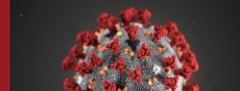
Table 4. Age distribution and incidence rate per 100 000 population of COVID-19 cases reported to PHAC, by sex, from 24 to 30 June 2020

Age groups	Female			Male		
	n	%	Rate	n	%	Rate
≤ 19	119	12	3.0	114	11	2.7
20-29	234	23	9.5	307	29	11.6
30-39	174	17	6.8	215	20	8.2
40-49	146	14	6.0	127	12	5.3
50-59	129	13	4.9	121	11	4.6
60-69	90	9	3.8	75	7	3.3
70-79	44	4	2.9	52	5	3.8
80+	88	9	9.0	44	4	6.7
Total	**1 024**	**100%**	**5.4**	**1 055**	**100%**	**5.6**

Figure 3 and Figure 4 present cases by episode date, stratified by sex and adjusted for population at the national level.

- Since May 1, a decreasing trend was observed among all age groups, with the exception of those in the youngest age group (0 to 19 years). Cases reported in this age group have not declined as quickly as others (Figure 3 and 4).

Figure 3. Daily cases (3-day moving average) by age and sex, population adjusted as of 28 June 2020
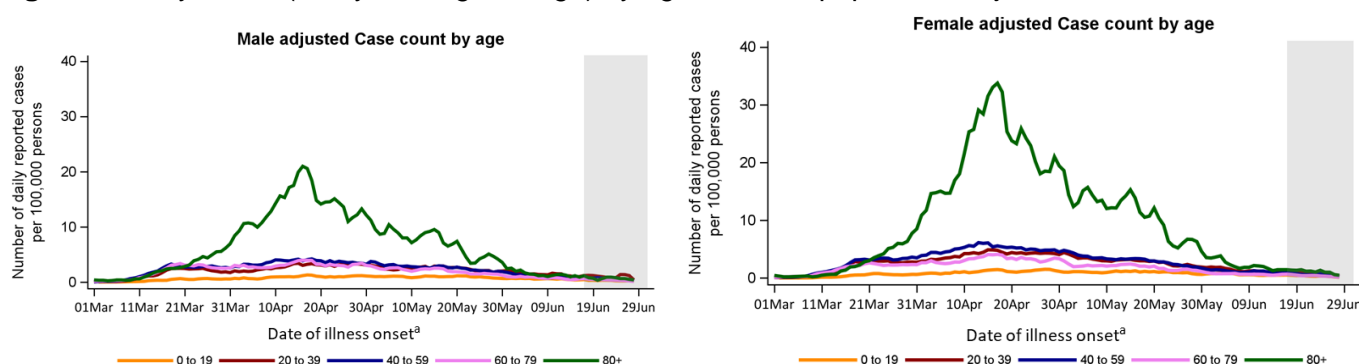
Note: The shaded area represents a period of time (lag time) where it is expected that cases have occurred but have not yet been reported nationally.
[a]If date of illness onset was not available, the earliest of the following dates was used as an estimate in the following order: Specimen Collection Date and Laboratory Testing Date.

Figure 4. Daily cases (3-day moving average) by age and sex, population adjusted from 1 to 28 June 2020
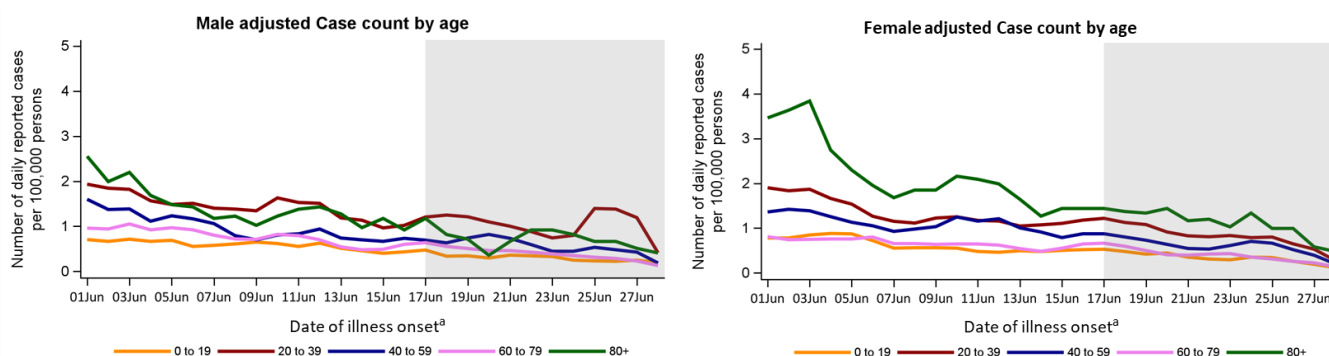
Note: The shaded area represents a period of time (lag time) where it is expected that cases have occurred but have not yet been reported nationally.
[a]If date of illness onset was not available, the earliest of the following dates was used as an estimate in the following order: Specimen Collection Date and Laboratory Testing Date.
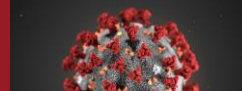
SYMPTOMS AND CLINICAL PRESENTATIONS

Among the 6 823 cases for which information on symptom status was available, the most common symptoms reported included cough (71%), headache (51%), weakness (48%), chills (47%), and fever (44%). Other symptoms included irritability, pain, shortness of breath, runny nose, sore throat and diarrhea.

