COVID-19 in Ontario: Focus on November 13, 2022 to November 19, 2022 (Week 46)

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Figures and tables in this report present the most recent 52 weeks of data for Ontario, ranging from **November 21, 2021 to November 19, 2022**. This report includes the most current information available from the Public Health Case and Contact Management Solution (CCM), unless otherwise specified.

Interpretation notes:

- Testing and case, contact, and outbreak management in Ontario is currently restricted to high-risk populations and settings in January 2022. Counts in this report are an underestimate of the extent of COVID-19 activity in Ontario.

- Observed trends over time should be interpreted with caution for the most recent period due to reporting and/or data entry lags.

- Severe outcomes are a lagging indicator, meaning that severe outcomes often occur after (e.g. days or weeks) cases are initially reported to public health. As such, counts for severe outcomes in more recent reporting periods may increase as more outcomes are reported.

Please visit the interactive Ontario COVID-19 Data Tool to explore data from the entire COVID-19 pandemic (i.e. February 2020 onward) by public health unit, age group, sex, and trends over time

Highlights

Case Trends and Percent Positivity

- **Weekly case numbers down 14% compared to last week among those eligible for testing**: The number of reported cases in Ontario was 5,151 this week, compared to 5,966 last week. The number of COVID-19 cases have declined for three consecutive weeks and current projections suggest weekly case numbers may continue to decrease over the next 2 weeks.

  - Among Ontario's 7 regions, case rates were lower in four, similar in one, and higher in two regions this week. Among the 34 public health units, case rates were lower in 22, similar in seven, and higher in five public health units compared to last week.

  - Case rates were lower in 6 age groups and similar in 1 age group, compared to last week.

- **Percent positivity down 16% and testing volumes similar (+/- 10%) compared to last week:** Percent positivity was 10.9% this week, compared to the 12.9% observed last week. Percent positivity has been trending downward since a peak three weeks ago. Testing volume this week was 51,310 compared to 53,700 tests last week.

Severity

- **Hospital admissions and deaths trending down:** Hospital admissions have been declining since peaking in mid-October. There were 292 hospital admissions reported this week, compared to 450 last week. Deaths have been declining since peaking in mid- to late-October. There were 60 deaths reported this week, compared to 82 last week. Hospital admission and death counts, particularly for more recent weeks, may increase as these outcomes are lagging indicators.

Outbreaks

- **Outbreaks in high-risk settings down 31% compared to last week:** The total number of outbreaks in high-risk settings was 99 this week, compared to 143 last week. Outbreaks have been trending downward since peaking in early- to mid-October. Compared to last week, all settings reported a lower number of outbreaks this week, with the exception of hospitals and correctional facilities which reported a similar and higher number of outbreaks, respectively.

- **Outbreak-associated cases in high-risk settings down 14% compared to last week**: There were 1,416 outbreak-associated cases reported this week in high-risk settings, compared to 1,644 last week. Compared to last week, all settings reported a lower number of outbreak-associated cases this week, with the exception of long-term care homes and correctional facilities which reported a similar and higher number of cases, respectively.
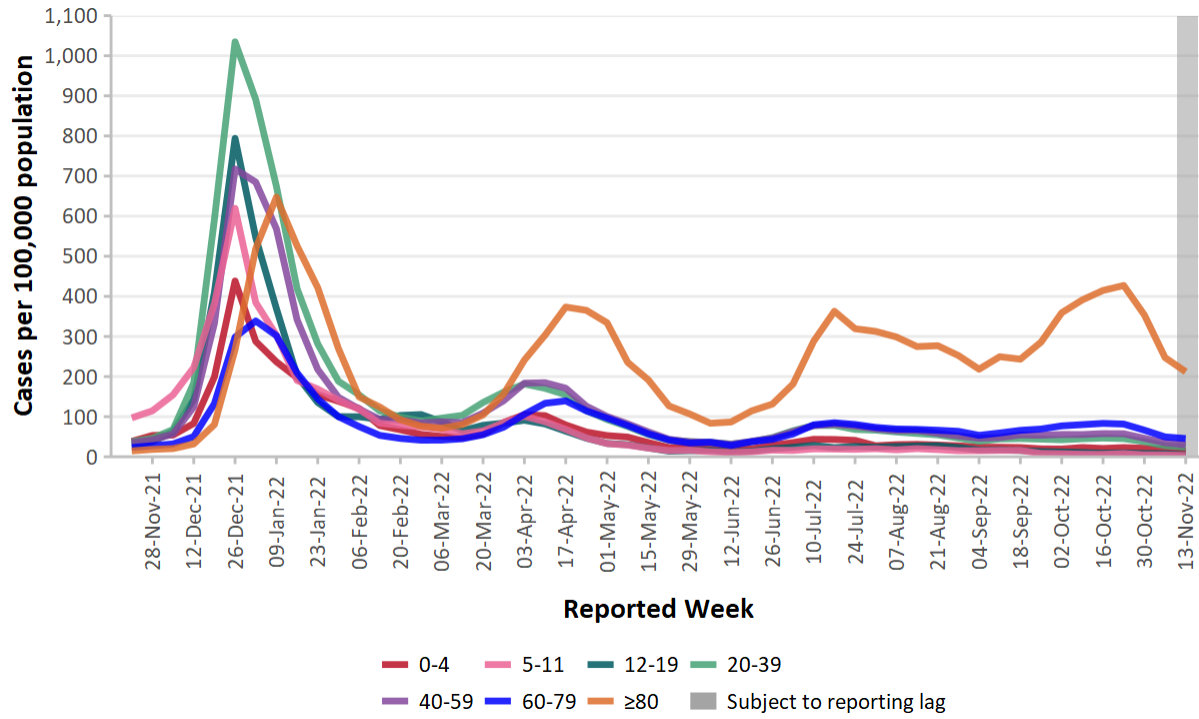
Cases

