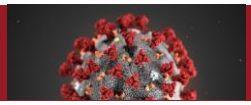


WEEKLY EPIDEMIOLOGY UPDATE (8-14 JULY 2020)

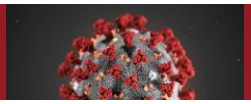
Published: 17 July 2020

2 319 (+356) NEW CASES REPORTED[a]	**87 (-33)** NEW DEATHS REPORTED [a]
25% (0[b]) PERCENT OF ACTIVE CASES [a]	**67% (0 [b])** RECOVERED CASES [a]
39 732 (+2 085) AVERAGE PEOPLE TESTED PER DAY[c]	**0.8% (0 [b])** PERCENT POSITIVE[c]

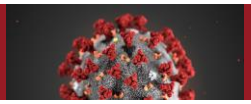
[a] Source: Provincial and Territorial MOH websites as of 14 July. [b] Difference in percentage points. [c] Data for laboratory analyses are as of 12 July.

KEY UPDATES

- From 8 to 14 July 2020, 2 319 cases and 87 deaths were reported in Canada.
    - Quebec and Ontario continue to drive the epidemic in Canada accounting for 1 623 (70%) total cases and 75 (86%) total deaths this week.
        - A higher proportion of cases (30%) were reported outside of Ontario and Quebec compared to last week (22%).
    - Seven provinces reported increases in the weekly number of new cases: British Columbia, Alberta, Saskatchewan, Manitoba, Quebec, Newfoundland and Labrador, and New Brunswick.
    - Newfoundland and Labrador reported its first case since 27 March 2020 and New Brunswick reported two new cases after reporting no new cases for over three weeks
- Based on detailed case information received by PHAC this week, Alberta, Nova Scotia, and Prince Edward Island had an increase in the age-standardized incidence rate.
    - Despite these provincial increases, Quebec had the highest age-standardized incidence rate at 8.8 cases per 100 000 population.
- Since 1 June 2020, there have been a decease in cases reporting among all age groups, particularly among those over 80 years of age (males and females).
    - This week, the highest incidence rates among males and females were among those aged 20-29 years (10.3 and 8.4 cases per 100 000 population respectively).
    - 65% of cases reported to PHAC this week were under the age of 39; 8.3% of these cases were hospitalized.
- Nationally, there continues to be a downward trend in the number of cases who have been hospitalized or admitted to the ICU due to COVID-19.
- The Canadian Nosocomial Infection Surveillance Program (CNISP) and the Serious Outcomes Surveillance Network of the Canadian Immunization Research Network (CIRN-SOS) are conducting surveillance for COVID-19 among patients hospitalized within Canadian acute-care hospitals.
    - CNISP hospitalization data indicate that 83% of hospitalized COVID-19 cases had at least one underlying medical condition (n=867), with the most common condition being heart disease (42%).



    - CIRN-SOS hospitalization data indicate that 96% of hospitalized adult patients who died had at least one underlying medical (n=80) with the most commonly reported medical condition being vascular illness condition including hypertension (76%).
- The average number of people tested daily over the last week has remained high at 39 732 people per day. The percent positivity has remained at 0.8% for the last three weeks and continues to be the lowest recorded national percent positivity since the peak of the epidemic in late April.
- Based on modelled forecasts, **109 550** to **113 830** cumulative reported cases and **8 790** to **9 105** cumulative number of deaths are predicted by 26 July.



NATIONAL TRENDS IN CASES AND DEATHS

As of 14 July 2020, an increase in the weekly number of new cases was observed nationally (Table 1).

- Increases in the weekly number of new cases per day was observed in British Columbia, Alberta, Saskatchewan, Manitoba, Quebec, Newfoundland and Labrador, and New Brunswick.
- Decreases in the weekly number of new cases per day was observed in Ontario, Nova Scotia, Prince Edward Island, and Nunavut.
- Newfoundland and Labrador has reported its first case since March 27 2020 and New Brunswick reported two new cases after reporting no new cases for over three weeks
- Yukon and Northwest Territories have not reported any new cases since April 2020.
- Nunavut's case count has returned to zero, as the previous presumptive case returned as negative.

Table 1. Trends of new cases in Canada and by province or territory, as of 14 July 2020

Province/Territory	Total number of cases (as of 14 July)[a]	Weekly number of cases reported		Percent change (%)[b]	Crude rate per 100 000 (as of 14 July)
		1 to 7 July	8 to 14 July		
British Columbia	3 128	74	138	+86%	61.7
Alberta	8 912	328	476	+45%	203.9
Saskatchewan	876	21	70	+233%	74.6
Manitoba	330	0	5	+500%	24.1
Ontario	36 950	992	890	-10%	253.7
Quebec	56 730	539	733	+36%	668.6
Newfoundland and Labrador	262	0	1	+100	50.2
New Brunswick	167	0	2	+200%	21.5
Nova Scotia	1 066	3	1	-67%	119.7
Prince Edward Island	36	5	4	-20%	22.9
Yukon	11	0	0	-	26.9
Northwest Territories	5	0	0	-	11.2
Nunavut	0	1	-1[c]	-200%	0
Canada[d]	**108 486**	**1 963**	**2 319**	**+18%**	**288.6**

[a]The number of cases includes the total confirmed and probable cases; this includes 11 probable cases from Manitoba. These counts are based on publically available information from the provincial/territorial ministry of health websites.

[b] The percentage is calculated based 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.

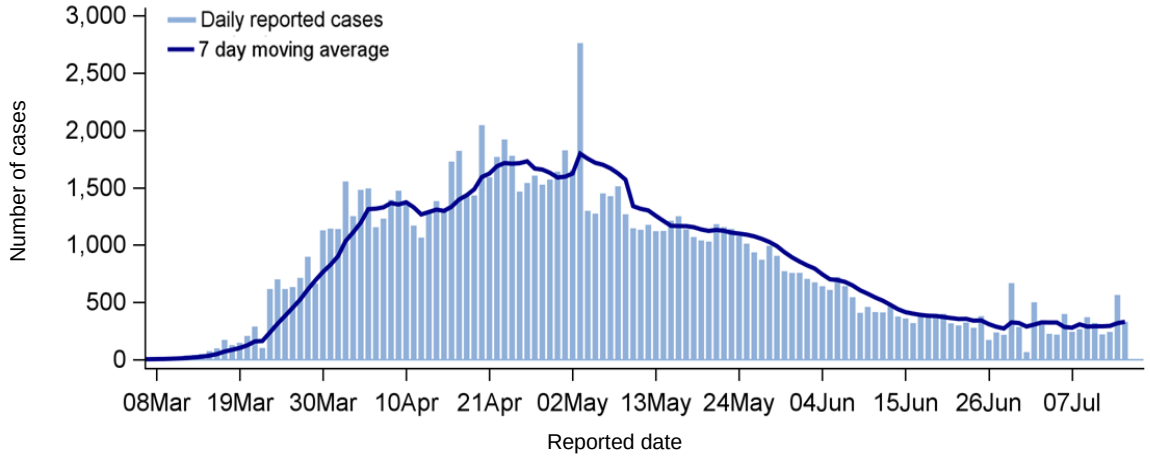
[c] Information as of 13 July 2020 and Nunavut's previous presumptive case returned as negative.

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

From 8 to 14 July 2020, 2 319 cases of COVID-19 were reported in Canada.