- Symptoms are fairly evenly distributed across age groups, although older cases tend to report less of the most commonly reported symptoms (Figure 5).
- 6 539 (96%) cases reported having at least one symptom; the proportion of cases reporting having at least one symptom ranged from 89% to 98% (corresponding to cases aged 80 years and older and those 30 to 39 years, respectively) (table A4 in annex).

Figure 5. Age distribution of most commonly reported symptoms among COVID-19 cases, as of 30 June 2020 (n= 6 823)
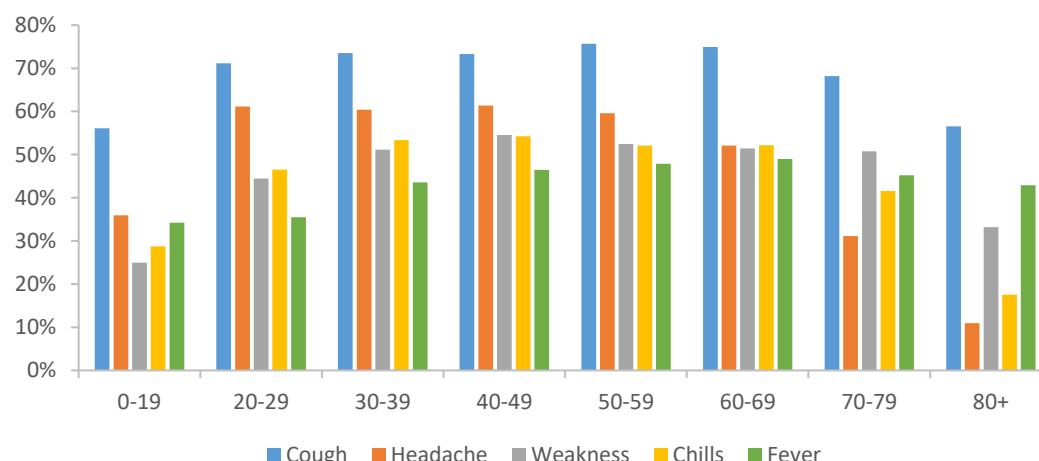

Table 5 presents the most commonly reported clinical evaluations, complications or diagnoses among cases reported to PHAC as of 30 June 2020.

- Older age groups presented with more severe clinical presentations and diagnosis compared to the younger age groups. This may be due to the increasing risk of complications associated with pre-existing conditions in older age.
- Pneumonia and abnormal lung auscultation occurred in higher proportion among male cases.

Table 5. Age and sex distribution of most commonly reported clinical evaluations, complications or diagnoses, among COVID-19 cases, as of 30 June 2020

| Characteristics	Pneumonia n=228		Abnormal lung auscultation n=172		Dyspnea n=211		Tachypnea n=161	
Age group (years)								
0 to 19	2	(1%)	4	(2%)	2	(1%)	1	(1%)
20 to 39	31	(14%)	22	(13%)	20	(9%)	34	(21%)
40 to 59	65	(29%)	52	(30%)	51	(24%)	55	(34%)
60 to 79	96	(42%)	58	(34%)	79	(37%)	50	(31%)
80 or plus	34	(15%)	36	(21%)	59	(28%)	21	(13%)
Sex								
Female	100	(44%)	81	(47%)	105	(50%)	80	(50%)
Male	129	(56%)	92	(53%)	107	(50%)	81	(50%)
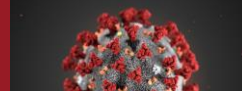
OUTCOMES

From 24 to 30 June 2020, 137 deaths were reported in Canada.
- This represents a **32% decrease** compared to the previous week (17 to 23 June)*,* and a continuation of a downward trend since early May (Figure 6).

During the same period, 15 deaths were reported to PHAC (Table 4). Among those:
- 73% (n=11) cases were aged 80 years or over;
- 67% (n=10) were female cases.

