Coronavirus Disease 2019 (COVID-19)

DAILY EPIDEMIOLOGY UPDATE

Updated: 4 May, 2020, 11:00 ET

Highlights

Canada

- **59 843 (+2 695)** cases**,** including **3 766 (+160)** deaths**,** have been reported in Canada (overall case fatality rate of 6.3%).
    - On 4 May, Nunavut's Chief Public Health Officer announced that the case reported in the Territory on 30 April, 2020 was determined to be a false positive test result.
    - The significant number of new cases reported today includes 1 317 cases detected between 2 to 30 April in Quebec.

- At least **919 444** people have been tested to date for COVID-19 in Canada, which corresponds to a test rate of **24 460** per million population.
    - At least **22 000** new people have been tested since the last report.

- The epidemiological summary is based on detailed case information for **31 501** cases received by the Public Health Agency of Canada (PHAC), which represents **53%** of all reported COVID-19 cases in Canada.
    - The highest proportion of cases occurred among individuals 40-59 years of age (32%) followed by those 20-39 years of age (26%); 5% of cases are individuals ≤ 19 years of age.
    - 55% of cases are female.

    - **Hospitalizations**:
        - Information on whether someone was admitted to hospital is reported for **20 339** cases.
            - Among these, **3 275** (**16%**) of cases were hospitalized, including **775** (**24%)** admitted to the ICU.
        - Cases 60 years of age or older represent the highest proportion of hospitalizations (**67%**) and ICU admissions (**63%**).
        - Male cases appear to have a somewhat higher risk of hospitalization (1.4 times) and ICU admission (2.1 times) when compared to female cases.

International

- The United States is reporting the highest number of cases, followed by Spain, Italy, the United Kingdom, Germany, and France.

Data Notes

As of 4 May 2020, 11:00 ET, detailed data on cases have been received by PHAC for 54% (**31 501**) of all reported COVID-19 cases in Canada. Limitations of these data:

- Data are and may have missing values.
- Data may not be routinely updated by province and territories (P/Ts).
- PHAC does not receive routine updates on patient status.

PHAC's National Microbiology Laboratory collects national and PT laboratory testing information. Limitations of these data include:

- Testing practices vary by P/T and have changed over time, which may affect counts.
- Laboratory testing counts may be underestimated due to reporting delays and may not include additional sentinel surveillance or other testing performed.

Canadian epidemiology

As of 4 May, 2020, 11:00 ET**, 59 843 (+2 695) cases** of COVID-19**,** including **3 766 (+160) deaths,** have been reported in Canada (overall case fatality rate of 6.3%).

NOTE: Data included for the province of Quebec today includes 1 317 cases detected between 2-30 April.

At least **919 444** people have been tested for COVID-19 in Canada (Table 1). This corresponds to a test rate of **24 460** per million population.

- At least **22 000** new people have been tested since the last report.
- The cumulative percent positivity is approximately **7%**
- The seven day average percent positivity between April 27 to May 3 is approximately 6%

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

Location	Total Cases	New cases	Recovered	% Recovered	Total deaths	People tested[¥]	New Tests	People tested per 1, 000, 000 pop'n
BC	2 171	0	1 376	63%	114	82 862	1 801	16 339
AB	5 766	96	2 713	47%	95	152 123	0	34 800
SK	433	12	305	70%	6	30 171	673	25 689
MB	281	1	237	84%	6	26 857	604	19 611
ON	17 923	370	12 505	70%	1 300	330 875	14 079	22 715
QC	31 865	2 209	7 258	23%	2 205	235 136	4 272	27 712
NL	259	0	232	90%	3	8 935	116	17 132
NB	118	0	118	100%	0	14 559	0	18 742
NS	971	8	624	64%	37	31 571	379	32 501
PE	27	0	24	89%	0	3 138	0	19 994
YK	11	0	11	100%	0	1 023	0	25 040
NT	5	0	5	100%	0	1 697	0	37 857
NU	0	0	0	0%	0	421	0	10 856
Repatriated travellers*	13	0	Unknown	Unknown	0	76	0	0
Total	**59 843**	**2 695**	**25 408**	**42%**	**3 766**	**919 444**	**22 000**	**24 460**

