Coronavirus Disease 2019 (COVID-19)

DAILY EPIDEMIOLOGY UPDATE

Updated: April 23, 2020, 11:00 AM ET

Highlights

Canada

- **40 824 (+1 892) cases,** including **2 028 (+157) deaths,** have been reported in Canada (overall case fatality rate of 5.0%).

- At least **620 101 people** have been tested to date for COVID-19 in Canada, which corresponds to a test rate of **16 497** per million population.
    - The cumulative percent positivity is 6.7%.
    - The weekly percent positivity from April 13 to April 19 is 9.1%.

- Data reported in the coming days and weeks will continue to be critical in determining the trajectory of Canada's epidemic.

- The epidemiological summary is based on case report forms received for **58% of reported COVID-19 cases (N= 23 621)*** in Canada.
    - **Age and gender:**
        - The highest proportion of cases occurred among individuals 40-59 years of age (32%) followed by those 20-39 years of age (25%).
        - Only 5% of cases are individuals ≤ 19 years of age.
        - 55% of cases are female.

    - **Hospitalizations**:
        - Hospitalization data are available for 14 320 cases with completed case report forms.
            - Among these, 2 538 have been hospitalized, including 647 in ICU.
        - While 38% of the cases were 60 years of age and older, this age group represents the highest proportion of hospitalizations (65%) and ICU admissions (64%).
        - 14 hospitalizations and two admissions to ICU were reported in individuals ≤ 19 years of age.
        - Male cases appear to have a somewhat higher risk of hospitalization, and ICU admission compared to female cases.

International

- 208 countries/jurisdictions have reported cases of COVID-19.
- The United States is reporting the highest number of cases, followed by Spain, Italy, Germany, the United Kingdom, and France.

*Data Notes

As of April 23, 2020, 11:00 AM ET, detailed data on cases have been received for **23 621 cases** (58% of reported cases). Data on these cases are preliminary and may have missing values for characteristics of interest.

Provinces and territories may not routinely update detailed data. Data on hospitalization status is known for 61% of cases with completed case report forms. PHAC does not receive routine updates on patient status.

Testing practices vary by province/territory and have changed over time, which can affect case counts. Laboratory testing numbers may be an underestimate due to reporting delays and may not include additional sentinel surveillance or other testing performed.

Canadian epidemiology

Table 1: Summary of COVID-19 cases reported in Canada by location

Location	Total Cases	Total Confirmed	Total Probable	Total Deaths	New cases	% change	Recovered	% Recovered	People tested per 1 000 000	People Tested
BC	1 795	1 795	0	90	71	1%	1 079	60%	11 604	58 848
AB	3 401	3 401	0	66	306	6%	1 310	39%	24 826	108 521
SK	326	326	0	4	6	1%	261	80%	20 864	24 504
MB	257	246	11	6	2	0%	154	60%	15 080	20 651
ON	12 879	12 879	0	713	634	5%	6 680	52%	12 252	178 467
QC	20 965	20 965	0	1 134	839	4%	4 291	20%	21 312	180 833
NL	256	256	0	3	-1[¥]	0%	199	78%	13 157	6 862
NB	118	118	0	0	0	0%	104	88%	14 757	11 464
NS	772	772	0	12	35	2%	330	43%	25 617	24 884
PE	26	26	0	0	0	0%	24	92%	14 935	2 344
YK	11	11	0	0	0	0%	8	73%	21 491	878
NT	5	5	0	0	0	0%	5	100%	33 730	1 512
NU	0	0	0	0	0	0%	0	0%	8 587	333
Repatriated travellers*	13	13	0	0	0	0%	Unknown	Unknown	0	0
Total	**40 824**	**40 813**	**11**	**2 028**	**1 892**	**5%**	**14 445**	**35%**	**16 497**	**620 101**

[¥] *Due to data entry error, one case was removed from NL case counts available online.*

** Repatriated travellers refer to the Grand Princess cruise ship travellers who were under quarantine in Trenton. Update on their status is not available.*