Figure 6. Daily number of COVID-19 related deaths in Canada (and 7-day moving average), as of 30 June 2020 (N=8 591)
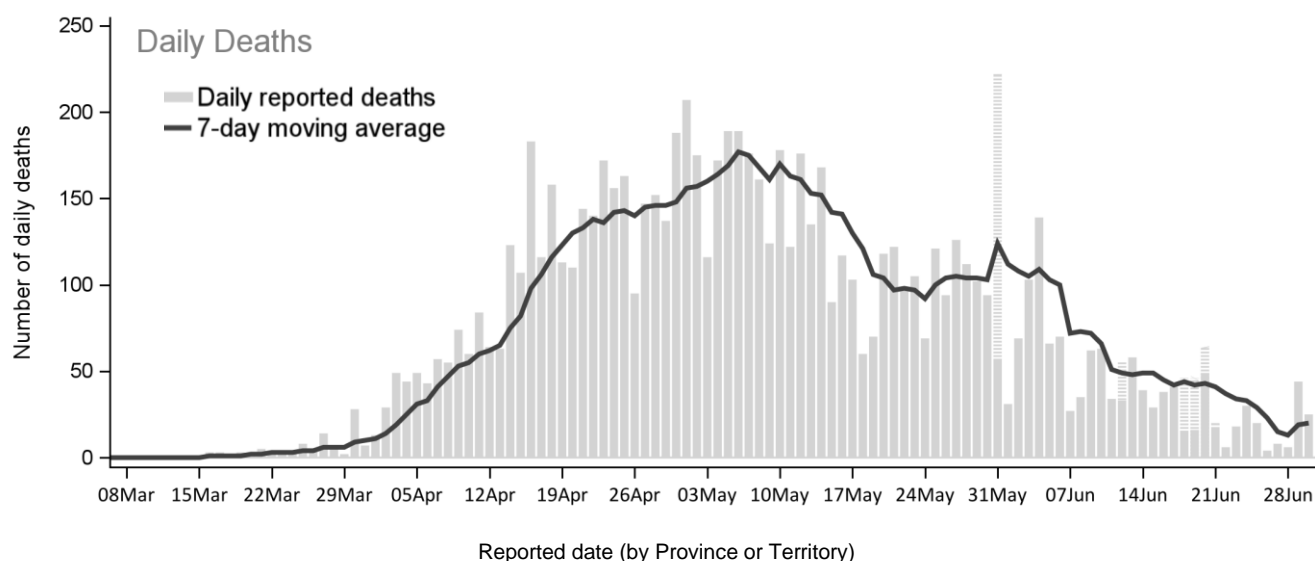
Note: The 7-day moving average is a trend indicator that captures the arithmetic mean of the daily reported deaths over the previous seven days. The moving average helps smooth out day-to-day variability in reporting, filtering out the "noise" of short-term fluctuations. The hatched grey bars correspond to deaths that were originally detected at an earlier date (excluded from moving average calculation).

From 24 to 30 June 2020, detailed case information on hospitalization status was reported to PHAC for 930 cases among those:
- **95** cases **(10%)** were hospitalized, of whom:
  - **8 (17%)** were admitted to ICU, and
  - **3 (2%)** required mechanical ventilation.

This compares with the 68 347 cases with detailed case information on hospitalization status reported to PHAC since the start of the outbreak, where:
- **10 314** cases **(15%)** were hospitalized, of whom:
  - **2 103 (20%)** were admitted to ICU, and
  - **443 (4%)** required mechanical ventilation.

Table 6. Number of COVID-19 cases hospitalized, admitted to ICU, and reported as deceased, by sex and age group, for week 24 to 30 June 2020[a]

Age groups	Hospitalizations		Admitted to ICU		Deceased	
	Female	Male	Female	Male	Female	Male
≤ 19	3	2	1	0	0	0
20-39	7	2	1	0	0	0
40-59	8	6	2	0	1	0
60-79	17	20	1	2	1	2
80+	18	12	1	0	8	3

[a] The information presented is based on cases reported to PHAC from 24 to 30 June. These values may change weekly due to updates in disease progression and disposition.

The number of hospitalizations and ICU admissions decreased among cases reported during week 24 to 30 June 2020 compared to week 17 to 23 June.

- A greater decrease was observed among male cases hospitalized and admitted to ICU compared to female cases, across all age groups (Table A5 and A6 in Annex).

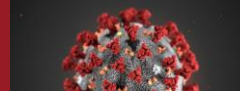## TEMPORAL DISTRIBUTION BY EXPOSURE CATEGORY

Information on exposure is available for 760 cases with illness onset in the week of 24 to 30 June. Of these:

- 5 cases (1%) reported having travelled outside of Canada during the exposure period;
- 443 cases (58%) were due to exposure in Canada to either a known COVID-19 case or an unknown source; and
- 312 cases (41%) 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 102 225 cases with information on exposure provided:

- 4 291 cases (4%) reported having travelled outside of Canada during the exposure period;
- 55 789 cases (55%) reported exposure in Canada to either a known COVID-19 case or to someone who had travelled; and
- 6 767 (7%) 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 30 June 2020 (n=98 030)
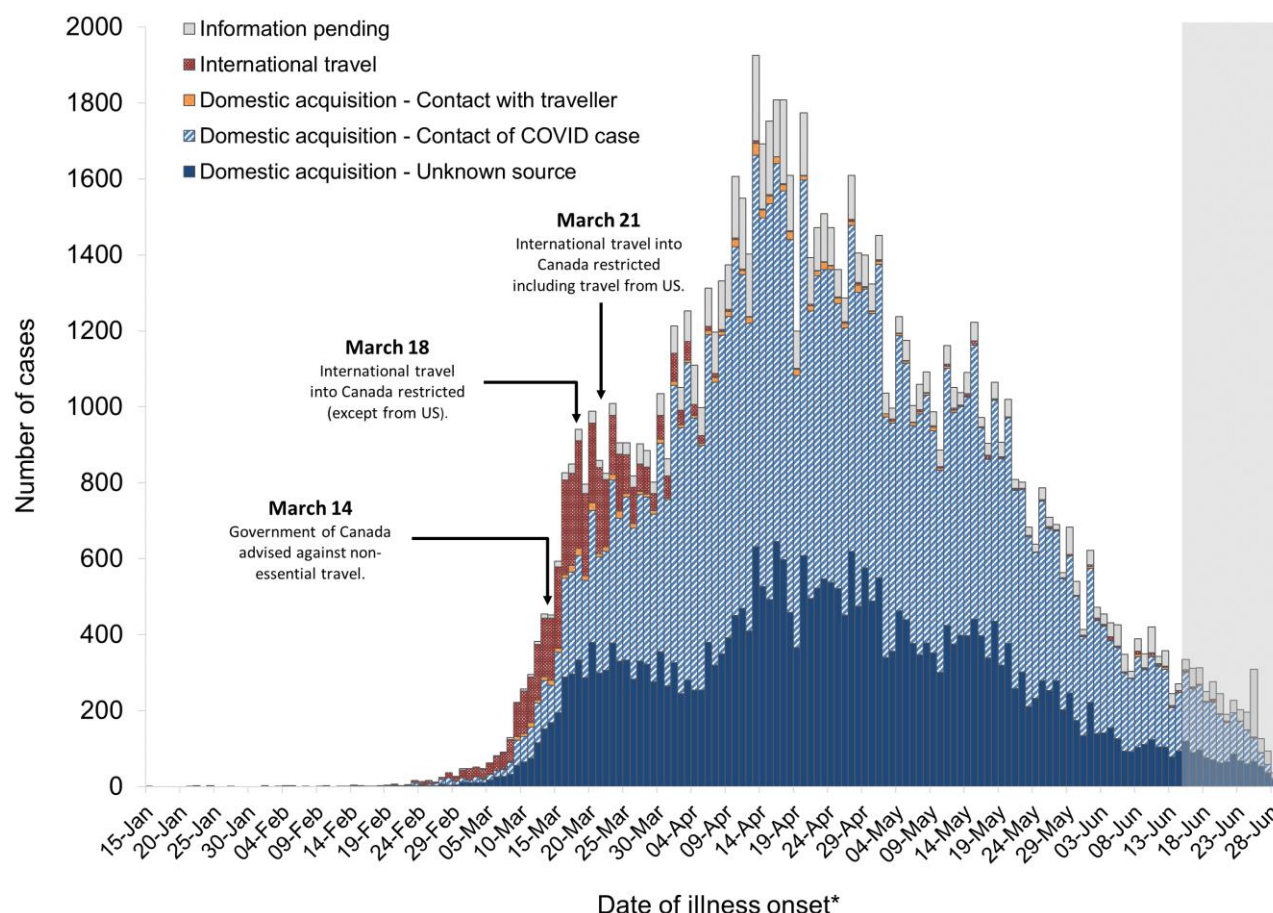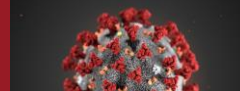

*If date of illness onset was not available the earliest of the following dates was used as an estimate in the following order: Specimen Collection Date and Laboratory Testing Date.
Note: *The shaded area represents a period of time (lag time) where it is expected that cases have occurred but have not yet been reported nationally.*

INTERNATIONAL TRAVEL

Of the cases reported to PHAC, 4 291 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, from 21% (n=3 671) of all cases in March to 1% in June (n=98).

- Since 1 April, the most commonly reported countries of travel included the United States, Mexico, Portugal, Pakistan and the Dominican Republic.

Table 7. The number and percentage of COVID-19 cases associated with international travel by month, as of 30 June 2020

Month	Number of COVID-19 cases associated with international travel	Percentage of COVID-19 cases associated with international travel*
January	6	85.7%
February	71	38.4%
March	3671	21.1%
April	309	0.7%
May	100	0.3%
June	98	1.1%

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

From 24 to 30 June, 5 cases of COVID-19 in Canada associated with international travel were reported to PHAC.
- Two cases reported travel to Mexico, two reported travel to Pakistan, and one reported travel to the United Arab Emirates.

OUTBREAKS

- Outbreaks have been important contributors to the spread of COVID-19 in Canada. **Table 8** identifies common locations of outbreaks identified, as well as the number of cases and deaths associated with each.
- Outbreaks in congregate living, workplace, and agricultural work settings have been detected, namely among long-term care settings, meat processing plants, hospitals, and among farm workers (see table 7 for detailed breakdown per outbreak setting).