- The number of cases represents an **18% increase** compared to the previous week, however, there continues to be an observed 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 14 July 2020 (N=108 486)[a]



[a] Source: Provincial and Territorial MOH websites as of 14 July

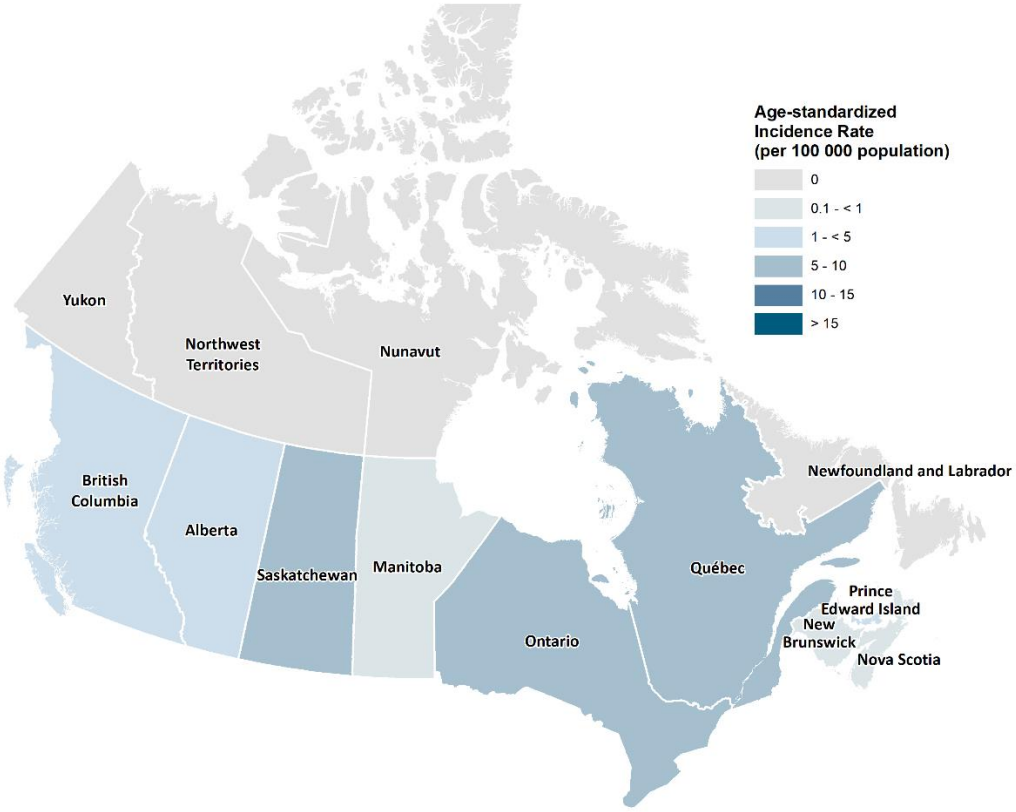
Note: The 7-day moving average is a trend indicator that captures the arithmetic mean of the daily reported deaths over the previous seven days. The moving average helps smooth out day-to-day variability in reporting, filtering out the "noise" of short-term fluctuations. The hatched blue bars correspond 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 8 to 14 July 2020.

- Based on detailed case information received by PHAC this week, Alberta, Nova Scotia, and Prince Edward Island had an increase in the age-standardized incidence rate (see table A2 in annex for cumulative counts).
- Quebec has the highest cumulative age-standardized incidence rate in Canada, with 8.8 cases per 100 000 population.

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 8 to 14 July 2020



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

[a] Standardized to the July 1 2019 postcensal population estimate

Table 2. Age-standardized incidence rates by province or territory for week 8 to 14 July 2020

Province/Territory	Age-standardized incidence per 100 000 (8 to 14 July)	Rate difference from previous week (1 to 7 July)
British Columbia	2.3	+1.3
Alberta	3.7	-8.8
Saskatchewan	5.0	+3.7
Manitoba	0.4	+0.4
Ontario	5.8	+0.6
Quebec	8.8	+2.5
New Brunswick	0.3	+0.3
Newfoundland and Labrador	0.0	0
Nova Scotia	0.1	-0.2
Prince Edward Island	2.7	-0.6
Yukon	0.0	0
Northwest Territories	0.0	0
Nunavut	0.0	0

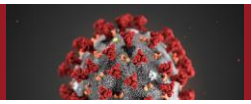


Table 3 summarizes the total new cases, recoveries and deaths for 8 to 14 July 2020:

- This week more cases than recoveries were reported.
    - Manitoba, Ontario, and Nova Scotia reported more recoveries than new cases.
    - British Columbia, Alberta, Saskatchewan, Quebec, New Brunswick, Newfoundland and Labrador, and Prince Edward Island reported more cases than recoveries.

Table 3. Summary of COVID-19 cases, recoveries, and deaths reported by province or territory, for week 8 to 14 July 2020[a]

Province/Territory	New cases	New recoveries	New deaths
British Columbia	138	85	6
Alberta	476	389	6
Saskatchewan	70	48	0
Manitoba	5	11	0
Ontario	890	1 182	32
Quebec	733	567	43
New Brunswick	1	0	0
Newfoundland and Labrador	2	1	0
Nova Scotia	1	4	0
Prince Edward Island	4	0	0
Yukon	0	0	0
Northwest Territories	0	0	0
Nunavut	-1[b]	0	0
Canada	**2 319**	**2 287**	**87**

[a] Source: Provincial and Territorial MOH websites as of 14 July
[b] Nunavut's previous presumptive case returned as negative.

DEMOGRAPHIC DISTRIBUTION[a]

[a] Detailed case information received by PHAC from P/Ts

- Cases for whom PHAC received detailed individual case level information between 8 to 14 July (n=1 926) ranged in age from less than one year to 99 years old, with a median age of 34 years.
- The age distribution of these cases continued to be younger than the cumulative age distribution for both sexes (**Table A3** in the Annex):
    - Those less than 20 years comprise 18% 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 25% 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.
- Compared to the week of 1 to 7 June (median: 37), cases reported 8 to 14 July (median: 34) are younger.
    - The highest incidence rate in age and sex is both males and females ages 20-29 years (10.3 and 8.4 cases per 100 000 population respectively).

- Possible explanations for the increase in proportion of cases in younger age groups, include:
    - Younger individuals increasing in-person physical connections, either as a result of return to workplaces and associated summer activities/holidays (i.e., Canada Day) or due to reduced adherence to physical distancing measures.

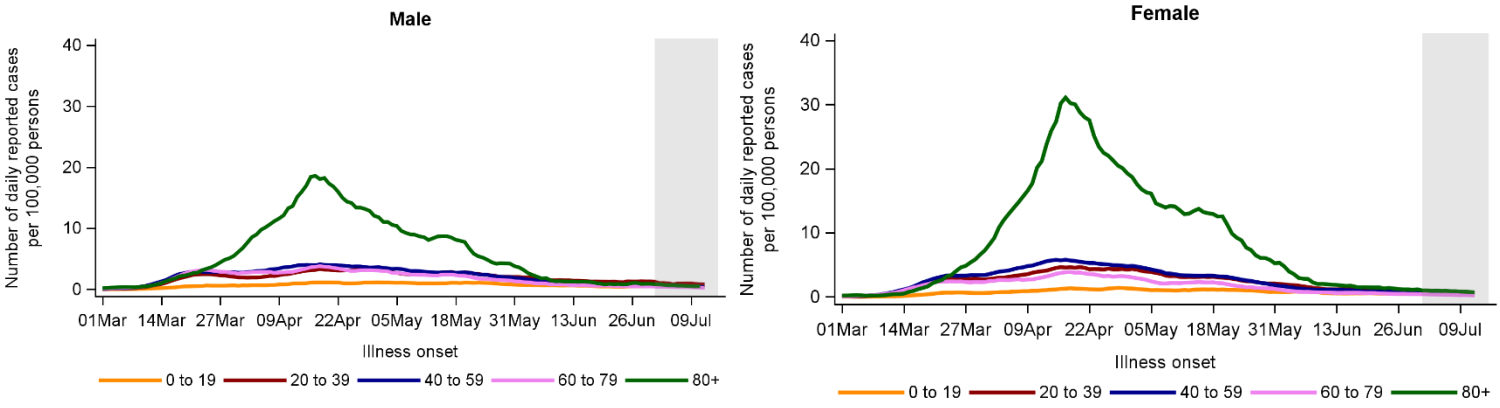
Table 4. Age distribution and incidence rate per 100 000 population of COVID-19 cases reported to PHAC, by sex, from 8 to 14 July 2020.