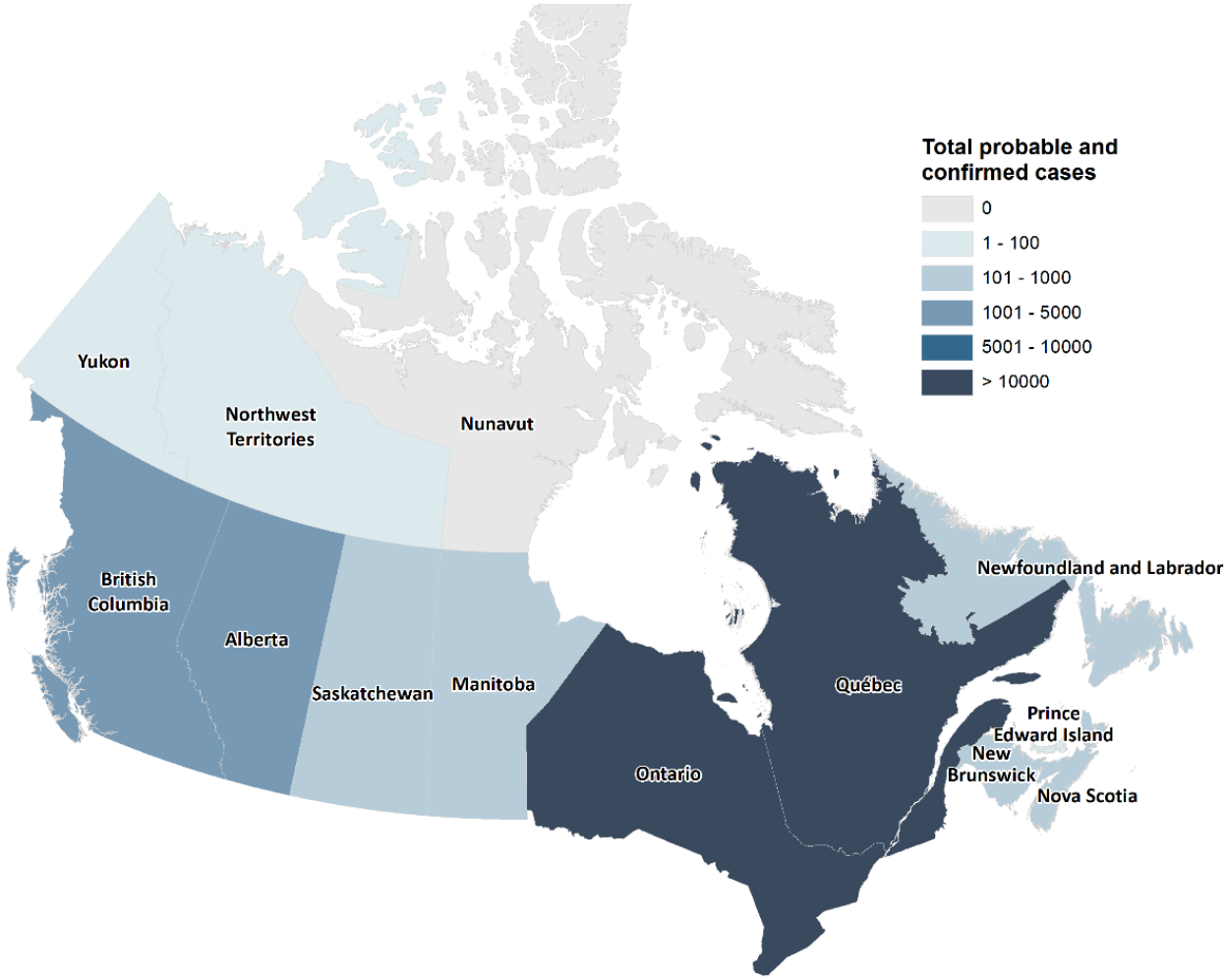
Notes: *New cases are those reported since the previous report. Probable cases have tested positive at a provincial laboratory and are awaiting confirmatory testing results from the National Microbiology Laboratory. Laboratory testing numbers may represent an underestimation due to reporting delays and may not include additional sentinel surveillance or other testing conducted in the P/T.*

At least **620 101** people have been tested for COVID-19 in Canada. This corresponds to a test rate of **16 497** per million population.

- The cumulative percent positivity is 6.7%.
- The weekly percent positivity from April 13 to April 19 is 9.1%.*

*The weekly percent positivity will be updated in reports published on Mondays for the previous 7 days.