Figure 1a. Confirmed and projected cases of COVID-19 by reported week
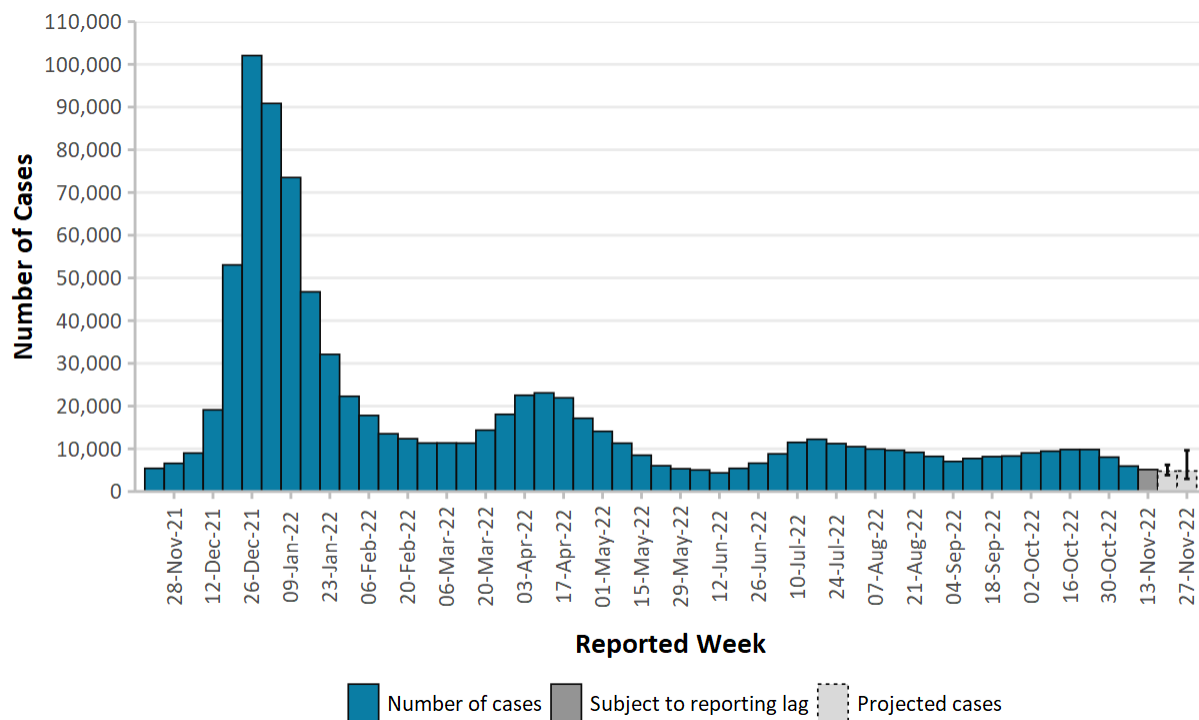
Note: Projections were estimated using the daily distribution of SARS-CoV-2 lineages and COVID-19 cases over time to forecast COVID-19 cases into the future by 14 days. The error bars on the projected cases represent the 75% credible interval. For more information refer to Appendix E. Projections are made based on our current knowledge of COVID-19, and thus cannot predict introductions of new lineages, which may impact model accuracy.
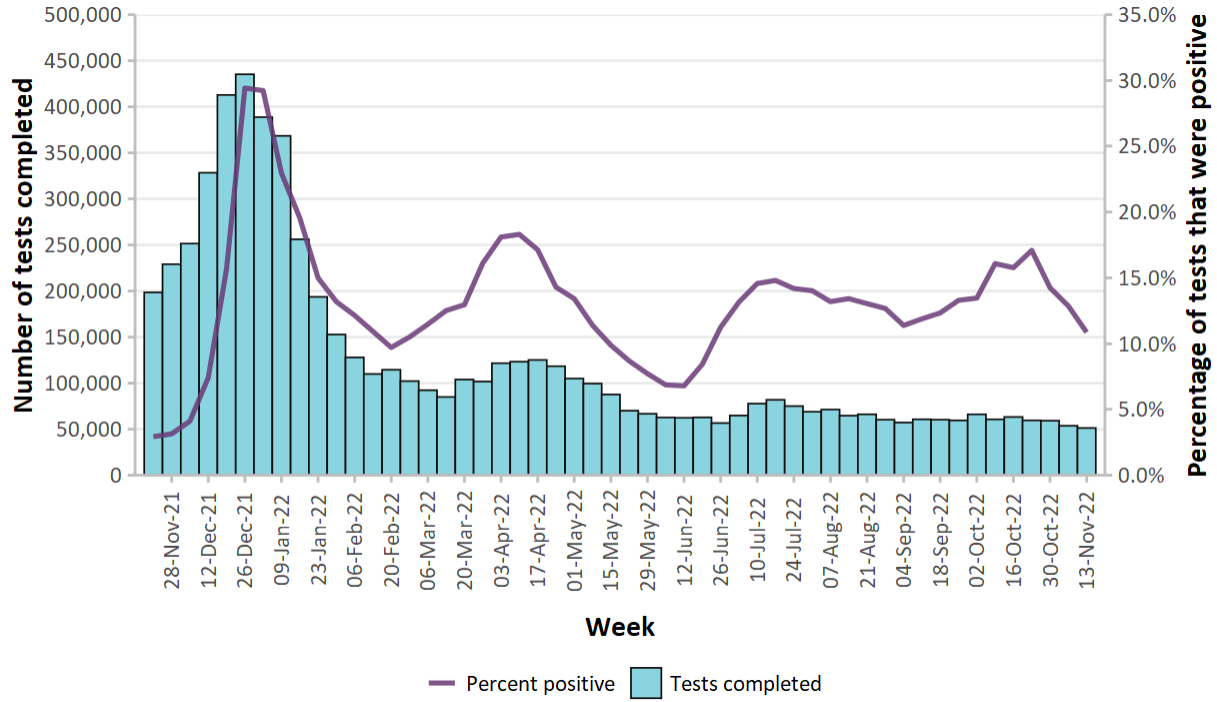
Figure 1b. Confirmed cases of COVID-19 (per 100,000 population), by age group and report week