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

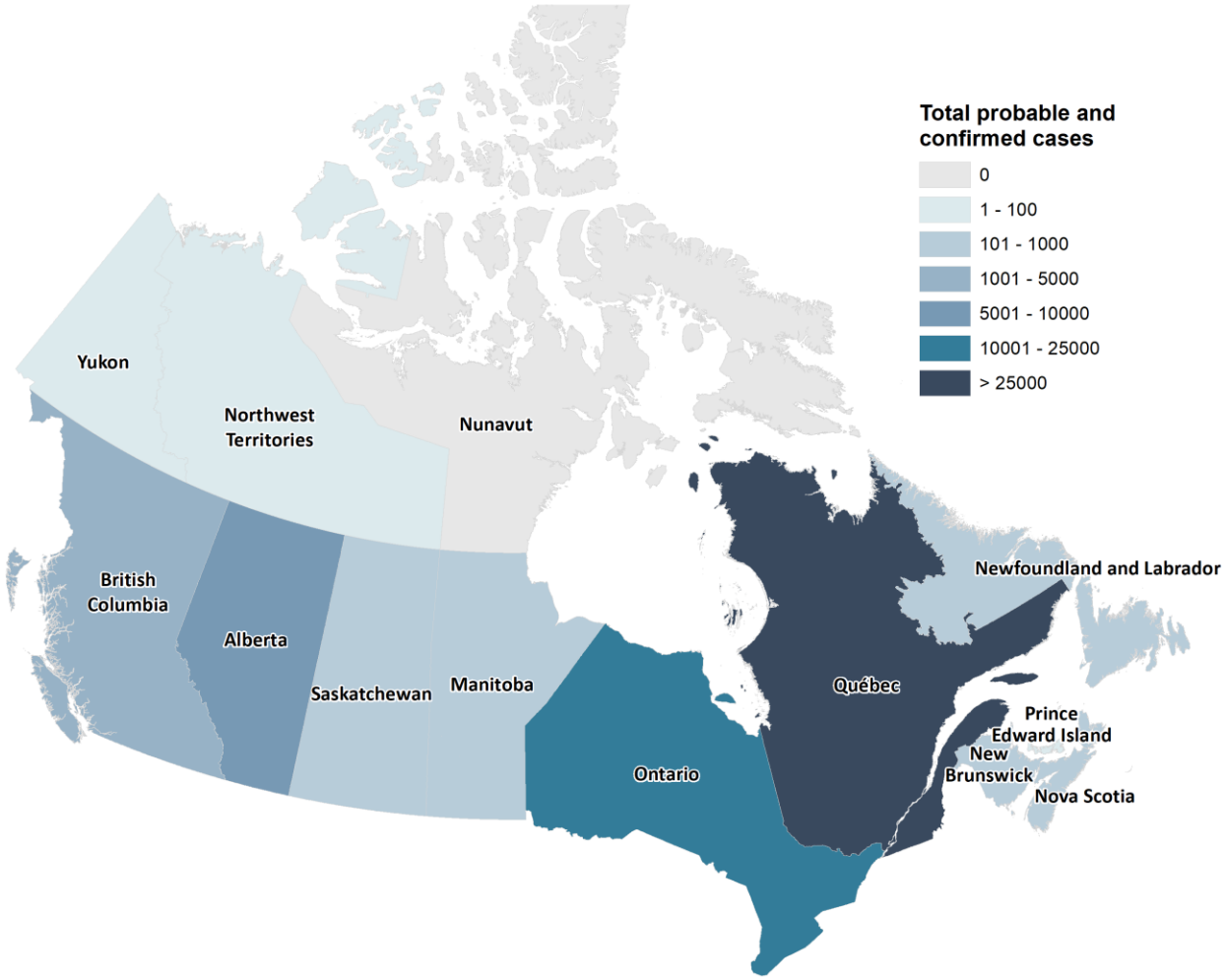
** Repatriated travellers refer to the Grand Princess cruise ship travellers who were under quarantine in Trenton. Update on their status is not available.*

***Notes:** (1) New cases and tests are those reported since the previous report. (2) Laboratory testing numbers may be underestimated due to reporting delays and may not include additional sentinel surveillance or other testing conducted in the P/T.*

The geographic distribution of cases by province/territory (P/T) are captured in **Figure 1**.