Table 8. Total number of COVID-19 clusters, cases, and deaths by outbreak setting in Canada as of 30 June 2020

Outbreak setting	Reported number of outbreaks (difference since last report)	Reported number of cases (difference since last report)	Reported number of deaths (difference since last report)
Long-term care and seniors homes	1007 (+9)	20 619 (+23)	6 324 (+33)
Hospital	126 (+2)	1 667 (+23)	188 (+4)
Workplace (work camps)	89 (+6)	976 (+32)	4 (+0)
Agricultural work setting (including those with congregate living for workers)	21 (+0)	1 151 (+199)	3 (+0)
Group homes, residential care, and supported housing	58 (+0)	594 (+0)	76 (+0)
Shelter	31 (+0)	582 (+0)	3 (+0)
Correctional facility	26 (+0)	818 (+0)	5 (+0)
Meat and poultry processing plant	13 (+0)	3 025 (+0)	6 (+0)
Mass gathering[a]	5 (+0)	179 (+0)	1 (+0)

[a] Mass gatherings are defined as an event which brings together a large number of people, examples of mass gatherings include: conferences, funerals, and sporting events.
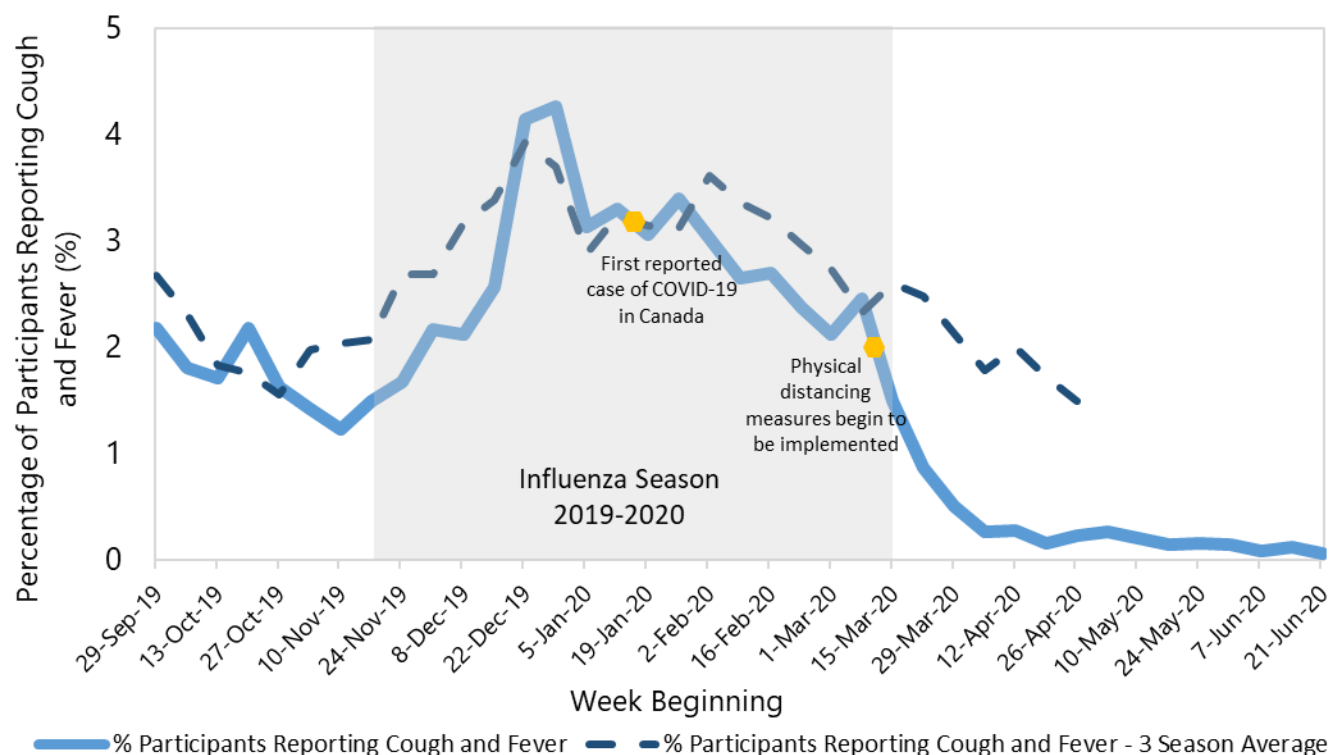
FLUWATCHERS

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.
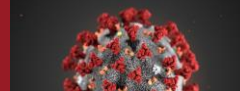
In the week of 21 to 27 June 2020, 10 054 participants reported into the FluWatchers program. A total of 6 participants (0.06%) reported cough and fever (Figure 8). The participants reporting cough and fever were not restricted to a single jurisdiction. As FluWatchers does not normally collect data during 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 6 participants reporting cough and fever:
- 5 (83%) sought medical attention;
- 5 (83%) were tested - no tests were positive for COVID-19 (2 results were unavailable at the time of reporting).