Figure 1. Map of COVID-19 cases reported in Canada by province/territory



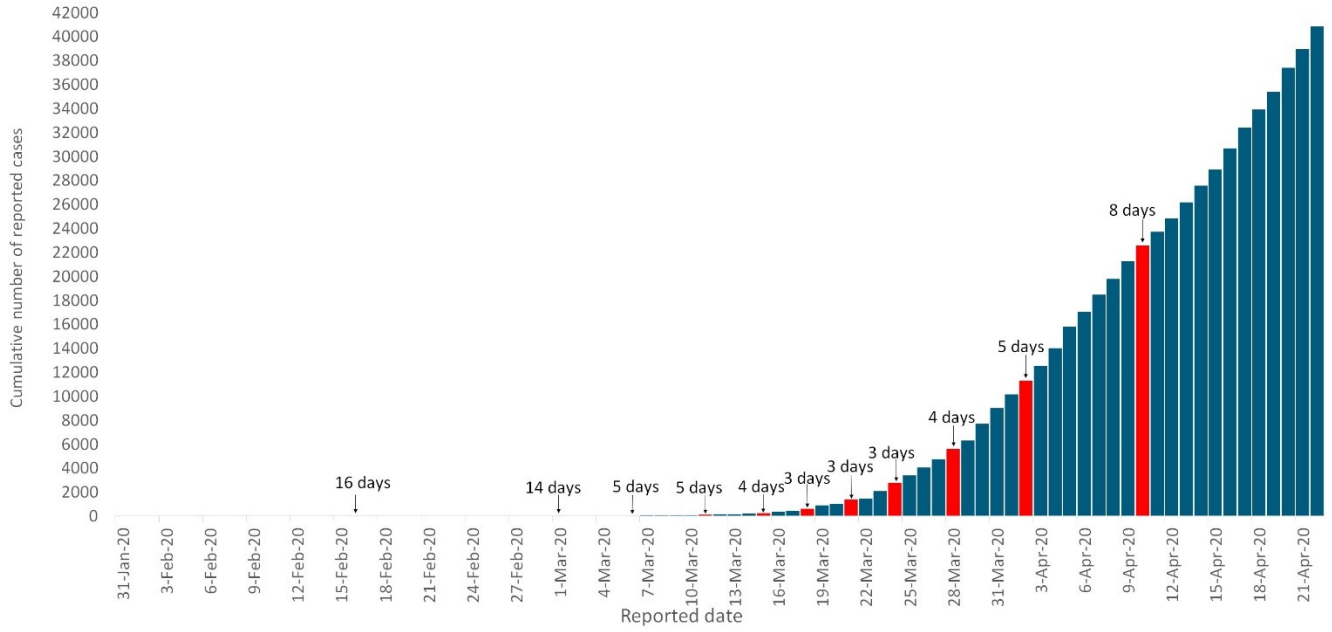
Data source: Surveillance and Risk Assessment Epidemiology Update. Map Created by NML Geomatics

The distribution of cumulative number of cases by report date (using publicly available P/T data) can be seen in **Figure 2.**

The epidemic doubling period of COVID-19 cases in Canada defined as the number of days between doubling of cumulative case counts is marked with red bars.

- The rate of doubling of reported cases in Canada has changed from doubling about every 3-4 days in the period March 12 to 28 to doubling approximately every 5-8 days during the period March 29 to April 10.
- More recently, Canada's rate of growth of COVID-19 cases has decreased and the current rate of doubling is greater than 10 days.

Figure 2. Doubling time of cumulative number of reported COVID-19 cases in Canada by date of report



FluWatchers

FluWatchers is an online health surveillance system that helps track the spread of flu-like illness across Canada.