	Female			Male		
Age groups	**n**	**%**	**Rate**	**n**	**%**	**Rate**
≤ 19	171	18	4.3	165	17	4.0
20-29	205	22	8.4	272	28	10.3
30-39	146	16	5.7	171	17	6.6
40-49	120	13	4.9	116	12	4.9
50-59	119	13	4.5	110	11	4.2
60-69	66	7	2.8	81	8	3.6
70-79	44	5	2.9	35	4	2.6
80+	61	7	6.3	31	3	4.8
Total	**932**	**100%**	**4.9**	**981**	**100%**	**5.3**

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

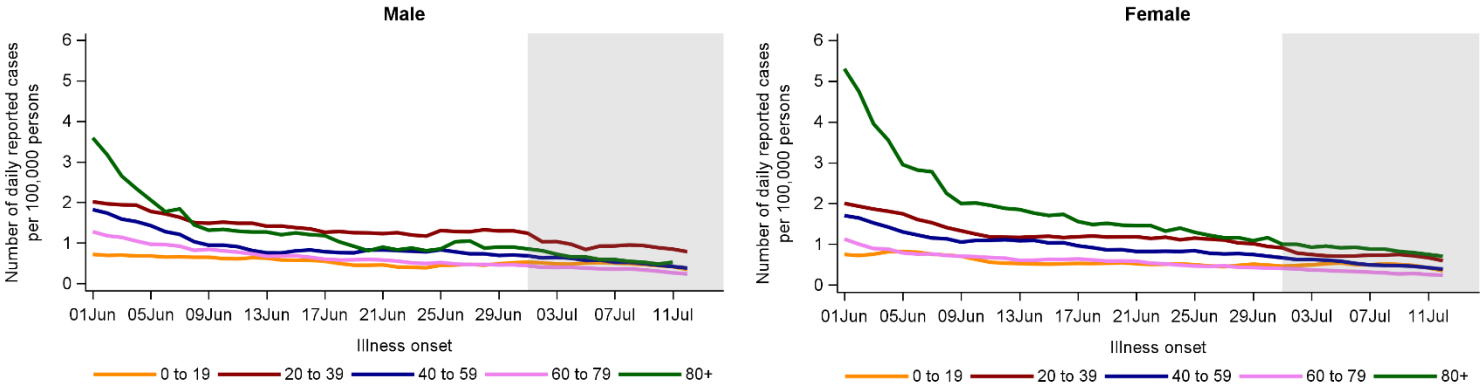
- The steepest decline was seen in Canadians over 80 years of age, those most at risk for severe outcomes.
- Since 1 June, a decreasing trend was observed among all age groups
    - Female cases over the age of 80 had higher reported rates but have notably declined since 1 June.
    - Male cases ages 20-39 have reported higher rates since June 1, while experiencing a slower decline since 1 June .

Figure 3. Daily cases (7-day moving average) by age and sex, population adjusted as of 13 July 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. 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 (7-day moving average) by age and sex, population adjusted from 1 June to 13 July 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. 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.

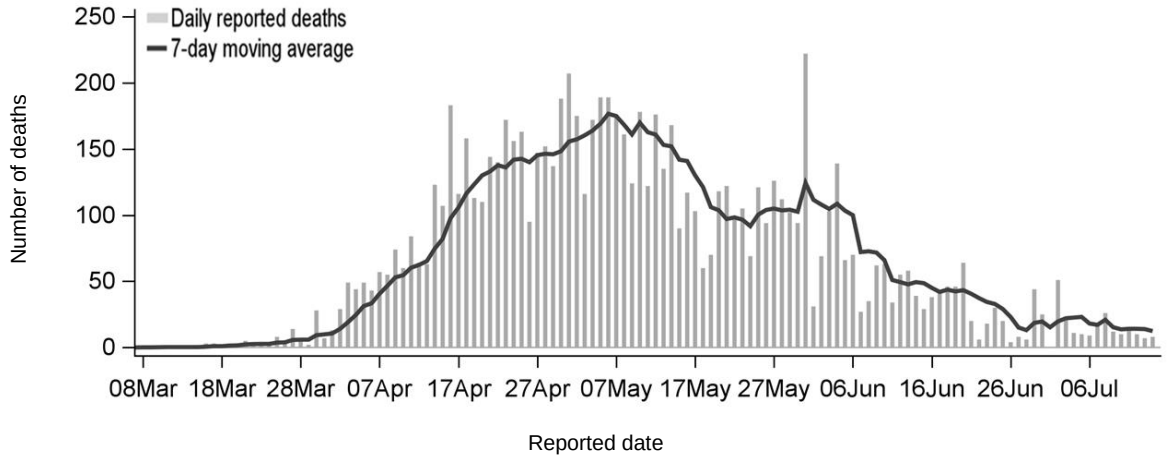
OUTCOMES AND SEVERITY

From 8 to 14 July 2020, 87 deaths were reported in Canada.

- This represents a **28% decrease** compared to the previous week (1 to 7 July), and a continuation of a downward trend since early May (Figure 5).
- Contrary to the observed increase in weekly cases, there has been an observed decrease in weekly reported deaths.
    - Factors may include reported lag time, laboratory tests capturing milder and younger cases less at risk of adverse outcomes, improved treatment options, or greater knowledge and training in front-line workers.

During the same period, jurisdictions submitted individual level information for seven deaths to PHAC (Table 5). All cases were over the age of 60 and 86% (n=6) of the cases were males.

Figure 5. Daily number of COVID-19 related deaths reported in Canada (and 7-day moving average), as of 14 July 2020 (N=8 798)[a]



[a] *Source: Provincial and Territorial MOH websites as of 14 July*

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 8 to 14 July 2020, detailed case information on hospitalization status based on PHAC report date were reported for 1 926 cases. Among these cases:

- **88 (5%)** were hospitalized, of whom:
  - **10 (11%)** were admitted to ICU, and
  - **1 (10%)** required mechanical ventilation.

Detailed case information were reported for 107 964 cases in total; hospitalization status information was available for 72 460 (67%) of cases since the start of the outbreak, where:

- **10 691** cases **(15%)** were hospitalized, of whom:
  - **2 170 (20%)** were admitted to ICU, and
  - **455 (4%)** required mechanical ventilation.