Figure 8. Percentage of FluWatchers Participants Reporting Cough and Fever (N=10 054 the week of 21 to 27 June 2020)

MODELLING

Estimates of transmission rates in Canada: Effective reproductive rate (Rt)

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, but has increased above 1 this week due to the spike in new cases reported.
- 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 smoulder.
- In addition to the value of Rt, Canada relies on increased testing for cases identification and isolation, rapid contact tracing, physical distancing, and restricted international and domestic travel to assess the state of epidemic control.

Figure 10. Reproductive rate in Canada, 28 June 2020

R_t=2.5
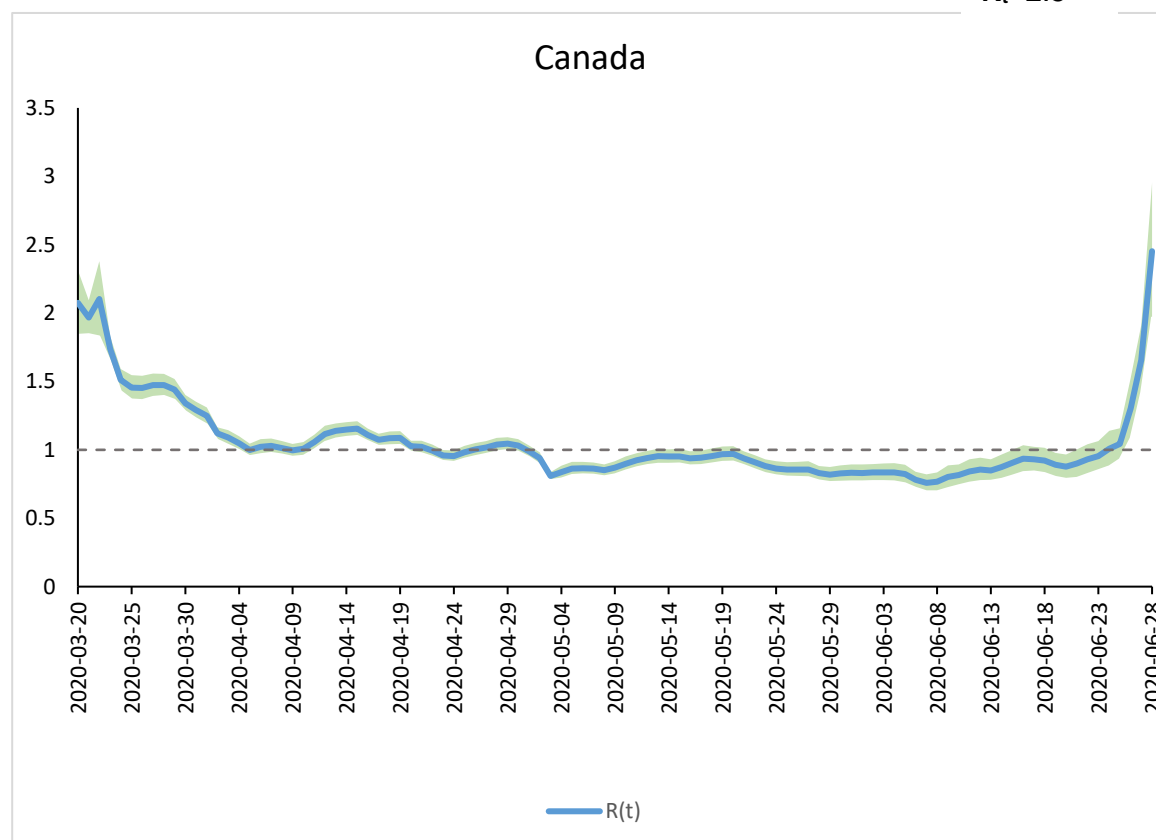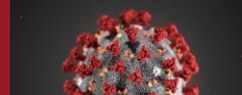
FORECASTING

Canada's approach to modelling:

Models cannot predict the course of the COVID-19 pandemic, but can help us understand all possible scenarios, support decisions on public health measures and help the health care sector plan for these scenarios.

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 **103 940** to **108 130** cumulative reported cases and **8 545** to **8 865** cumulative number of deaths are predicted by 12 July.

Figure 11. Projected numbers to 12 July 2020 and 95% prediction intervals based on data as reported by 26 June 2020
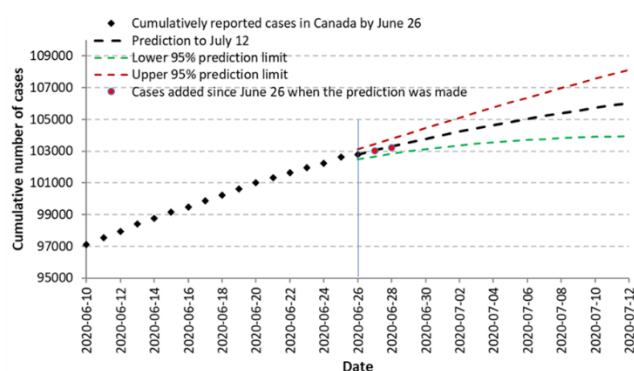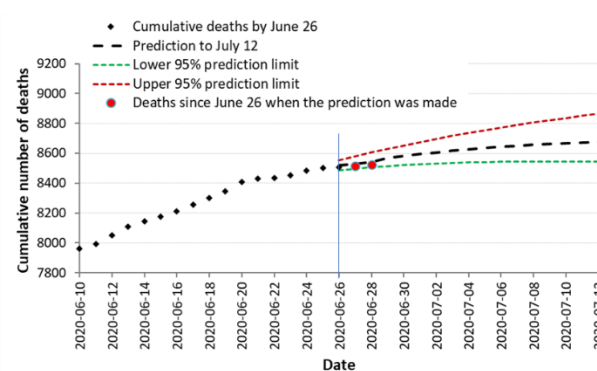
To assess the performance of these predictions, Figure 12 compares what were predicted and what were observed in previous prediction cycle, from 20 June to 5 July, 2020.