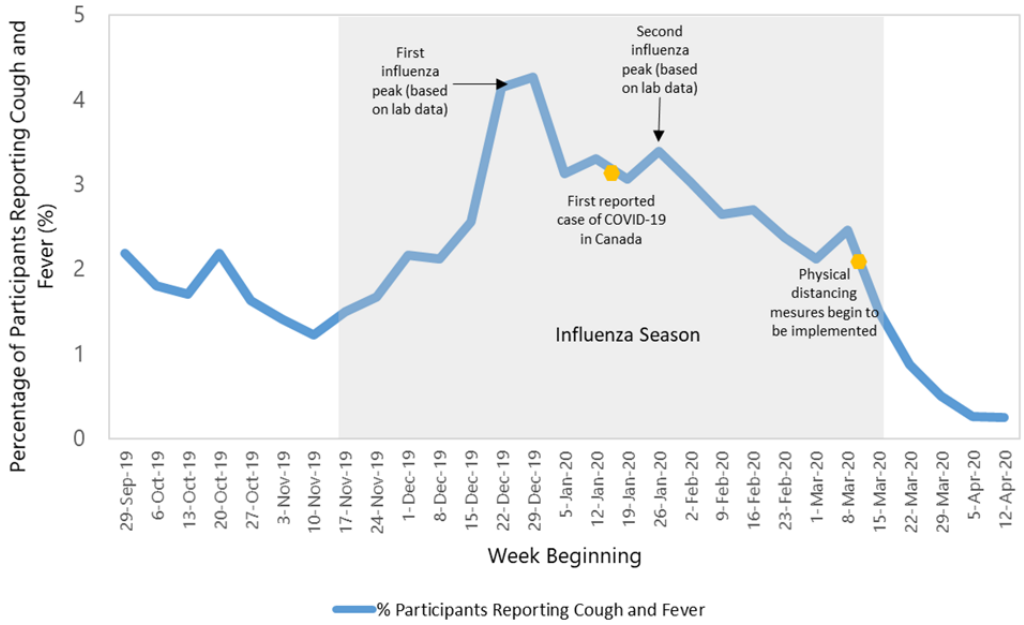
FluWatchers normally track the flu, but with the COVID-19 pandemic, we are shifting our focus to tracking COVID-19 over the spring and summer months. The FluWatchers program relies on Canadian volunteers to report each week.

In the week of April 12, 2020, 9,484 participants reported into the FluWatchers program. A total of 24 participants (0.3%) reported cough and fever.

Among the 24 participants reporting cough and fever:

- 10 (42%) sought medical attention
- 5 (20%) were tested
    - 1 test was positive for COVID-19 and 4 test results were negative

Figure 3: Percentage of FluWatchers Participants Reporting Cough and Fever (N=9,484 the week of April 12, 2020)

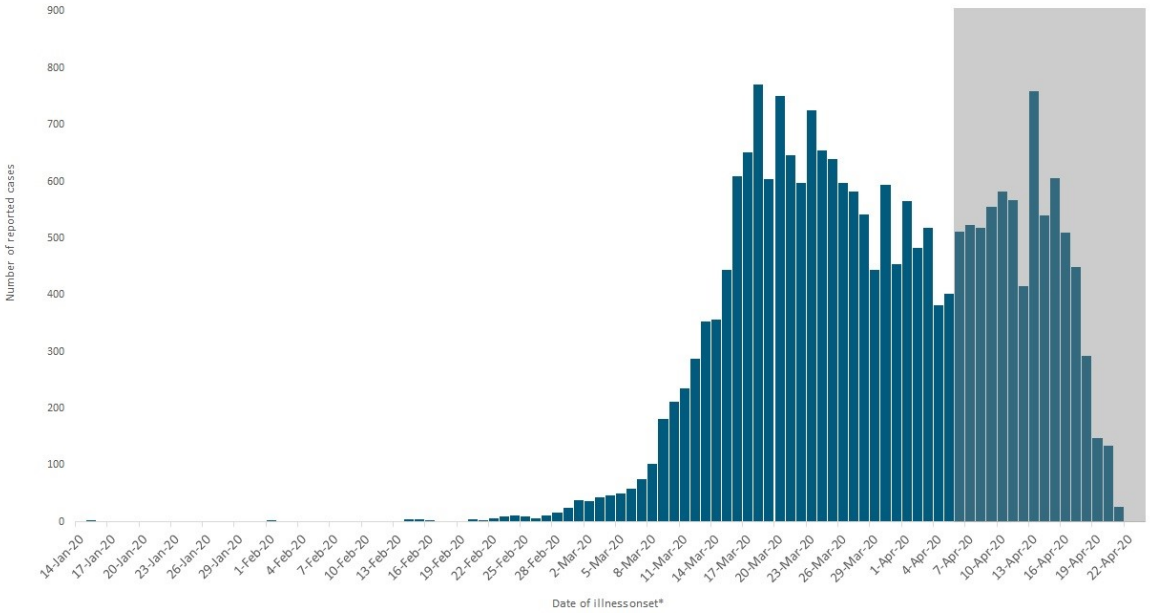


This section of the epidemiology update is based on more detailed case information provided by provinces/territories (N=23 621). The number of cases for which we have information varies by characteristic of interest.