Table 5. Number of COVID-19 cases hospitalized, admitted to ICU, and reported as deceased, by sex and age group, reported to PHAC for week 8 to 14 July 2020[a]

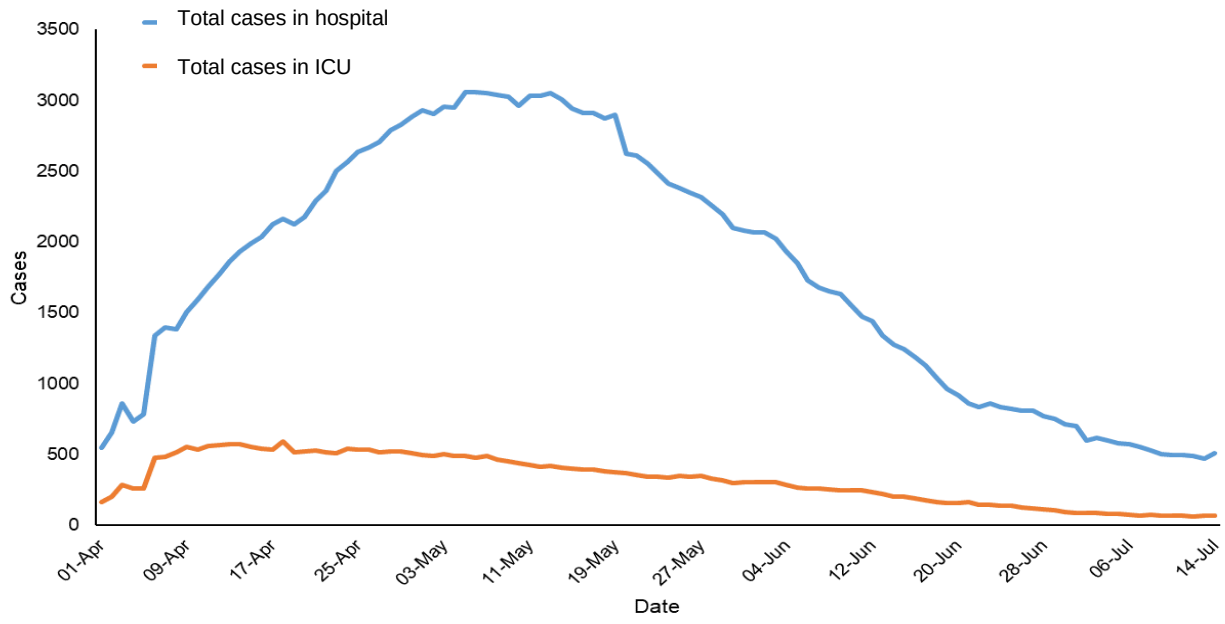
Age groups	Hospitalizations		Admitted to ICU		Deceased	
	Female	Male	Female	Male	Female	Male
≤ 19	2	0	0	0	0	0
20-39	5	4	1	2	0	0
40-59	8	7	1	0	0	0
60-79	16	17	1	5	0	3
80+	18	11	0	0	1	3
Total	**49**	**39**	**3**	**7**	**1**	**6**

[a] The information presented is based on cases reported to PHAC from 8 to 14 July. These values may change weekly due to updates in disease progression, and disposition.

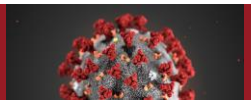
The number of overall hospitalizations, ICU admissions and deaths have decreased among cases reported to PHAC during week 8 to 14 July compared to week 1 to 7 July (Table A4 to A6 in Annex).

- There continues to be a downward trend in the number of cases hospitalized and in ICU, across the country (Figure 6).

Figure 6. Number of COVID-19 cases in hospital and intensive case units daily in Canada, 14 July 2020[a]



[a] Source: Provincial and Territorial MOH websites as of 14 July



SURVEILLANCE FOR COVID-19 AMONG PATIENTS HOSPITALIZED IN CANADIAN ACUTE-CARE HOSPITALS

Laboratory-confirmed COVID-19-associated hospitalizations in Canada are monitored through two sentinel hospital-based systems: the Canadian Nosocomial Infection Surveillance Program (CNISP) and the Serious Outcomes Surveillance Network of the Canadian Immunization Research Network (CIRN-SOS).

As of 10 July 2020, CIRN-SOS has collected information on 634 adult (16 years of age and older) patients hospitalized with COVID-19 across eight hospital sites in Ontario, Quebec, and Nova Scotia.

As of 22 June 2020, CNISP has collected detailed data on 1 030 adult and pediatric patients hospitalized with COVID-19 in 31 hospitals across 9 provinces. CNISP also collects weekly aggregate data for all age groups (n=2 413) from 141 hospitals in 10 provinces. Regional rates based on these data received as of 4 July 2020 are presented below.

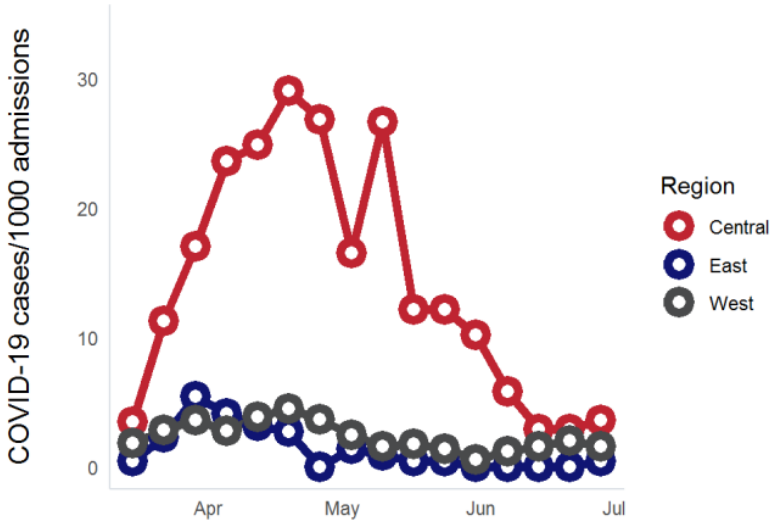
Key Findings:

- From both CNISP and CIRN-SOS:
    - Approximately 20% of hospitalized patients have been admitted to the ICU due to COVID-19.
    - Less than 15% of hospitalized patients required mechanical ventilation.
    - Less than 1% of hospitalized patients received extracorporeal membrane oxygenation (ECMO).
- Mortality data:
    - CNISP reported that 16% of the patients died within 30 days of positive test due to COVID-19
    - CIRN-SOS described that 22% of the patients died during hospital admission.
- CNISP reported that nosocomial transmission was infrequent (accounting for 3% of 1 015 hospitalized patients from 31 CNISP hospitals).

Geographic Location (from CNISP):

- Central Region (Ontario and Quebec) remained the most affected with the highest number of cases per 1,000 admissions as compared to other regions in Canada with the highest rates reported between mid-April and mid-May (Figure 7).

Figure 7. Regional Rates (COVID-19 cases per 1,000 admissions) from 141 CNISP hospitals, as of 4 July 2020



Note: West includes British Columbia, Alberta, Saskatchewan, Manitoba; Central includes Ontario, Quebec and East includes Nova Scotia, Newfoundland and Labrador, New Brunswick, Prince Edward Island

Underlying Medical Conditions:

- 83% of hospitalized patients reported through 31 CNISP hospitals had at least one underlying medical condition (n=867).
    - Of those, the most commonly reported medical conditions were:
        - Heart disease (42%), diabetes (25%), lung disease (20%), kidney disease (8%) and cancer(6%)
- 96% of hospitalized adult patients who died during hospital admission reported through 8 CIRN-SOS hospitals had at least one underlying medical condition (n=80).
    - Of those, the most commonly reported medical conditions were:
        - Vascular illnesses including hypertension (76%), neuro-muscular disorder (49%), heart illnesses (41%), diabetes (36%) and lung illnesses (35%)

Clinical Progression (from CIRN-SOS):

- Among all hospitalized patients, median length of hospital stay was 11 days (n=359). The median length of hospital stay was longer among patients admitted to ICU at 19.5 days (n=86) compared to 9 days (n=273) among patients not admitted to ICU.
- Median time from symptom onset to hospital admission was slightly longer among patients admitted to ICU with 6 days (n=79) compared to 4 days for non-ICU admissions (n=253).