Quebec is reporting the highest number of cases, 31 865, followed by 17 923 in Ontario, 5 766 in Alberta, and 2 171 in British Columbia.

Figure 1. Map of COVID-19 cases reported in Canada by province/territory (N=59 844)



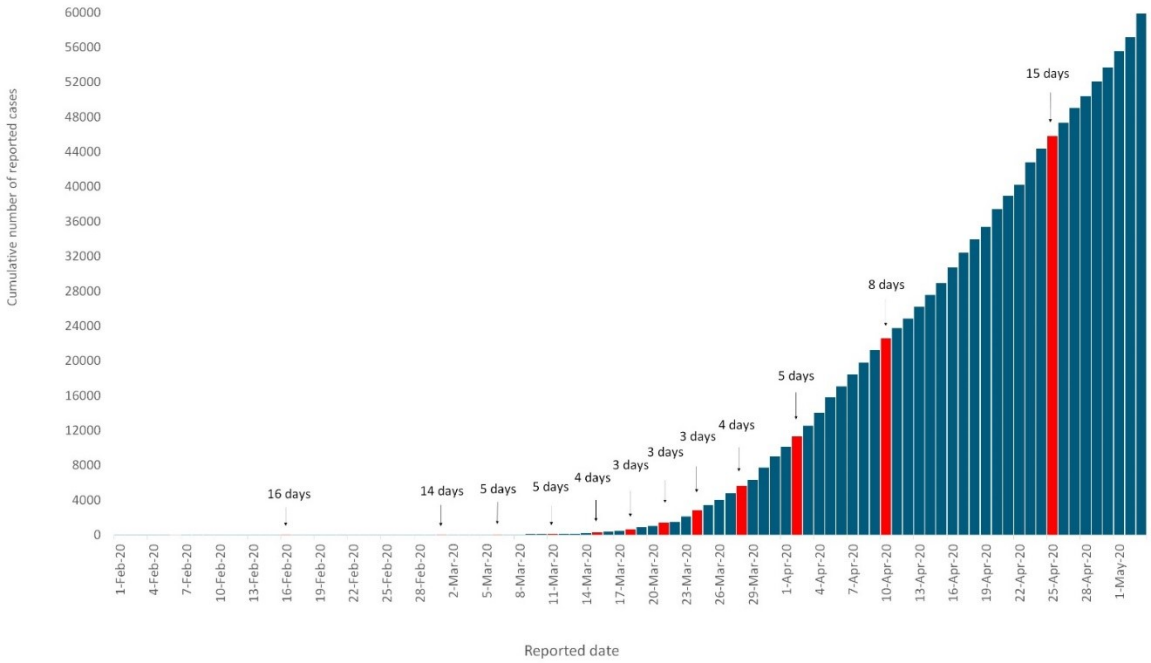
Data source: Surveillance and Risk Assessment Epidemiology Update. Map Created by NML Geomatics

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.

- Recently, Canada's rate of growth of COVID-19 cases has decreased and during the period 11-25 April , the doubling time was 15 days.

Figure 2. Doubling time of cumulative number of reported COVID-19 cases in Canada by date of report (N=59 844)

