



# COVID-19 daily epidemiology update

Updated: May 24, 2022, 9 am EST

Summary of COVID-19 cases across Canada and over time. Contains detailed data about the spread of the virus over time and in different regions of the country. Includes breakdowns by age and sex or gender. Provides an overview of hospitalizations and deaths, testing, variants of concern and exposures.

**i** We are working with the provinces and territories to make changes to this page to reflect current reporting. Watch for upcoming changes to the Key updates, Current situation and National overview sections.

## Key updates as of May 24, 2022, 9 am EST

Cases today	Total cases	Deaths today	Total deaths
<b>326</b>	<b>3,847,863</b>	<b>0</b>	<b>40,695</b>

Total tests performed	Daily percent positive (last 7 days)	Daily tests per 100,000 population (last 7 days)
<b>61,740,072</b>	<b>10.0%</b>	<b>87</b>

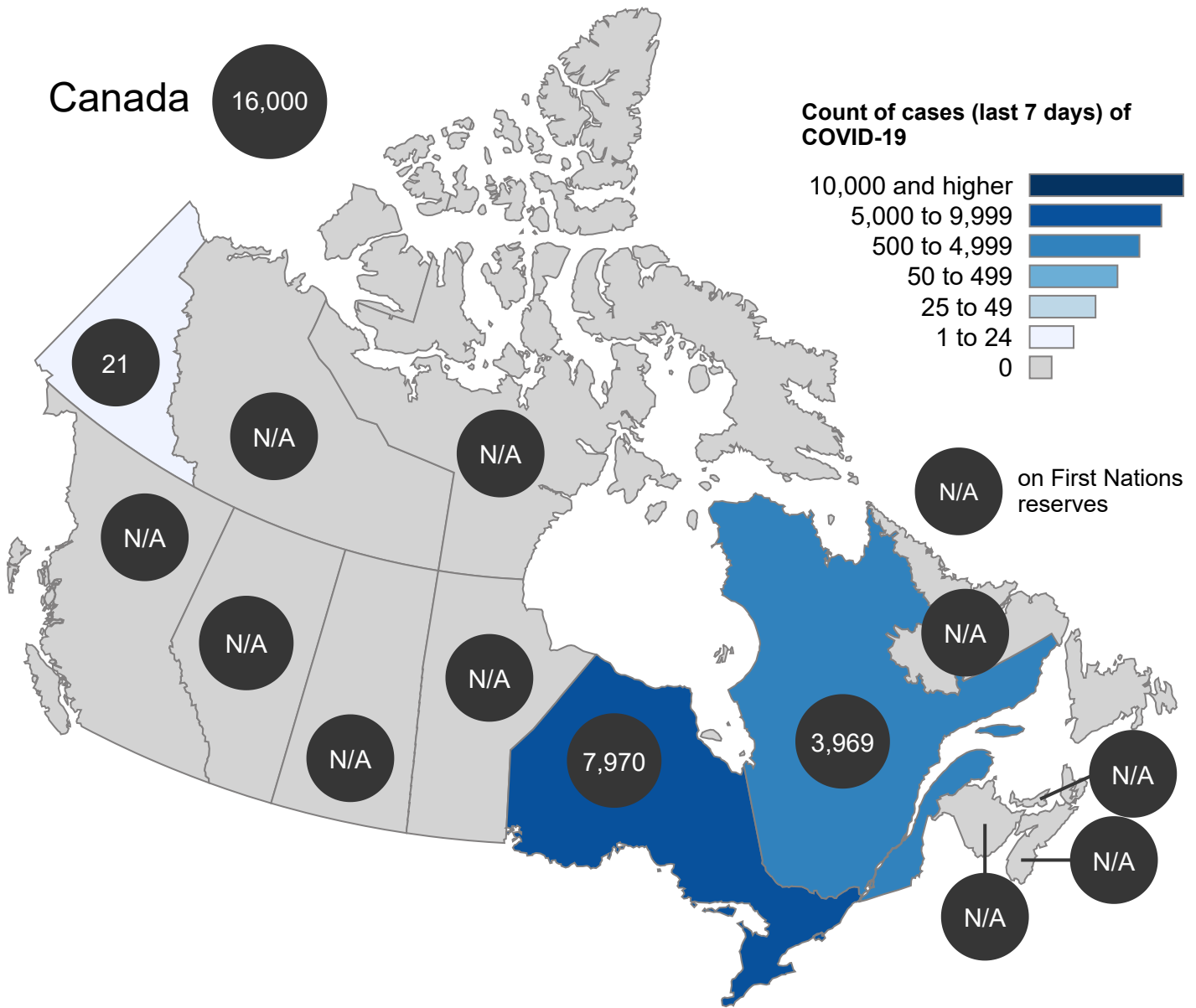
- We update these sections Monday to Friday at 9:00 AM EST: Key updates, Current situation and National overview. Laboratory data represents specimens received by labs up to May 21, 2022 to allow time to process results.
- We update these sections every Friday: COVID-19 variants in Canada, Epidemic curve, Demographics, How people were exposed, and Severe illness and outcomes.
- The Cases following vaccination section is updated every Tuesday.
- Of the 1 jurisdiction reporting updates, no new cases were reported in 0 provinces and territories in the past 24 hours.
- Of the 1 jurisdictions reporting updates, no new deaths were reported in 1 provinces and territories in the past 24 hours.
- Due to changes in COVID-19 testing policies in many jurisdictions starting in late December 2021, case counts will under estimate the total burden of disease.
- Resulting from the delays in data entry caused by the recent high number of cases, Nova Scotia issued a [press release](#) on December 10 indicating that they would begin announcing the daily number of new cases using laboratory test results, not data from Panorama (their public health disease information

system) on the [Nova Scotia COVID-19 Dashboard](#). These reporting changes are expected to be temporary. In the absence of Panorama data, we will report Nova Scotia's cumulative cases up until December 9 and add the daily lab positive cases reported. We will use the estimated number of active cases from Nova Scotia's updates to calculate the number of recoveries as of December 10. Once Nova Scotia resumes reporting case data from Panorama, our data will be retroactively corrected.

- The national count displayed represents the most recent data publicly available for all 13 provinces and territories. This count may exceed the sum of the individual provincial and territorial counts displayed in the maps for the last 1, 7, and 14 days.

# Current situation

Figure 1a. **Count** of **cases (last 7 days)** of COVID-19, by **province/territory** as of **May 23, 2022** (Last data update May 24, 2022, 9 am EST)



The count of cases (last 7 days) of COVID-19 in **Canada** was **16,000** as of May 23, 2022.

a. This information is based on data our provincial and territorial partners published on cases, deaths, and testing daily, and are current as of the day they are published. Today's numbers are current as of May 23, 2022. For the most up to date data for any province, territory or city, please visit their website. The number of cases or deaths reported on previous days may differ slightly from those on the provincial and territorial websites as these websites may update historic case and death counts as new information becomes available.

- b. Due to changes in COVID-19 testing policies in many jurisdictions starting in late December 2021, case counts will under estimate the total burden of disease.
- c. Resulting from the delays in data entry caused by the recent high number of cases, Nova Scotia issued a press release on December 10 indicating that they would begin announcing the daily number of new cases using laboratory test results, not data from Panorama (their public health disease information system) on the Nova Scotia COVID-19 Dashboard. These reporting changes are expected to be temporary. In the absence of Panorama data, we will report Nova Scotia's cumulative cases up until December 9 and add the daily lab positive cases reported. We will use the estimated number of active cases from Nova Scotia's updates to calculate the number of recoveries as of December 10. Once Nova Scotia resumes reporting case data from Panorama, our data will be retroactively corrected.
- d. Saskatchewan, New Brunswick, and Manitoba provide COVID-19 updates every Thursday. These updates reflect data up until Saturday.
- e. Nova Scotia provides COVID-19 updates every Thursday. These updates reflect data up until Monday.
- f. As of April 11, 2022, Nunavut no longer publishes regular COVID-19 updates.
- g. Alberta provides COVID-19 updates every Wednesday. These updates reflect data up until Monday.
- h. Prince Edward Island provides COVID-19 updates every Tuesday. These updates reflect data up until Wednesday.
- i. British Columbia provides COVID-19 updates every Thursday. These updates reflect data up until Saturday.
- j. Starting April 7, 2022, British Columbia reports all deaths within 30 days of a positive COVID-19 test, regardless of the cause of death. As a result, deaths are now over-estimated for BC and should not be compared to other jurisdictions or to earlier data from BC.
- k. Northwest Territories provides COVID-19 updates every Monday. These updates reflect data up until Monday.
- l. Newfoundland and Labrador provide COVID-19 updates every Wednesday. These updates reflect data up until the previous Saturday.