TEMPORAL DISTRIBUTION BY EXPOSURE CATEGORY[a]

[a] Detailed case information received by PHAC from P/Ts

Information on exposure is available for 650 cases with illness onset in the week of 8 to 14 July. Of these:

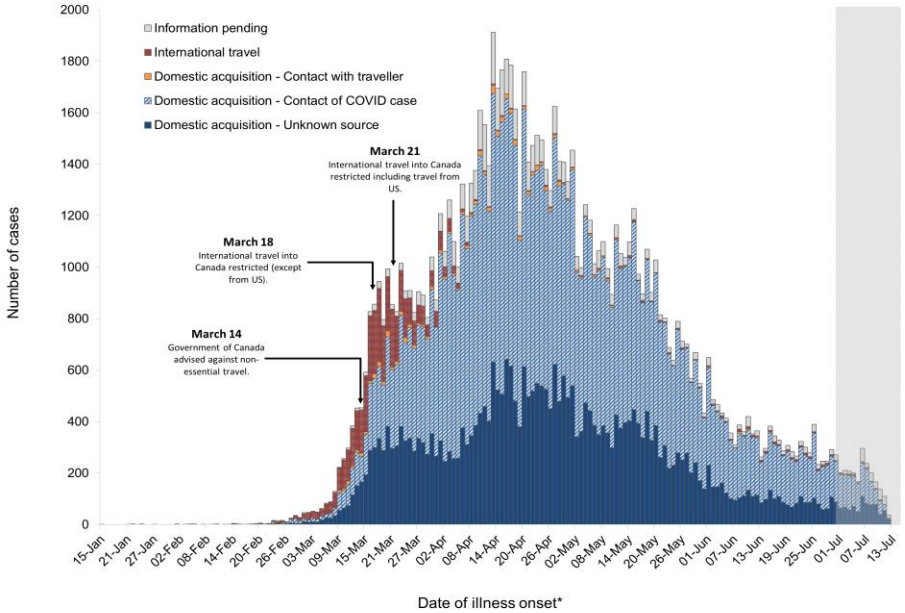
- 14 cases (2%) reported having travelled outside of Canada during the exposure period;
- 497 cases (76%) were due to exposure in Canada to either a known COVID-19 case or to an unknown source; and
- 139 cases (21%) have information on exposure pending.

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 have information pending from early in the outbreak may be lost to follow-up, and exposure category may not be identified (Figure 8).

Of the 102 301 cases with information on exposure provided:

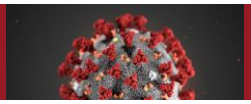
- 4 429 cases (4%) reported having travelled outside of Canada during the exposure period;
- 57 922 cases (57%) reported exposure in Canada to either a known COVID-19 case or to someone who had travelled;
- 34 206 cases (33%) reported exposure in Canada to an unknown source; and
- 5 744 (6%) have information on exposure pending.

Figure 8. Number of reported COVID-19 cases in Canada, by date of illness onset and exposure category as of 14 July 2020 (n=103 301)



**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[a]

[a] Detailed case information received by PHAC from P/Ts

Of the cases reported to PHAC, 4 463 cases have been associated with international travel. On 14 March, 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 21 March, 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=3 703) of all cases in March to 2% in June (n=173) (Table 6).

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

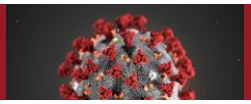
Table 6. The number and percentage of COVID-19 cases associated with international travel by month, as of 14 July 2020

Month	Number of COVID-19 cases associated with international travel	Percentage of COVID-19 cases associated with international travel*
January	6	85.7%
February	72	38.9%
March	3703	21.0%
April	319	0.7%
May	107	0.4%
June	173	1.7%
July	49	2.2%

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

From 8 to 14 July, fourteen cases of COVID-19 in Canada associated with international travel were reported to PHAC.

- Of the fourteen cases, travel was reported to the United States (n=5), Guatemala (n=4), Mexico (n=1), Costa Rica (n=1) and Sweden/Germany (n=1); country of travel was not specified for two cases.
- Canada's public health measures, including border closure to the United States, continue to aid in the control of imported cases.



OUTBREAKS

- Outbreaks have been important contributors to the spread of COVID-19 in Canada and point to vulnerabilities in closed and crowded settings. Table 7 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.
- With the gradual reopening of society and activities resuming, outbreaks are becoming linked to social gatherings, particularly in closed settings with close contacts (e.g., retail, personal service, food, and bar settings)
- Approximately half (52%) of new outbreaks (outbreaks reported July 8-14) occurred in long term care and seniors homes and accounted for 22% of cases related to new outbreaks. Community/Small city/Reserve/Indigenous communities/Rural and remote outbreaks in Alberta, Quebec, Ontario and Saskatchewan made up 18% of new outbreaks and accounted for 42% of cases related to new outbreaks.

Table 7. Total number of COVID-19 clusters, cases, and deaths by outbreak setting in Canada as of 15 July 2020[a]

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	1090 (+61)	21 027 (+200)	6 520 (+105)
Hospital	136 (+7)	1 931 (+133)	198 (+7)
Agricultural work setting (including those with congregate living for workers)	24 (+0)	1 371 (+128)	4 (+0)
Shelter	37 (+2)	610 (+3)	3 (+0)
Correctional facility	26 (+0)	818 (+0)	5 (+0)
Other congregate living settings	50 (-3)	504 (-62)	37 (-32)
Meat production/packing facility	15 (+1)	3 036 (+5)	6 (+0)
Other industrial settings[b]	31 (+1)	508 (+3)	1 (+0)
Mass gathering[c]	15 (+2)	485 (+88)	2 (+0)
Retail businesses	29 (+1)	162 (+15)	1 (+0)
Food/drink establishments	12 (+2)	62 (+5)	0 (+0)
Rehabilitation facility	7 (+0)	102 (+0)	8 (+0)
Community/Small city/Reserve/Indigenous communities/Rural and remote[d]	35	707	12
Child and youth care[d]	6	43	0

[a]This is not an all inclusive list and is subject to change based on where outbreaks are reported.
[b] Other industrial settings include: automotive manufacturing, distribution/processing facilities, worker camps, waste management/recycling, Warehouse, etc.
[c] Mass gatherings are defined as an event which brings together a large number of people; examples of mass gatherings include conferences, funerals, family gatherings, and sporting events
[d]The following categories have been included for this week's report and includes both current and retrospective data. Child and youth care includes daycare centers and day camps.

Note: Workplace has been reclassified into more specific outbreak settings such as retail businesses, industrial settings, and food/drink establishments. Three outbreaks previously classified as other congregate living settings have been reclassified as long-term care and seniors homes resulting in a decrease in outbreaks, cases, and deaths in other congregate living settings from last week.