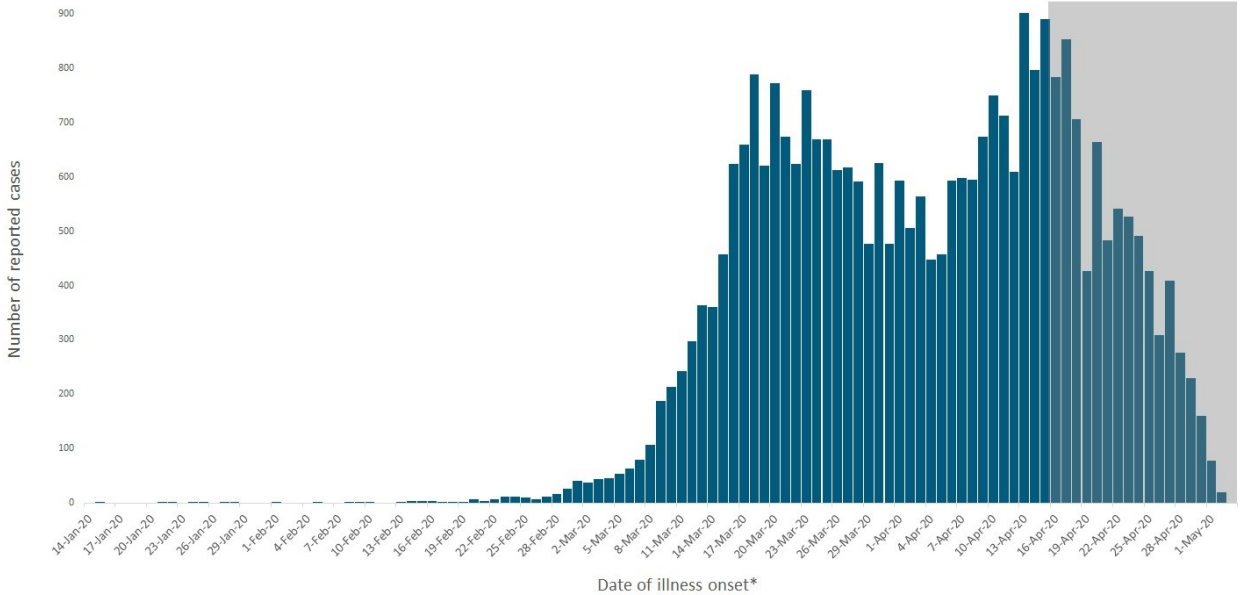


This section of the epidemiology update is based on the detailed case information received by PHAC for 31 501 cases. Not all data fields are complete for all cases.

Temporal Distribution

A summary of the distribution of cases by date of illness onset can be found in **Figure 3**.

Figure 3. New COVID-19 cases in Canada by date of illness onset (n=30 153)



*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 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 (26%); 5% of cases are among those ≤ 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=30 963	
≤ 19	1 555	(5%)
20-39	8 001	(26%)
40-59	10 012	(32%)
60-79	6 355	(21%)
80+	5 040	(16%)
Gender	n=31 252	
Female	17 319	(55%)
Male	13 921	(45%)
Other	12	(<1%)

Clinical Presentations and Outcome

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

- The date of symptom onset ranges from 15 Jan to 2 May 2020.
- The most common symptoms reported are cough, headache, and general weakness.
- 540 cases have been clinically or radiologically diagnosed with pneumonia. Of these:
    - 57% are aged ≥ 60 years and 42% are aged 60-79 years
- 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=**	**8 270**
Cardiac	1 053	(13%)
Respiratory disease	1 016	(12%)
Diabetes	780	(9%)
Other	1 584	(19%)
Symptoms	**n=**	**8 284**
Cough	6 121	(74%)
Headache	4 635	(56%)
Weakness	4 531	(55%)
Complications	**n=**	**4 061**
Pneumonia	540	(13%)
Dyspnea	310	(8%)
Abnormal lung auscultation	269	(7%)
Other	117	(3%)

*The three most commonly reported pre-existing conditions, symptoms, and complications, above are not mutually exclusive, and therefore may not sum to 100%.

Case severity

Of the **20 339** cases with hospitalization data reported, **3 275** cases (**16%**) reported hospitalization, including **775** (**24%**) admitted to the ICU (**Table 4**).

- Those aged ≥ 60 years have the highest proportion of reported hospitalizations (**67%**), ICU admissions (63%), and deaths (95%).
- Among cases ≤ 19 years of age, there were 22 reported hospitalizations and 2 ICU admissions.
- Of the 3 275 cases that were hospitalized, 74% reported one or more pre-existing conditions.

