



# COVID-19 epidemiology update

Summary of COVID-19 cases, hospitalizations and deaths, testing and variants of concern across Canada and over time.

## Current update

Updated: September 16, 2022, 7 am ET

This summary of COVID-19 cases across Canada 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 testing, variants of concern, cases following vaccination and severe illness and outcomes.

**Update schedule:** We update all sections of this page every Friday, except for 'Cases following vaccination', which we update on Tuesdays.

## Key COVID-19 updates (Last data update September 16, 2022, 7 am ET)

Weekly change in cases

**16,501**

Total cases

**4,216,141**

Weekly change in deaths

**217**

Total deaths

**44,740**

Total tests performed

**64,759,986**

Daily percent positive (last 7 days)

**10.1%**

Daily tests per 100,000 population (last 7 days)

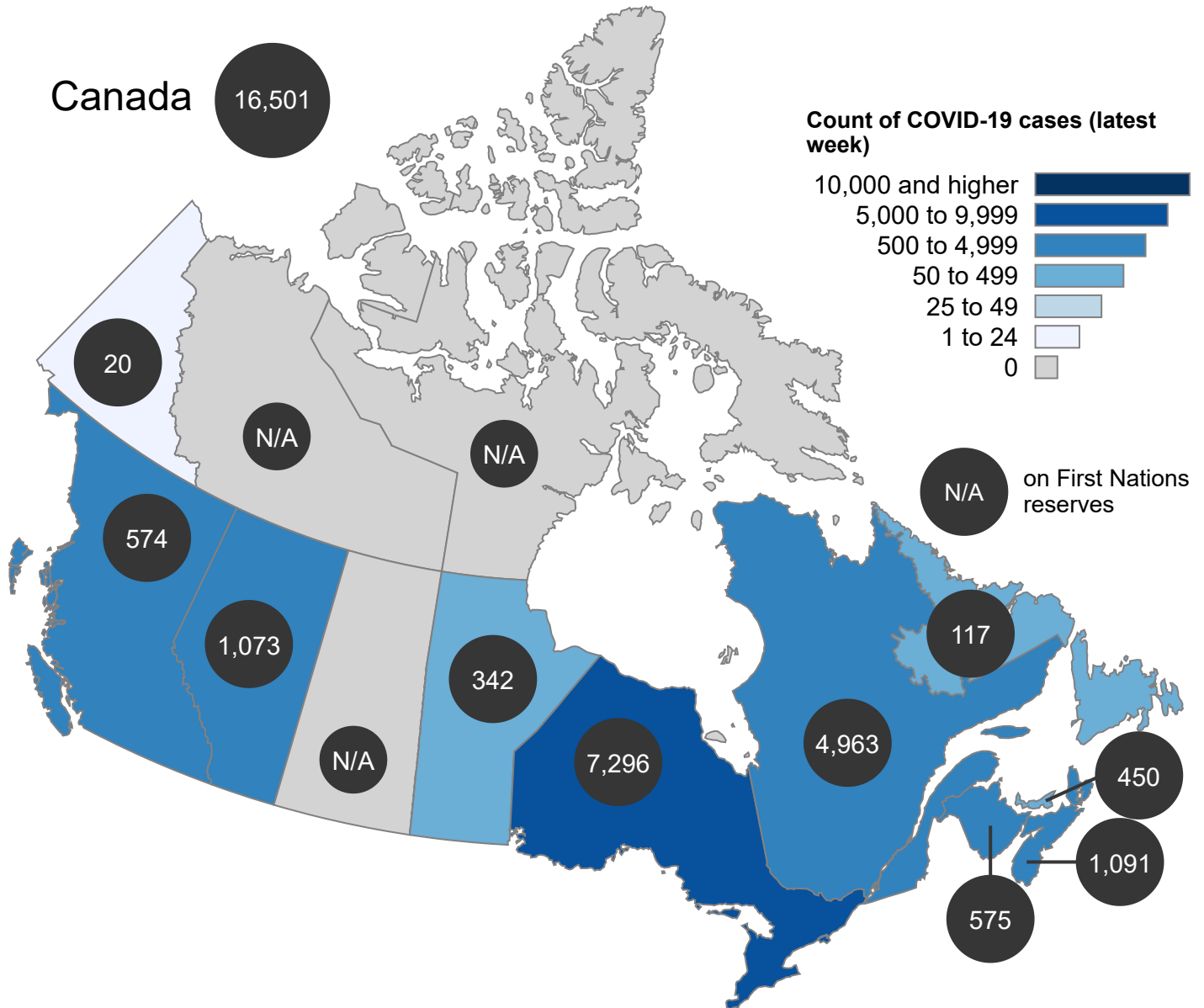
**62**

- Case and death information are up to September 10, 2022.
- Weekly change in cases and deaths includes data from 10 of the 13 Canadian provinces and territories reporting updates for the week of September 4 to September 10, 2022.
- These reflect the changes in the case and death counts at the end of the week compared to the end of the previous week.
- Laboratory data represents specimens received by labs up to September 13, 2022 to allow time to process results.
- Due to changes in COVID-19 testing policies in many jurisdictions since December 2021, case counts are under-estimated.

# Current situation

Figure 1a. **Count** of **cases (latest week)** of COVID-19, **province/territory** for the week of September 4 to September 10, 2022

(Last data update September 16, 2022, 7 am ET)



The count of cases of COVID-19 for the week of September 4 to September 10, 2022 in **Canada** was **16,501**.

a. This information is based on data our provincial and territorial partners published on cases, deaths, and testing. The numbers provided reflect cases, deaths up to September 10, 2022 and tests up to September 13, 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 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 since December 2021, case counts are under-estimated.
- c. Out of all people tested, 76 were repatriated travellers, of whom 13 tested positive.
- d. As of April 11, 2022, Nunavut no longer publishes regular COVID-19 updates.
- e. As of June 13, 2022, Northwest Territories no longer publishes regular COVID-19 updates.
- f. As of June 30th, 2022 Saskatchewan publishes monthly COVID-19 updates. Weekly data for cases, and deaths after June 25<sup>th</sup>, 2022 are not available.
- g. On July 20, we updated the case numbers from Quebec to reflect changes in Quebec's reporting of COVID-19 cases (in French only). This change added about 8,000 cases to the total number of cases reported by Quebec between March 2020 and July 2022.