FLUWATCHERS

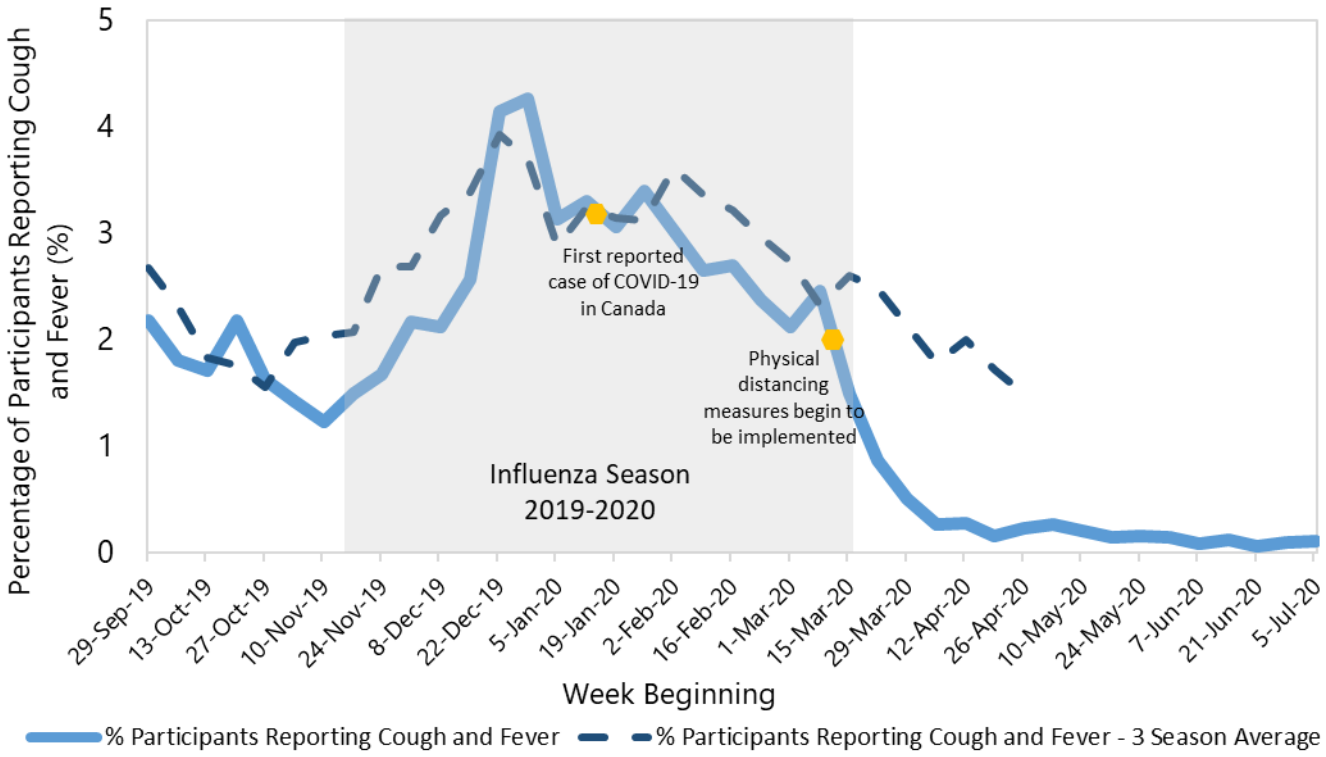
FluWatchers is an online health surveillance system that relies on volunteer reports to track spread of flu-like illness (ILI) across Canada. Mild COVID-19 illness presents with symptoms similar to ILI; therefore, FluWatchers is shifting focus to track COVID-19 symptoms over the spring and summer months.

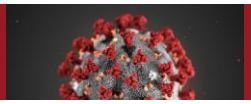
In the week of July 5 to July 11, 2020, 10 148 participants reported into the FluWatchers program. A total of 11 participants (0.1%) reported cough and fever (Figure 9). The participants reporting cough and fever were not restricted to a single jurisdiction. As FluWatchers does not normally collect data 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 11 participants reporting cough and fever:

- 4 (36%) sought medical attention;
- 2 (18%) were tested - No tests were positive for COVID-19

Figure 9. Percentage of FluWatchers Participants Reporting Cough and Fever (N=10 148 the week of July 5 to July 11 2020)





LABORATORY TESTING[a]

[a] Source: OCNML Data for laboratory analyses as of 12 July.

Overall, **3 212 879** people have been tested for COVID-19 in Canada as of 12 July 2020, and the cumulative percent positive to date is **3.1%** (Table 8)**.**

From 6 June to 12 July 2020, **278 122** persons were tested for COVID-19 and the weekly average percent positivity was **0.8%** (Figure A1 within Annex). The percent positivity is the lowest recorded since the peak of the epidemic in late April. Nationally, Canada's rate of testing increased (+5.5%) from the week.

- Quebec saw a 33% increase in the number of persons tested (n=49 637), while also observing a slight increase in the weekly percent positivity from 1.2% to 1.4%.

Table 8. Summary of COVID-19 testing reported in Canada, by province or territory, between 6 July to 12 July 2020 (N=3 212 879)

Province/Territory	Total number of people tested[a]	Difference since last report	Average # people tested daily	People tested per 1 000 000 pop'n	Weekly Percent positivity
British Columbia	185 502	12 743	1 799	0.4	0.6%
Alberta	447 181	34 340	5 512	1.3	1.0%
Saskatchewan	65 070	4 286	615	0.5	1.5%
Manitoba	67 706	3 991	865	0.6	0.1%
Ontario	1 636 119	158 942	22 706	1.6	0.6%
Quebec	671 724	49 637	7 091	0.8	1.4%
Newfoundland and Labrador	204 03	1 679	240	0.5	0.1%
New Brunswick	41 137	1 900	271	0.4	0.1%
Nova Scotia	58 419	2 387	341	0.4	0.1%
Prince Edward Island	14 522	1 848	264	1.7	0.1%
Yukon	1 327	32	5	0.1	0%
Northwest Territories	2 519	107	15	0.3	0%
Nunavut	1 174	62	8	0.2	0%
Total[b]	**3 212 879**	**271 954**	**39 732**	**1.1**	**0.8%**

[a] For provinces and territories which report the number of tests completed, a formula is used to estimate the number of unique people tested. [b] 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.

MODELLING

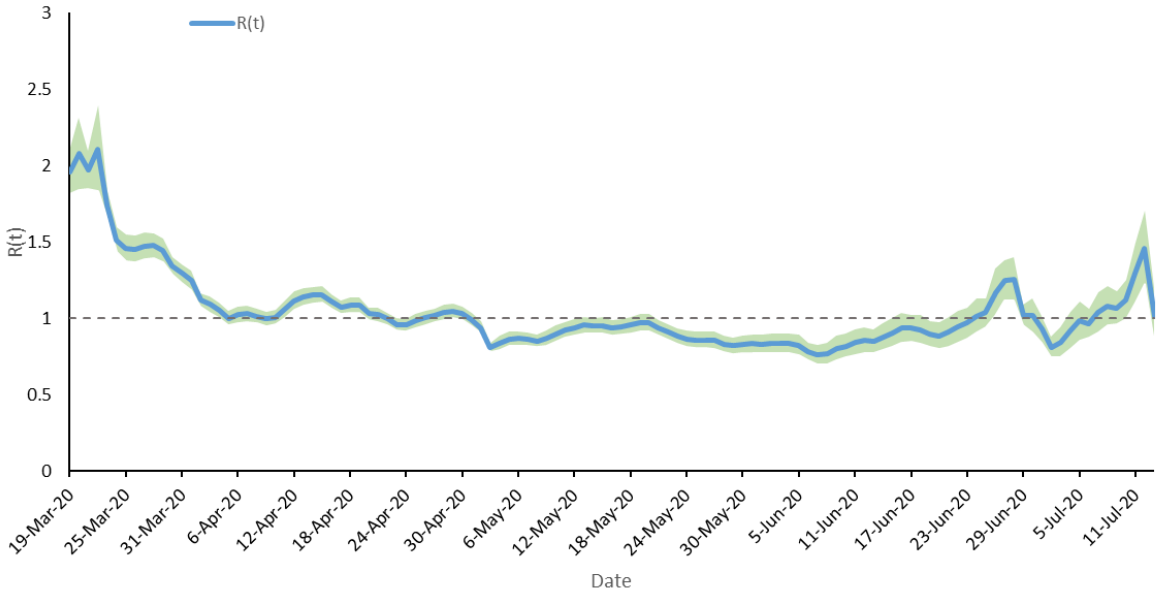
Estimates of transmission rates in Canada: Effective reproductive rate (*Rt*)

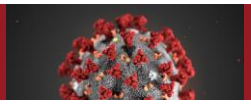
R_t is the time variable reproduction rate, representing the average number of new infected people for each infected person. If R_t is less than 1 at a particular time (t), then the average number of people infected by one infected person is less than one, so the epidemic is being brought under control. 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. As the epdemic continues, the R_t may not capture the current state of the epidemic with low case burden and the value must be interpreted based on the current landscape. The R_t can easily fluctuate when case numbers are low. It is also an average for R_t a population and does not point to local outbreaks driving case counts.