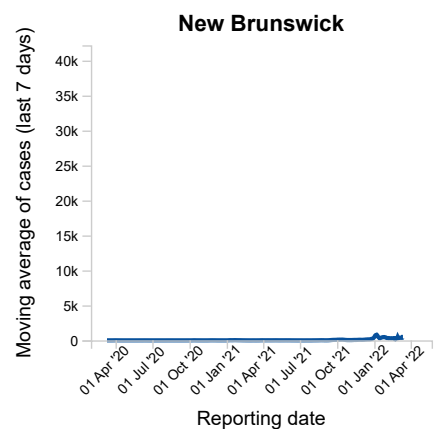
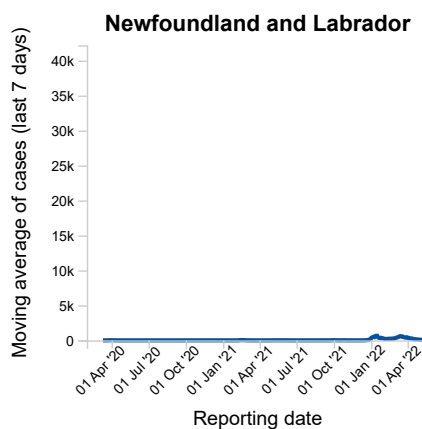
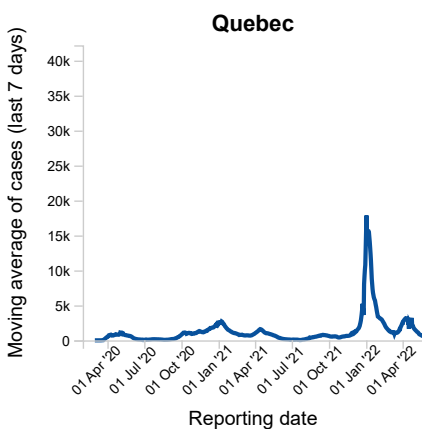
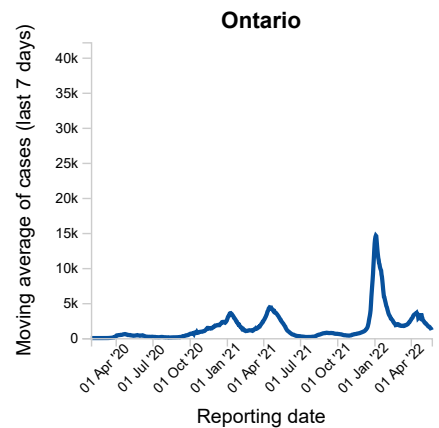
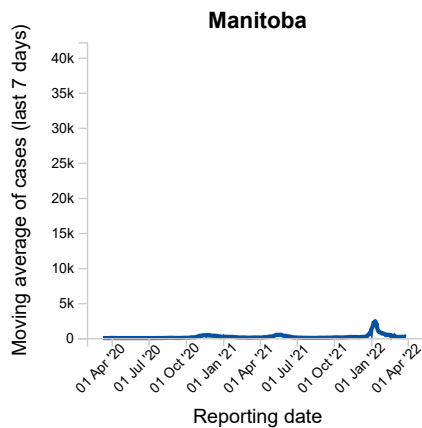
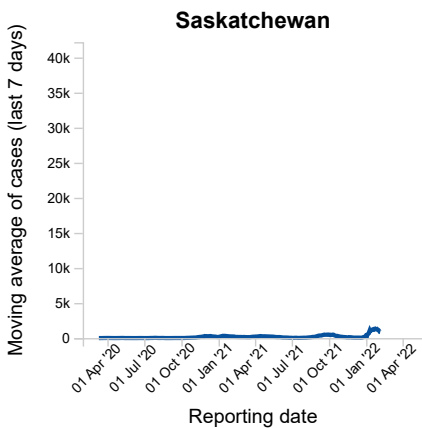
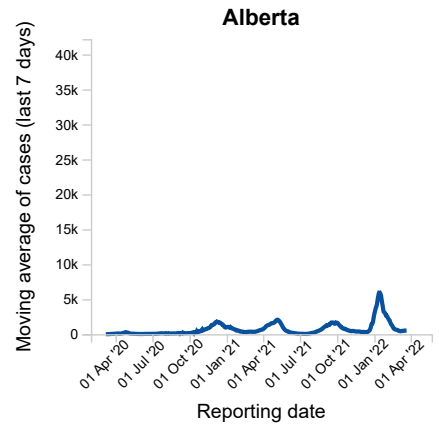
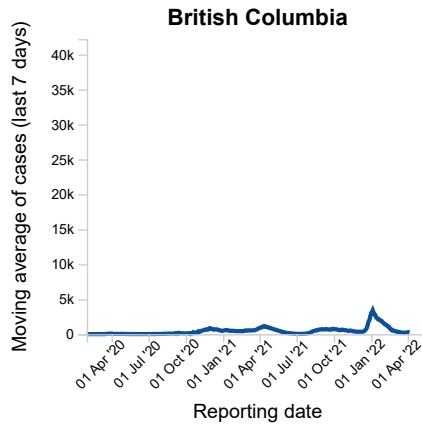
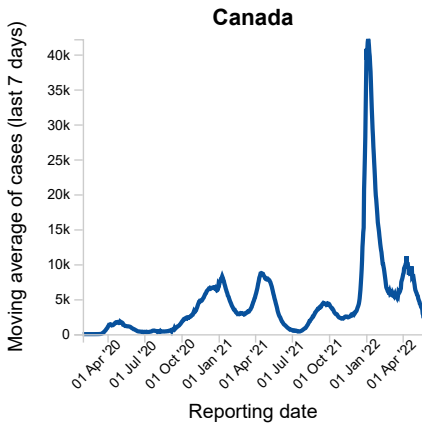
Areas in Canada with cases of COVID-19 as of May 23, 2022

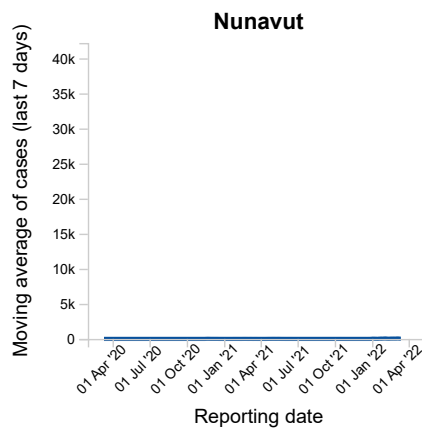
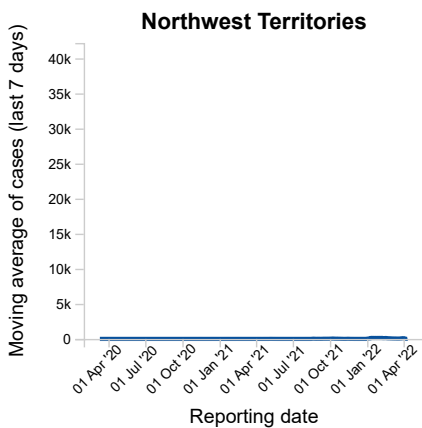
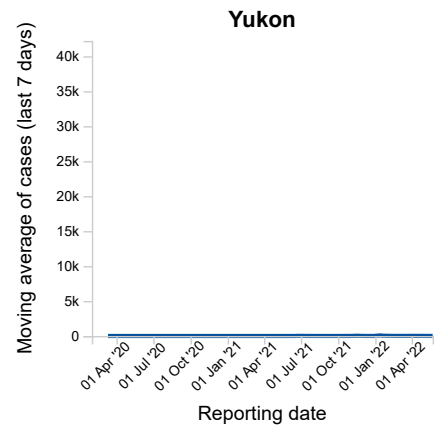
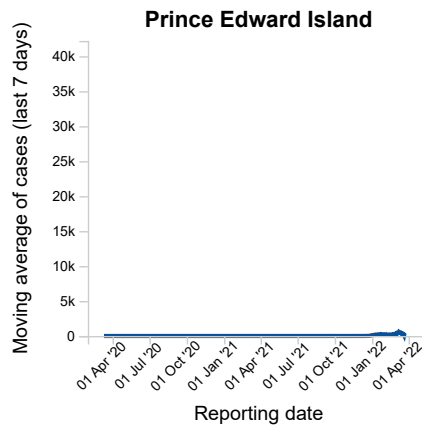
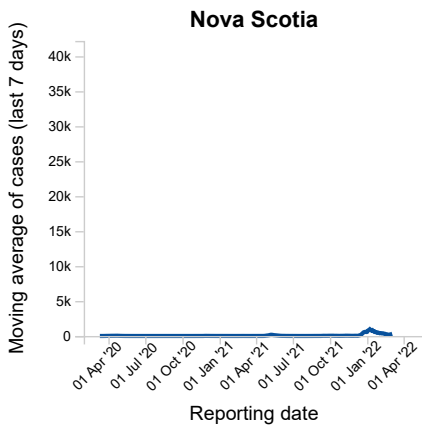
Location	Total cases		Cases last 7 days		Deaths		Deaths last 7 days		Total tests performed	Moving average tests performed last 7 days		Moving average positivity last 7 days
	Count	Rate*	Count	Rate*	Count	Rate*	Count	Rate*	Count	Count	Rate*	Percent
British Columbia	369,202	7,080	N/A	N/A	3,398	65	N/A	N/A	5,994,677	3,206	62	8.7%
Alberta	578,291	13,016	N/A	N/A	4,452	100	N/A	N/A	7,095,267	1,967	44	21.2%
Saskatchewan	137,967	11,694	N/A	N/A	1,364	116	N/A	N/A	1,568,429	915	78	6.5%
Manitoba	143,603	10,378	N/A	N/A	1,913	138	N/A	N/A	1,533,458	712	52	15.6%
Ontario	1,295,499	8,738	7,970	54	13,161	89	89	0.6	24,194,503	13,168	89	10.2%
Quebec	1,062,035	12,343	3,969	46	15,354	178	70	0.8	17,562,191	10,561	123	6.2%
Newfoundland and Labrador	45,409	8,723	N/A	N/A	177	34	N/A	N/A	659,306	632	121	9.1%
New Brunswick	64,490	8,171	N/A	N/A	411	52	N/A	N/A	824,739	768	97	15.3%
Nova Scotia	94,893	9,565	N/A	N/A	378	38	N/A	N/A	1,956,312	1,456	147	21.7%
Prince Edward Island	37,124	22,593	N/A	N/A	33	20	N/A	N/A	260,892	33	20	20.4%
Yukon	4,349	10,117	21	49	25	58	N/A	N/A	9,129	N/A	N/A	N/A
Northwest Territories	11,457	25,178	N/A	N/A	22	48	N/A	N/A	41,451	19	42	10.4%
Nunavut	3,531	8,961	N/A	N/A	7	18	N/A	N/A	39,642	N/A	N/A	N/A
<b>Canada</b>	<b>3,847,863</b>	<b>10,061</b>	<b>16,000</b>	<b>42</b>	<b>40,695</b>	<b>106</b>	<b>222</b>	<b>0.6</b>	<b>61,740,072</b>	<b>33,436</b>	<b>87</b>	<b>10.0%</b>

\* Rate per 100,000 population

Figure 1b. **Moving average** of **cases (last 7 days)** of **COVID-19 in Canada as of May 23, 2022** (Last data update May 24, 2022, 9 am EST)

The figures below show cases over time. The range of dates (January 31st, 2020 - present date) is the same for each figure. This allows you to compare the provinces and territories on the same timescale.





- a. Due to changes in COVID-19 testing policies in many jurisdictions starting in late December 2021, case counts will under estimate the total burden of disease.
- b. This information is based on data from our provincial and territorial partners. Data about cases was last updated on May 23, 2022. Laboratory data includes specimens received by labs up to May 21, 2022. For the most up to date data for any province, territory or city, please visit their web site.
- c. The 7-day moving average is the total of the daily numbers for the previous 7 days (up to and including the day of the last update), divided by the number of days for which data is available. We go back and update the moving averages as provinces and territories submit more data. We calculate the national 7-day moving average by summing the 7-day moving average from the provinces and territories then dividing by the national population if a rate is calculated.
- d. Resulting from the delays in data entry caused by the recent high number of cases, Nova Scotia issued a [press release](#) on December 10 indicating that they would begin announcing the daily number of new cases using laboratory test results, not data from Panorama (their public health disease information system) on the [Nova Scotia COVID-19 Dashboard](#). These reporting changes are expected to be temporary. In the absence of Panorama data, we will report Nova Scotia's cumulative cases up until December 9 and add the daily lab positive cases reported. We will use the estimated number of active cases from Nova Scotia's updates to calculate the number of recoveries as of

December 10. Once Nova Scotia resumes reporting case data from Panorama, our data will be retroactively corrected.

[Downloadable data \(in .csv format\)](#).

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Note: Out of the total number of people tested, 76 were repatriated travellers, of which 13 were cases.



# National overview

There have been over **61,740,072** COVID-19 tests performed in Canada or **1,614,284 tests per 1 million people**. For information about testing trends, please see the [Detailed weekly epidemiological report \(PDF\)](#).

