

Coronavirus Disease 2019 (COVID-19)

DAILY EPIDEMIOLOGY UPDATE

Updated: March 31, 2020, 11:00 AM EST

Highlights

Canada

- **7,708 cases including 89 deaths** have been reported in Canada (overall case fatality rate of 1.2%).
- **236,851** people have been tested for COVID-19 in Canada which corresponds to a test rate of 6,301 per million population. The percent positivity is 3.5%.
- Further information on real-time distribution of cases and deaths can be found in the [interactive map of COVID-19 in Canada](#).
- The epidemiological summary is based on more detailed information that is available for 54% of the cases (n=4,186)*.
 - **Age and gender:**
 - The highest proportion of cases are being reported among people 40-59 years of age (36%), followed by those 20-39 years of age (29%) and 60-79 years of age (25%).
 - Only a small proportion of cases (4%) have been reported among people ≤ 19 years of age.
 - 51% of cases were reported among males.
 - **Hospitalizations:** Hospitalization data are only available for 2,450 (59%) of all cases. Among these, 353 have been hospitalized, including 108 in ICU.
 - While 31% of the cases are 60 years of age and older, these cases represent the highest proportion of hospitalizations (62%) and ICU admissions (62%).
 - Five hospitalizations and one admission to ICU were reported in individuals ≤ 19 years of age.
 - **Exposures:**
 - 88% of newly identified cases (within the last seven days) are related to community transmission.
 - 64% of cases over the duration of the outbreak are related to community transmission.

International

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

*Data Notes

As of March 31, 2020 11:00 AM EST, detailed data on cases have been received for 4,186 cases (54% of reported cases). Data on these cases are preliminary and may have missing values.

Provinces and territories may not routinely update detailed data. Data on hospitalization status is unknown for 41% of all cases. As well, PHAC does not receive routine updates on patient status.

Furthermore, 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, March 31, 2020, 11:00 AM EST.

Location	Total Cases	Total Confirmed	Total Probable	Total Deaths	New cases	% change	People tested per 1,000,000	People Tested
BC	970	970	0	19	86	10%	6,895	34,969
AB	690	690	0	8	29	4%	10,536	46,057
SK	176	176	0	2	20	13%	7,980	9,372
MB	96	83	13	1	24	33%	6,080	8,326
ON	1,966	1,966	0	33	611	45%	3,838	55,909
QC	3,430	3,430	0	25	590	21%	7,960	67,540
NL	148	148	0	1	13	10%	6,571	3,427
NB	68	68	0	0	2	3%	3,218	2,500
NS	127	127	0	0	5	4%	6,809	6,614
PE	18	18	0	0	7	64%	3,511	551
YK	5	5	0	0	1	0%	16,840	688
NT	1	1	0	0	0	0%	16,508	740
NU	0	0	0	0	0	0%	4,074	158
Repatriated travellers	13	13	0	0	0	0%		NA
Total	7,708	7,695	13	89	1,388	22%	6,301	236,851

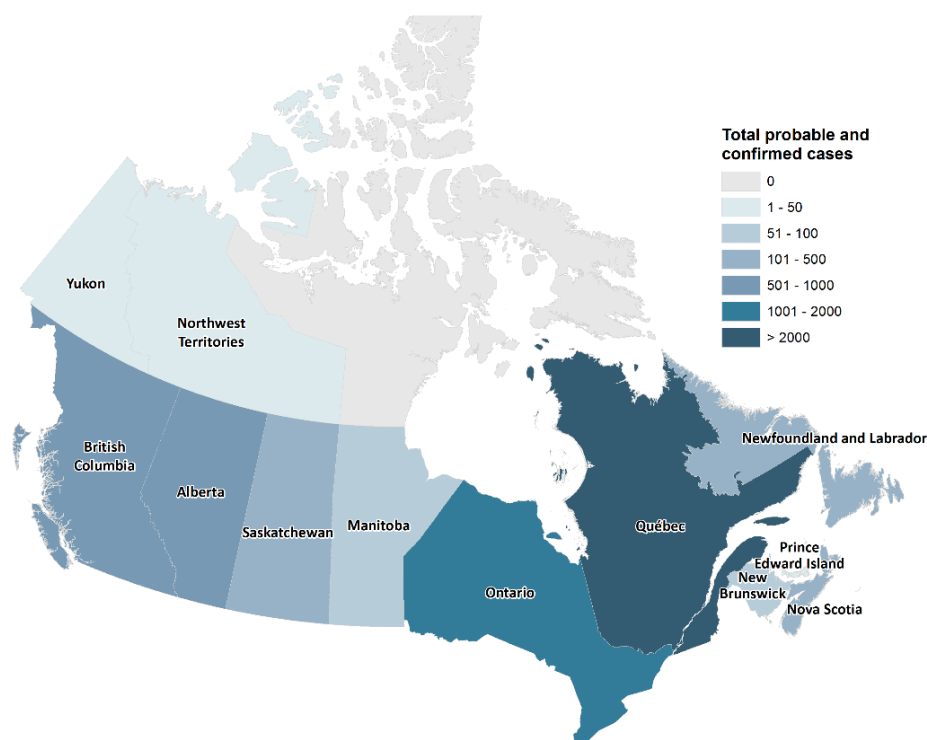
Notes: New cases are those reported since the previous report. Probable cases have tested positive at a provincial laboratory and are awaiting confirmatory testing results from the National Microbiology Laboratory. Laboratory testing numbers may represent an underestimation due to reporting delays and may not include additional sentinel surveillance or other testing conducted in the P/T. For QC, the significant increase in confirmed cases is explained by the fact that since March 22, 2020, cases tested positive by hospital laboratories are now considered confirmed. They no longer need validation by the Laboratoire de santé publique du Québec (LSPQ).