Figure 10 shows the R_t over time:

- The graph shows how the reproductive rate in Canada has remained mostly below 1 for nearly 12 weeks, in recent weeks, the Rt has fluctuated above and below 1.
- Community transmission remains low in most of the country and recent fluctuations in Canada's Rt reflect a small number of localised outbreaks.

Figure 10. Reproductive rate in Canada based on date of case report, 14 July 2020





FORECASTING

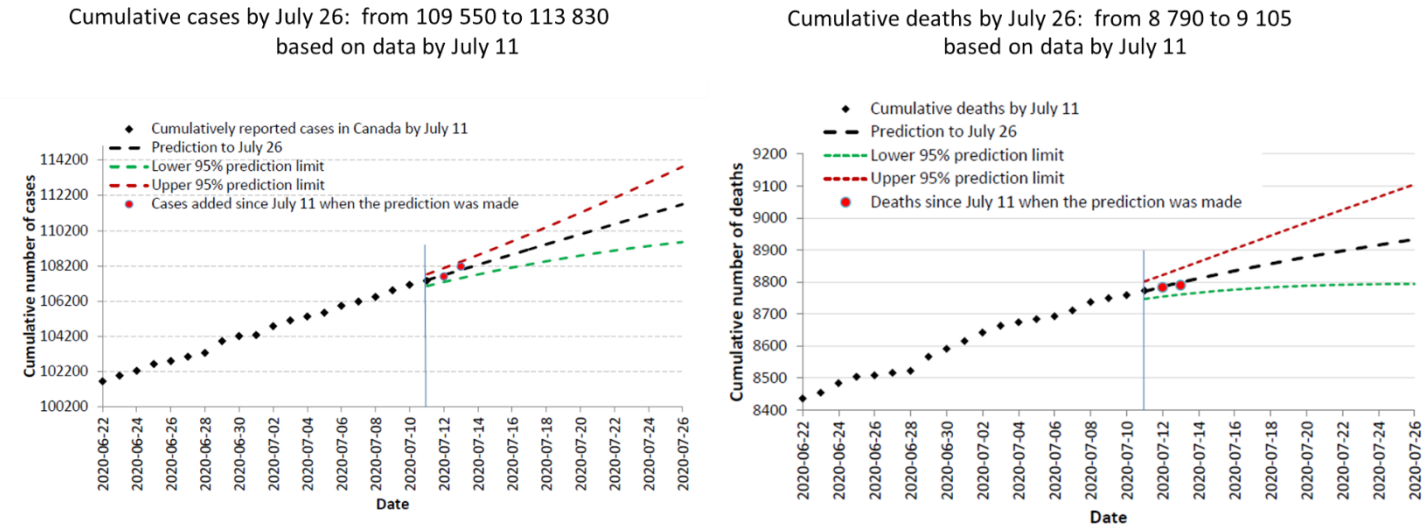
Canada's approach to modelling:

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 can be expected in the coming week. Figure 11 below shows the projected number of cases and deaths in Canada, with a 95% prediction interval calculated using available data up until 11 July 2020.

- Forecasting shows **109 550** to **113 830** cumulative reported cases and **8 790** to **9 105** cumulative number of deaths are predicted by 26 July.
- The dashed lines show the predicted trajectory with the blue line representing the number of cases anticipated. Since modelling is a prediction or an educated guess, the red and green lines represent the upper and lower limits.
- If the forecasts perform well, observed cases will fall between the red and green lines.

Figure 11. Projected numbers to 26 July 2020 and 95% prediction intervals based on data as reported by 11 July 2020



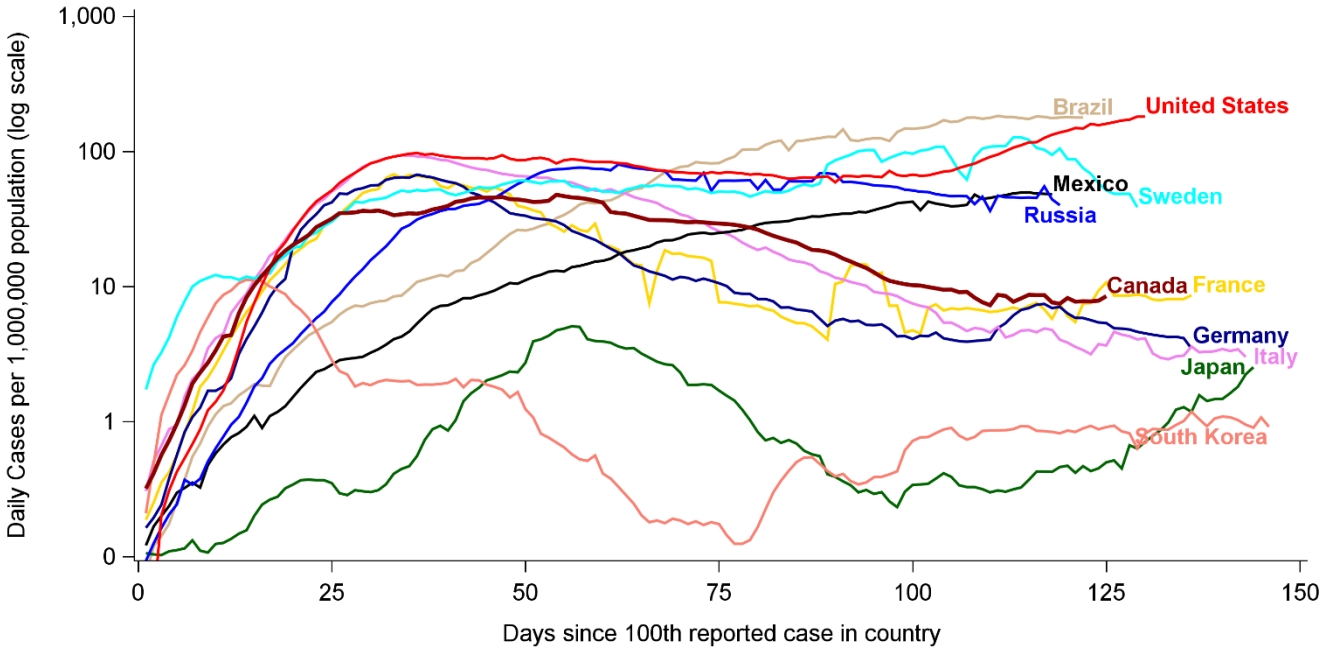
For more information, please visit:
https://www.canada.ca/en/public-health/services/publications/diseases-conditions/covid-19-using-data-modelling-inform-public-health-action.html

INTERNATIONAL

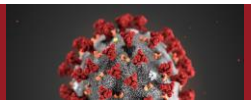
- As of 14 July, globally, there are over 12 million cases of COVID-19 with over 570 000 reported deaths. Since 7 June, there has been over 100 000 cases reported globally each day.
- The region of the Americas followed by Europe and the Eastern Mediterranean region; are reporting the highest number of COVID-19 cases with over 1 million cases each.
    - The United States continues to report the highest daily number of cases and accounts for a quarter (25%) of reported cases.
- Currently, Canada's daily cases (population adjusted) is lower than countries such as Brazil, Sweden, the United States, Russia, and Mexico, but is higher than countries such as Germany, Italy, South Korea, and Japan

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 15 July 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.
Further information on geographical distribution of COVID-19 cases, can be found on the global map.