Temporal Distribution

A summary of the distribution of cases by week of illness onset can be found in **4**.

Figure 4. New COVID-19 cases in Canada by date of illness onset (n=22 018)



*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.

Demographic Distribution

A summary of the demographics of reported cases can be found in **Table 2**.

- The highest proportion of cases are among those aged 40-59 years (32%), followed by those aged 20-39 years (25%)
- 5% of cases have occurred in individuals ≤ 19 years of age
- 55% of cases were reported among females

Table 2. Demographic characteristics of COVID-19 cases reported in Canada

Characteristics		
Age (in years)		
Median	52	
Range	0-111	
Age groups	n=	23 082
≤ 19	1 055	(5%)
20-39	5 851	(25%)
40-59	7 489	(32%)
60-79	5 036	(22%)
80+	3 651	(16%)
Gender	n=	23 412
Female	12 948	(55%)
Male	10 452	(45%)
Other	12	(<1%)

Clinical Presentations and outcome

A summary of the clinical presentations of cases can be found in **Table 3**.

- The date of symptom onset for cases ranged from January 15, 2020, to April 21, 2020.
- Cough, headache, and general weakness are the most common symptoms reported.
- 495 cases have been clinically or radiologically diagnosed with pneumonia. Of those who reported age, 56% are cases 60 years of age and over with individuals 60-79 representing 41%.
- The most commonly reported pre-existing health conditions were cardiac disease, respiratory disease, and diabetes.

Table 3. Clinical presentation summary of COVID-19 cases reported in Canada

Clinical Presentations		
Pre-Existing Conditions	**n=**	**7 812**
Cardiac	961	(12%)
Respiratory disease	959	(12%)
Diabetes	718	(9%)
Other	1 498	(19%)
Symptoms	**n=**	**7 799**
Cough	5 815	(75%)
Headache	4 435	(57%)
Weakness	4 339	(56%)
Complications	**n=**	**3 829**
Pneumonia	495	(13%)
Dyspnea	302	(8%)
Abnormal lung auscultation	263	(7%)
Other	270	(10%)

Case severity

A total of 2 538 cases (n=14 320) have been hospitalized, including 647 in ICU (**Table 4**).

- 65% of all reported hospitalizations, 64% of all reported ICU admissions and 95% of deaths occurred among those aged ≥ 60 years.
- 14 hospitalizations and two ICU admissions were reported in individuals ≤ 19 years of age.
- 74% of hospitalized cases reported having one or more pre-existing conditions.

Table 4. Summary of severe cases of COVID-19 reported in Canada with a submitted case report form

Severe Cases						
Overall Summary Hospitalizations			n=14 320			
Hospitalizations			2 538		(18%)	
Hospitalizations in ICU			647/ 2 538		(25%)	
Hospitalizations requiring mechanical ventilation			150/ 2 538		(6%)	
Breakdown by:	**All Hospitalizations**		**Admitted to ICU**		**Deceased**	
Age groups						
≤ 19	14	(1%)	2	(0%)	0	(0%)
20-39	191	(8%)	35	(6%)	6	(1%)
40-59	658	(26%)	196	(31%)	40	(5%)
60-79	1 017	(41%)	334	(53%)	243	(28%)
80+	610	(24%)	67	(11%)	574	(67%)
Total	**2 490**	**(100%)**	**634**	**(100%)**	**863**	**(100%)**
Gender						
Female	1 113	(44%)	222	(34%)	421	(49%)
Male	1 413	(56%)	423	(66%)	441	(51%)
Other	1	(0%)				
Total	**2 527**	**(100%)**	**645**	**(100%)**	**862**	**(100%)**

Note: Hospitalizations may include admission to hospital and emergency room. Patients requiring mechanical ventilation are classified as hospitalized although ventilation may occur in other settings. ICU refers to Intensive Care Unit. PHAC does not receive routine updates on patient status.

Case severity by age group and by gender is presented in **Figure 5** and **Figure 6**, respectively.