Note: Not all cases have an age reported.

Testing

Figure 2. Weekly COVID-19 tests completed and percent positivity

Data Source: The Provincial COVID-19 Diagnostics Network, data reported by member microbiology laboratories.

Hospital Admissions

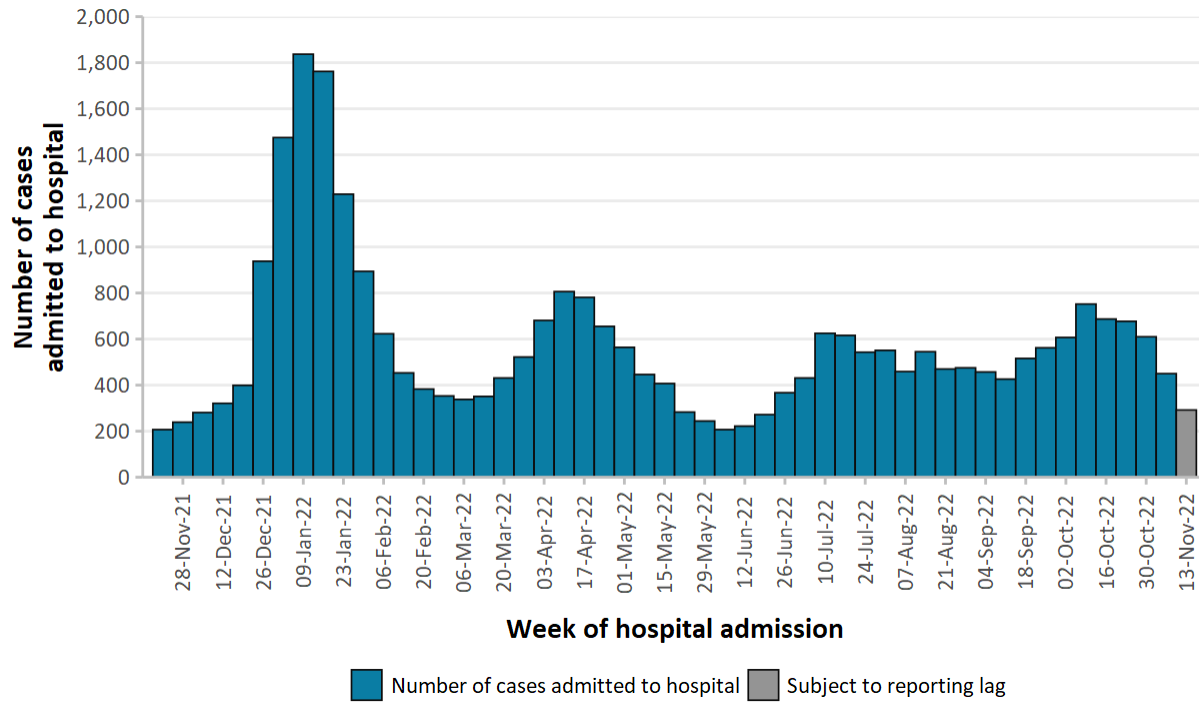**Figure 3a. Confirmed COVID-19 cases that were admitted to hospital, by hospital admission week**