ANNEX

Table A1. Number of COVID-19 cases, recoveries, and deaths reported in Canada by province or territory, as of 14 July 2020

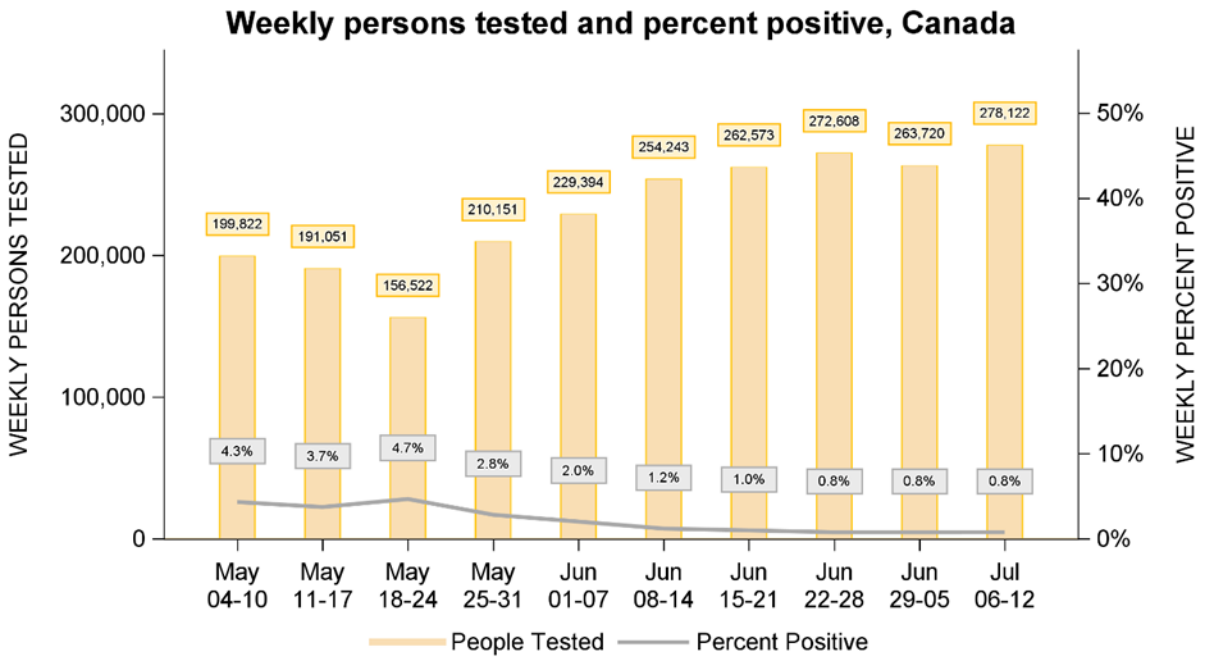
Province/Territory	Total cases	Recovered	Total deaths
British Columbia	3 128	2 730	189
Alberta	8 912	8 048	163
Saskatchewan	876	785	15
Manitoba	330	318	7
Ontario	36 950	32 785	2 723
Quebec	56 730	26 025	5 633
Newfoundland and Labrador	262	258	3
New Brunswick	167	163	2
Nova Scotia	1 066	1 002	63
Prince Edward Island	36	27	0
Yukon	11	11	0
Northwest Territories	5	5	0
Nunavut	0	0	0
Canada[a]	**108 486**	**72 170**	**8 798**

[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 14 July 2020

Province/Territory	Cumulative (per 100 000)	Week 8-14 July (per 100 000)
British Columbia	60.5	2.3
Alberta	194.4	3.7
Saskatchewan	75.5	5.0
Manitoba	24.9	0.4
Ontario	254.9	5.8
Quebec	662.1	8.8
Newfoundland and Labrador	46.4	0.3
New Brunswick	21.4	0.0
Nova Scotia	109.4	0.1
Prince Edward Island	23.4	2.7
Yukon	21.4	0.0
Northwest Territories	10.0	0.0
Nunavut	0.0	0.0

Figure A1. Number of persons tested for COVID-19 and percent positivity by week, as of as of 12 July 2020



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

Table A3. Age and sex distribution of COVID-19 cases reported to PHAC, as of 14 July 2020

Age groups	Cumulative						Week 8-14 July					
	Female			Male			Female			Male		
	n	%	Rate	n	%	Rate	n	%	Rate	n	%	Rate
≤ 19	4 072	7	102.5	3 958	8	95.2	171	18	4.3	165	17	4.0
20-29	8 116	14	330.6	7 027	15	265.5	205	22	8.4	272	28	10.3
30-39	8 041	13	312.1	6 973	15	267.4	146	16	5.7	171	17	6.6
40-49	9 048	15	372.5	7 229	15	302.7	120	13	4.9	116	12	4.9
50-59	8 920	15	338.0	7 323	15	280.2	119	13	4.5	110	11	4.2
60-69	5 157	9	218.9	5 307	11	235.6	66	7	2.8	81	8	3.6
70-79	3 985	7	263.8	3 866	8	284.2	44	5	2.9	35	4	2.6
80+	12 508	21	1286.1	5 618	12	861.1	61	7	6.3	31	3	4.8
Total	**59 847**	**100**	**316.5**	**47 301**	**100**	**253.2**	**932**	**100**	**4.9**	**981**	**100**	**5.3**

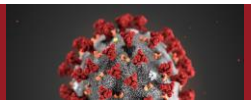


Table A4. Age and sex distribution of hospitalized COVID-19 cases reported to PHAC as of 14 July 2020

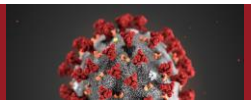
Age group	Cumulative		Week 1-7 June		Week 8-14 July	
	Female	Male	Female	Male	Female	Male
≤ 19	55	42	2	1	2	0
20-39	310	279	8	5	5	4
40-59	694	889	8	14	8	7
60-79	1 338	1 599	18	22	16	17
80+	1 959	1 323	17	16	18	11
Total	**4 356**	**4 132**	**53**	**58**	**49**	**39**

Table A5. Age and sex distribution of COVID-19 cases admitted to ICU, reported to PHAC as of 14 July 2020

Age group	Cumulative		Week 1-7 July		Week 8-14 July	
	Female	Male	Female	Male	Female	Male
≤ 19	12	11	0	0	0	0
20-39	84	99	0	0	1	2
40-59	245	424	3	5	1	0
60-79	351	677	3	4	1	5
80+	131	120	4	1	0	0
Total	**823**	**1 331**	**10**	**10**	**3**	**7**

Table A6. Age and sex distribution of deceased COVID-19 cases reported to PHAC as of 14 July 2020

Age group	Cumulative		Week 1-7 July		Week 8-14 July	
	Female	Male	Female	Male	Female	Male
≤ 19	1	0	0	0	0	0
20-39	7	16	0	1	0	0
40-59	94	153	0	5	0	0
60-79	892	1 311	2	8	0	3
80+	3 742	2 533	15	18	1	3
Total	**4 736**	**4 013**	**17**	**32**	**1**	**6**



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 **14 July at 8 p.m. EDT.** The information presented for trend analyses is that available as of **14 July at 8 p.m. EDT.** The information presented for laboratory analyses is that available as of **12 July 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.

- National case definitions are provided by PHAC for the purpose of standardized case classification and reporting. PHAC's national case definitions can be found here: https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/national-case-definition.html
- 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

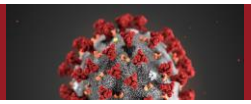
Laboratory data on number of people tested per P/T are received from the National Microbiology Laboratory.

- 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 received by PHAC

Some of the 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.



- Missing data for sex, age, hospitalized, ICU admissions, and deceased were not included in calculations. Provinces and territories may define gender differently and some may be referring to biological sex.

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 2020.
- 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

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.