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

INTERNATIONAL

- As of 30 June, globally, there are over 10 million cases of COVID-19 with over 508 000 reported deaths. Since 7 June, there has been over 100 000 cases reported globally each day.
- The region of the Americas reports the highest number of COVID-19 cases, followed by Europe and the Eastern Mediterranean region; all are reporting over 1 million cases.
  - Despite Latin America being the global epicentre of the COVID-19 epidemic, the United States continues to report the highest daily number of cases.
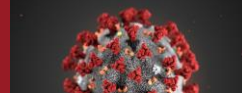 - As of 30 June, Brazil has the second-highest number of COVID-19 cases (n=1 368 195) and deaths (n=58 314) reported. Elsewhere in the region, Peru has reported 282 365 cases, Chile 275 999 cases, and Colombia 95 043 cases.
  - In South Asia, India has reported an average of more than 15 000 new cases daily.
  - In the Eastern Mediterranean region, cases and deaths are increasing in countries such as Iran, Iraq, Libya, Morocco, the Palestinian Territory, and Oman.
- As countries reduce public health measures, the resurgence of cases is being observed in countries such as Germany and South Korea.
- Canada's public health measures, including border closure to the United States of America, have aided in the control of imported cases.

The 7-day moving average of new daily COVID-19 cases in Canada compared to other countries can be seen in **Figure 12**.

Figure 12. Daily new cases of COVID-19 in Canada compared to other countries as of 30 June 2020 (7-day moving average, population adjusted)
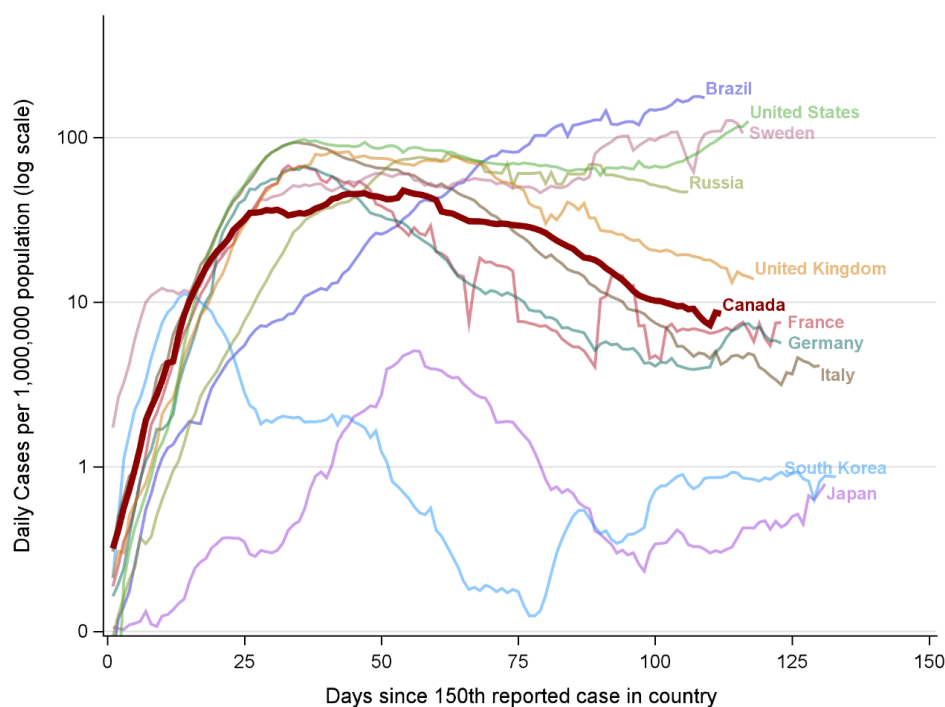
Up-to-date country-specific risk levels may be found on travel health notices.
For more information on COVID-19 internationally, please refer to the World Health Organizations' COVID-19 Situation Report.