- Of cases ≥ 60 years of age, 36% have required hospitalization and 9% have been admitted to the ICU.
    - Cases 70 to 79 year olds have been hospitalized at the highest percentage (43%) and admitted to the ICU at the highest percentage (13%).
- Male cases appear to have a somewhat higher risk of hospitalization (1.4 times), and ICU admission (2.2 times) compared to female cases.

Please note that this information has not been tested for statistical significance and is only based on a portion of all cases.

Figure 5. Percent of COVID-19 cases hospitalized and admitted to ICU by age group in Canada (n= 13 842)

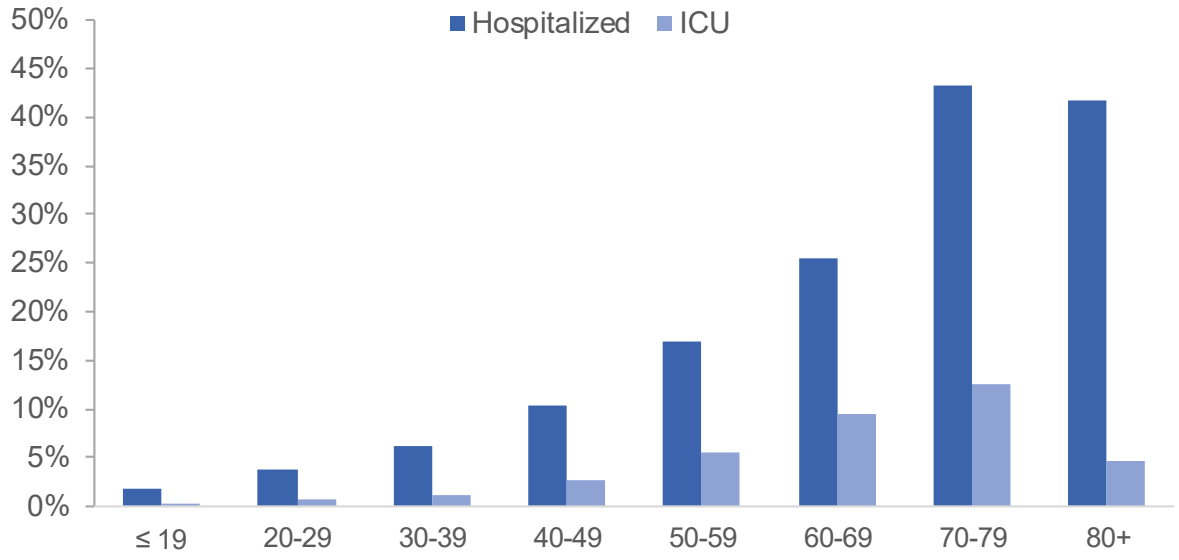
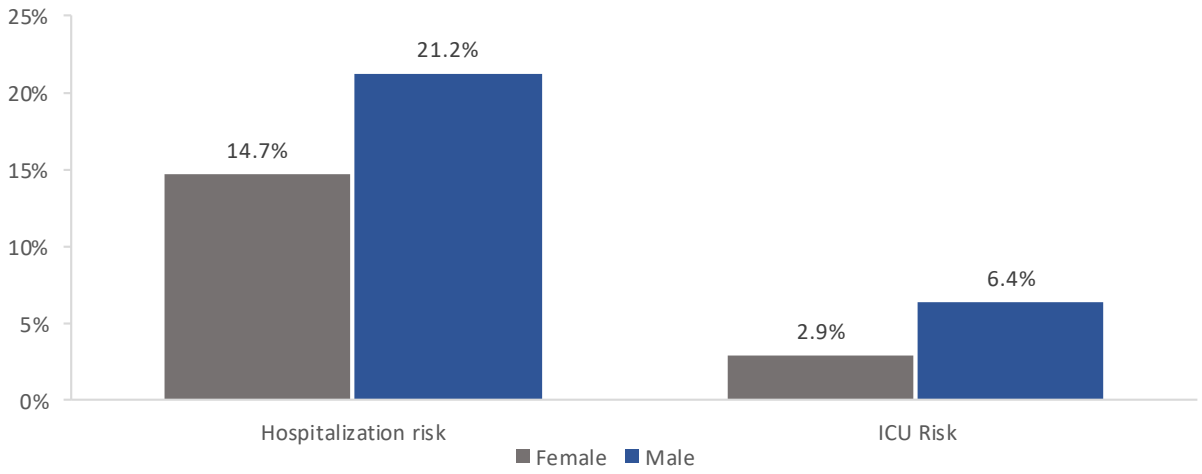