A total of 236,851 people have been tested for COVID-19 in Canada. This corresponds to a test rate of 6,301 per million population.

- Testing volumes vary across the country.
- Percent positivity is 3.5%.

Real-time data on the distribution of cases and deaths in Canada can be found in the [interactive map of COVID-19](#).

Figure 1. Map of COVID-19 cases reported in Canada by province, March 31, 2020, 11:00 AM EST.

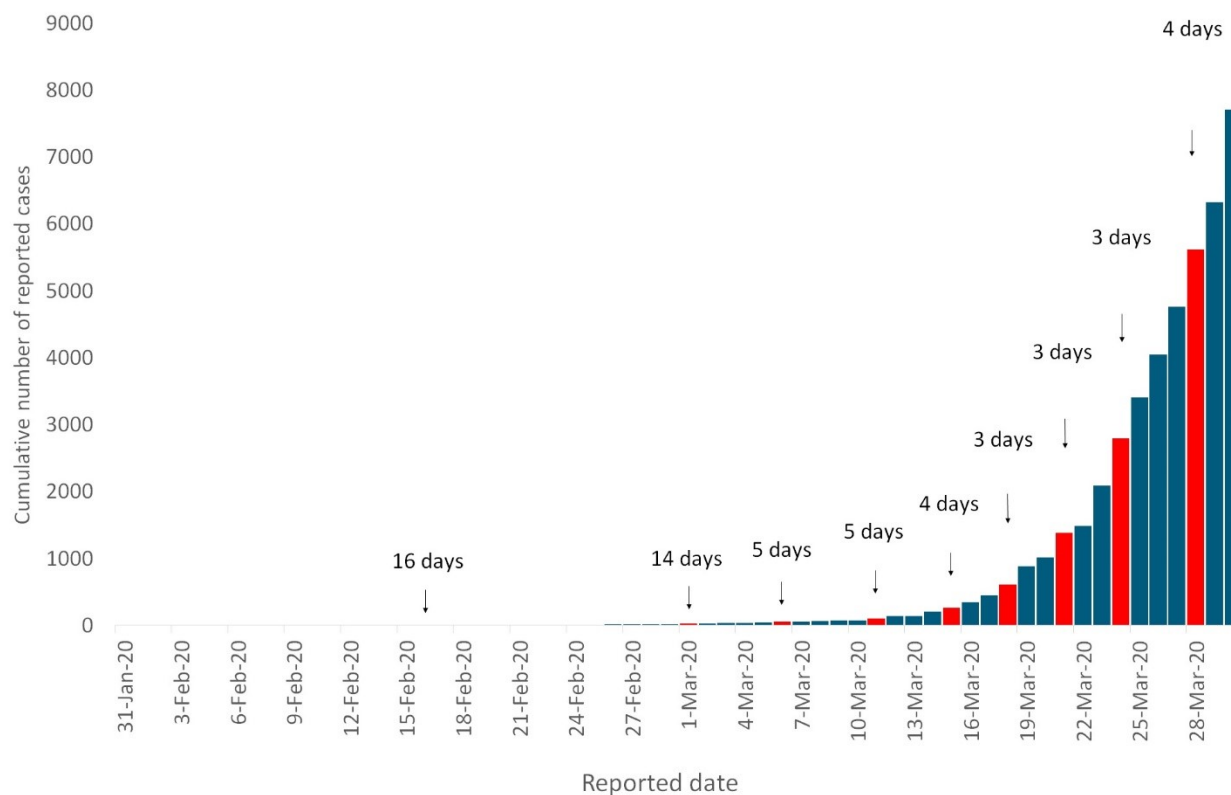


Data source: Surveillance and Risk Assessment, Epidemiology Update. Map Created by NML, Geomatics