Figure 3b. Confirmed COVID-19 cases that were admitted to hospital (per 100,000 population), by age group and hospital admission date
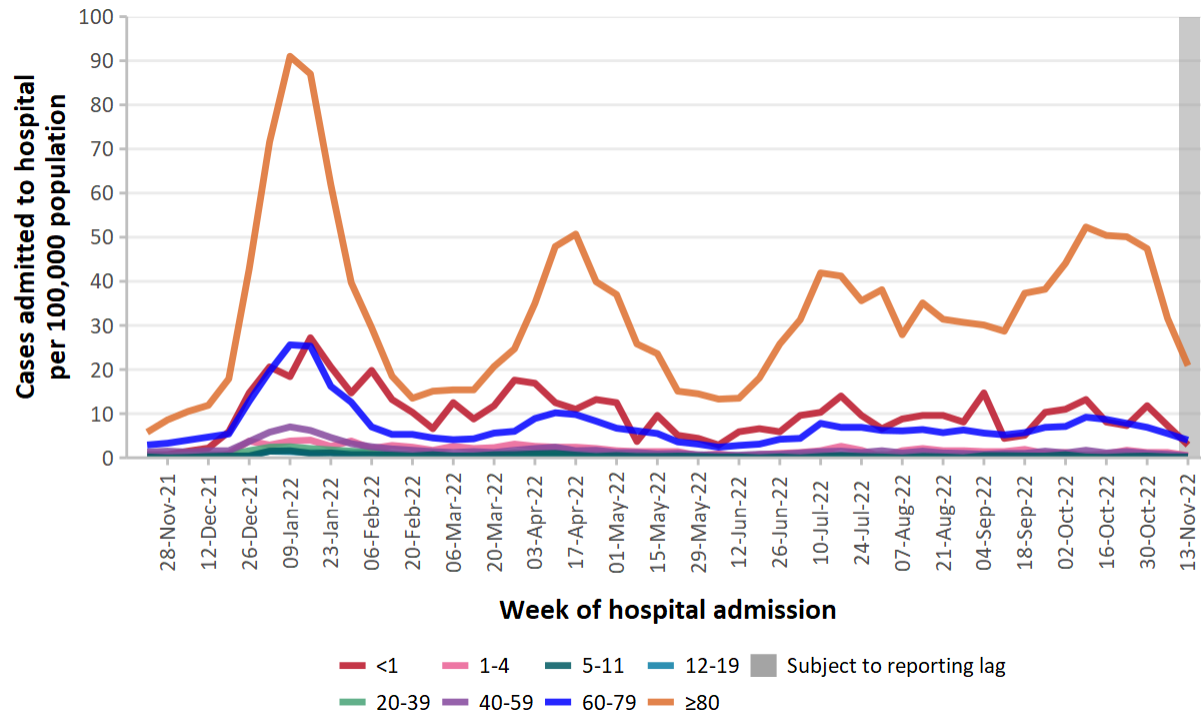
Note: Not all cases have an age reported.

Deaths

Figure 4a. Confirmed COVID-19 deaths, by cause and week of death

Legend: Underlying cause of death ■ Contributing cause of death ■ Cause unknown or missing ■ Subject to reporting lag ■
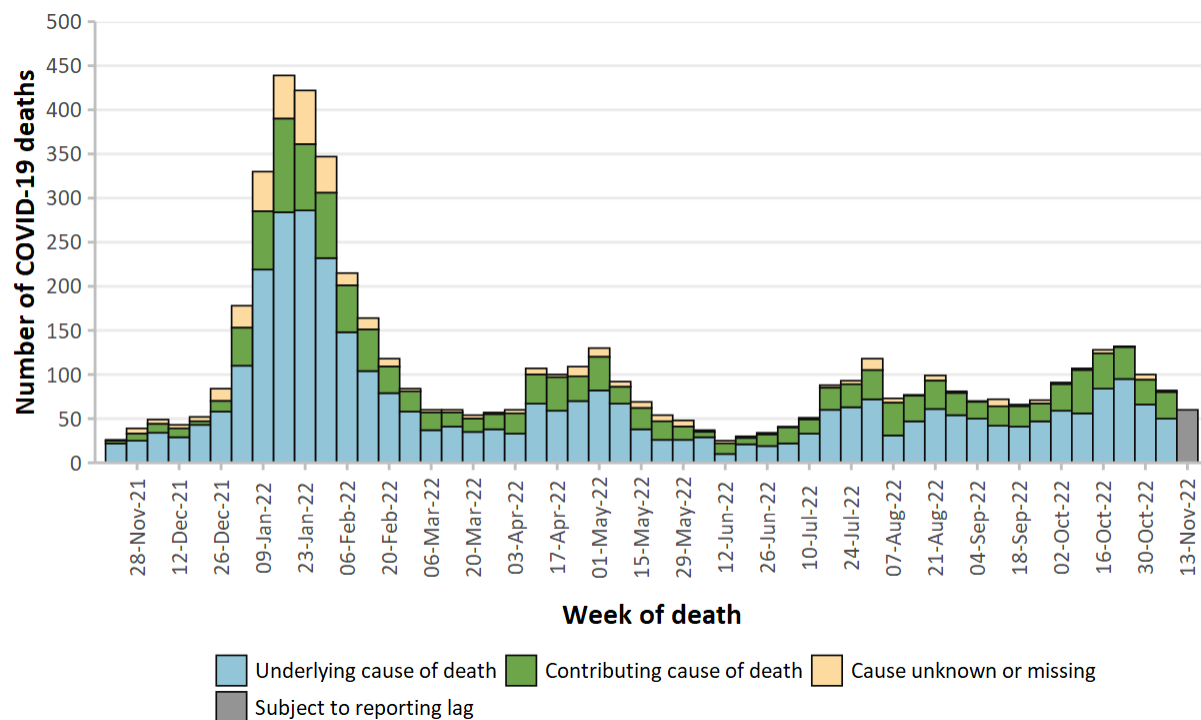
Figure 4b. Confirmed COVID-19 deaths (per 100,000 population), by age group and week of death