Figure 6. Percent of COVID-19 cases hospitalized and admitted to ICU by gender in Canada (n= 14 255)

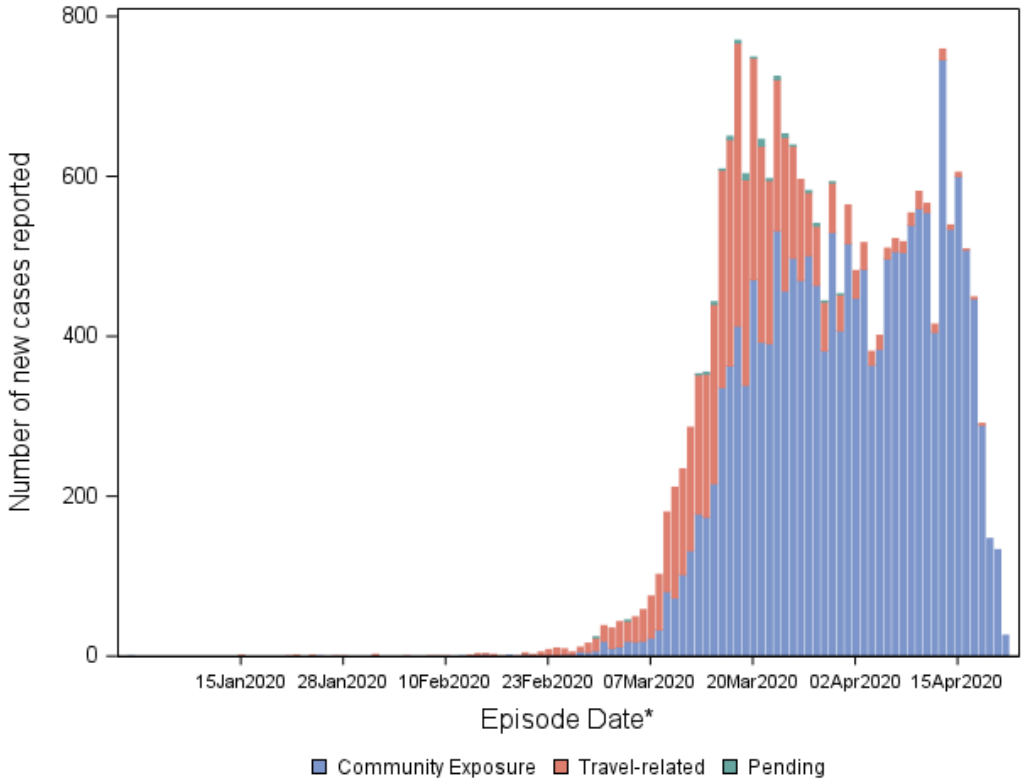


Exposure History

A summary of the exposure history of cases can be found in **Figure 7** and **Table 5.**

- The number of cases related to community transmission overtook travel-related cases on March 15 2020

Figure 7. Number of newly reported COVID-19 cases in Canada by possible exposure category (n= 22 018)



*Episode date corresponds to the earliest date reported according to the following order: Symptom Onset Date, Specimen Collection Date, Laboratory Testing Date. Cases that do not include any of these date types have been excluded from the curve.

Table 5. Possible exposure setting of COVID-19 cases reported in Canada

Possible Exposure Setting	**N=23 621**	
Travel-Related	**n=4 806**	**20%**
History of international travel	3 934	82%
Close contact of an international traveller	872	18%
Community-Related	**n=18 762**	**79%**
Case exposed in a healthcare facility*	2 211	12%
Case lives in a long-term care facility	450	2%
Close contact with case in a household	822	5%
Close contact with case in a workplace¥	209	1%
Case attends/works at a school or daycare	154	1%
Case has no known exposures†	14 916	79%
Pending	**n=53**	**<1%**

*Includes healthcare workers and exposure in health care setting
¥ Excludes healthcare settings
† Includes community transmission where specific setting was not reported as well as cases where no clear exposure setting was reported

International

- The United States is the epicentre of the global pandemic (**Table 6**).
  - There are 842 629 cases and 46 785 deaths (CFR of 5.6%) reported in the United States as of April 23, 2020, at 8:00 AM*.
  - Further information on the situation in the US can be found on US CDC website and in their weekly COVID-19 surveillance report.