## Areas in Canada with cases of COVID-19

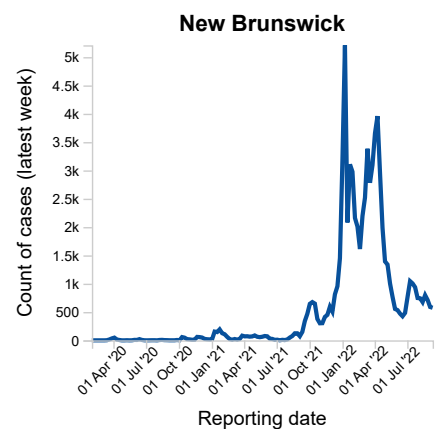
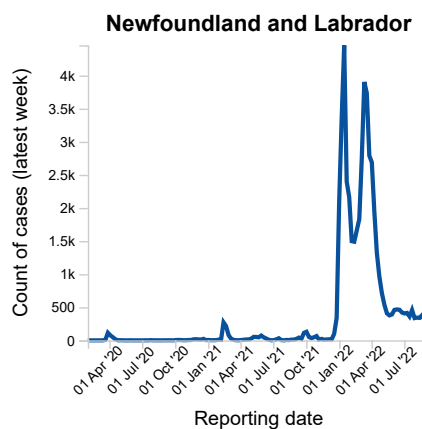
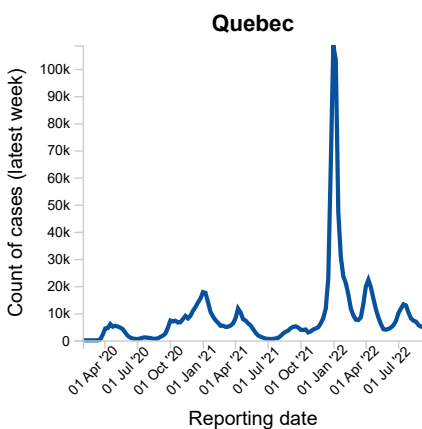
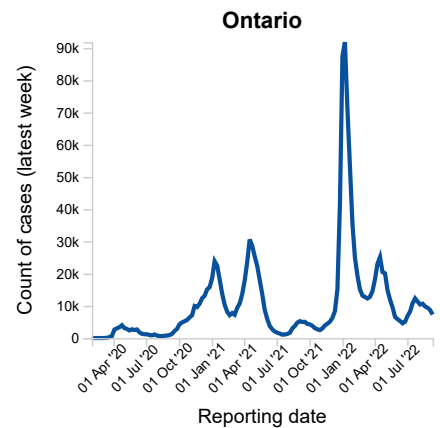
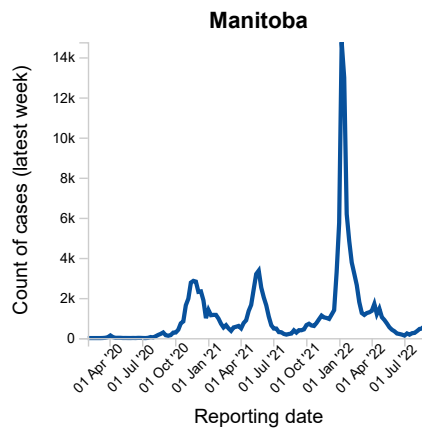
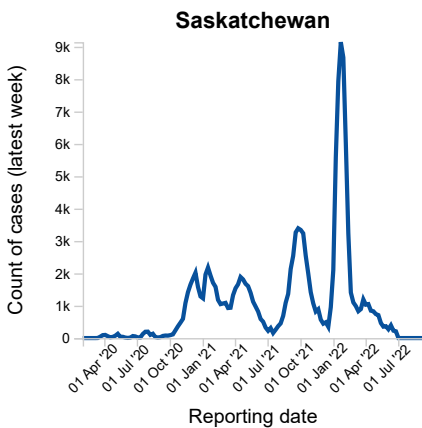
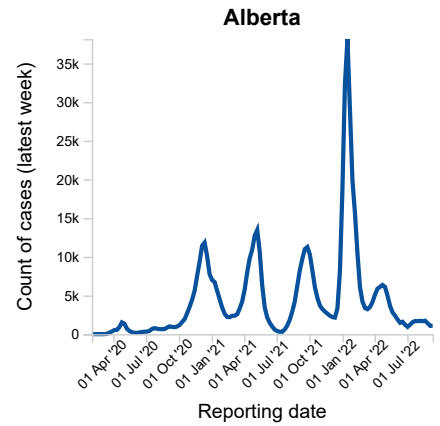
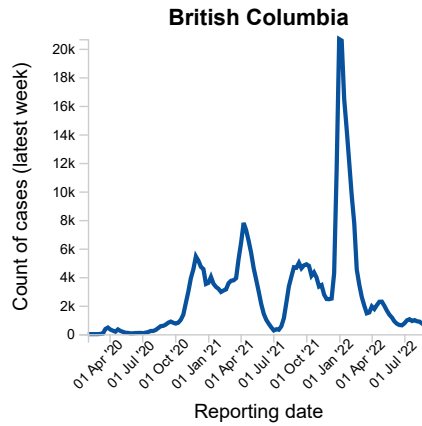
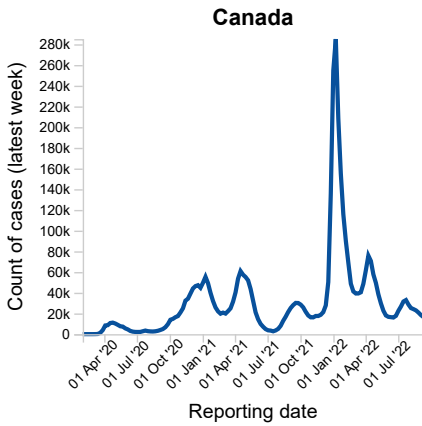
Location	Total cases		Cases (latest week)		Cases (latest 2 weeks)		Total deaths		Deaths (latest week)		Deaths (latest 2 weeks)		Total tests performed	Moving average daily tests performed (latest week)		Moving average daily percent positivity (latest week)
	Count	Rate*	Count	Rate*	Count	Rate*	Count	Rate*	Count	Rate*	Count	Rate*	Count	Count	Rate*	Percent
British Columbia	383,628	7,357	574	11	1,192	23	4,216	81	33	0.6	71	1.4	6,243,709	2,032	39	7.5%
Alberta	604,116	13,597	1,073	24	2,153	48	4,841	109	27	0.6	69	1.6	7,247,761	979	22	17.3%
Saskatchewan	143,747	12,184	N/A	N/A	N/A	N/A	1,507	128	N/A	N/A	N/A	N/A	1,653,709	742	63	9.4%
Manitoba	149,245	10,785	342	25	817	59	2,137	154	19	1.4	22	1.6	1,569,379	N/A	N/A	N/A
Ontario	1,427,618	9,629	7,296	49	15,980	108	14,162	96	81	0.6	176	1.2	25,309,336	8,734	59	11.9%
Quebec	1,185,707	13,780	4,963	58	10,003	116	16,532	192	34	0.4	75	0.9	18,699,897	9,512	111	7.9%
Newfoundland and Labrador	51,446	9,883	117	22	335	64	235	45	4	0.7	8	1.6	714,344	249	48	7.3%
New Brunswick	76,316	9,670	575	73	1,164	147	476	60	4	0.5	10	1.3	900,488	631	80	13.8%
Nova Scotia	123,549	12,454	1,091	110	2,170	219	518	52	14	1.4	22	2.2	2,062,418	751	76	22.6%
Prince Edward Island	50,855	30,949	450	274	1,021	621	57	35	1	0.5	3	1.7	264,322	27	16	12.8%
Yukon	4,859	11,303	20	46	41	96	30	71	0	0.8	0	0.8	9,129	N/A	N/A	N/A
Northwest Territories	11,511	25,297	N/A	N/A	N/A	N/A	22	48	N/A	N/A	N/A	N/A	42,270	4	9	13.8%
Nunavut	3,531	8,961	N/A	N/A	N/A	N/A	7	18	N/A	N/A	N/A	N/A	43,148	23	58	17.4%
<b>Canada</b>	<b>4,216,141</b>	<b>11,024</b>	<b>16,501</b>	<b>43</b>	<b>34,876</b>	<b>91</b>	<b>44,740</b>	<b>117</b>	<b>217</b>	<b>0.6</b>	<b>456</b>	<b>1.2</b>	<b>64,759,986</b>	<b>23,682</b>	<b>62</b>	<b>10.1%</b>

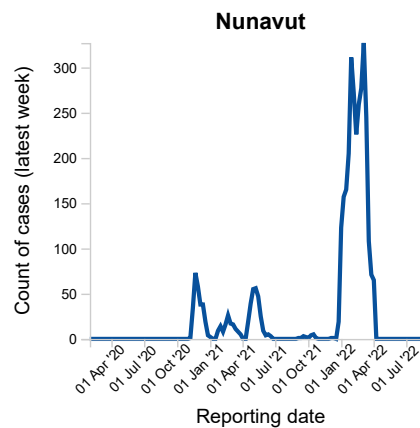
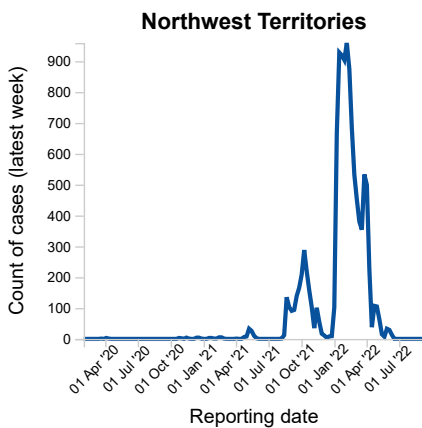
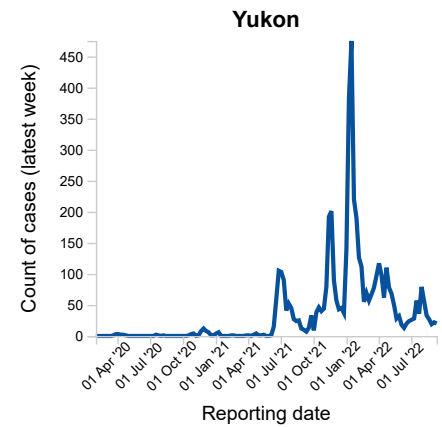
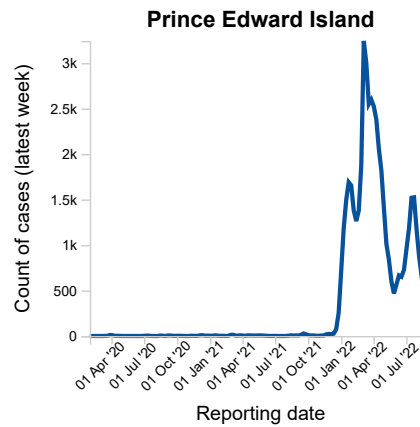
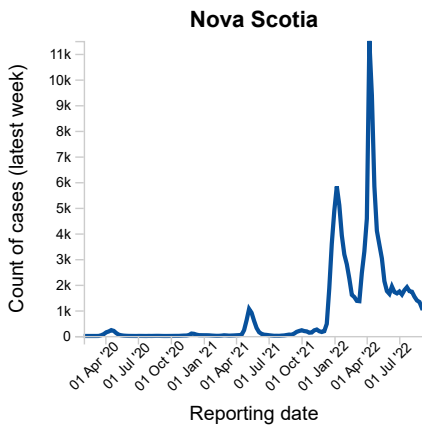
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  - b. Starting April 7, 2022, British Columbia reports all deaths within 30 days of a positive COVID-19 test, regardless of the cause of death. As a result, deaths are now over-estimated for BC and should not be directly compared to other jurisdictions or to earlier data from BC.
  - c. As of April 11, 2022, Nunavut no longer publishes regular COVID-19 updates.
  - d. As of June 13, 2022, Northwest Territories no longer publishes regular COVID-19 updates.
  - e. As of June 30th, 2022 [Saskatchewan](#) publishes monthly COVID-19 updates. Weekly data are unavailable.
  - f. Out of all people tested, 76 were repatriated travellers, of whom 13 tested positive.
- e. \* Rate per 100,000 population
- f. Out of the total number of people tested, 76 were repatriated travellers, of which 13 were cases.