**Table 1. Daily\* change in the number of cases, deaths and tests performed, by province or territory, as of May 23, 2022** (Last data update May 24, 2022, 9 am EST)

Location	New cases	New deaths	Tests performed
British Columbia	N/A	N/A	N/A
Alberta	N/A	N/A	N/A
Saskatchewan	N/A	N/A	542
Manitoba	N/A	N/A	N/A
Ontario	N/A	N/A	N/A
Quebec	326	0	N/A
Newfoundland and Labrador	N/A	N/A	891
New Brunswick	N/A	N/A	N/A
Nova Scotia	N/A	N/A	1,119
Prince Edward Island	N/A	N/A	N/A
Yukon	N/A	N/A	N/A
Northwest Territories	N/A	N/A	N/A
Nunavut	N/A	N/A	N/A
<b>Canada</b>	<b>326</b>	<b>0</b>	<b>2,552</b>

- \* The new cases, deaths and tests reflect the difference between a province or territory's current report and their last report. Some provinces and territories do not update daily.
- N/A means that no daily update was provided by the province or territory.
- Due to changes in COVID-19 testing policies in many jurisdictions starting in late December 2021, case counts will under estimate the total burden of disease.
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# COVID-19 variants in Canada

All viruses, including COVID-19, change over time. These changes are called mutations, and result in variants of the virus. Not all mutations are of concern. Most do not cause more severe illness. However, some mutations result in variants of concern or variants of interest.

A variant of concern has mutations that are significant to public health. Before a variant of interest is considered one of concern, scientists and public health professionals must determine if the mutations result in an actual change in the behaviour of the virus. For example, it might:

- spread more easily
- cause more severe illness
- require different treatments, or
- reduce vaccine effectiveness

There are several variants of interest that have mutations similar to variants of concern, but we don't yet know if they pose a higher risk to public health.

The Public Health Agency of Canada (PHAC) works with provincial and territorial partners and the Canadian COVID-19 Genomics Network ([CanCOGeN](#)), to sequence a percentage of all positive COVID-19 test results. Sequencing reveals the genetic code of the virus, which tells us which variant is involved in a specific case of COVID-19. We report the proportion of COVID-19 variants in Canada every week.

We collect evidence to determine if new variants meet the definition for a variant of concern or a variant of interest. Many variants are being tracked across Canada and around the world. Variants of concern now represent a majority of COVID-19 cases in Canada.

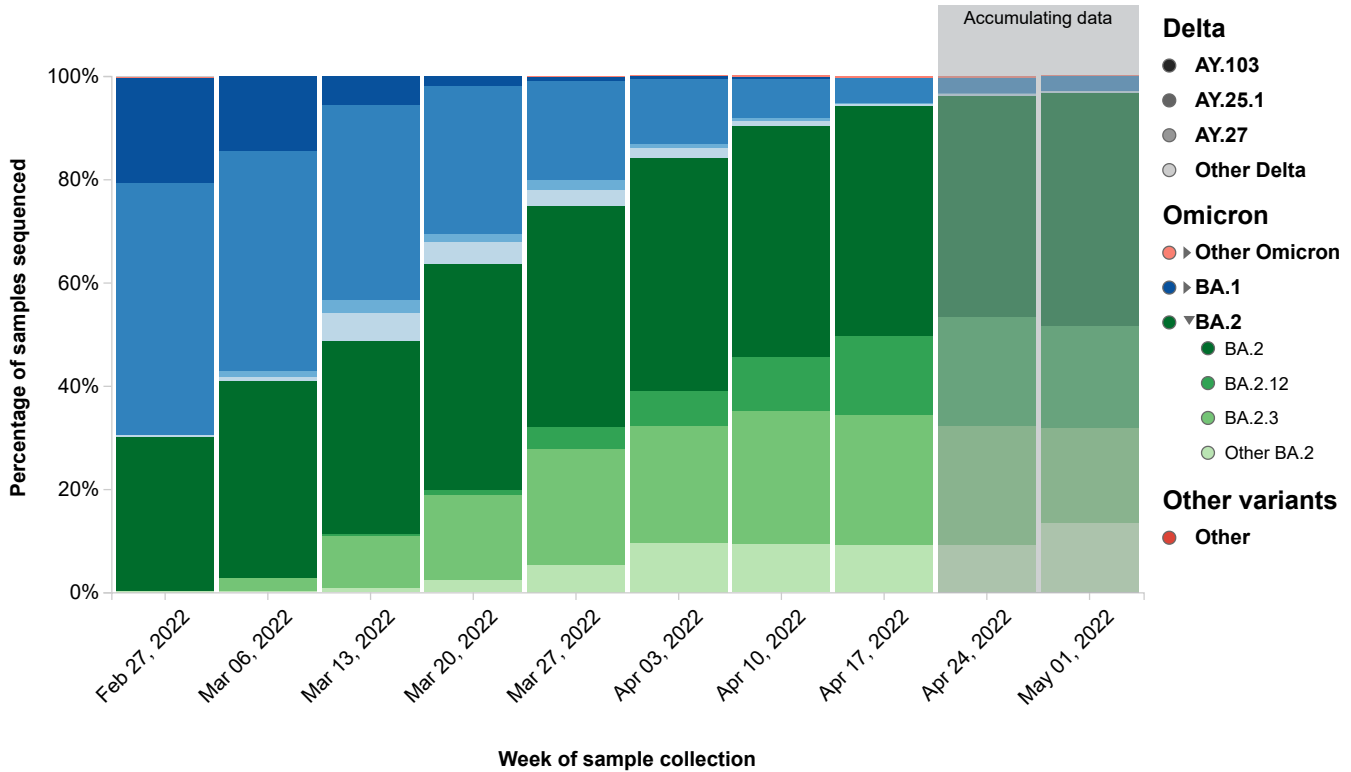
Current variants of concern in Canada include:

- Alpha (B.1.1.7)
- Beta (B.1.351)
- Gamma (P.1)
- Delta (B.1.617.2)
- Omicron (B.1.1.529)

New variants will continue to appear. We must remain vigilant and take all available measures to limit spread.

**Figure 2. Weekly variant breakdown** Updated: May 20, 2022, 4 pm EDT

The graphic shows the percentage mix of COVID-19 variants detected in Canada through whole genome sequencing, by week of sample collection. You can see the numbers for each date by hovering over, tabbing to, or long-pressing any of the bars. To see a specific variant or variant grouping, click or press return. Repeat to restore the complete graph. Sublineages or offshoots for some variants can be revealed or hidden by clicking on the name of the variant in the legend.



This information is based on whole genome sequencing from surveillance testing in all provinces and territories. In addition to sequencing done by the National Microbiology Laboratory in Winnipeg, data is included from provincial and territorial laboratories.

Sequencing takes from 1 to 3 weeks to complete, so the proportions for recent weeks may change as more data are added. Surveillance in each province or territory is organized and prioritized according to local needs and may change from time to time. Because of differences in local sampling and reporting, the percentages illustrate trends rather than precise measurements.

## Weekly variant breakdown

Percentage of COVID-19 cases identified through whole genome sequencing, presented by variant and by week of sample collection.

Variant Grouping	Feb 27, 2022 (n=3,949)	Mar 06, 2022 (n=4,019)	Mar 13, 2022 (n=4,165)	Mar 20, 2022 (n=4,964)	Mar 27, 2022 (n=4,997)	Apr 03, 2022 (n=5,238)	Apr 10, 2022 (n=4,420)	Apr 17, 2022 (n=4,778)	Apr 24, 2022 (n=3,907)	May 2022 (n=1
<b>Delta</b>	<b>0.1%</b>	-	-	-	<b>0.0%</b>	-	-	<b>0.0%</b>	<b>0.0%</b>	-
AY.103	-	-	-	-	-	-	-	<b>0.0%</b>	-	-
AY.25.1	<b>0.0%</b>	-	-	-	<b>0.0%</b>	-	-	-	<b>0.0%</b>	-
AY.27	-	-	-	-	-	-	-	-	<b>0.0%</b>	-
Other Delta	<b>0.1%</b>	-	-	-	-	-	-	-	-	-
<b>Omicron</b>	<b>99.8%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>99.9%</b>	<b>100.0%</b>	<b>100.1%</b>	<b>100.0%</b>	<b>99.9%</b>	<b>100.0%</b>	<b>100</b>
Other Omicron	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.3%</b>	<b>0.2%</b>
B.1.1.529	0.1%	-	0.0%	-	-	-	-	-	-	-
BA.3	-	0.0%	-	0.0%	0.1%	0.1%	0.2%	0.1%	0.1%	-
BA.4	-	-	-	-	-	0.0%	-	0.1%	0.2%	0.1%
BA.5	-	-	-	-	-	-	0.0%	-	0.0%	0.1%
<b>BA.1</b>	<b>69.5%</b>	<b>59.1%</b>	<b>51.3%</b>	<b>36.4%</b>	<b>25.0%</b>	<b>15.8%</b>	<b>9.5%</b>	<b>5.5%</b>	<b>3.5%</b>	<b>3.3%</b>
BA.1	20.5%	14.4%	5.6%	1.9%	0.9%	0.5%	0.3%	0.1%	0.1%	-
BA.1.1	48.8%	42.7%	37.8%	28.6%	19.1%	12.6%	7.7%	4.7%	2.9%	2.8%
BA.1.1.16	0.0%	1.1%	2.5%	1.5%	1.9%	0.9%	0.4%	0.3%	0.2%	-
Other BA.1	0.2%	0.9%	5.4%	4.4%	3.1%	1.8%	1.1%	0.4%	0.3%	0.5%
<b>BA.2</b>	<b>30.2%</b>	<b>40.9%</b>	<b>48.7%</b>	<b>63.5%</b>	<b>74.9%</b>	<b>84.2%</b>	<b>90.3%</b>	<b>94.2%</b>	<b>96.2%</b>	<b>96.6%</b>
BA.2	29.9%	38.0%	37.4%	43.6%	42.9%	45.3%	44.7%	44.5%	42.9%	45.0%
BA.2.12	-	0.1%	0.3%	1.0%	4.1%	6.6%	10.4%	15.4%	21.0%	19.8%
BA.2.3	0.1%	2.5%	10.1%	16.6%	22.6%	22.8%	25.8%	25.0%	23.1%	18.4%
Other BA.2	0.2%	0.3%	0.9%	2.3%	5.3%	9.5%	9.4%	9.3%	9.2%	13.4%
<b>Other variants</b>	<b>0.2%</b>	-	-	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>0.1%</b>
Other	<b>0.2%</b>	-	-	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>0.1%</b>

**Note:** The shaded columns on the right represent a period of accumulating data.

### **Contributing laboratories:**

- Saskatchewan - Roy Romanow Provincial Laboratory (RRPL)
- Public Health Ontario (PHO)
- Newfoundland and Labrador - Eastern Health
- New Brunswick - Vitalité Health Network
- Manitoba Cadham Provincial Laboratory
- Laboratoire de santé publique du Québec (LSPQ)
- BCCDC Public Health Laboratory
- Alberta Precision Labs (APL)
- National Microbiology Laboratory (NML) - supplemental sequencing for all provinces and territories

## **Detailed case information**

The tables and figures below reflect detailed case information provided to the Public Health Agency of Canada (PHAC) by health authorities in the provinces and territories. This data is updated every week. It may change as we get more information about cases.