Legend: 0-19 — 20-39 — 40-59 — 60-79 — ≥80 — Subject to reporting lag ■
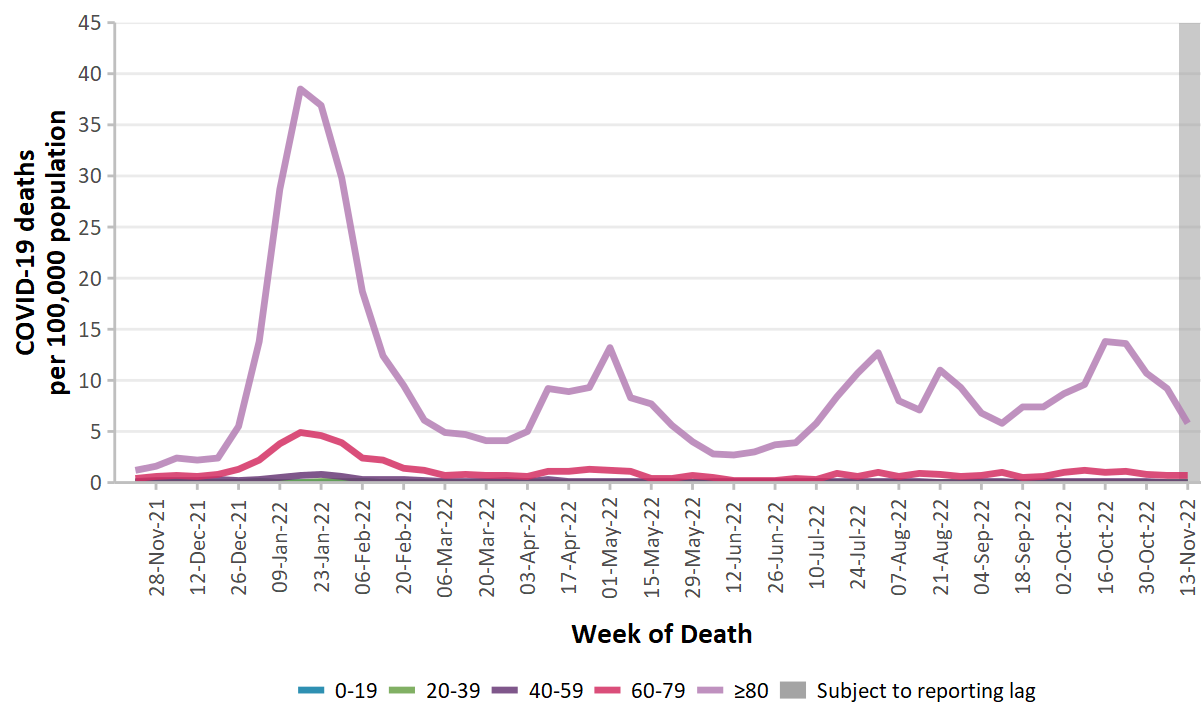
Severity by Neighbourhood Material Deprivation