Table 4. Summary of severe cases of COVID-19 reported in Canada with detailed case information

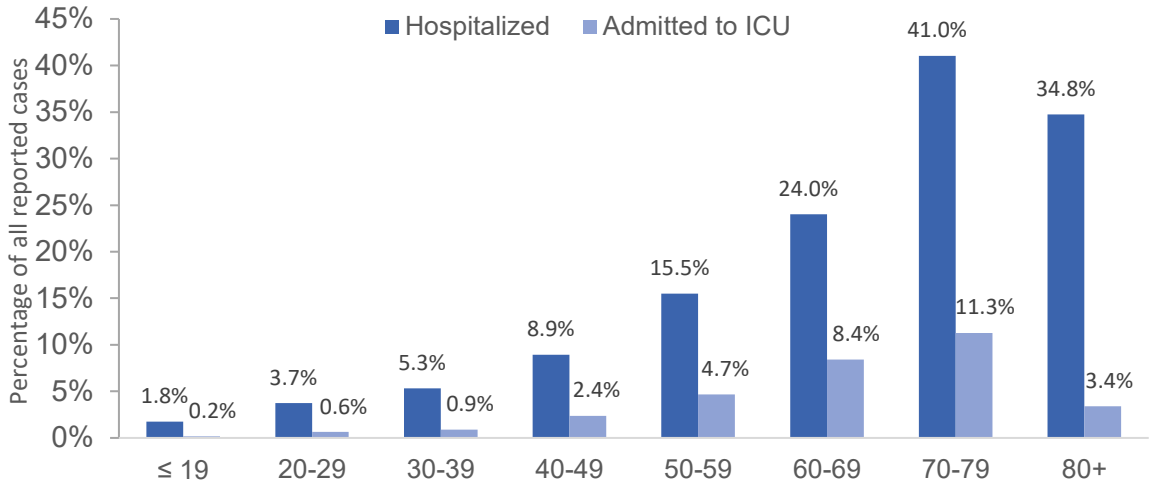
Case Severity						
Overall Summary Hospitalizations						
Hospitalizations			3 275/ 20 339	(16%)		
Hospitalizations in ICU			775/ 3 275	(24%)		
Hospitalizations requiring mechanical ventilation			159/ 3 275	(5%)		
	All Hospitalizations		**Admitted to ICU**		**Deceased**	
Age groups						
≤ 19	22	(1%)	2	(<1%)	0	(0%)
20-39	243	(8%)	41	(5%)	11	(1%)
40-59	820	(25%)	237	(31%)	63	(4%)
60-79	1 284	(40%)	398	(52%)	384	(27%)
80+	858	(27%)	84	(11%)	986	(68%)
Total	**3 227**	**(100%)**	**762**	**(100%)**	**1 444**	**(100%)**
Gender						
Female	1 462	(45%)	277	(36%)	751	(52%)
Male	1 800	(55%)	496	(64%)	689	(48%)
Other	1	(<1%)				
Total	**3 263**	**(100%)**	**773**	**(100%)**	**1 440**	**(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.

Of the **19 859** cases with information on hospitalization status and age, the proportion of cases hospitalized and admitted to ICU are described by age group in **Figure 4.**

- Of the 6 637 cases ≥ 60 years of age that have reported detailed case information, 2 142 (32%) have been hospitalized, including 482 (7%) that were admitted to the ICU.

Figure 4. By age group, the percentage of COVID-19 cases with detailed case information that are hospitalized and admitted to ICU in Canada (n=19 859)