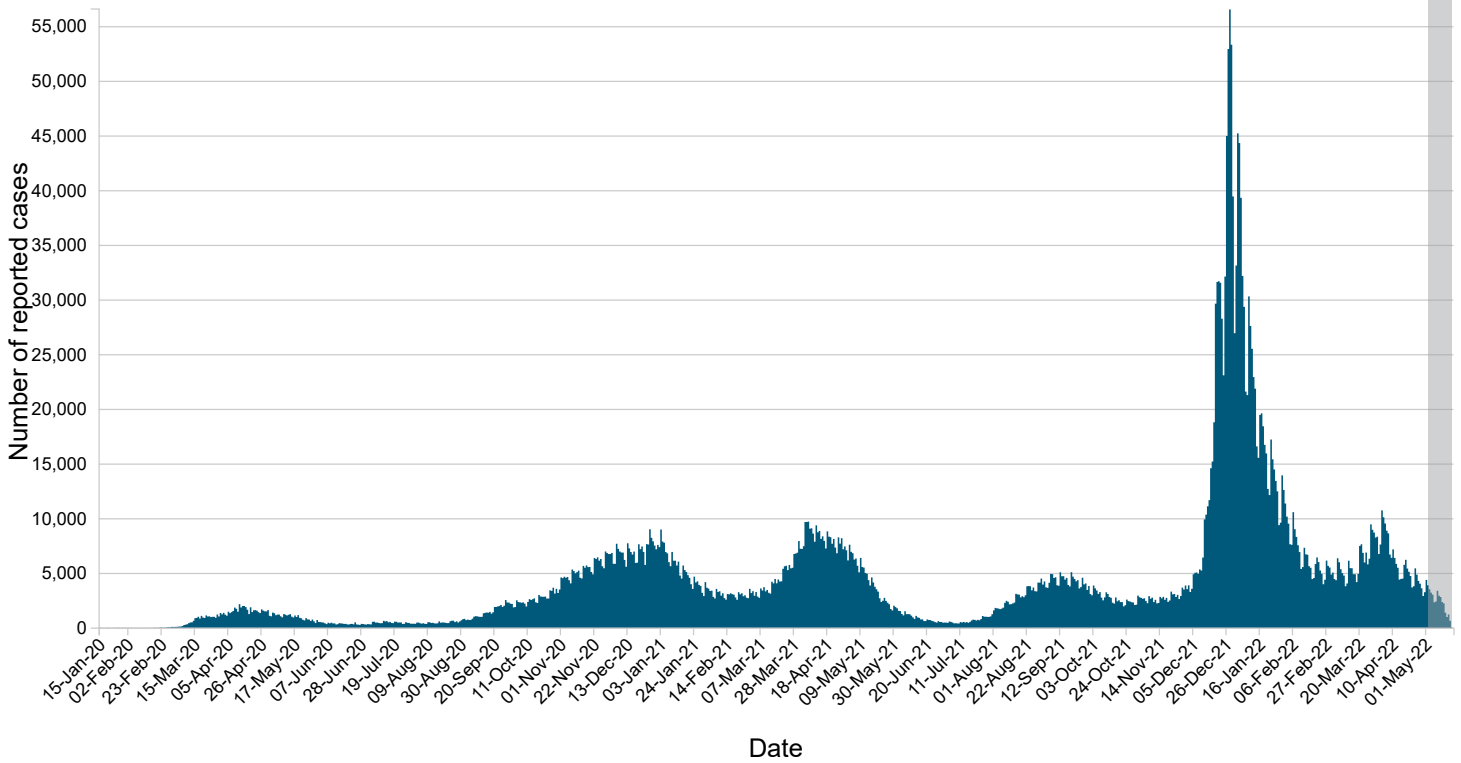
Updated: May 20, 2022, 9 am EST

## **Epidemic curve**

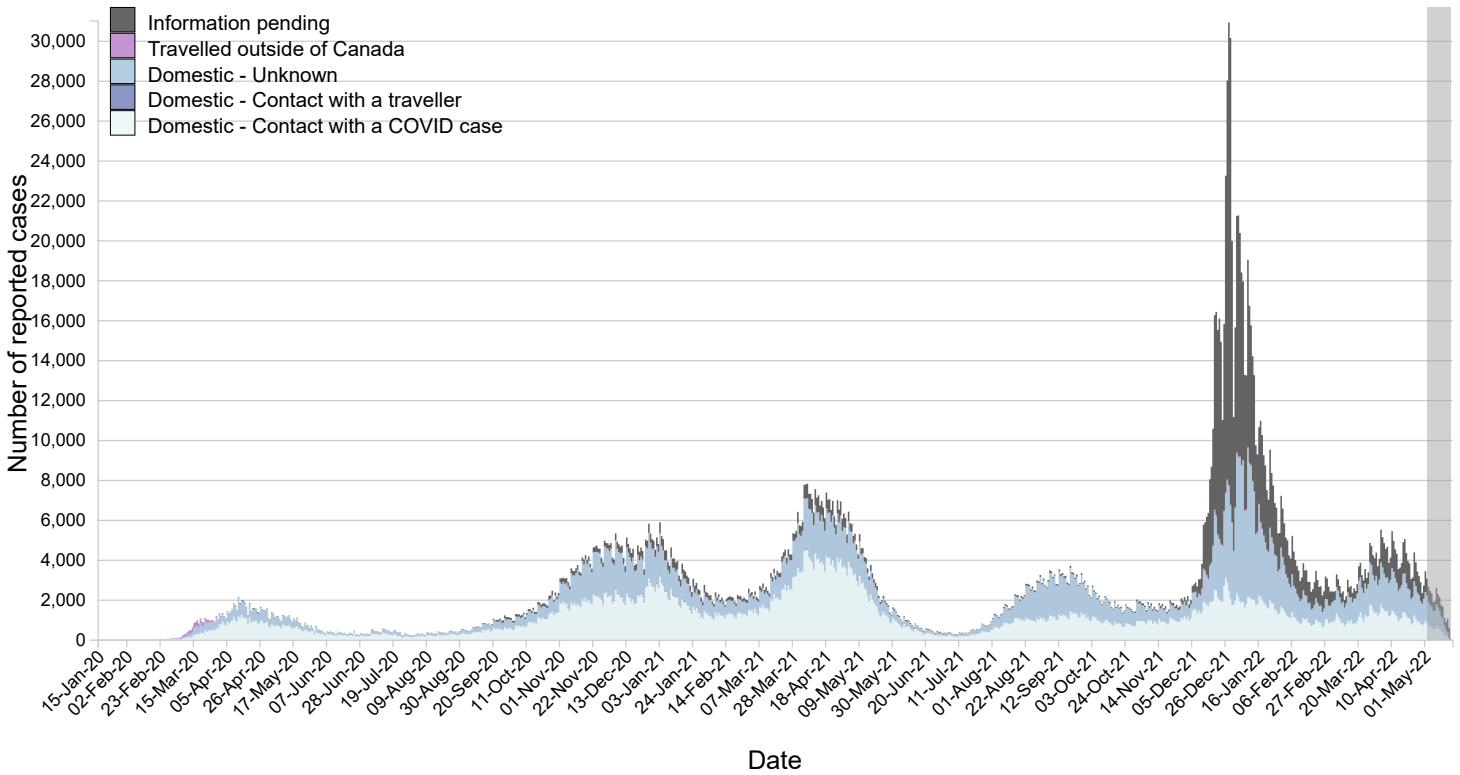
As of May 20, 2022, 9 am EST, PHAC has received detailed case report data on 3,701,227 cases. Both exposure and symptom onset date were available for 2,385,744 (64.5%) cases <sup>1</sup>.

The shaded area on the far right of Figure 3 represents a period of accumulating data. This is the period of time (1 to 2 weeks) before the latest cases are reported to PHAC. This delay is a result of the time required to seek health care, get tested and receive results. It also takes time for public health authorities to gather information on cases. We update this information as it becomes available.

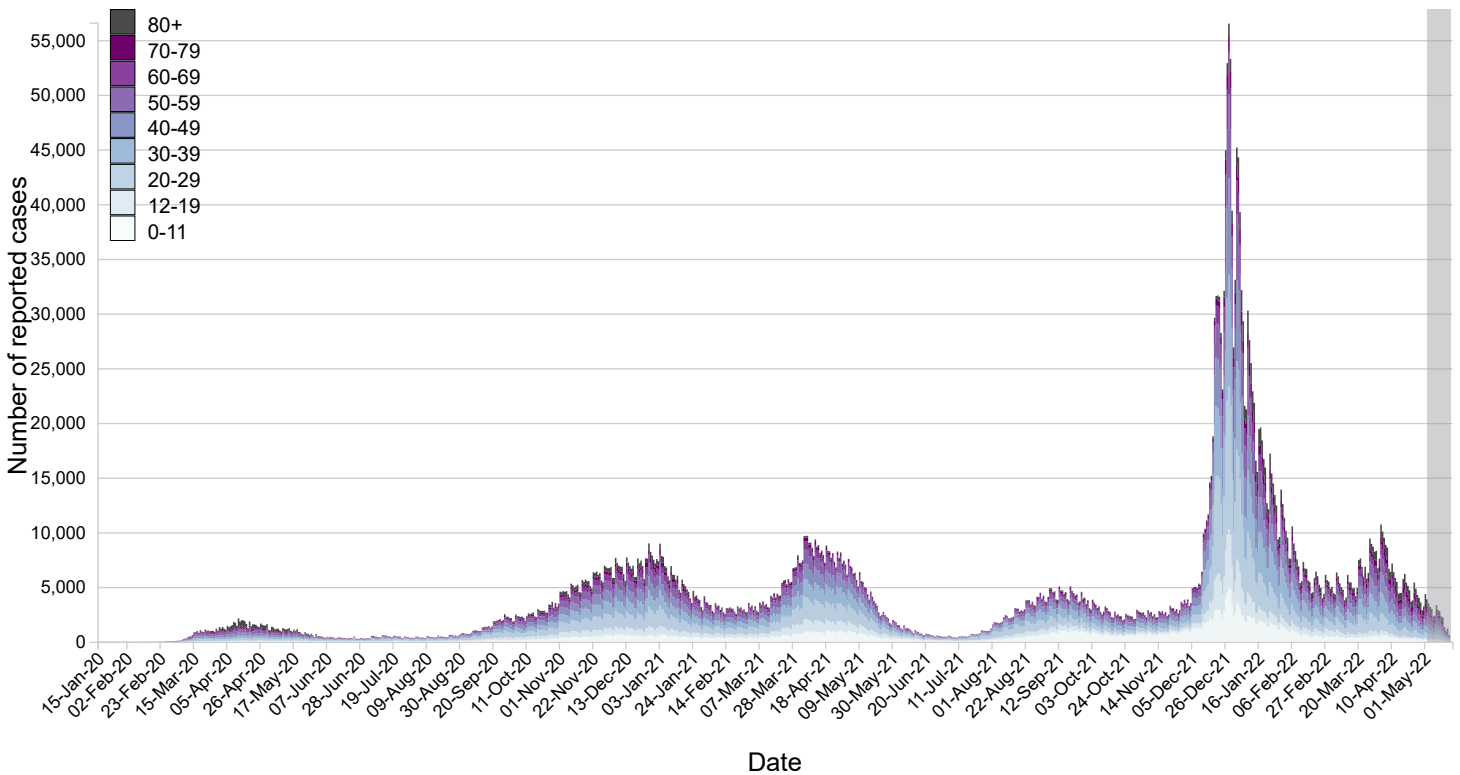
Figure 3. COVID-19 cases (n=3,701,227 <sup>1</sup>) in Canada by date <sup>2</sup> as of May 20, 2022, 9 am EST (total cases)