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

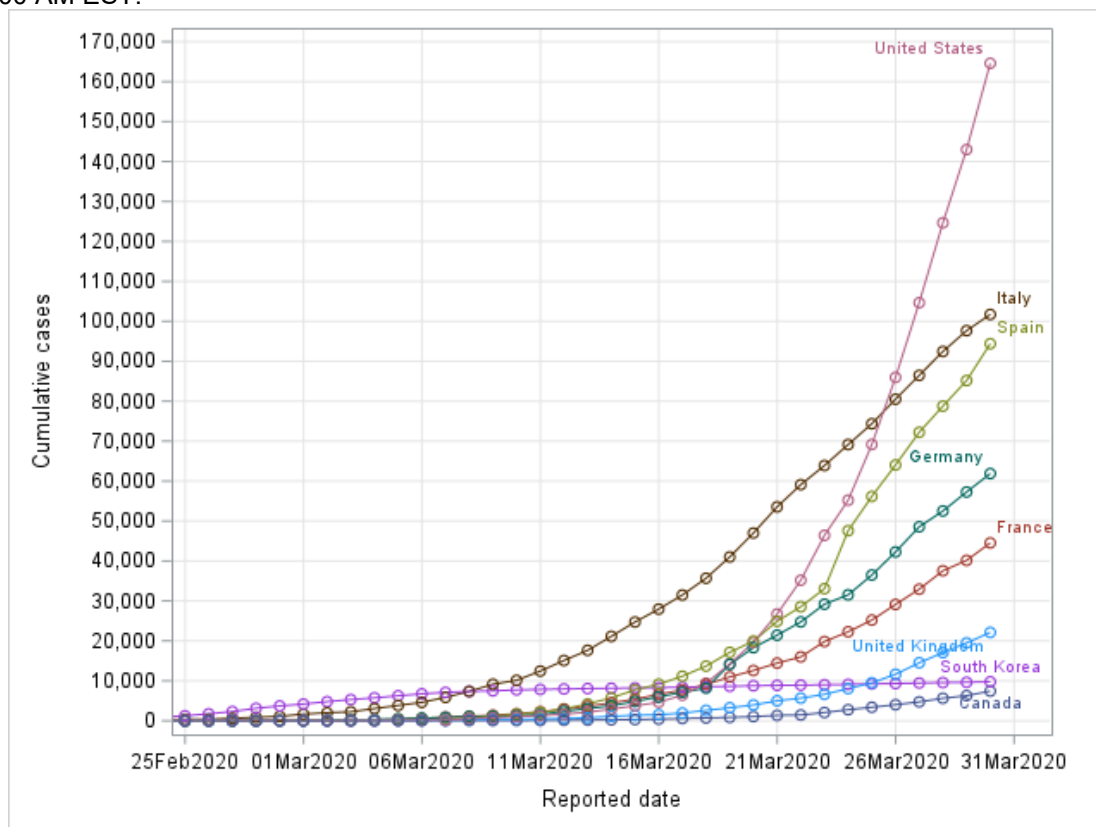
- The epidemic doubling period of COVID-19 cases in Canada, defined as the number of days between doubling of cumulative case counts is marked with red bars.
 - Reported cases double at a rate of every three to five days since March 1.

Figure 2. Doubling time of cumulative number of reported COVID-19 cases in Canada by date of report, March 31, 2020, 11:00 AM EST (n=7,708)



A summary of the cumulative cases of COVID-19 in Canada compared to other countries by date of report can be seen in **Figure 3**.

Figure 3. Cumulative cases of COVID-19 in Canada compared to other countries by date of report, March 31, 2020, 11:00 AM EST.