Figure 5a. Confirmed COVID-19 cases that were admitted to hospital (per 100,000 population), by quintile of neighbourhood material deprivation and hospital admission week
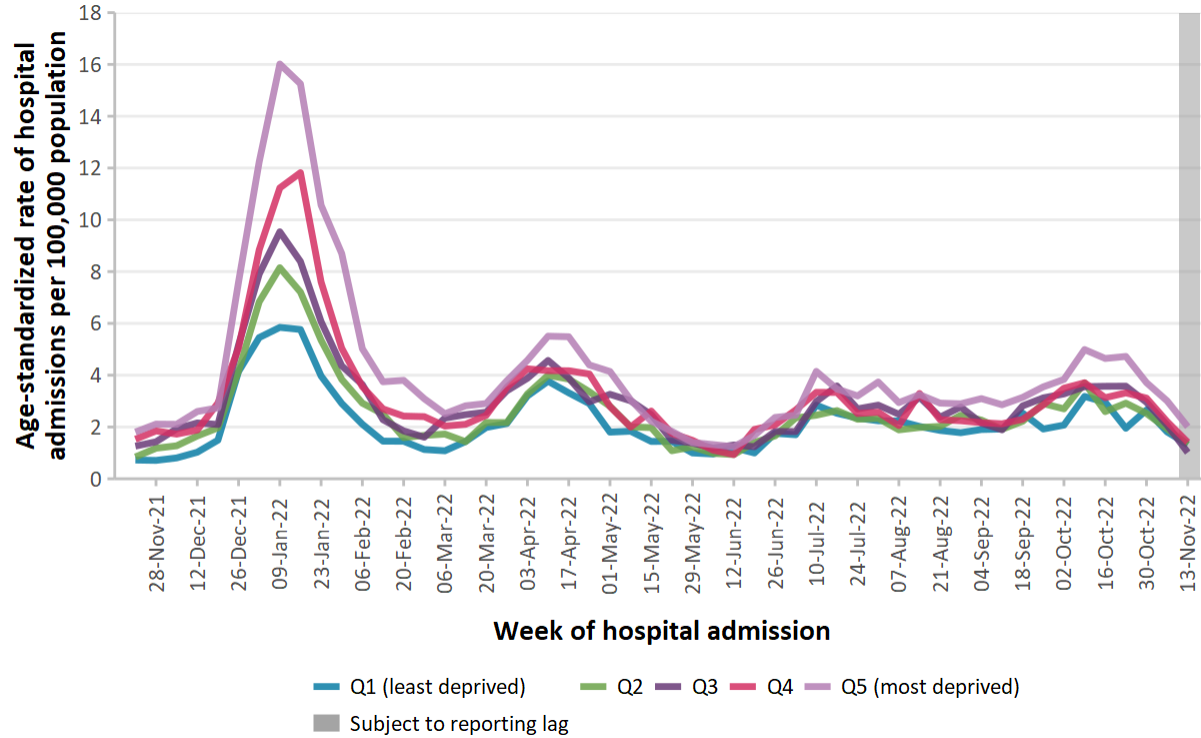
Data Source: CCM, ON-Marg 2016

Figure 5b. Confirmed COVID-19 deaths (per 100,000 population), by quintile of neighbourhood material deprivation and week of death
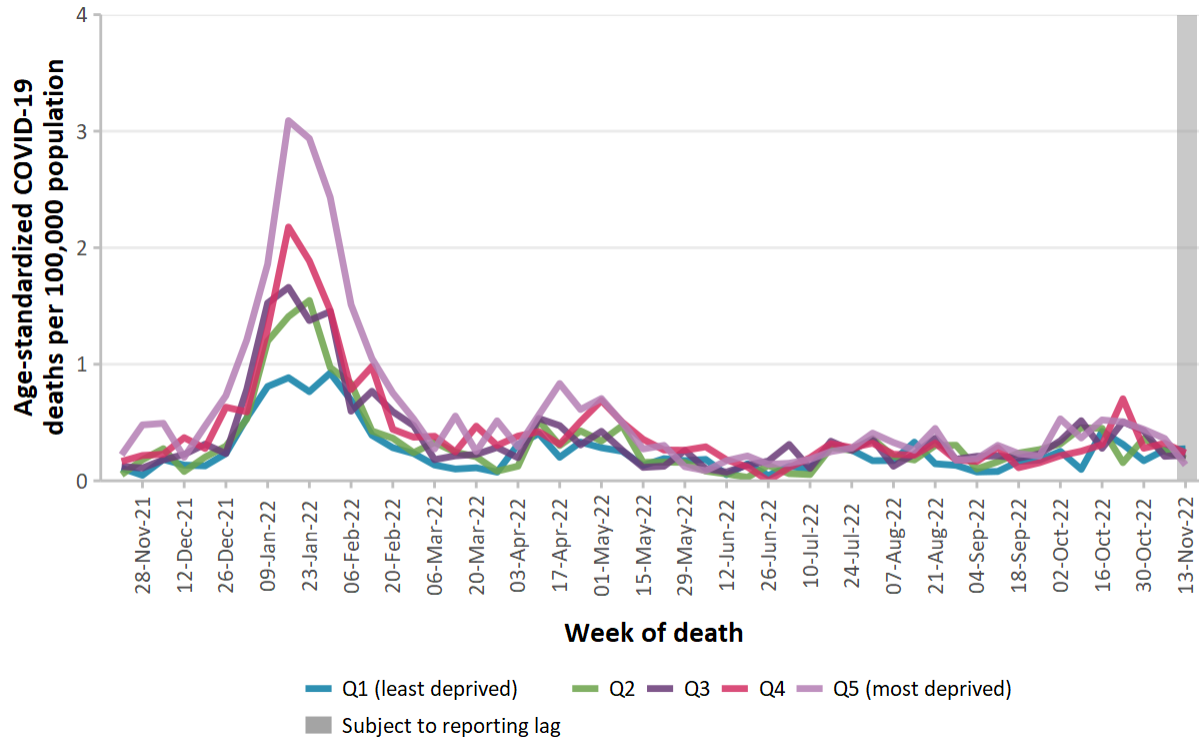
Data Source: CCM, ON-Marg 2016