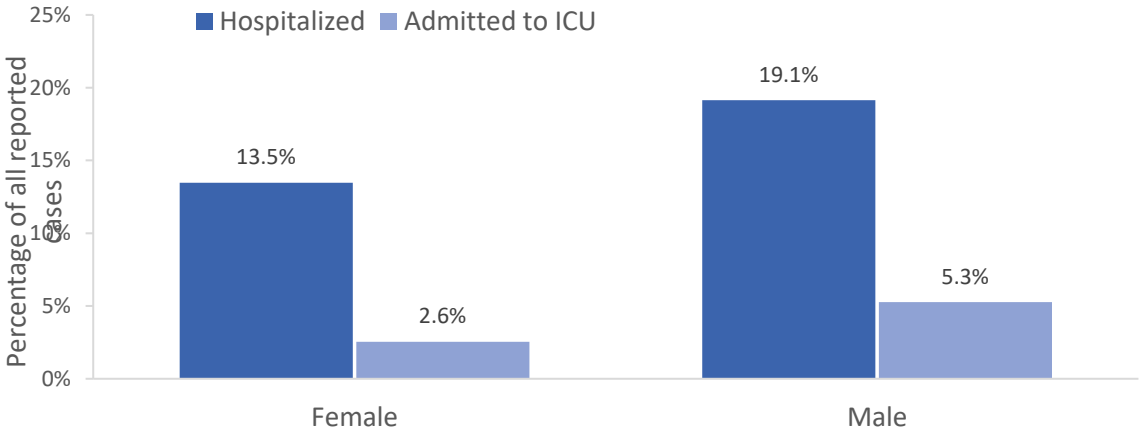


Of the 20 262 cases with information on hospitalization status and gender, the proportion of cases hospitalized and admitted to ICU, are described by gender in **Figure 5.**

- Male cases appear to have a somewhat higher risk of hospitalization (1.4 times), and ICU admission (2.1 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.

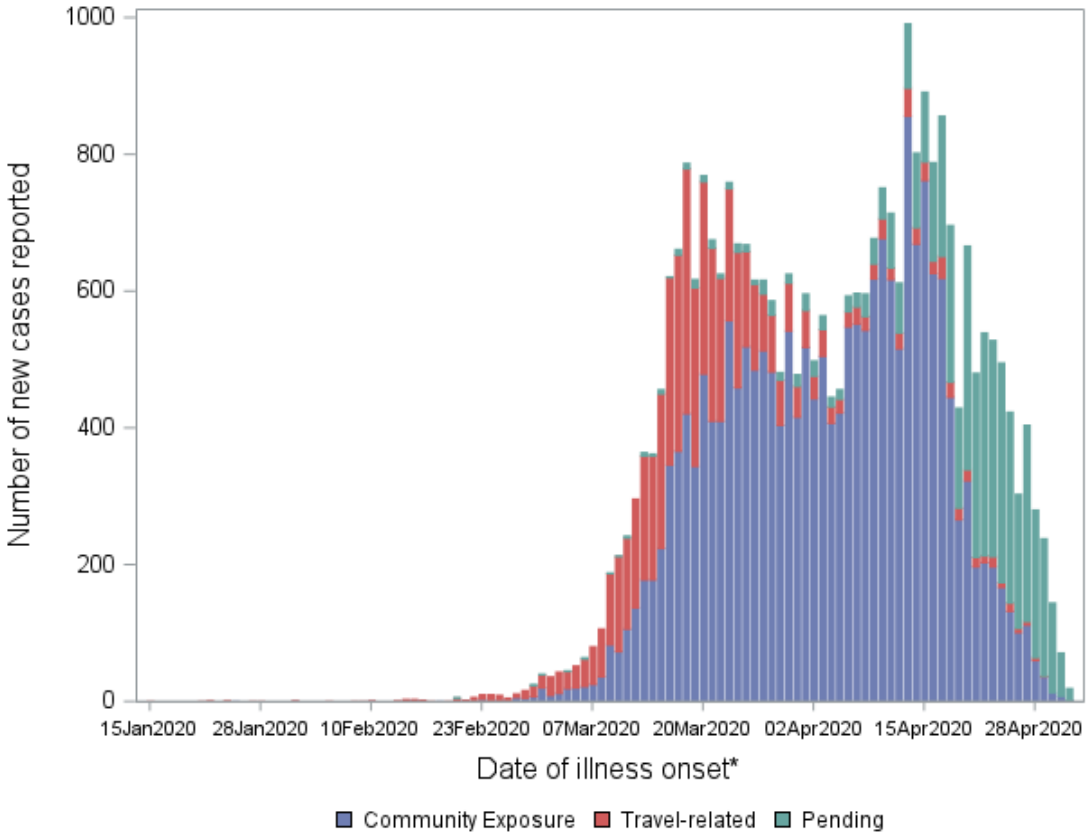
Figure 5. By gender, the percentage of COVID-19 cases with detailed case information that were hospitalized and admitted to ICU in Canada (n=20 262)