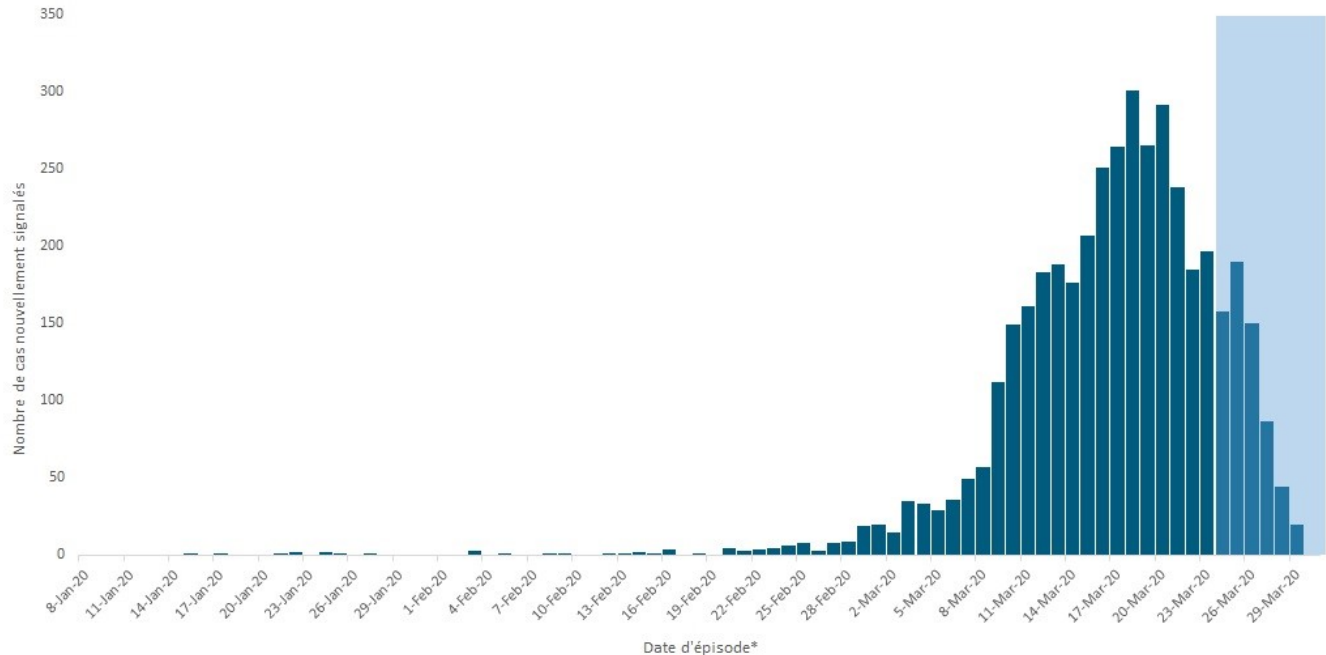
Note: At this time, results from international comparisons should be interpreted with caution. The number of tests conducted and indications for testing by country all have a large influence on total reported case counts. Therefore, the data displayed does not necessarily represent the true size of outbreak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

Please note that this section onwards of the epidemiology update is based on limited data (n=4,186).

Temporal Distribution

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

Figure 4. New COVID-19 cases in Canada by date of symptom onset, March 31, 2020, 11:00 AM EST (n=4,186)



*Episode date corresponds to the earliest date reported according to the following order: Symptom Onset Date, Specimen Collection Date, Laboratory Testing Date, Date reported to the province/territory or Date reported to PHAC.

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

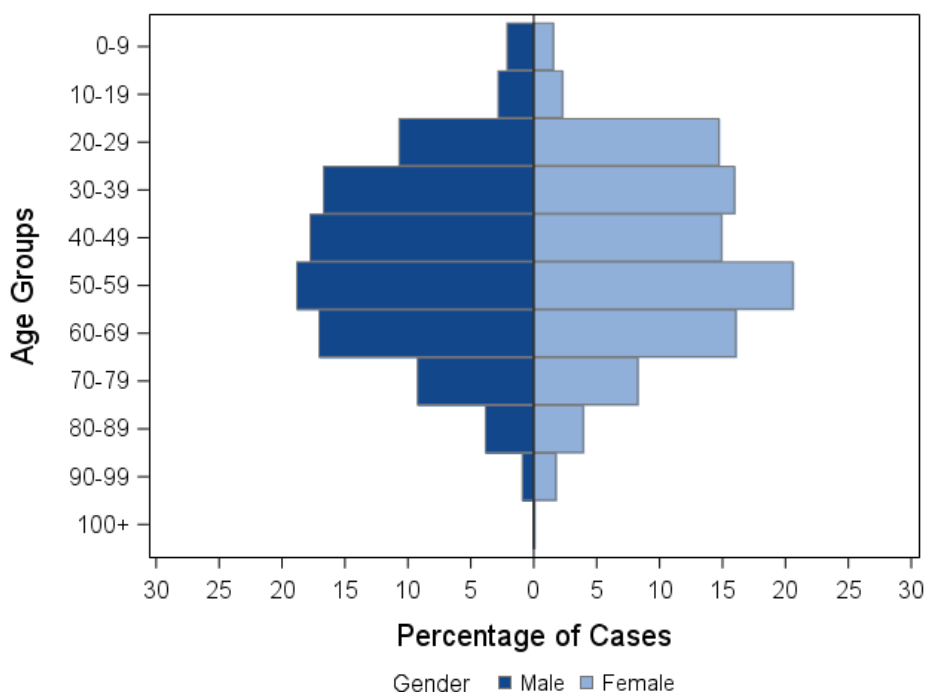
Table 2 and Figure 5.