**Figure 3. COVID-19 cases (n=2,385,744 <sup>1</sup>) in Canada by date <sup>2</sup> as of May 20, 2022, 9 am EST (by exposure)**

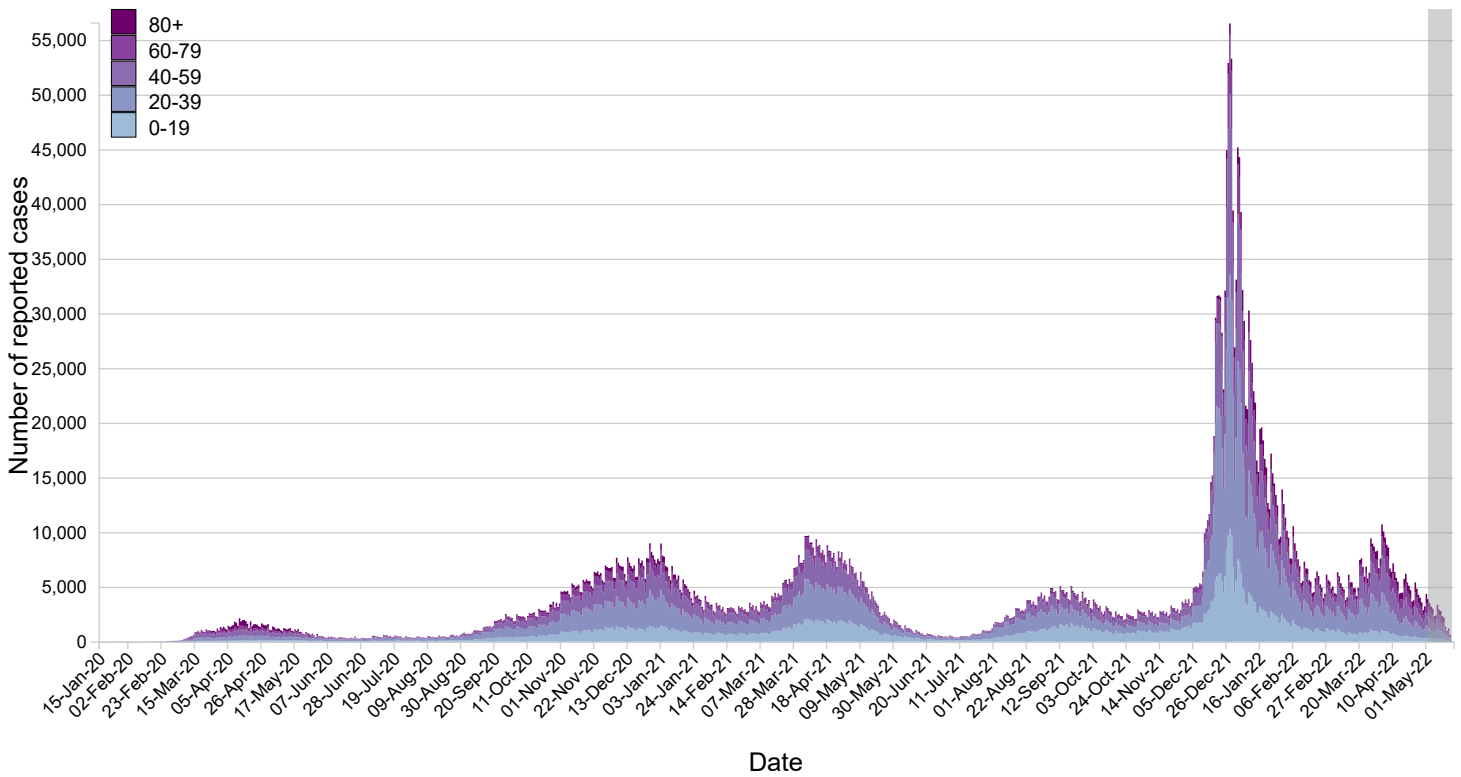


**Figure 3. COVID-19 cases (n=3,700,108 <sup>1</sup>) in Canada by date <sup>2</sup> as of May 20, 2022, 9 am EST (by age - 10 year groups)**





**Figure 3. COVID-19 cases (n=3,700,108 <sup>1</sup>) in Canada by date <sup>2</sup> as of May 20, 2022, 9 am EST (by age - 20 year groups)**



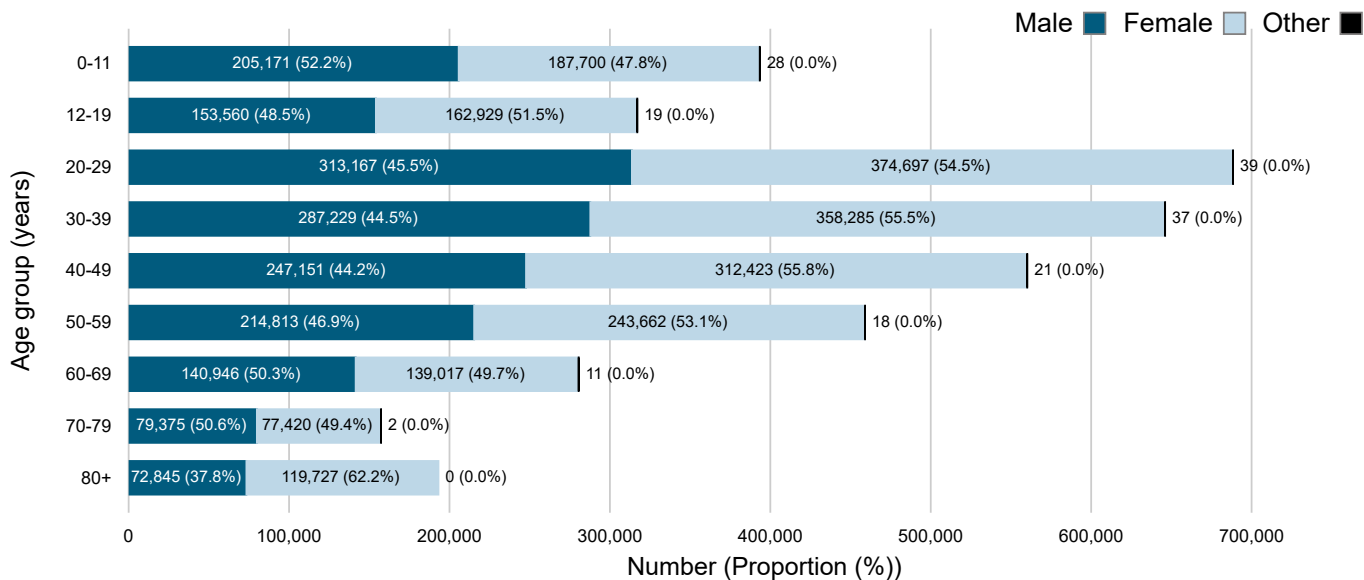
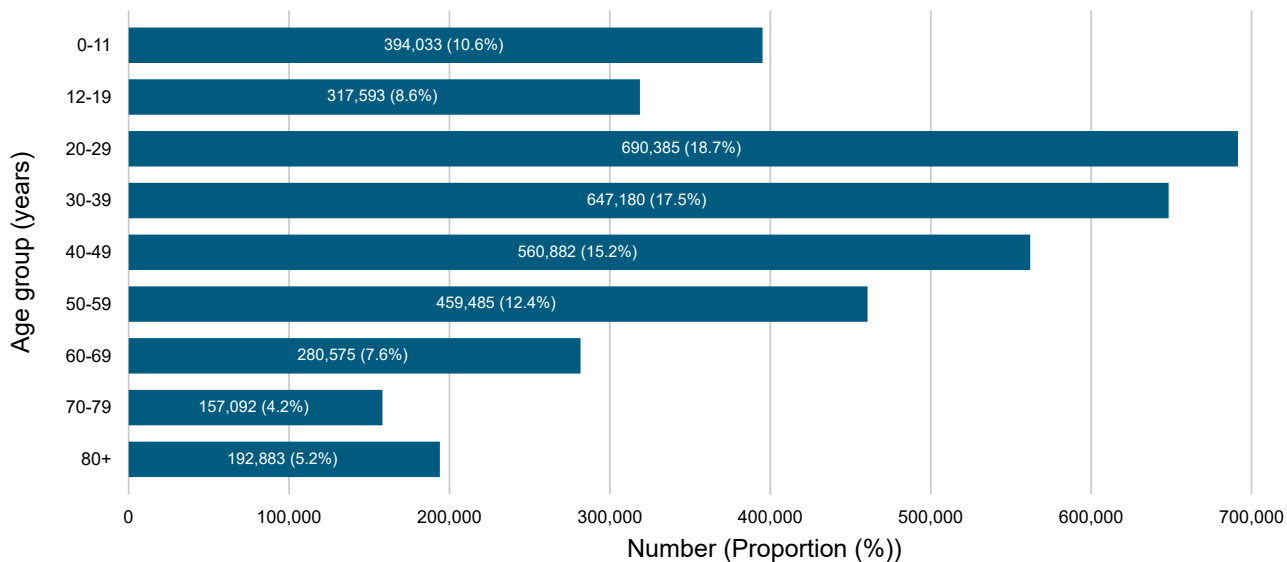
This figure may underestimate the total number of cases among returning travelers. Exposure history is not available for all cases and jurisdictions have not all consistently reported exposure history to PHAC throughout the pandemic.

# Demographics

We have detailed case report data from 3,701,227 cases. We know the age of patients in 99.97% of cases, and both age and gender in 99.70% of cases.