Figure 1b. **Count** of **cases (latest week)** of **COVID-19 in Canada up to September 10, 2022** (Last data update September 16, 2022, 7 am ET)

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.





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



# National overview

There have been **64,759,986** COVID-19 tests performed in Canada or **1,693,244 tests per 1 million people**.

**Table 1. Weekly\* change in the number of cases, deaths and tests performed, by province or territory, for the week of September 4 to September 10, 2022**

(Last data update September 16, 2022, 7 am ET)

Location	Cases	Deaths	Tests performed
British Columbia	574	33	13,529
Alberta	1,073	27	6,526
Saskatchewan	N/A	N/A	4,726
Manitoba	342	19	N/A
Ontario	7,296	81	57,251
Quebec	4,963	34	63,019
Newfoundland and Labrador	117	4	2,959
New Brunswick	575	4	4,205
Nova Scotia	1,091	14	4,662
Prince Edward Island	450	1	197
Yukon	20	0	N/A
Northwest Territories	N/A	N/A	24
Nunavut	N/A	N/A	148
<b>Canada</b>	<b>16,501</b>	<b>217</b>	<b>157,726</b>

- a. \* Weekly change in cases, deaths and tests performed reflect the changes in the case and death counts between the end of the latest week and the end of the previous week. Data are updated on an ongoing basis. The current report reflects data most recently received by PHAC at the time of the last update and are subject to change.
- b. N/A means that no update was provided by the province or territory for the latest week.
- c. Due to changes in COVID-19 testing policies in many jurisdictions since December 2021, case counts are under-estimated.
- d. 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 directly compared to other jurisdictions or to earlier data from BC.

e. As of June 30th, 2022 Saskatchewan publishes monthly COVID-19 updates. Weekly data for cases, and deaths after June 25<sup>th</sup>, 2022 are not available.

# 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.

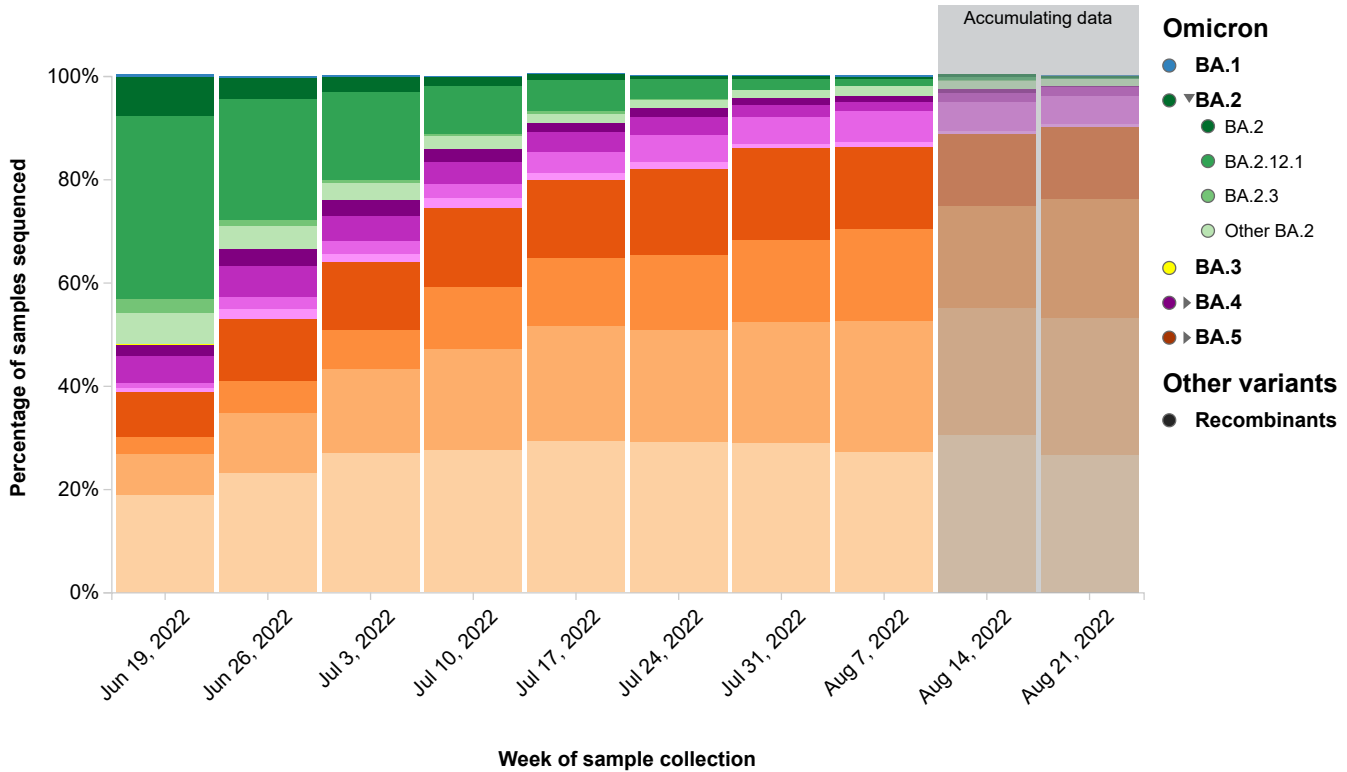
Current variants of concern in Canada include:

- 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: September 9, 2022, 4 pm EDT

**i** 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	Jun 19, 2022 (n=3,275)	Jun 26, 2022 (n=3,597)	Jul 3, 2022 (n=4,425)	Jul 10, 2022 (n=4,830)	Jul 17, 2022 (n=4,339)	Jul 24, 2022 (n=3,812)	Jul 31, 2022 (n=4,053)	Aug 7, 2022 (n=3,419)	Aug 14, 2022 (n=2,053)	Aug 21, 2022 (n=1,000)
<b>Omicron</b>	<b>100.3%</b>	<b>99.9%</b>	<b>100.2%</b>	<b>99.9%</b>	<b>100.4%</b>	<b>100.1%</b>	<b>100.1%</b>	<b>100.1%</b>	<b>100.2%</b>	<b>100.2%</b>
<b>BA.1</b>	<b>0.4%</b>	<b>0.3%</b>	<b>0.3%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.2%</b>	-	<b>0.0%</b>
<b>BA.2</b>	<b>51.8%</b>	<b>33.1%</b>	<b>23.9%</b>	<b>14.0%</b>	<b>9.4%</b>	<b>6.2%</b>	<b>4.2%</b>	<b>3.7%</b>	<b>2.7%</b>	<b>1.6%</b>
BA.2	7.6%	4.0%	3.0%	1.6%	1.2%	0.6%	0.5%	0.4%	0.4%	0.0%
BA.2.12.1	35.5%	23.5%	16.9%	9.4%	6.0%	3.8%	2.2%	1.4%	0.6%	0.0%
BA.2.3	2.6%	1.0%	0.6%	0.4%	0.4%	0.2%	0.0%	0.0%	0.1%	-
Other BA.2	6.1%	4.6%	3.4%	2.6%	1.8%	1.6%	1.5%	1.9%	1.6%	1.6%
<b>BA.3</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	-	-	-	-	-
<b>BA.4</b>	<b>9.2%</b>	<b>13.6%</b>	<b>12.0%</b>	<b>11.4%</b>	<b>11.2%</b>	<b>11.7%</b>	<b>9.7%</b>	<b>9.9%</b>	<b>8.8%</b>	<b>8.0%</b>
BA.4	2.2%	3.2%	3.1%	2.5%	1.8%	1.6%	1.4%	1.3%	0.7%	0.0%
BA.4.1	5.3%	6.1%	4.9%	4.1%	3.9%	3.5%	2.4%	1.7%	1.8%	1.0%
BA.4.6	0.9%	2.3%	2.4%	2.9%	4.0%	5.4%	5.1%	5.9%	5.6%	5.0%
Other BA.4	0.8%	2.0%	1.6%	1.9%	1.5%	1.2%	0.8%	1.0%	0.7%	0.0%
<b>BA.5</b>	<b>38.8%</b>	<b>52.9%</b>	<b>64.0%</b>	<b>74.4%</b>	<b>79.7%</b>	<b>82.1%</b>	<b>86.1%</b>	<b>86.3%</b>	<b>88.7%</b>	<b>90.0%</b>
BA.5.1	8.7%	11.9%	13.2%	15.3%	15.0%	16.8%	17.8%	15.9%	13.9%	13.0%
BA.5.2	3.2%	6.3%	7.5%	11.9%	13.3%	14.5%	15.9%	17.8%	19.6%	23.0%
BA.5.2.1	8.1%	11.5%	16.4%	19.7%	22.1%	21.7%	23.5%	25.4%	24.6%	26.0%
Other BA.5	18.8%	23.2%	26.9%	27.5%	29.3%	29.1%	28.9%	27.2%	30.6%	26.0%
<b>Other variants</b>	-	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.1%</b>	-	-	-	-	-
<b>Recombinants</b>	-	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.1%</b>	-	-	-	-	-
XAC	-	-	-	0.0%	-	-	-	-	-	-
XAP	-	0.0%	-	-	-	-	-	-	-	-
XAQ	-	0.0%	-	0.0%	-	-	-	-	-	-
XAS	-	-	0.0%	0.1%	0.1%	-	-	-	-	-

**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)
- Nova Scotia Health Authority
- 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: September 16, 2022, 7 am ET

## Epidemic curve

As of September 16, 2022, 7 am ET, PHAC has received detailed case report data on 4,069,693 cases.