Exposure History

A summary of the exposure history of cases can be found in **Figure 6** and **Table 5.**

Figure 6. Number of newly reported COVID-19 cases in Canada by possible exposure category (n=30 153)



*Episode date corresponds to the earliest date reported according to the following order: Symptom Onset Date, Specimen Collection Date, and 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=31 501**	
Travel-Related	**n=5 153**	**16%**
History of international travel	4 058	79%
Close contact of an international traveller	1 095	21%
Community-Related	**n=21 532**	**68%**
Case exposed in a healthcare facility*	4 215	20%
Case lives in a long-term care facility	480	2%
Close contact with case in a household	816	4%
Close contact with case in a workplace¥	207	1%
Case attends/works at a school or daycare	206	1%
Case has no known exposures†	15 608	72%
Pending	**n=4 816**	**15%**

*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

FluWatchers

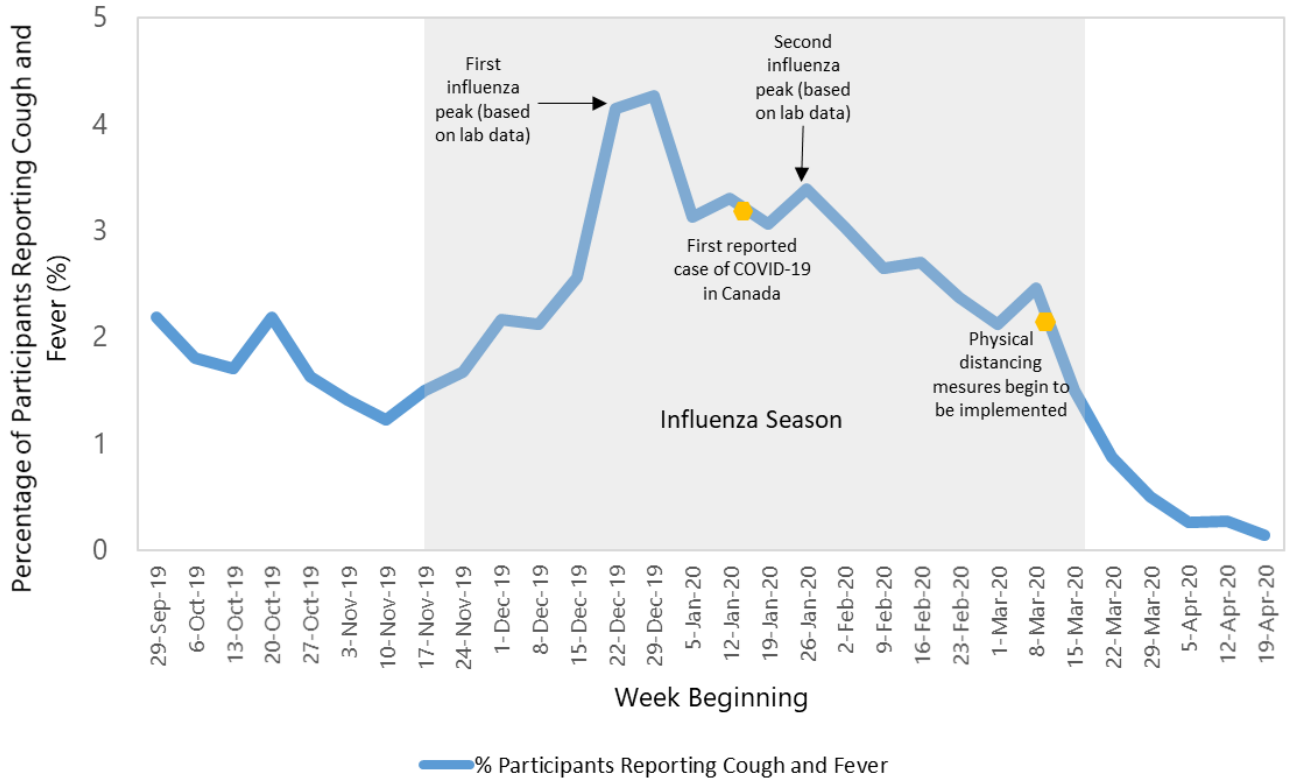
FluWatchers is an online health surveillance system that relies on volunteer reports to track the spread of flu-like illness across Canada.
In the context of the COVID-19 pandemic, FluWatchers is shifting focus to track COVID-19 symptoms over the spring and summer months.