Of the cases reported in Canada so far, 53.5% were female and 36.1% were between 20 and 39 years old (Figure 4).

Figure 4.  distribution of COVID-19 cases (n=3,700,108 <sup>1</sup>) in Canada as of May 20, 2022, 9 am EST <sup>4</sup>



**Age by gender <sup>4</sup> distribution of COVID-19 cases (n=3,700,108 <sup>1</sup>) in Canada, May 20, 2022, 9 am EST**

Age group (years)	Number of cases with case reports (percentage)	Number of male cases (percentage)	Number of female cases (percentage)	Number of other cases (percentage)
0-11	394,033 (10.6%)	205,171 (12.0%)	187,700 (9.5%)	28 (16.0%)
12-19	317,593 (8.6%)	153,560 (9.0%)	162,929 (8.2%)	19 (10.9%)
20-29	690,385 (18.7%)	313,167 (18.3%)	374,697 (19.0%)	39 (22.3%)
30-39	647,180 (17.5%)	287,229 (16.8%)	358,285 (18.1%)	37 (21.1%)
40-49	560,882 (15.2%)	247,151 (14.4%)	312,423 (15.8%)	21 (12.0%)
50-59	459,485 (12.4%)	214,813 (12.5%)	243,662 (12.3%)	18 (10.3%)
60-69	280,575 (7.6%)	140,946 (8.2%)	139,017 (7.0%)	11 (6.3%)
70-79	157,092 (4.2%)	79,375 (4.6%)	77,420 (3.9%)	2 (1.1%)
80+	192,883 (5.2%)	72,845 (4.2%)	119,727 (6.1%)	0 (0.0%)
Total	3,700,108 (100%)	1,714,257 (100%)	1,975,860 (100%)	175 (100%)

## How people were exposed <sup>3</sup>

In  , detailed case report data were provided for 3,701,227 cases. We have exposure history for 2,385,744 (64.5%) cases. The probable exposure setting of these cases <sup>1</sup> are:

- any exposure that occurred in Canada: **1,803,070 (75.6%)**, including
  - from contact with a known COVID case: **935,627 (39.2%)**
  - from contact with a traveller: **10,227 (0.4%)**
  - from an unknown source: **857,216 (35.9%)**
- currently unknown (information pending): **564,668 (23.7%)**
- travelled outside of Canada: **18,006 (0.8%)**

# Cases following vaccination

Data extracted on May 13, 2022 for cases from December 14, 2020 up until May 01, 2022.

## **i** Changes to update schedule

We're adjusting our update schedule to reflect recent changes in how often this data is reported to us.

- Cases following vaccination (rate ratio indicators) will be updated the week of May 23, 2022, and every 4 weeks after that.
- We'll continue our weekly updates of case counts and distributions of cases following vaccination.

While the COVID-19 vaccines are highly effective at preventing severe outcomes, a percentage of the population who are vaccinated may become infected with COVID-19 if they are exposed to the virus that causes it. This means that even with high vaccine effectiveness, a percentage of people who are vaccinated against COVID-19 will still get sick and some may be hospitalized or die.

It is also possible that a person could be infected just before or just after vaccination and still get sick. It typically takes about two weeks for the body to build protection after vaccination, so a person could get sick if the vaccine has not had enough time to provide protection.

As the majority of Canadians are now vaccinated, counts will inherently be higher within this population, compared to the unvaccinated population. However, risk among this population may be lower, despite higher case counts.

Due to the rapid increase in cases starting December 2021, delays in data entry, and changes in COVID-19 testing policies in many jurisdictions, case counts will under estimate the total burden of disease, and may over-represent people at risk of severe disease. Data should be interpreted with caution.

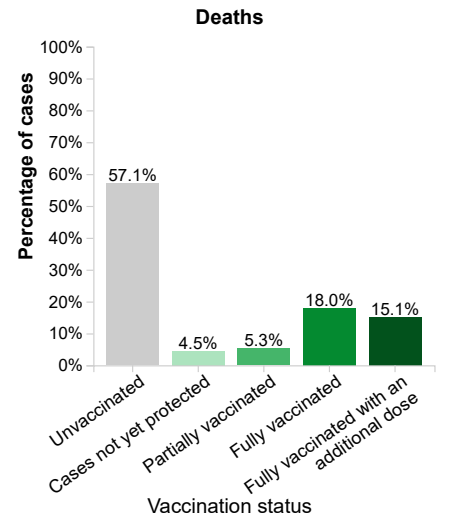
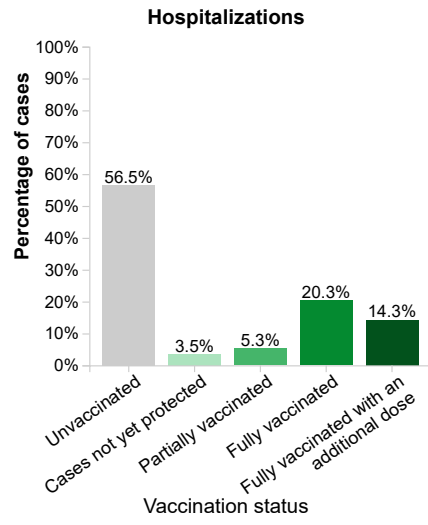
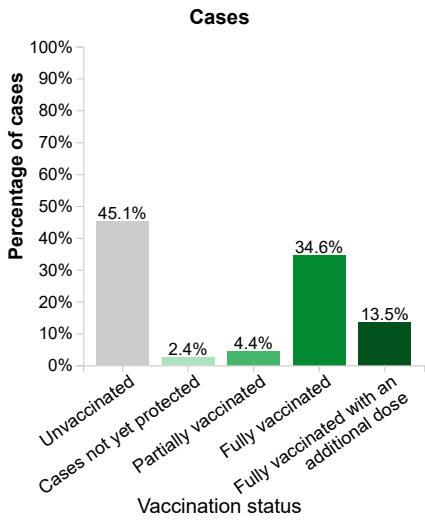
## Cases reported since the start of the vaccination campaign, as of May 01, 2022

Since the start of the vaccination campaign on December 14, 2020, PHAC received case-level vaccine history data for 71.9% (n=2,128,481) of COVID-19 cases aged 5 years or older.

Of these cases:

- 960,184 (45.1%) were unvaccinated at the time of their episode date
- 51,704 (2.4%) were not yet protected by the vaccine
- 93,388 (4.4%) were only partially vaccinated
- 736,731 (34.6%) were fully vaccinated
- 286,474 (13.5%) were fully vaccinated with an additional dose

Figure 5. **Distribution** of confirmed COVID-19 cases reported to PHAC by vaccination status as of May 01, 2022



## Characteristics and severe outcomes associated unvaccinated, partially vaccinated and fully vaccinated confirmed cases reported to PHAC, as of May 01, 2022

Status	Cases	Hospitalizations	Deaths
Unvaccinated	45.1%	56.5%	57.1%
Cases not yet protected	2.4%	3.5%	4.5%
Partially vaccinated	4.4%	5.3%	5.3%
Fully vaccinated	34.6%	20.3%	18.0%
Fully vaccinated with an additional dose	13.5%	14.3%	15.1%

Among the twelve jurisdictions that have reported case-level vaccine history data to PHAC, a total of 25.1 million people have received at least one dose of the COVID-19 vaccine as of May 01, 2022.

Of these people:

- 25.0 million achieved partial vaccination status, of which 93,388 (0.37%) were diagnosed with COVID-19 while partially vaccinated
- 24.0 million achieved full vaccination status, of which 736,731 (3.07%) were diagnosed with COVID-19 while fully vaccinated
- 13.8 million achieved full vaccination with an additional dose status, of which 286,474 (2.07%) were diagnosed with COVID-19 while fully vaccinated with an additional dose

Based on detailed case information reported to PHAC from provinces and territories, cases following vaccination were reported more frequently among females (Table 2). This may be the result of higher vaccination coverage in Canada among females due to the prioritization of healthcare workers as part of the vaccine rollout.

**Table 2. Characteristics and severe outcomes among unvaccinated, partially vaccinated, fully vaccinated, and fully vaccinated with additional dose confirmed cases reported to PHAC, as of May 01, 2022**

		Unvaccinated (n=960,184)	Cases not yet protected (n=51,704)	Partially vaccinated (n=93,388)	Fully vaccinated (n=736,731)	Fully vaccinated with an additional dose (n=286,474)	Total cases (n=2,128,481)
<b>Gender*</b>	Male	488,426 (49.3%)	25,322 (2.6%)	45,559 (4.6%)	325,048 (32.8%)	105,785 (10.7%)	990,140 (100%)
	Female	471,758 (49.1%)	26,382 (2.6%)	47,829 (4.6%)	411,683 (32.8%)	180,690 (10.7%)	1,138,342 (100%)

		<b>Unvaccinated</b> (n=960,184)	<b>Cases not yet protected</b> (n=51,704)	<b>Partially vaccinated</b> (n=93,388)	<b>Fully vaccinated</b> (n=736,731)	<b>Fully vaccinated with an additional dose</b> (n=286,474)	<b>Total cases</b> (n=2,128,481)
	Female	467,830 (41.4%)	26,307 (2.3%)	47,625 (4.2%)	409,598 (36.2%)	179,871 (15.9%)	1,131,231 (100%)
<b>Hospitalizations</b>		52,009 (56.5%)	3,267 (3.5%)	4,888 (5.3%)	18,721 (20.3%)	13,172 (14.3%)	92,057 (100%)
<b>Deaths</b>		10,098 (57.1%)	796 (4.5%)	938 (5.3%)	3,189 (18.0%)	2,677 (15.1%)	17,698 (100%)

**Source:** Detailed case information received by PHAC from provinces and territories, since December 14, 2020

**Note:**

- Twelve of thirteen provinces and territories have reported case-level vaccine history data to PHAC as part of the national COVID-19 dataset.
  - Eight of these provinces and territories have reported data on cases fully vaccinated with an additional dose. In provinces and territories that have not yet reported additional dose data, cases are classified as fully vaccinated if they are fully vaccinated or fully vaccinated with an additional dose.
- A data cut-off of May 01, 2022 was used to account for routine reporting delays associated with vaccine history information.
- Data on cases fully vaccinated with an additional dose are limited to the eligible population aged 12 years or older.
- Beginning February 6, 2022, cases following vaccination analyses are updated with data up to and including the previous Sunday to align with changes in vaccination coverage reporting. To account for this change in reporting, data for the week ending January 30, 2022 contains an extra day of case-level vaccine history data for most provinces and territories. This change will not be implemented retroactively.
- \*Where available, gender data was used; when gender data was unavailable, sex data was used. Cases with missing gender and sex data were excluded from the gender analysis. Reliable data on gender diverse respondents are unavailable due to small counts.