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=4,069,693<sup>1</sup>) in Canada by date<sup>2</sup> as of September 16, 2022, 7 am ET (total cases)

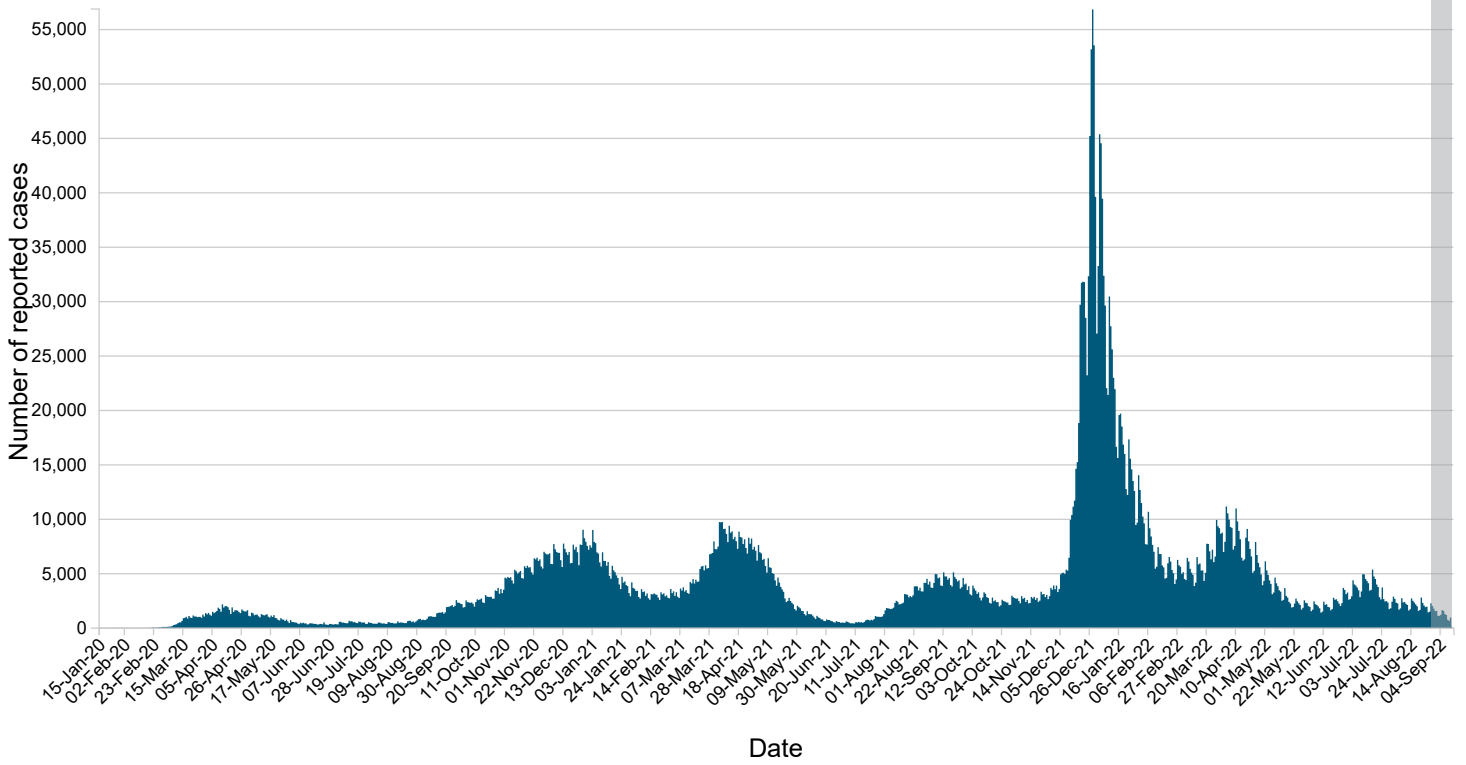


Figure 3. COVID-19 cases (n=4,068,811 <sup>1</sup>) in Canada by date <sup>2</sup> as of September 16, 2022, 7 am ET (by age - 10 year groups)

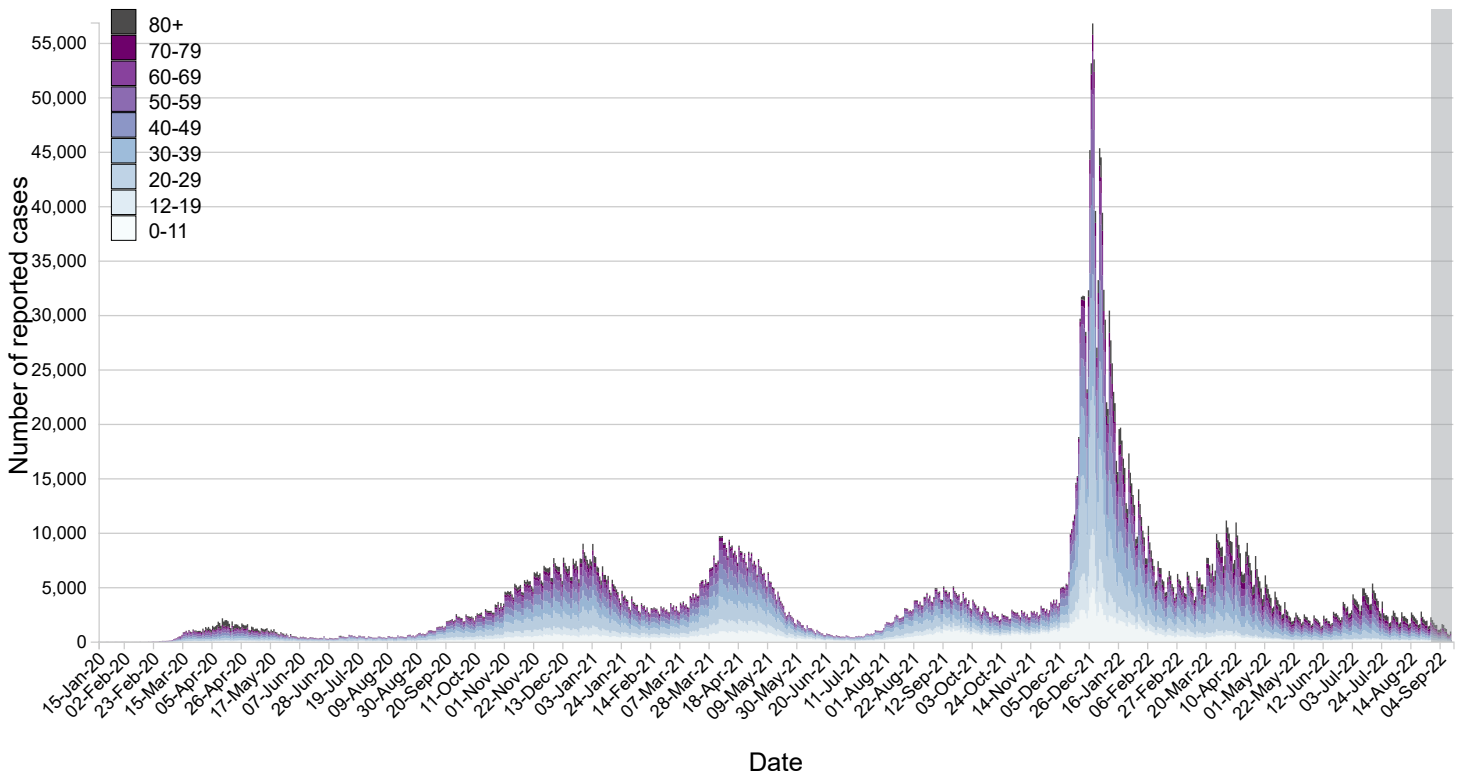
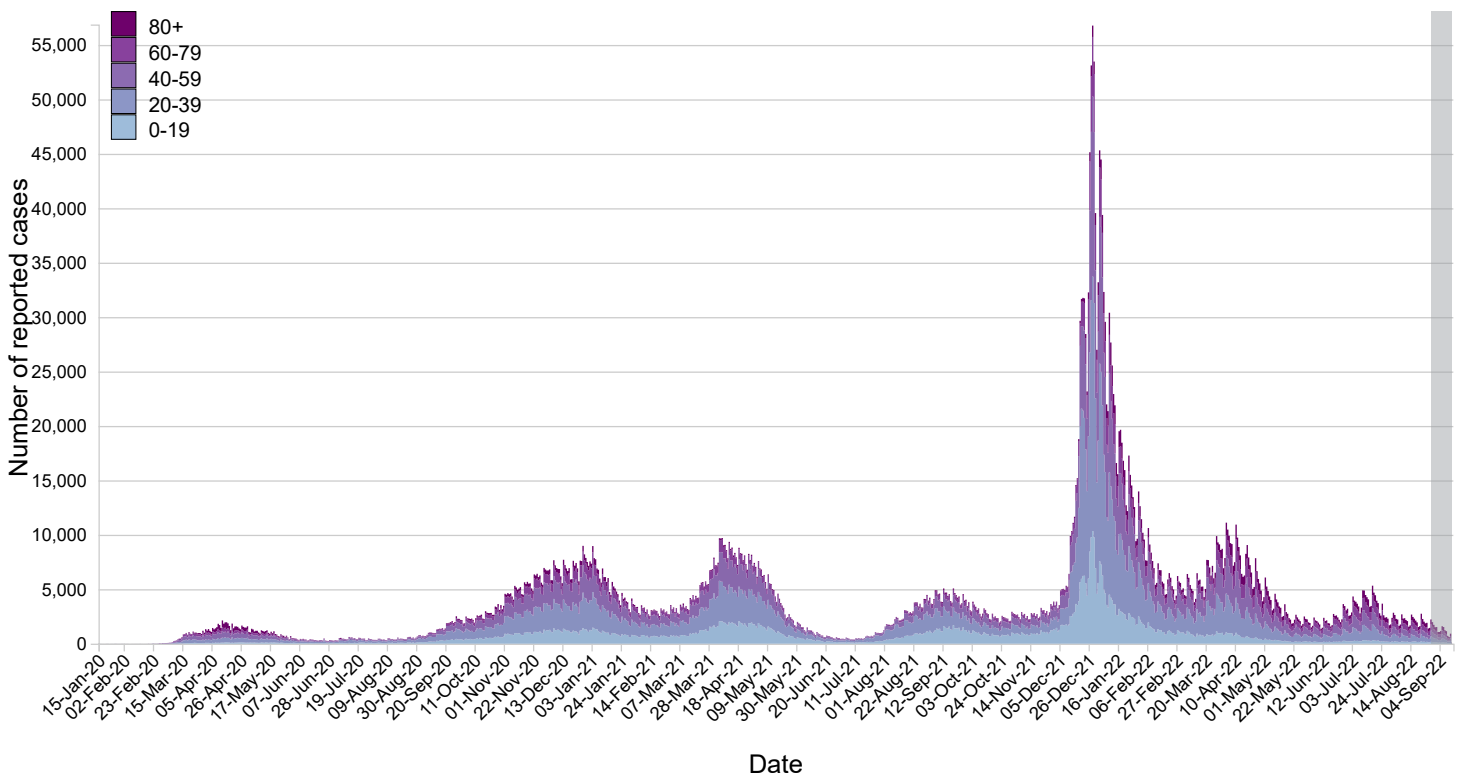