- 208 countries/jurisdictions outside mainland China have reported cases of COVID-19.
- The United States is reporting the highest number of cases, followed by Spain, Italy, Germany, the United Kingdom, and France.
- Up-to-date country-specific risk levels may be found on travel health notices.

Table 6. Global number* of reported COVID-19 cases, April 23, 2020, 8:00 AM ET

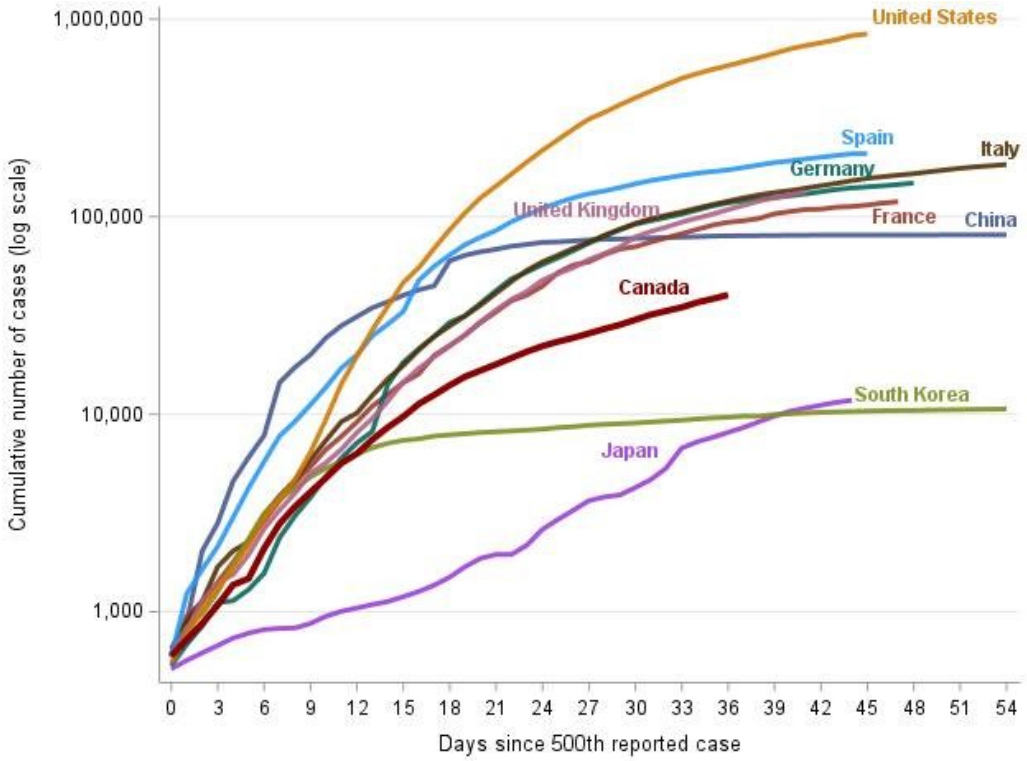
Location	Total cases	New cases	Total deaths	New deaths
Globally	2 588 090	61 880	182 809	5 476
USA	842 629	17 323	46 785	1 710
Mainland China	82 798	10	4 632	0

***Information Sources:** ECDC Situation update, Hong Kong Centre for Health Protection, Chinese Center for Disease Control and Prevention, Spain MOH, Germany MOH, France MOH, Italy MOH, and Johns Hopkins Resource Center.

A summary of the cumulative cases of COVID-19 in Canada compared to other countries by date of report can be seen in **Figure 8**.

- Data reported in the coming days and weeks will continue to be critical in determining the trajectory of Canada's epidemic.

Figure 8. Cumulative cases of COVID-19 in Canada compared to other countries by date of report



***Note:** At this time results from international comparisons should be interpreted with caution. The number of tests conducted and indications for testing by country all have a large influence on total reported case counts. Therefore the data displayed does not necessarily represent the true size of outbreak within each country.*