- The highest proportion of cases occurred in individuals 40-59 years of age (36%), followed by those 20-39 years of age (29%) and 60-79 years of age (25%).
- Only 4% of cases have occurred in individuals ≤ 19 years of age.
- 51% of cases were reported among males.

Table 2. Demographic characteristics of COVID-19 cases reported in Canada, March 31, 2020, 11:00 AM EST (n=4,186)

Characteristics		
Demographics		
Age (in years)	Median	50
	Range	0-100
Age groups	n=3,947	
	≤ 19	174 (4%)
	20-39	1,145 (29%)
	40-59	1,423 (36%)
	60-79	997 (25%)
	80+	208 (5%)
Gender	n=4,144	
	Female	2,041 (49%)
	Male	2,103 (51%)

Figure 5. Age and sex distribution of COVID-19 cases reported in Canada, March 31, 2020, 11:00 AM EST (n=3,920)



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 March 26, 2020.

- Cough, headache and general weakness are the most common symptoms reported.
- 147 cases have been clinically or radiologically diagnosed with pneumonia. Of those who reported age, 61% are individuals 60 years of age and over, with individuals 60-79 representing 47%.
- The most commonly reported pre-existing health conditions amongst cases were respiratory disease, cardiac disease, and diabetes.
- Twenty cases have occurred in pregnant women.

Table 3. Clinical presentation summary of COVID-19 cases reported in Canada, March 31, 2020, 11:00 AM EST (n=2,139)

Clinical Presentations			
Symptoms			
Cough	1,676	(78%)	
Headache	1,219	(57%)	
General weakness	1,220	(57%)	
Pre-Existing Conditions		n=2,085	
Respiratory disease	240	(12%)	
Cardiac	205	(10%)	
Diabetes	163	(8%)	
Other	403	(19%)	
Complications		n=1,383	
Pneumonia	147	(11%)	
Dyspnea	90	(7%)	
Abnormal lung auscultation	82	(6%)	
Other	187	(14%)	

Hospitalization Status (based on data available for 2,450 (59%) of all cases)

A total of 353 cases have been hospitalized including 108 in ICU (**Table 4** and **Figure 6**).

- 62% of hospitalizations and of ICU admissions occurred among individuals ≥ 60 years of age.
 - The highest proportion of hospitalizations (43%) and ICU admissions (52%) being reported among individuals 60-79 years of age.
- Five hospitalizations and one ICU admission were reported in individuals ≤ 19 years of age
- A higher proportion of hospitalizations and ICU admissions are being reported among males (58%).
- 64% of the hospitalized cases had pre-existing conditions.

Table 4. Summary of hospitalized cases of COVID-19 reported in Canada with a submitted case report form, March 31, 2020, 11:00 AM EST (n=353)

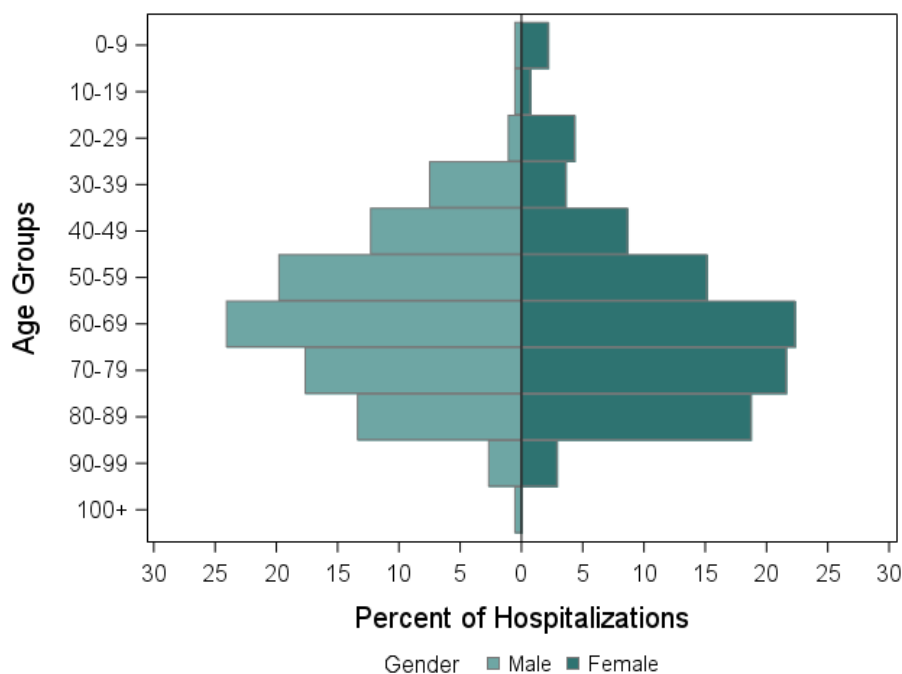
Severe Cases				
Overall Summary Hospitalizations				
Hospitalizations*		353		
Hospitalizations in ICU		108/353	(31%)	
Hospitalizations requiring mechanical ventilation*		46/353	(13%)	
Breakdown by:		Hospitalizations		Admitted to ICU
Age groups		n=327		n=99
≤ 19		5	(2%)	1 (1%)
20-39		27	(8%)	7 (7%)
40-59		94	(29%)	30 (30%)
60-79		139	(43%)	52 (52%)
80+		61	(19%)	9 (9%)
Gender		n=351		n=108
Female		149	(42%)	45 (42%)
Male		202	(58%)	63 (58%)