Figure 3. COVID-19 cases (n=4,068,811 <sup>1</sup>) in Canada by date <sup>2</sup> as of September 16, 2022, 7 am ET (by age - 20 year groups)



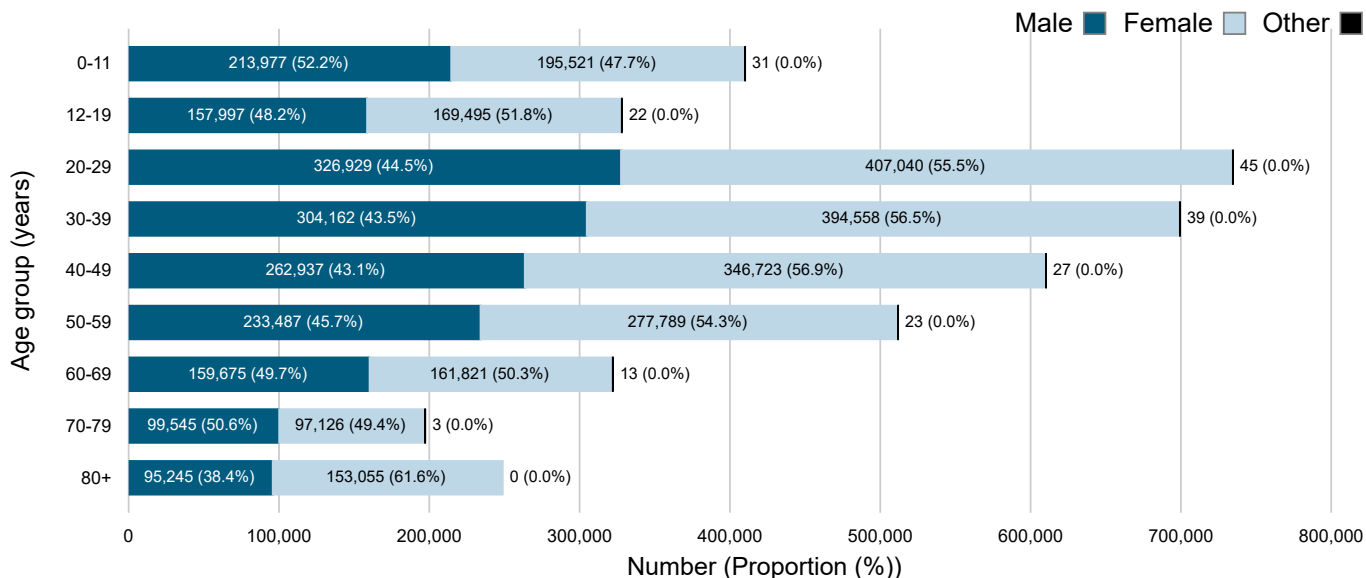
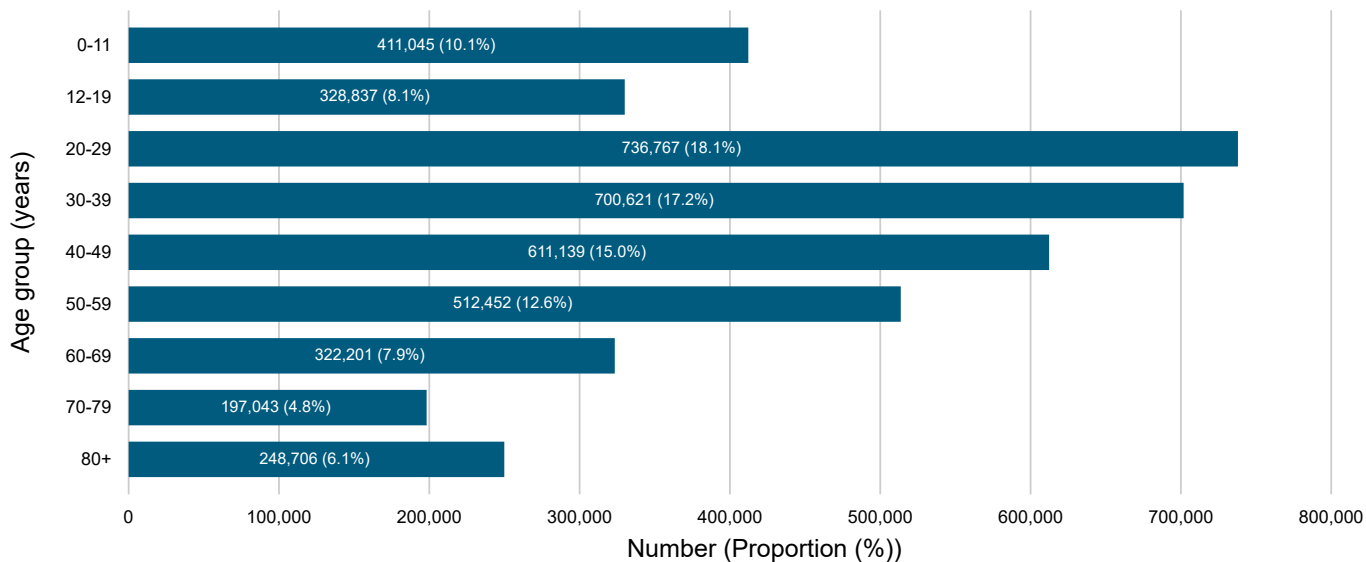


# Demographics

We have detailed case report data from 4,069,693 cases. We know the age of patients in 99.98% of cases, and both age and gender in 99.70% of cases.

Of the cases reported in Canada so far, 54.3% were female and 35.3% were between 20 and 39 years old (Figure 4).

Figure 4.  distribution of COVID-19 cases (n=4,068,811 <sup>1</sup>) in Canada as of September 16, 2022, 7 am ET <sup>3</sup>



**Age by gender <sup>3</sup> distribution of COVID-19 cases (n=4,068,811 <sup>1</sup>) in Canada, September 16, 2022, 7 am ET**

<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	411,045 (10.1%)	213,977 (11.5%)	195,521 (8.9%)	31 (15.3%)
12-19	328,837 (8.1%)	157,997 (8.5%)	169,495 (7.7%)	22 (10.8%)
20-29	736,767 (18.1%)	326,929 (17.6%)	407,040 (18.5%)	45 (22.2%)
30-39	700,621 (17.2%)	304,162 (16.4%)	394,558 (17.9%)	39 (19.2%)
40-49	611,139 (15.0%)	262,937 (14.2%)	346,723 (15.7%)	27 (13.3%)
50-59	512,452 (12.6%)	233,487 (12.6%)	277,789 (12.6%)	23 (11.3%)
60-69	322,201 (7.9%)	159,675 (8.6%)	161,821 (7.3%)	13 (6.4%)
70-79	197,043 (4.8%)	99,545 (5.4%)	97,126 (4.4%)	3 (1.5%)
80+	248,706 (6.1%)	95,245 (5.1%)	153,055 (6.9%)	0 (0.0%)
<b>Total</b>	<b>4,068,811 (100%)</b>	<b>1,853,954 (100%)</b>	<b>2,203,128 (100%)</b>	<b>203 (100%)</b>

# Cases following vaccination

Data extracted on September 9, 2022 for cases between December 14, 2020 and August 21, 2022.