During the week of 19 April, 9 750 participants reported into the FluWatchers program. A total of 15 participants (0.2%) reported cough and fever.

Among the 15 participants reporting cough and fever:

- 9 (60%) sought medical attention
- 3 (20%) were tested
    - 1 test was positive for COVID-19 and 2 test results were negative

Figure 7: Percentage of FluWatchers Participants Reporting Cough and Fever (N=9 750) the week of April 19, 2020



International

- The United States is the epicentre of the global pandemic (**Table 6**).
    - There are 1 158 341 cases and 67 686 deaths (CFR of 5.8%) reported in the United States as of 4 May , 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.

- 211 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, the United Kingdom, Germany, 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, 4 May 2020, 08:00ET

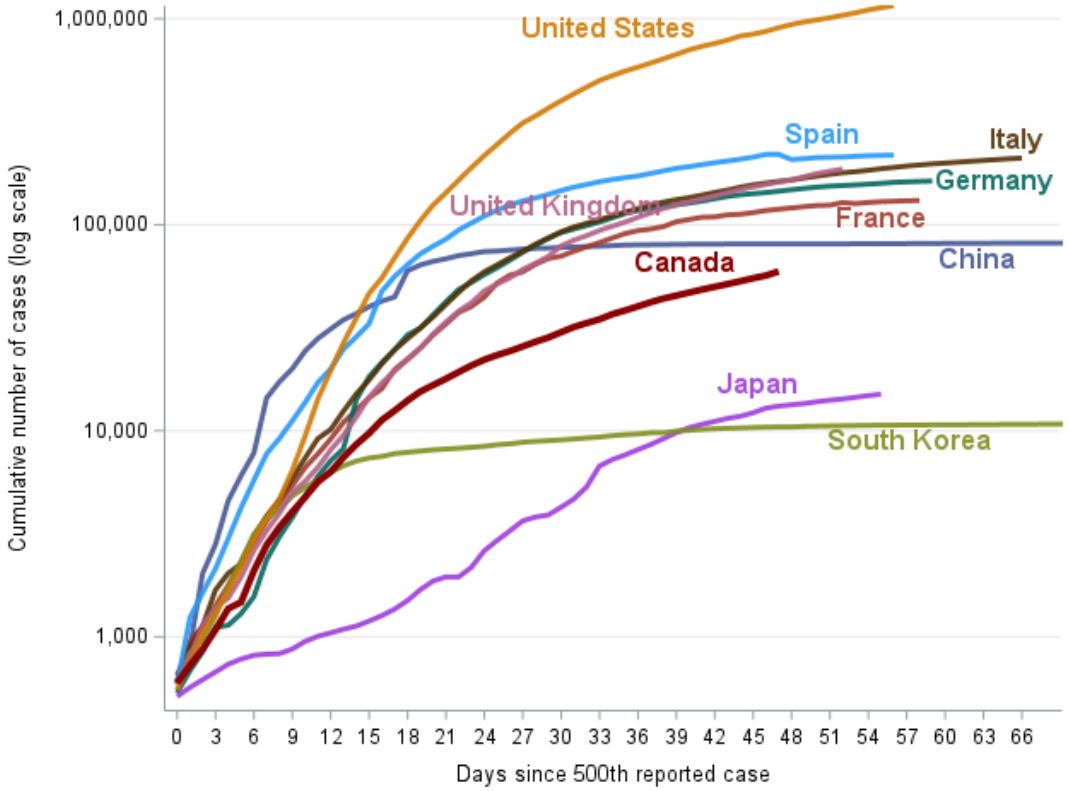
Location	Total cases	New cases	Total deaths	New deaths
Globally	3 468 177	77 641	247 147	3 624
USA	1 158 341	25 272	67 686	1 301
Mainland China	82 880	3	4 633	0

***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.*