*Hospitalizations include admission to hospital and emergency room

*Patients requiring mechanical ventilation are classified as hospitalized, although ventilation may occur in other settings.

Note: ICU refers to Intensive Care Unit. PHAC does not receive routine updates on patient status.

Figure 6. Age and sex distribution of hospitalized COVID-19 cases reported in Canada, March 31, 2020, 11:00 AM EST (n=326)

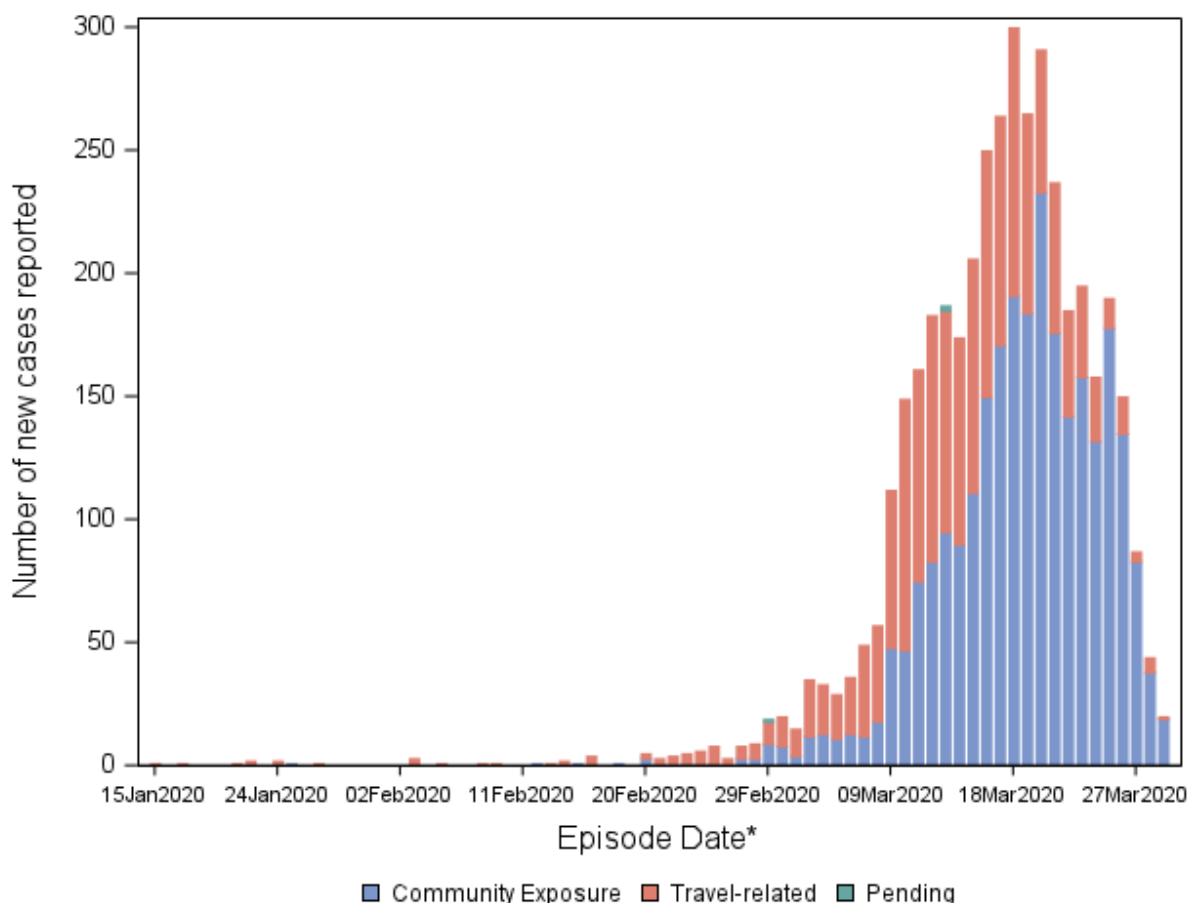


Exposure History

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

- 88% of newly identified cases (within the last seven days) are related to community transmission.
- 64% of cases over the duration of the outbreak are related to community transmission.
- 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, March 31, 2020, 11:00 AM EST (n=4,186)



*Episode date corresponds to the earliest date reported according to the following order: Symptom Onset Date, Specimen Collection Date, Laboratory Testing Date, Date reported to the province/territory or Date reported to PHAC.