## **i** Changes to update schedule

We've adjusted our update schedule to reflect changes in how often this data is reported to us.

- “Cases following vaccination rate ratio indicators” are updated every 4 weeks.
- “Case counts” and “distributions of cases following vaccination” are updated weekly.

While COVID-19 vaccines are highly effective at preventing severe outcomes such as hospitalization and death, vaccinated people can still get infected if exposed. This means that even with high vaccine effectiveness, some vaccinated people will get sick, be hospitalized or die.

Most people in Canada have been vaccinated. Because they're a larger group, there will naturally be more cases among vaccinated people than among unvaccinated people. However, despite their higher case counts, **vaccinated people are less likely to get very sick or die.**

Case counts underestimate the total number of COVID-19 cases because a rapid increase in cases starting in December 2021 led to changes in COVID-19 testing policies and delays in data entry.

Case counts are likely to over-represent people at risk of severe disease, because they have been prioritized for testing. Data should be interpreted with caution.

## Cases reported since the start of the vaccination campaign, as of August 21, 2022

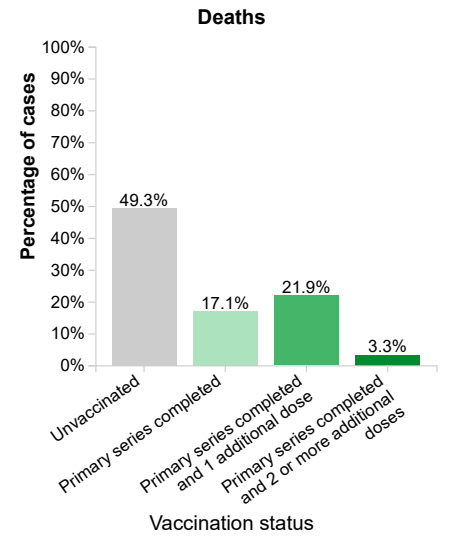
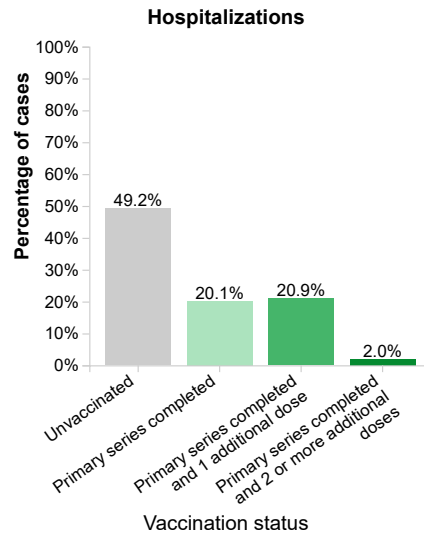
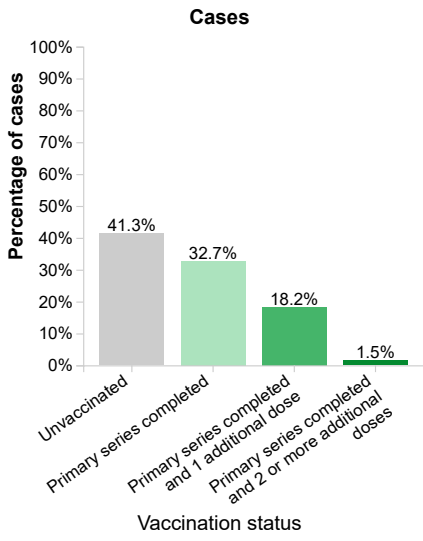
Since the start of the vaccination campaign on December 14, 2020, PHAC received case-level vaccine history data for 72.6% (n=2,399,064) of COVID-19 cases aged 5 years or older.

Of these cases:

- 991,021 (41.3%) were unvaccinated
- 785,391 (32.7%) had completed their primary vaccine series
- 436,089 (18.2%) had completed their primary vaccine series and 1 additional dose
- 34,795 (1.5%) had completed their primary vaccine series and 2 or more additional doses

For definitions of the different vaccination statuses, please refer to the Technical notes and definitions section.

**Figure 5.** Distribution of confirmed COVID-19 cases reported to PHAC by vaccination status as of August 21, 2022



## Outcomes of confirmed COVID-19 cases reported to PHAC by vaccination status, as of August 21, 2022

Status	Cases	Hospitalizations	Deaths
Unvaccinated	41.3%	49.2%	49.3%
Primary series completed	32.7%	20.1%	17.1%
Primary series completed and 1 additional dose	18.2%	20.9%	21.9%
Primary series completed and 2 or more additional doses	1.5%	2.0%	3.3%

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 August 21, 2022.

Cases following vaccination were more common among older adults and females (Table 2). This may be due to:

- higher risk of disease among older adults and pregnant people
- longer life expectancy among females, which means more women move into older age groups with a higher risk of disease

Older adults have been prioritized for second booster doses. As a result, older people make up a large proportion of people who had completed their primary vaccine series and 2 or more additional doses. For the same reason, they also make up a large proportion of cases in that group.

**Table 2. Characteristics of confirmed cases by vaccination status, as of August 21, 2022**

		Unvaccinated (n=991,021)	Primary series completed (n=785,391)	Primary series completed and 1 additional dose (n=436,089)	Primary series completed and 2 or more additional doses (n=34,795)	Total cases <sup>†</sup> (n=2,399,064)
<b>Gender*</b>	Male	501,052 (45.8%)	345,754 (31.6%)	159,605 (14.6%)	14,044 (1.3%)	1,094,706 (100.0%)
	Female	485,645 (37.5%)	437,444 (33.7%)	275,412 (21.2%)	20,669 (1.6%)	1,296,406 (100.0%)
<b>Age group</b>	5-11	123,586 (75.5%)	7,976 (4.9%)	0 (0.0%)	0 (0.0%)	163,727 (100.0%)
	12-17	72,271 (52.8%)	56,068 (41.0%)	2,376 (1.7%)	11 (0.0%)	136,834 (100.0%)

		<b>Unvaccinated</b> (n=991,021)	<b>Primary series completed</b> (n=785,391)	<b>Primary series completed and 1 additional dose</b> (n=436,089)	<b>Primary series completed and 2 or more additional doses</b> (n=34,795)	<b>Total cases†</b> (n=2,399,064)
	18-39	418,124 (43.4%)	371,420 (38.5%)	125,968 (13.1%)	895 (0.1%)	963,425 (100.0%)
	40-59	248,516 (36.7%)	244,268 (36.0%)	146,030 (21.6%)	2,651 (0.4%)	677,630 (100.0%)
	60-79	101,293 (32.0%)	84,176 (26.6%)	95,639 (30.2%)	12,928 (4.1%)	316,928 (100.0%)
	80+	27,231 (19.4%)	21,483 (15.3%)	66,076 (47.0%)	18,310 (13.0%)	140,520 (100.0%)

**Source:** Detailed case information received by PHAC from provinces and territories, since December 14, 2020 (see data notes in the [Technical notes and definitions section](#))

**People who were diagnosed with COVID-19 after completing their primary vaccine series were significantly less likely to be hospitalized or to die, particularly if they received an additional dose(s).**

Between July 4, 2022 and July 31, 2022, unvaccinated cases were 5 times more likely to be hospitalized and 7 times more likely to die from their illness, compared to cases with a completed primary vaccine series. During the same 4-week period, unvaccinated cases were 6 times more likely to be hospitalized and 8 times more likely to die from their illness, compared to cases with a completed primary vaccine series and 1 or more additional doses ([see data notes in Technical notes and definitions section](#)).

### Technical notes and definitions

Data for this analysis comes from the COVID-19 national data set, which contains detailed case-level information received by PHAC from all provinces and territories.

- 12 of 13 provinces and territories have reported case-level vaccine history data to PHAC as part of the national COVID-19 dataset.
- 12 of these provinces and territories reported data on cases with a completed primary vaccine series and 1 additional dose. 8 of the 12 provinces and territories reported data on cases with a completed primary vaccine series and 2 or more additional doses. In provinces and territories that have not yet reported additional dose data, cases are classified as having completed their primary vaccine series if they have a completed primary series or with or without any more additional doses.
- We used a data cut-off of August 21, 2022 to account for routine reporting delays associated with vaccine history information.
- †Counts of cases by vaccination status may not add up to total counts, as data on cases not yet protected and partially vaccinated cases are not presented here.

- Data presented here on cases with a completed primary vaccine series and 1 or more additional dose(s) are limited to individuals aged 12 years or older. Eligibility for booster dose programs varies across provinces and territories.
- \*When available, we used gender data. If unavailable, we used sex data. We excluded cases with missing gender and sex data from the gender analysis. Reliable data on gender diverse respondents are unavailable due to small counts.
- Rate ratios are age-standardized using July 2021 Canadian population estimates.
- For analyses of rate ratios, cases are classified as having completed their primary series with one or more additional dose(s) if they have received at least 1 additional dose after completing their primary series
- Rate ratio calculations were based on data from 9 provinces and territories that have reported complete case-level vaccine history data to PHAC during the 4-week period of analysis.