ANNEX

Table A1. Number of COVID-19 cases, recoveries, and deaths reported in Canada by province or territory, as of 30 June 2020

Province/Territory	Total cases	Recovered	Total deaths
British Columbia	2 916	174	2 590
Alberta	8 108	154	7 407
Saskatchewan	785	13	684
Manitoba	325	7	300
Ontario	35 068	2 672	30 344
Quebec	55 458	5 503	24 798
Newfoundland and Labrador	261	3	258
New Brunswick	165	2	159
Nova Scotia	1 062	63	998
Prince Edouard Island	27	0	27
Yukon	11	0	11
Northwest Territories	5	0	5
Nunavut	0	0	0
Canada[a]	**104 204**	**8 591**	**67 594**

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

Table A2. Age-standardized incidence rates of COVID-19 cases, by province or territory, as of 30 June 2020

Province/Territory	Cumulative (per 100 000)	Week 17-23 June (per 100 000)
British Columbia	56.4	1.3
Alberta	178.4	4.8
Saskatchewan	68.1	6.9
Manitoba	24.5	0.7
Ontario	242.0	9.5
Quebec	647.3	9.7
Newfoundland and Labrador	46.4	0.0
New Brunswick	21.2	0.4
Nova Scotia	108.9	0.0
Prince Edouard Island	17.3	0.0
Yukon	21.4	0.0
Northwest Territories	10.0	0.0
Nunavut	0.0	0.0
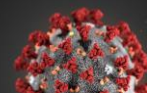
Table A3. Age and sex distribution of COVID-19 cases reported to PHAC, as of 30 June 2020

Age groups	Cumulative						Week 17-23 June					
	Female			Male			Female			Male		
	n	%	Rate	n	%	Rate	n	%	Rate	n	%	Rate
≤ 19	3 724	6	93.7	3 600	8	86.6	148	11	3.7	146	12	3.5
20-29	7 687	13	313.1	6 520	14	246.3	271	21	11.0	286	23	10.8
30-39	7 726	13	299.9	6 624	15	254.0	181	14	7.0	229	18	8.8
40-49	8 781	15	361.5	6 950	15	291.0	177	14	7.3	168	13	7.0
50-59	8 668	15	328.4	7 073	16	270.7	196	15	7.4	171	14	6.5
60-69	5 012	9	212.8	5 140	11	228.2	123	9	5.2	118	9	5.2
70-79	3 887	7	257.3	3 772	8	277.2	66	5	4.4	69	6	5.1
80+	12 333	21	1 268.1	5 537	12	848.7	140	11	14.4	64	5	9.8
Total	57 818	100	305.7	45 216	100	242.1	1 302	100	6.9	1 251	100	6.7

Table A4. Age distribution of cases reporting having at least one symptom, as of 30 June 2020

Age groups	Frequency	Percentage
≤ 19	410	90%
20-29	884	97%
30-39	1060	98%
40-49	1053	97%
50-59	1174	97%
60-69	927	97%
70-79	544	95%
80+	487	89%
Total	6539	96%

Table A5. Age and sex distribution of hospitalized COVID-19 cases reported to PHAC as of 30 June 2020

Age group	Cumulative		Week 17-23 June		Week 24-30 June	
	Female	Male	Female	Male	Female	Male
≤ 19	62	52	1	1	3	2
20-39	370	359	9	6	7	2
40-59	907	1 267	12	19	8	6
60-79	1 635	2 199	37	35	17	20
80+	2 015	1 400	30	23	18	12
Total	4 989	5 277	89	84	53	42

Table A6. Age and sex distribution of COVID-19 cases admitted to ICU, reported to PHAC as of 30 June 2020

| Age group	Cumulative		Week 17-23 June		Week 24-30 June	
	Female	Male	Female	Male	Female	Male
≤ 19	12	11	0	0	1	0
20-39	78	93	0	1	1	0
40-59	237	408	3	8	2	0
60-79	348	659	4	7	1	2
80+	123	118	2	1	1	0
Total	798	1 289	9	17	6	2
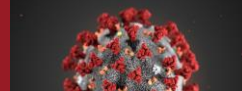
Table A7. Age and sex distribution of deceased COVID-19 cases reported to PHAC as of 30 June 2020

Age group	Cumulative		Week 17-23 June		Week 24-30 June	
	Female	Male	Female	Male	Female	Male
≤ 19	1	0	1	0	0	0
20-39	7	15	0	0	0	0
40-59	92	144	1	0	1	0
60-79	869	1 275	8	16	1	2
80+	3 665	2 464	41	21	8	3
Total	**4 634**	**3 898**	**51**	**37**	**10**	**5**
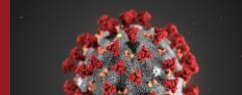
TECHNICAL NOTES

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 **30 June at 8 p.m. EDT.** The information presented for trend analyses is that available as of **30 June at 8 p.m. EDT.** The information presented for laboratory analyses is that available as of **28 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 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 is 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 basic 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
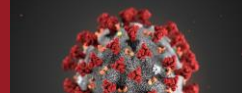
techniques to gather outbreak data from media and provincial/territorial public health agency websites. There are several important limitations to these data:

- 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 9 a.m. EDT.
- Case-level data are 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 are used for age-standardized rate calculations.

International data

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