Table 5. Possible exposure setting of COVID-19 cases reported in Canada, March 31, 2020, 11:00 AM EST (n=4,186)

Possible Exposure Setting		
Travel-Related	n=1,519	36%
History of international travel	1,337	88%
Close contact of an international traveller	182	12%
Community	n=2,664	64%
Case exposed in a healthcare facility*	322	12%
Close contact with case in a household	125	5%
Case lives in a long-term care facility	30	1%
Case attends/works at a school or daycare	34	1%
Close contact with case in a workplace	32	1%
Case has no known exposures	2,121	80%
Pending	n=3	0%

*Includes healthcare workers and exposure in health care setting

United States

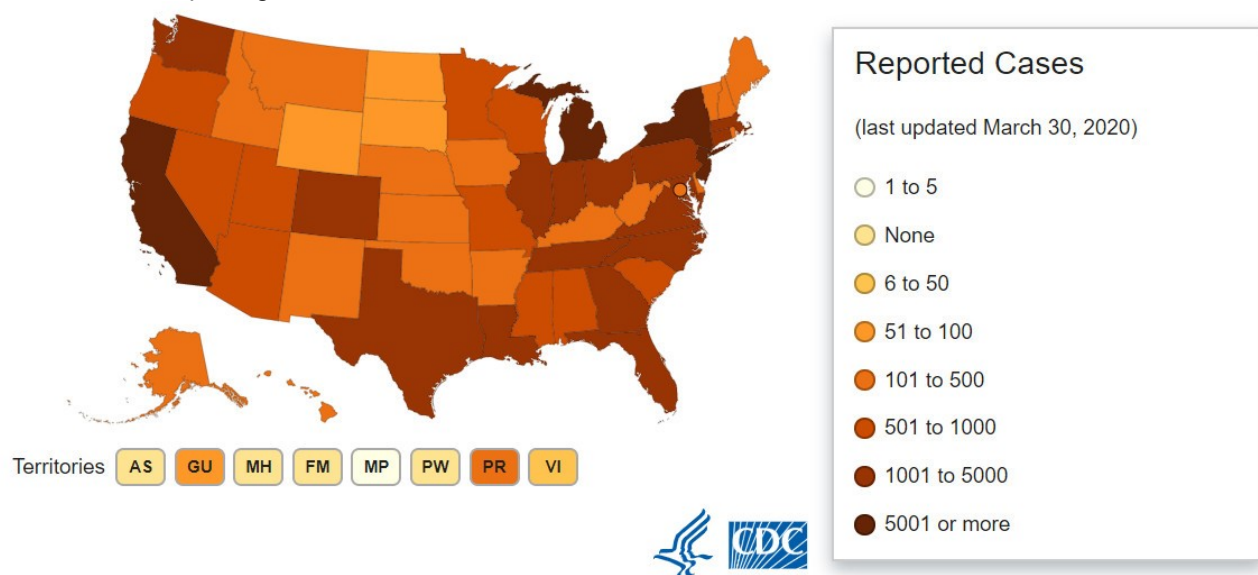
There are 164,620 cases and 3,170 (overall case fatality rate of 1.9%) deaths reported in the United States as of March 31, 2020 at 10:00 AM*.

The [US CDC](#) has information on 140,904 cases (2,405 deaths) reported from 55 jurisdictions (50 states, District of Columbia, Puerto Rico, Guam, Northern Marianas, and US Virgin Islands).

- Exposure details are known for 3,237 cases:
 - Travel-related: 886
 - Close contact: 2,351
- [New York State](#) accounts for 42% of case in the US.
- 84% of jurisdictions reporting cases are reporting community transmission.
- As of March 31, 2020, the [US CDC](#) and [US public health labs](#) have tested 148,086 specimens.

*Information source: European Center for Disease Prevention and Control.