Outbreaks

Figure 6. Confirmed COVID-19 outbreaks, by setting type and reported week
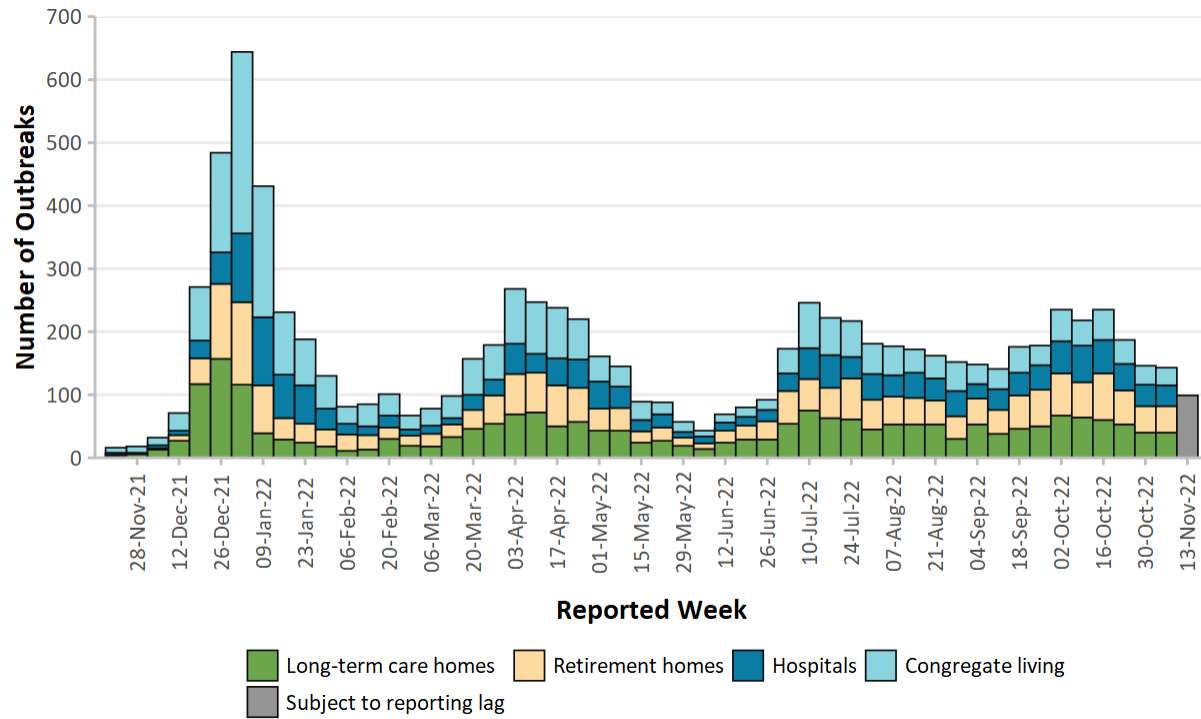
Note: Congregate living includes group homes, shelters, and correctional facilities.

Table 1. Confirmed COVID-19 outbreaks, by setting type

Setting Type	Reported November 6 to November 12, 2022	Reported November 13 to November 19, 2022	Ongoing Outbreaks	Reported Past 52 Weeks (November 21, 2021 to November 19, 2022)
Congregate Care Total	**115**	**81**	**262**	**6,125**
Long-term care homes	40	21	111	2,292
Retirement homes	42	29	93	2,093
Hospitals	33	31	58	1,740
Congregate Living Total	**28**	**18**	**31**	**2,642**
Correctional facility	0	2	5	149
Shelter	5	2	4	470
Group homes/supportive housing	23	14	22	2,023
Total number of outbreaks*	**143**	**99**	**293**	**8,767**

*Only includes outbreaks in the setting types above

Table 2. Confirmed outbreak-associated COVID-19 cases, by setting type and reported week

Cases associated with the outbreak setting type	Reported November 6 to November 12, 2022	Reported November 13 to November 19, 2022	Reported Past 52 Weeks (November 21, 2021 to November 19, 2022)
Congregate Care Total	**1,588**	**1,371**	**104,430**
Long-term care homes	897	823	61,932
Retirement homes	467	375	27,093
Hospitals	224	173	15,405
Congregate Living Total	**56**	**45**	**14,761**
Correctional facility	1	8	4,384
Shelter	11	5	2,636
Group homes/supportive housing	44	32	7,741
Total number of cases*	**1,644**	**1,416**	**119,191**

*Only includes cases associated to outbreaks in the setting types above

Technical Notes

Details on data caveats and methods are documented in Technical Notes of the Ontario COVID-19 Data Tool. For information on data caveats and methods related to Ontario Marginalization Index (ON-Marg), please visit PHO's ON-Marg webpage.

Data Sources

- The data for this report were based on information successfully extracted from the CCM for all PHUS by PHO as of:

    - **November 22, 2022 at 1 p.m**. for cases reported in waves 6 and 7 (March 1, 2022 onwards)

    - **November 21, 2022 at 9 a.m**. for cases reported in waves 4 and 5 (August 1, 2021 to February 28, 2022)

    - **November 21, 2022 at 9 a.m**. for cases reported in waves 1, 2, and 3 (up to July 31, 2021)

- Hospital and ICU bed occupancy data were obtained from the Ministry of Health on **November 23, 2022**. The same data is available weekly from Ontario's Data Catalogue (dataset: COVID-19 cases in hospital and ICU, by Ontario Health (OH) region). The 'date' field was adjusted to account for reporting lags. Specifically, hospital occupancy counts ('hospitalizations') correspond to the 'date' field minus two days, and ICU occupancy counts ('icu_crci_total') correspond to the 'date' field minus one day.