**Episode date:** Refers to symptom onset date. When symptom onset date is unavailable or the case is asymptomatic, episode date refers to either:

- laboratory specimen collection date, or
- laboratory testing date

PHAC monitors cases following vaccination using the following categories:

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

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

**Partially vaccinated cases:** those whose episode date occurred:

- 14 days or more after their first vaccine dose in a 2-dose series, or
- less than 14 days after their second dose of the vaccine.

**Cases with a completed primary series:** those whose episode date occurred:

- 14 days or more after receipt of a second dose in a 2-dose series, or
- 14 days or more after receipt of one dose of a 1-dose vaccine series, and
- if an additional (for example, third dose or booster) dose was received, 0 to <14 days after receipt of the first additional dose.

**Cases with a completed primary series and 1 or more additional dose(s):** those whose episode date occurred 14 days or more following the receipt of at least 1 additional dose (for example, third dose or booster) of a COVID-19 vaccine product, after completing a primary vaccine series.

- Data on counts and distributions are further categorized into 2 groups:
  - **Cases with a completed primary vaccine series and 1 additional dose:** those whose episode date occurred 14 days or more following receipt of 1 additional dose (for example, third

dose or first booster) of a COVID-19 vaccine product and, if a second additional dose was received, 0 to <14 days after receipt of that dose

- **Cases with a completed primary series and 2 or more additional doses:** those whose episode date occurred 14 days or more following receipt of at least 2 additional doses (for example, fourth dose or second booster)

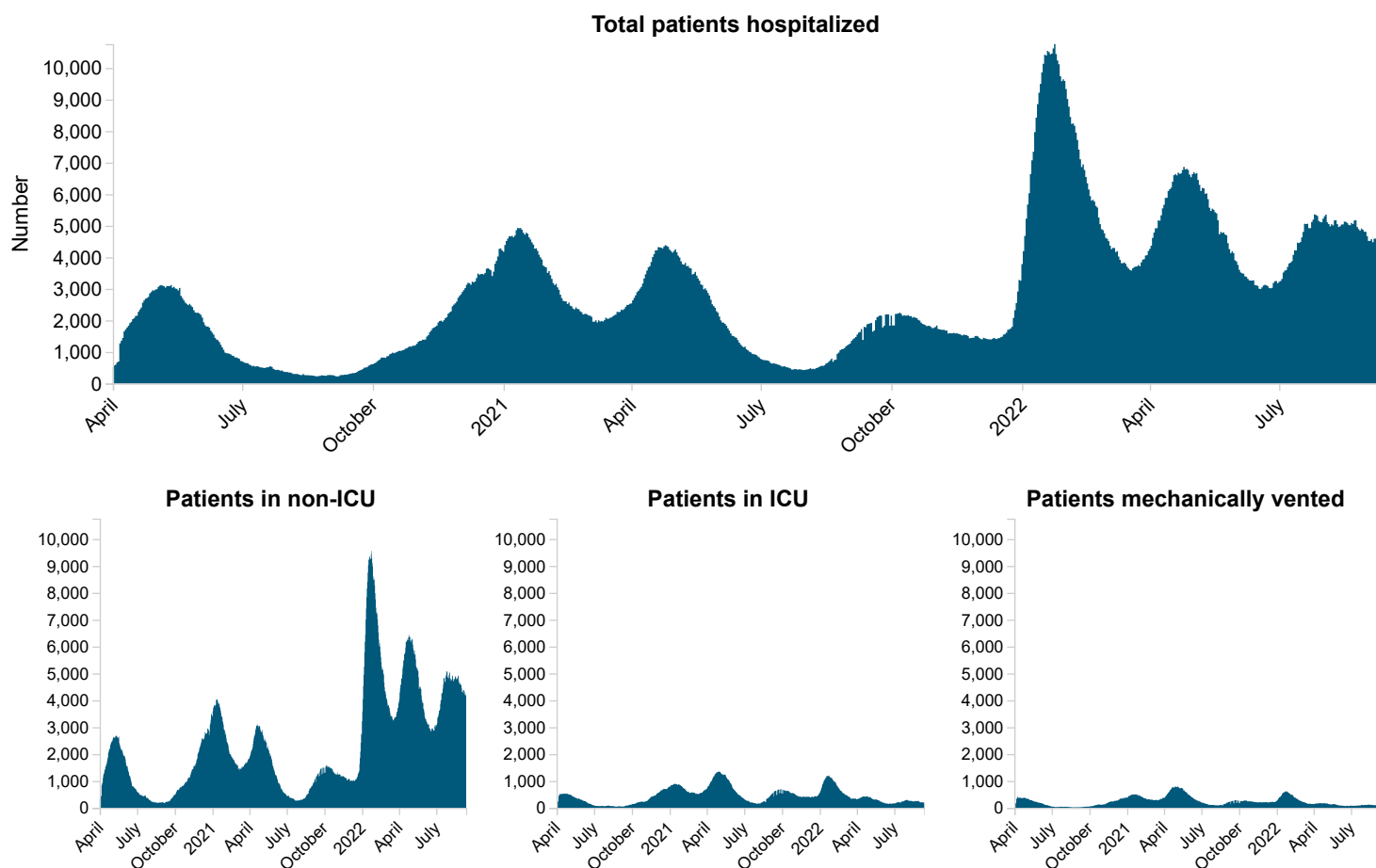
**COVID-19 vaccine product:** vaccines that have been:

- authorized by Health Canada or
- accepted by the Government of Canada for the purpose of travel to and within Canada

## Severe illness and outcomes

### Hospital use

Figure 6. Daily number of hospital beds and ICU beds occupied by COVID-19 patients as of September 12, 2022



Between September 5, 2022 and September 12, 2022:

- the total number of **hospital beds** occupied by COVID-19 patients **decreased** from **4,477** to **4,456** beds.
- the number of **non-ICU beds** occupied by COVID-19 patients **decreased** from **4,264** to **4,255** beds.



- the number of **ICU beds** occupied by COVID-19 patients **decreased** from **213** to **201** beds.
- the number of **COVID-19 patients who were mechanically vented decreased** from **91** to **88**.

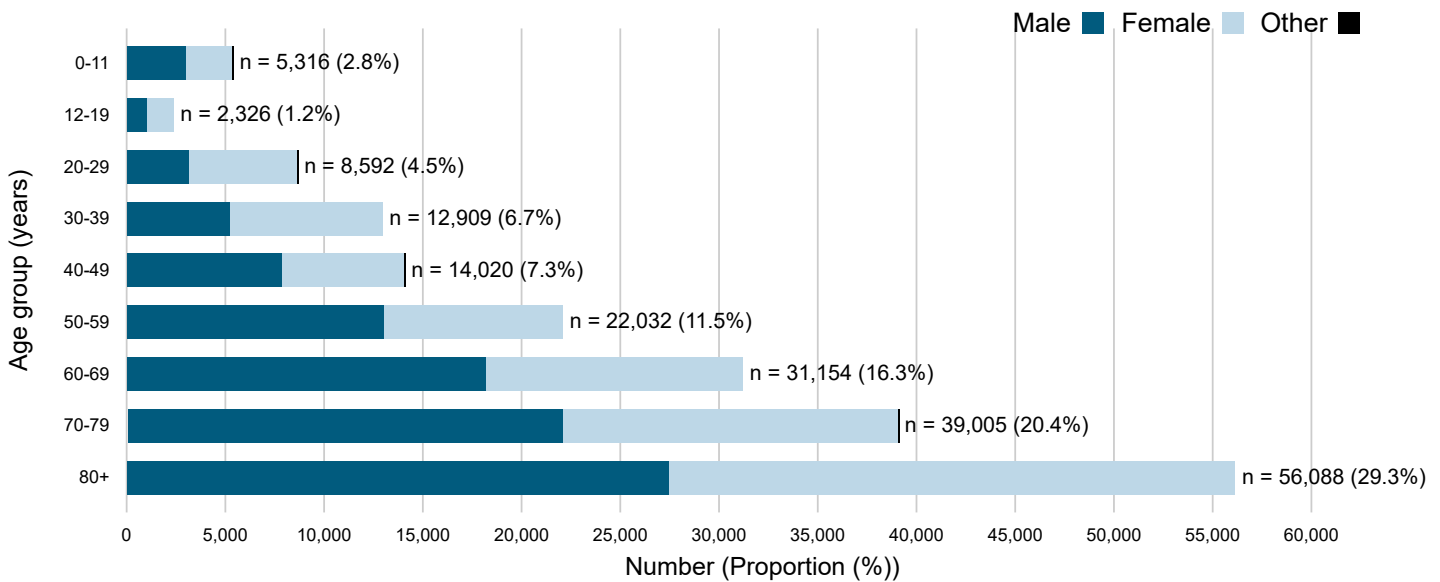
## Hospitalizations and deaths to date

We have detailed case report data on 4,069,693 cases, and hospitalization status for 3,999,422 (98.3%) of them:

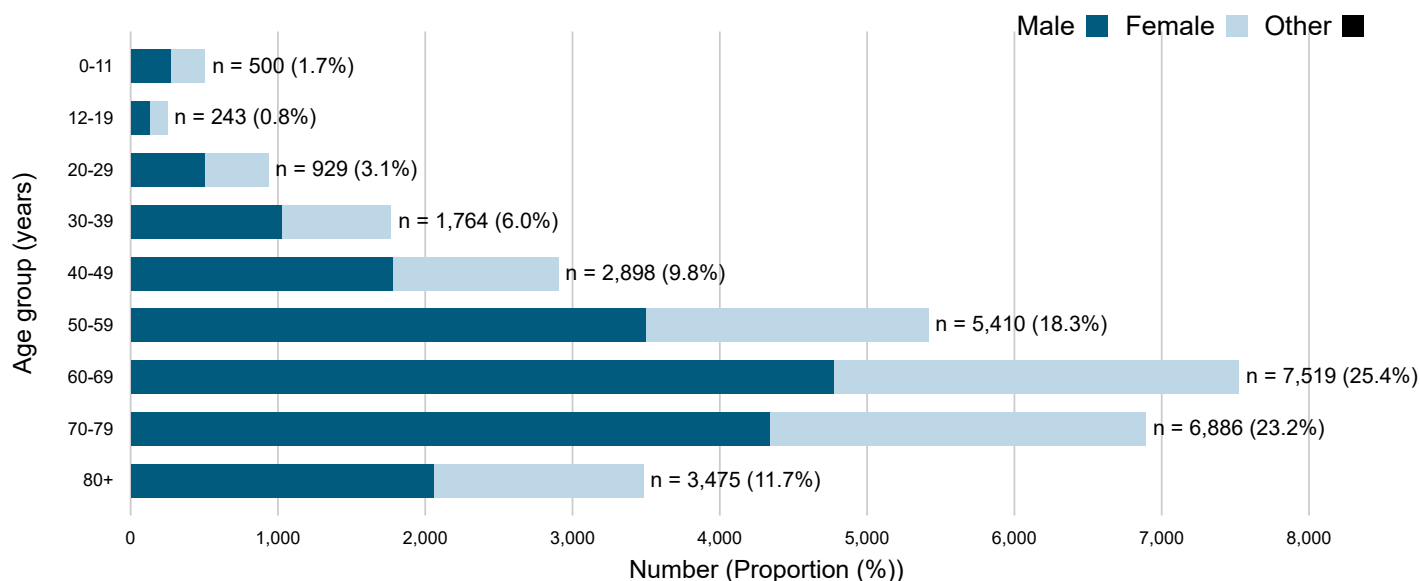
- **191,631 cases (4.8%)** were hospitalized, of whom:
  - **29,660 (15.5%)** were admitted to the ICU

The provinces and territories provided detailed case report forms for **45,663** deaths related to COVID-19.

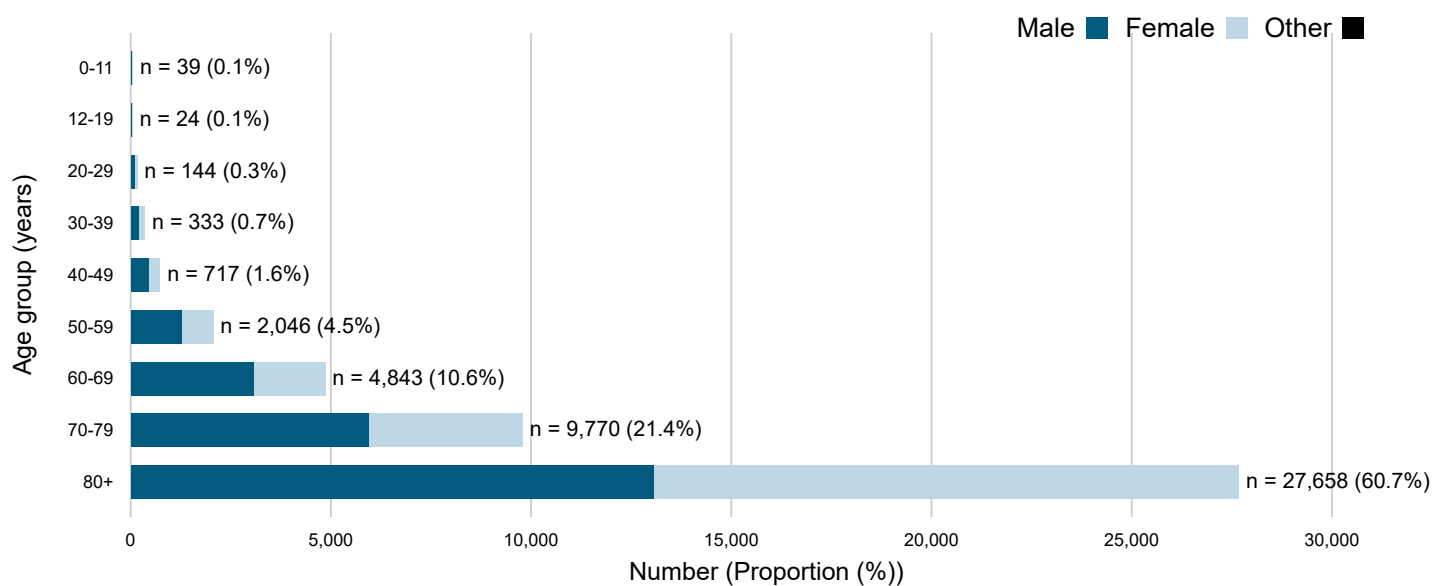
**Figure 7a. Age and gender<sup>3</sup> distribution of COVID-19 cases hospitalized in Canada as of September 16, 2022, 7 am ET (n=191,442<sup>1</sup>)**



**Figure 7b. Age and gender<sup>3</sup> distribution of COVID-19 cases admitted to ICU in Canada as of September 16, 2022, 7 am ET (n=29,624<sup>1</sup>)**



**Figure 7c. Age and gender<sup>3</sup> distribution of COVID-19 cases deceased in Canada as of September 16, 2022, 7 am ET (n=45,574<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 September 16, 2022, 7 am ET (n=191,442 <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	5,316 (2.8%)	2,977 (1.6%)	2,338 (1.2%)	1 (0.0%)
12-19	2,326 (1.2%)	976 (0.5%)	1,350 (0.7%)	0 (0.0%)
20-29	8,592 (4.5%)	3,125 (1.6%)	5,466 (2.9%)	1 (0.0%)
30-39	12,909 (6.7%)	5,185 (2.7%)	7,724 (4.0%)	0 (0.0%)
40-49	14,020 (7.3%)	7,804 (4.1%)	6,215 (3.2%)	1 (0.0%)
50-59	22,032 (11.5%)	13,005 (6.8%)	9,027 (4.7%)	0 (0.0%)
60-69	31,154 (16.3%)	18,186 (9.5%)	12,968 (6.8%)	0 (0.0%)
70-79	39,005 (20.4%)	22,080 (11.5%)	16,924 (8.8%)	1 (0.0%)
80+	56,088 (29.3%)	27,433 (14.3%)	28,655 (15.0%)	0 (0.0%)

**Age and gender <sup>4</sup> distribution of COVID-19 cases admitted to ICU in Canada as of September 16, 2022, 7 am ET (n=29,624 <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	500 (1.7%)	273 (0.9%)	227 (0.8%)	0 (0.0%)
12-19	243 (0.8%)	125 (0.4%)	118 (0.4%)	0 (0.0%)
20-29	929 (3.1%)	500 (1.7%)	429 (1.4%)	0 (0.0%)
30-39	1,764 (6.0%)	1,024 (3.5%)	740 (2.5%)	0 (0.0%)
40-49	2,898 (9.8%)	1,776 (6.0%)	1,122 (3.8%)	0 (0.0%)
50-59	5,410 (18.3%)	3,492 (11.8%)	1,918 (6.5%)	0 (0.0%)
60-69	7,519 (25.4%)	4,772 (16.1%)	2,747 (9.3%)	0 (0.0%)
70-79	6,886 (23.2%)	4,336 (14.6%)	2,550 (8.6%)	0 (0.0%)
80+	3,475 (11.7%)	2,053 (6.9%)	1,422 (4.8%)	0 (0.0%)

**Age and gender <sup>4</sup> distribution of COVID-19 cases deceased in Canada as of September 16, 2022, 7 am ET (n=45,574 <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	39 (0.1%)	18 (0.0%)	21 (0.0%)	0 (0.0%)
12-19	24 (0.1%)	12 (0.0%)	12 (0.0%)	0 (0.0%)
20-29	144 (0.3%)	89 (0.2%)	55 (0.1%)	0 (0.0%)
30-39	333 (0.7%)	206 (0.5%)	127 (0.3%)	0 (0.0%)
40-49	717 (1.6%)	451 (1.0%)	266 (0.6%)	0 (0.0%)
50-59	2,046 (4.5%)	1,254 (2.8%)	792 (1.7%)	0 (0.0%)
60-69	4,843 (10.6%)	3,068 (6.7%)	1,775 (3.9%)	0 (0.0%)
70-79	9,770 (21.4%)	5,932 (13.0%)	3,838 (8.4%)	0 (0.0%)
80+	27,658 (60.7%)	13,069 (28.7%)	14,589 (32.0%)	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 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.
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**Date modified:**

2022-09-16