Figure 8. States reporting cases of COVID-19, March 31, 2020, 11:00 AM EST



Source: [US CDC website](#)

International

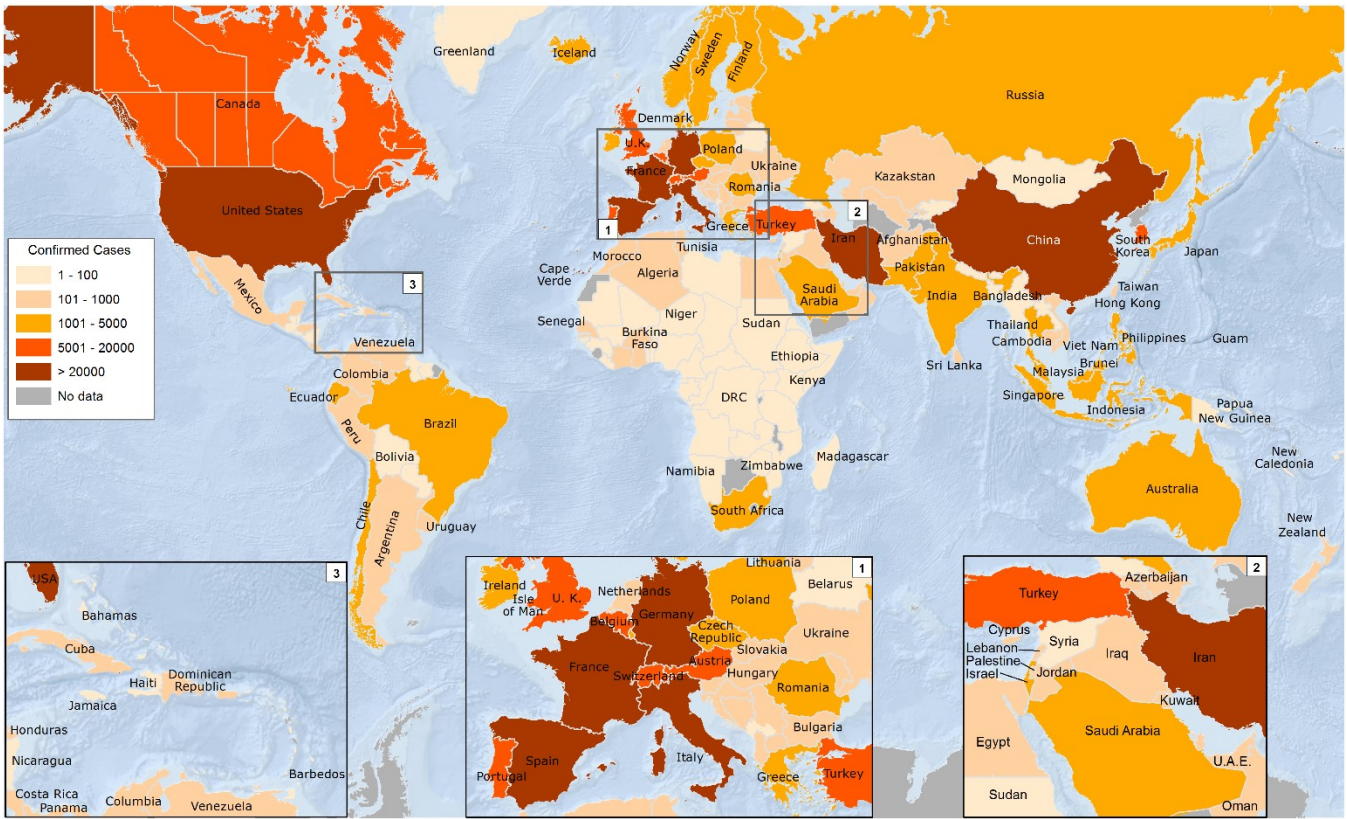
- The United States is now the epicentre of the global pandemic (**Table 6**).
199 countries/jurisdictions outside mainland China have reported cases of COVID-19 (**Figure 9**).
 - Five countries (United States, Italy, Spain, Germany and Iran) make up the majority of international cases outside of mainland China.
 - Iran is reporting the majority of cases in Asia (excluding mainland China), followed by South Korea and Malaysia.

Table 6. Global number* of reported COVID-19 cases, March 31, 2020, 11:00 AM EST.

Location	Total cases	New cases	Total deaths	New deaths
Globally	790,163	65,157	38,262	3,757
USA	164,620	21,595	3,170	661
Europe	416,245	29,572	24,612	2,487
China	81,518	48	3,305	1

***Information Sources:** Hong Kong Centre for Health Protection, Chinese Center for Disease Control and Prevention, Health Commission of Hubei Province, Iran MOH, Spain MOH, Germany MOH, France MOH, Norway MOH, Netherland MOH, Italy MOH, US CDC, and ECDC Situation update.

Figure 9. Global distribution* of confirmed cases of COVID-19, March 31, 2020, 11:00 AM EST.



***Information Sources:** Hong Kong Centre for Health Protection, Chinese Center for Disease Control and Prevention, Health Commission of Hubei Province, Iran MOH, Spain MOH, Germany MOH, France MOH, Norway MOH, Netherland MOH, Italy MOH, US CDC, and ECDC Situation update.

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