Individuals fully vaccinated and fully vaccinated with an additional dose who were diagnosed with COVID-19 were significantly protected from severe outcomes. From March 28, 2022 to April 24, 2022, compared to fully vaccinated cases, unvaccinated cases were 4 times more likely to be hospitalized and 4 times more likely to die as a result of their illness. Compared to cases fully vaccinated with an additional dose, unvaccinated cases were 6 times more likely to be hospitalized and 7 times more likely to die as a result of their illness, during this same 4-week period (Table 3).

**Table 3. Risk of severe outcomes among unvaccinated cases, compared to fully vaccinated cases and cases fully vaccinated with an additional dose, March 28, 2022 to April 24, 2022**

<b>Severe Outcome</b>	<b>4-week age standardized* rate ratio, unvaccinated compared to fully vaccinated</b>	<b>4-week age standardized* rate ratio, unvaccinated compared to fully vaccinated with an additional dose</b>
Hospitalizations	4	6
Deaths	4	7

\*Age-standardized using July 2021 Canadian population estimates

Source: Detailed case information received by PHAC from provinces and territories

**Note:**

- Rate ratio calculations were based on data from 8 provinces and territories that have reported complete case-level vaccine history data to PHAC during the 4-week period of analysis.

Data for this analysis is extracted from the COVID-19 national data set, which contains detailed case-level information received by PHAC from all provinces and territories. Note that a data cut-off of May 01, 2022 was used to account for any reporting delays associated with vaccine history information. There are currently twelve jurisdictions reporting case-level vaccine history data to PHAC as part of the national COVID-19 dataset.

PHAC monitors cases following vaccination using the following categories:

**Unvaccinated cases:** include those who were unvaccinated at the time of their episode date.

**Cases not yet protected from vaccination** include those whose episode date occurred less than 14 days after their first dose of the vaccine.

**Partially vaccinated cases** include those whose episode date occurred 14 days or more after their first vaccine dose or less than 14 days after their second dose of the vaccine.

**Fully vaccinated cases** include those whose episode date occurred 14 days or more after receipt of a second dose in a two-dose series or 14 days or more after receipt of one dose of a one-dose vaccine series, and, if an additional (i.e., third or booster) dose was received, 0 to <14 days after receipt of the additional dose.

**Fully vaccinated cases with an additional dose** include those whose episode date occurred 14 days or more following the receipt of at least one additional dose (e.g., third or booster) of a COVID-19 vaccine product, after being fully vaccinated.

**Note:** A COVID-19 vaccine product includes vaccines authorized by Health Canada and vaccines accepted by the Government of Canada for the purpose of travel to and within Canada.



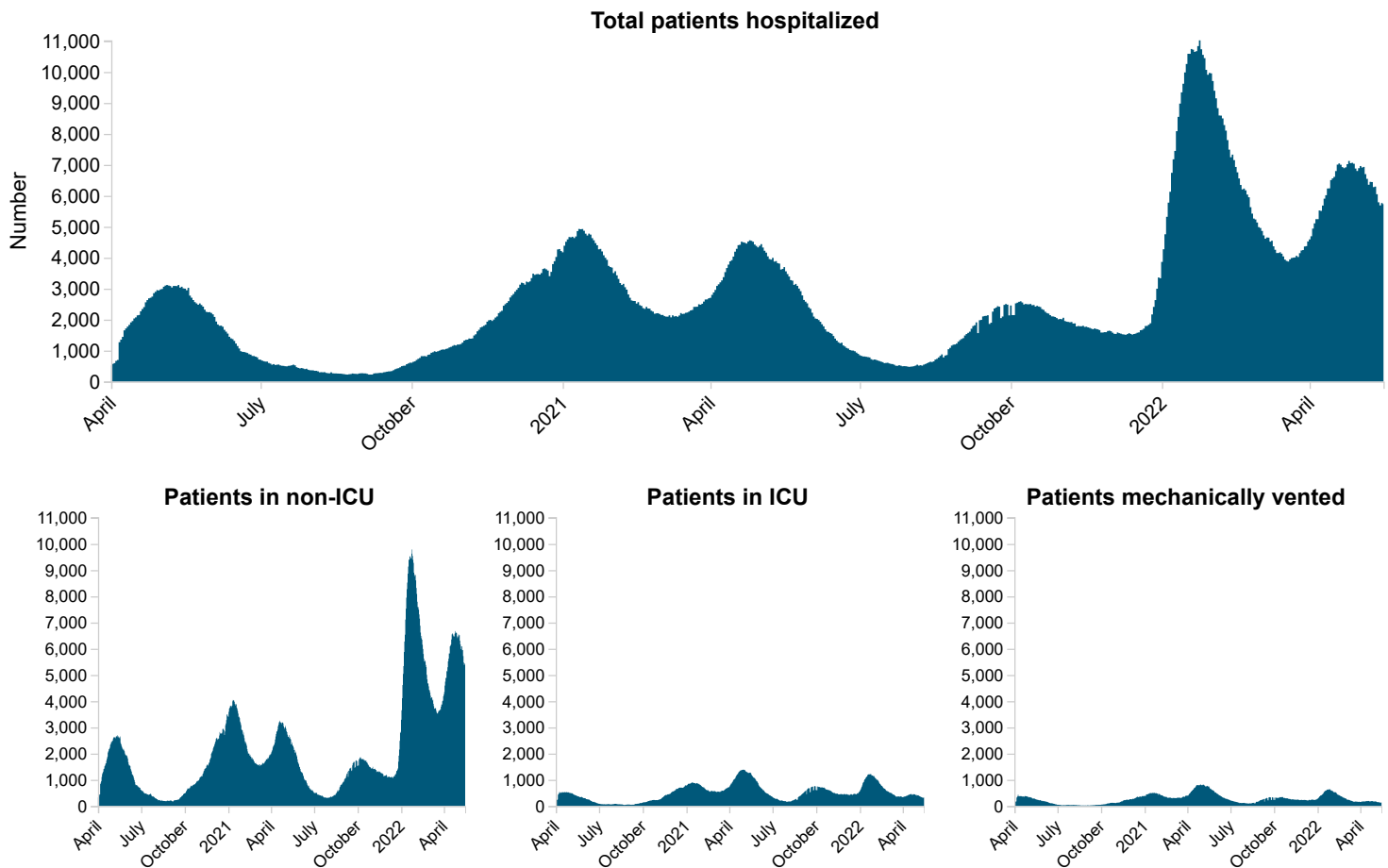
When symptom onset date is unavailable or the case is asymptomatic, episode date uses the following dates as a proxy for classification: laboratory specimen collection date, or laboratory testing date.

For more information on cases following vaccination, please see the Weekly epidemiology report (PDF) available on the Government of Canada's [COVID-19 data trends](#) page.

## Severe illness and outcomes

### Hospital use

Figure 6. Daily number of hospital beds and ICU beds occupied by COVID-19 patients as of May 16, 2022



Between May 9, 2022 and May 16, 2022:

- the total number of **hospital beds** occupied by COVID-19 patients **decreased** from **6,445** to **5,732** beds.
- the number of **non-ICU beds** occupied by COVID-19 patients **decreased** from **6,093** to **5,406** beds.
- the number of **ICU beds** occupied by COVID-19 patients **decreased** from **352** to **326** beds.
- the number of **COVID-19 patients who were mechanically vented** decreased from **145** to **138**.

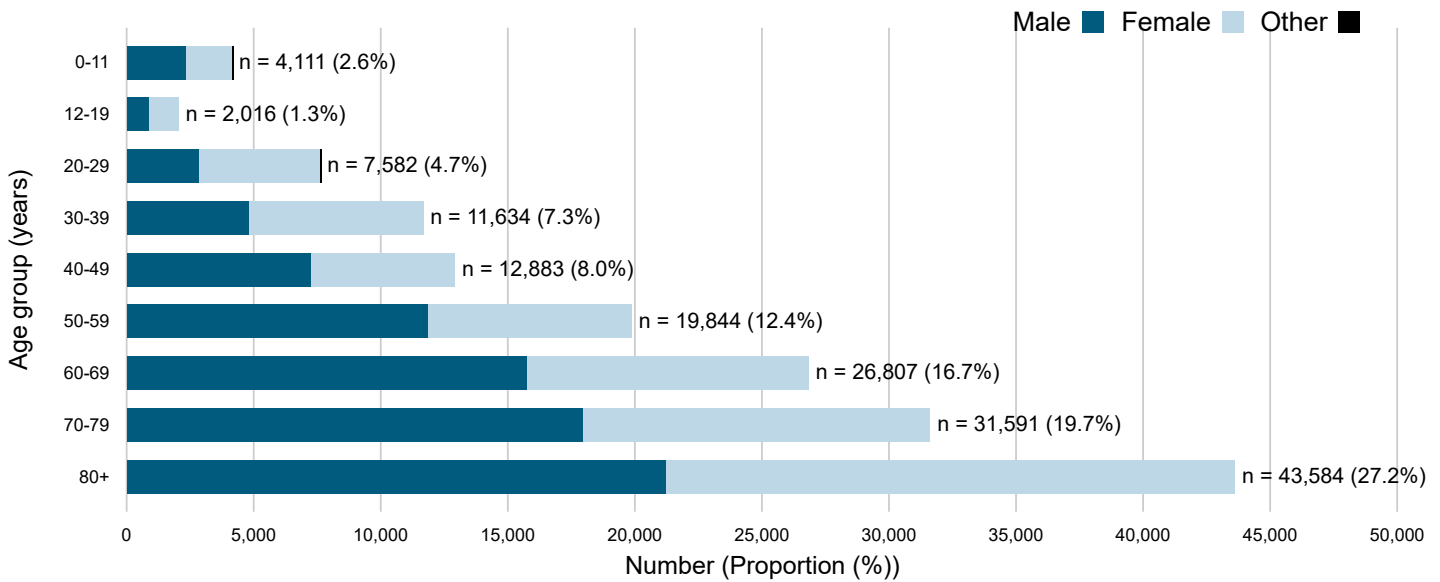
### Hospitalizations and deaths to date

We have detailed case report data with hospitalization status for 3,642,087 cases:

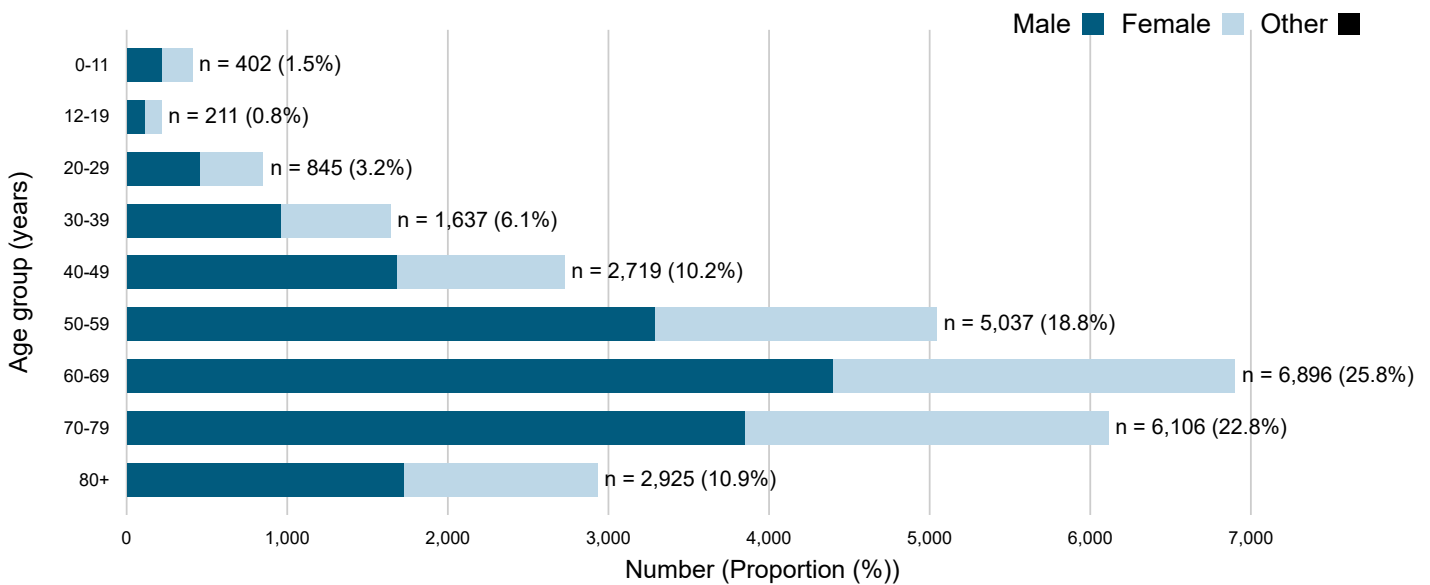
- **160,238 cases (4.4%)** were hospitalized, of whom:
  - **26,815 (16.7%)** were admitted to the ICU

The provinces and territories provided detailed case report forms for **40,743** deaths related to COVID-19.

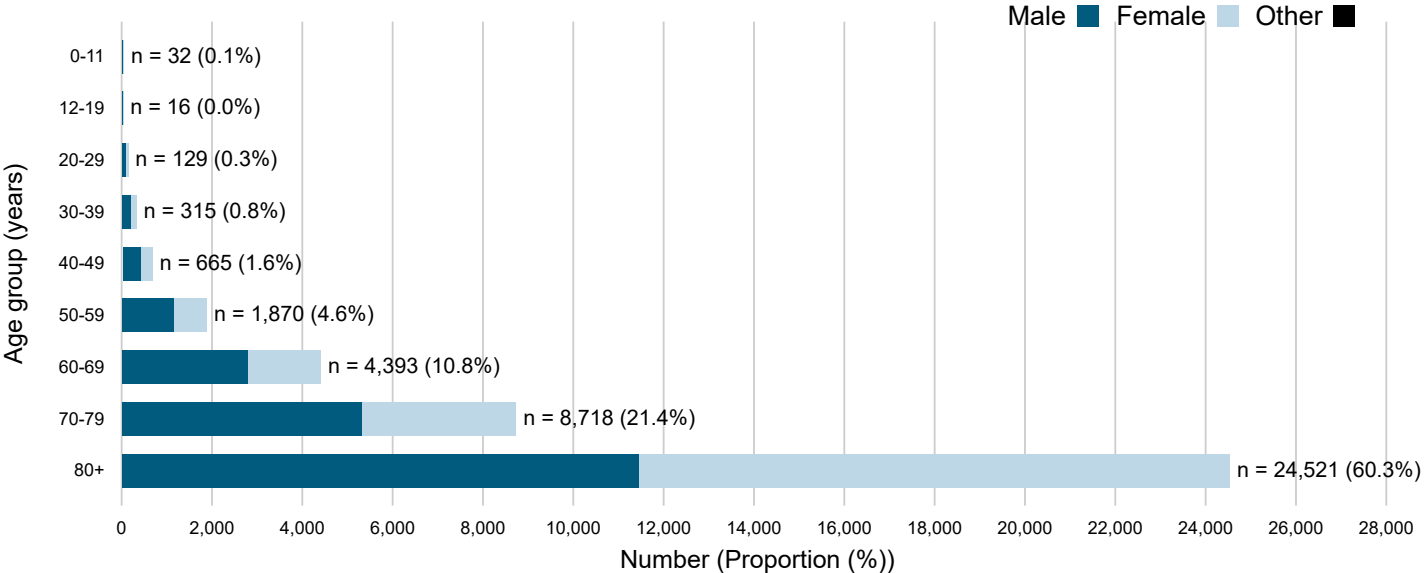
**Figure 7a. Age and gender<sup>4</sup> distribution of COVID-19 cases hospitalized in Canada as of May 20, 2022, 9 am EST (n=160,052<sup>1</sup>)**



**Figure 7b. Age and gender<sup>4</sup> distribution of COVID-19 cases admitted to ICU in Canada as of May 20, 2022, 9 am EST (n=26,778<sup>1</sup>)**



**Figure 7c. Age and gender<sup>4</sup> distribution of COVID-19 cases deceased in Canada as of May 20, 2022, 9 am EST (n=40,659<sup>1</sup>)**



Data note: Figure 7 includes COVID-19 cases hospitalized, admitted to ICU, and deceased for which age and gender information were available. Therefore, some COVID-19 hospitalizations, ICU admissions, and deaths may not be included in Figure 7.

**Age and gender <sup>4</sup> distribution of COVID-19 cases hospitalized in Canada as of May 20, 2022, 9 am EST (n=160,052 <sup>1</sup>)**

<b>Age group (years)</b>	<b>Number of cases with case reports (percentage)</b>	<b>Number of male cases (percentage)</b>	<b>Number of female cases (percentage)</b>	<b>Number of other cases (percentage)</b>
0-11	4,111 (2.6%)	2,304 (1.4%)	1,806 (1.1%)	1 (0.0%)
12-19	2,016 (1.3%)	850 (0.5%)	1,166 (0.7%)	0 (0.0%)
20-29	7,582 (4.7%)	2,828 (1.8%)	4,753 (3.0%)	1 (0.0%)
30-39	11,634 (7.3%)	4,780 (3.0%)	6,854 (4.3%)	0 (0.0%)
40-49	12,883 (8.0%)	7,244 (4.5%)	5,639 (3.5%)	0 (0.0%)
50-59	19,844 (12.4%)	11,821 (7.4%)	8,023 (5.0%)	0 (0.0%)
60-69	26,807 (16.7%)	15,725 (9.8%)	11,082 (6.9%)	0 (0.0%)
70-79	31,591 (19.7%)	17,938 (11.2%)	13,653 (8.5%)	0 (0.0%)
80+	43,584 (27.2%)	21,207 (13.3%)	22,377 (14.0%)	0 (0.0%)

**Age and gender <sup>4</sup> distribution of COVID-19 cases admitted to ICU in Canada as of May 20, 2022, 9 am EST (n=26,778 <sup>1</sup>)**

<b>Age group (years)</b>	<b>Number of cases with case reports (percentage)</b>	<b>Number of male cases (percentage)</b>	<b>Number of female cases (percentage)</b>	<b>Number of other cases (percentage)</b>
0-11	402 (1.5%)	214 (0.8%)	188 (0.7%)	0 (0.0%)
12-19	211 (0.8%)	109 (0.4%)	102 (0.4%)	0 (0.0%)
20-29	845 (3.2%)	455 (1.7%)	390 (1.5%)	0 (0.0%)
30-39	1,637 (6.1%)	954 (3.6%)	683 (2.6%)	0 (0.0%)
40-49	2,719 (10.2%)	1,677 (6.3%)	1,042 (3.9%)	0 (0.0%)
50-59	5,037 (18.8%)	3,287 (12.3%)	1,750 (6.5%)	0 (0.0%)
60-69	6,896 (25.8%)	4,393 (16.4%)	2,503 (9.3%)	0 (0.0%)
70-79	6,106 (22.8%)	3,845 (14.4%)	2,261 (8.4%)	0 (0.0%)
80+	2,925 (10.9%)	1,723 (6.4%)	1,202 (4.5%)	0 (0.0%)

**Age and gender<sup>4</sup> distribution of COVID-19 cases deceased in Canada as of May 20, 2022, 9 am EST (n=40,659<sup>1</sup>)**

<b>Age group (years)</b>	<b>Number of cases with case reports (percentage)</b>	<b>Number of male cases (percentage)</b>	<b>Number of female cases (percentage)</b>	<b>Number of other cases (percentage)</b>
0-11	32 (0.1%)	14 (0.0%)	18 (0.0%)	0 (0.0%)
12-19	16 (0.0%)	8 (0.0%)	8 (0.0%)	0 (0.0%)
20-29	129 (0.3%)	81 (0.2%)	48 (0.1%)	0 (0.0%)
30-39	315 (0.8%)	195 (0.5%)	120 (0.3%)	0 (0.0%)
40-49	665 (1.6%)	420 (1.0%)	245 (0.6%)	0 (0.0%)
50-59	1,870 (4.6%)	1,153 (2.8%)	717 (1.8%)	0 (0.0%)
60-69	4,393 (10.8%)	2,794 (6.9%)	1,599 (3.9%)	0 (0.0%)
70-79	8,718 (21.4%)	5,314 (13.1%)	3,404 (8.4%)	0 (0.0%)
80+	24,521 (60.3%)	11,455 (28.2%)	13,066 (32.1%)	0 (0.00%)

# Provincial, territorial and international reporting

For more information, please refer to provincial or territorial COVID-19 webpages:

- [British Columbia](#)
- [Alberta](#)
- [Saskatchewan](#)
- [Manitoba](#)
- [Ontario](#)
- [Quebec](#)
- [Newfoundland and Labrador](#)
- [New Brunswick](#)
- [Nova Scotia](#)
- [Prince Edward Island](#)
- [Yukon](#)
- [Northwest Territories](#)
- [Nunavut](#)
- [World Health Organization](#)
- [Centers for Disease Control and Prevention](#)
- [European Centre for Disease Control and Prevention](#)

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- 1 This figure is based on cases for which a case report form was received by the Public Health Agency of Canada from provincial or territorial partners.
  - 2 The shaded area represents a period of accumulating data where it is expected that cases have occurred but have not yet been reported nationally. The earliest of the following dates were used as an estimate: Onset date, Specimen Collection Date, Laboratory Testing Date, Date Reported to Province or Territory, or Date Reported to PHAC.
  - 3 Exposure information may not be available for all cases. Some jurisdictions haven't consistently reported to PHAC how people were exposed throughout the pandemic. As a result, this may underestimate the total number of cases by different exposures, especially among returning travelers.
  - 4 Where available, gender data was used; when gender data was unavailable, sex data was used. Reliable data on gender diverse respondents are unavailable due to small counts.
- 

**Date modified:**

2022-05-24