- Ontario population estimate data were sourced from Statistics Canada. Population estimates 2001-2021: Table 1 annual population estimates by age and sex for July 1, 2001 to 2021, health regions, Ontario [unpublished data table]. Ottawa, ON: Government of Canada; 2022 [received April 12, 2022].

- Statistics Canada Postal Code Conversion File Plus (PCCF+), version 7E.

- The health equity (material deprivation) analyses use data from the 2016 Ontario Marginalization Index (ON-Marg), and population counts from the Ontario Health Insurance Plan (OHIP) Registered Person Database (RPDB) as of May 1, 2021 (provided by the Institute for Clinical Evaluative Sciences [ICES]). For more information, please visit PHO's ON-Marg webpage.

- Whole genome sequencing data used in the short-term projection model were based on information extracted on **November 16, 2022** from PHO and **November 15, 2022** from partner laboratories in the Ontario COVID-19 Genomics Network. For more information on SARS-CoV-2 whole genome sequencing surveillance please see the report SARS-CoV-2 Genomic Surveillance in Ontario report.

Appendix A: Hospital Bed Occupancy

This graph shows a daily count of:

1. the number of people in hospital (including intensive care unit (ICU)) with active COVID-19 (i.e. testing positive); and

2. the number of people in ICU because of COVID-19.

These counts differ from hospital admissions data in this report (Figures 3a, 3b, and Table 4), which count the number of people admitted to hospital each week due to COVID-19.

Figure 7. Hospital and ICU bed occupancy, by day
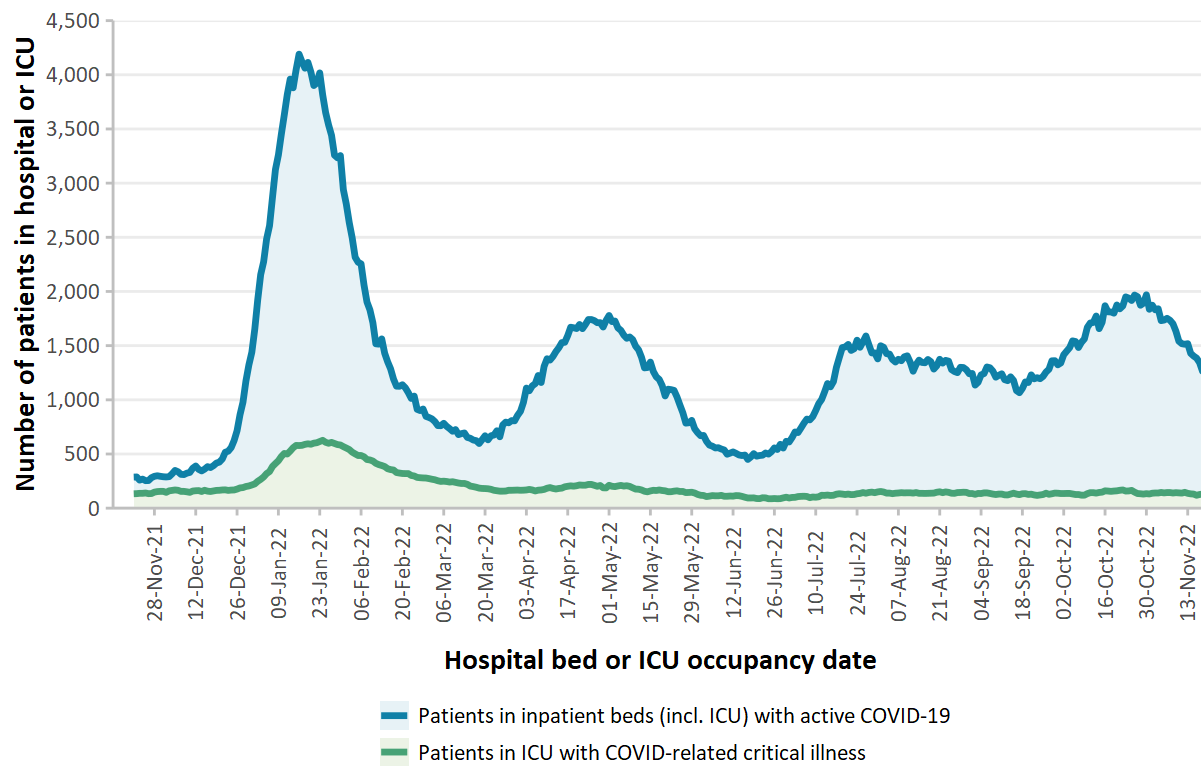
Data Source: Ontario Ministry of Health
Note: Hospital bed occupancy data comes from the Hospital Daily Bed Census and ICU bed occupancy data comes from the Critical Care Information System.

Appendix B: Cases by Public Health Unit

Figure 8. Confirmed cases of COVID-19 (per 100,000 population), by region and reported week
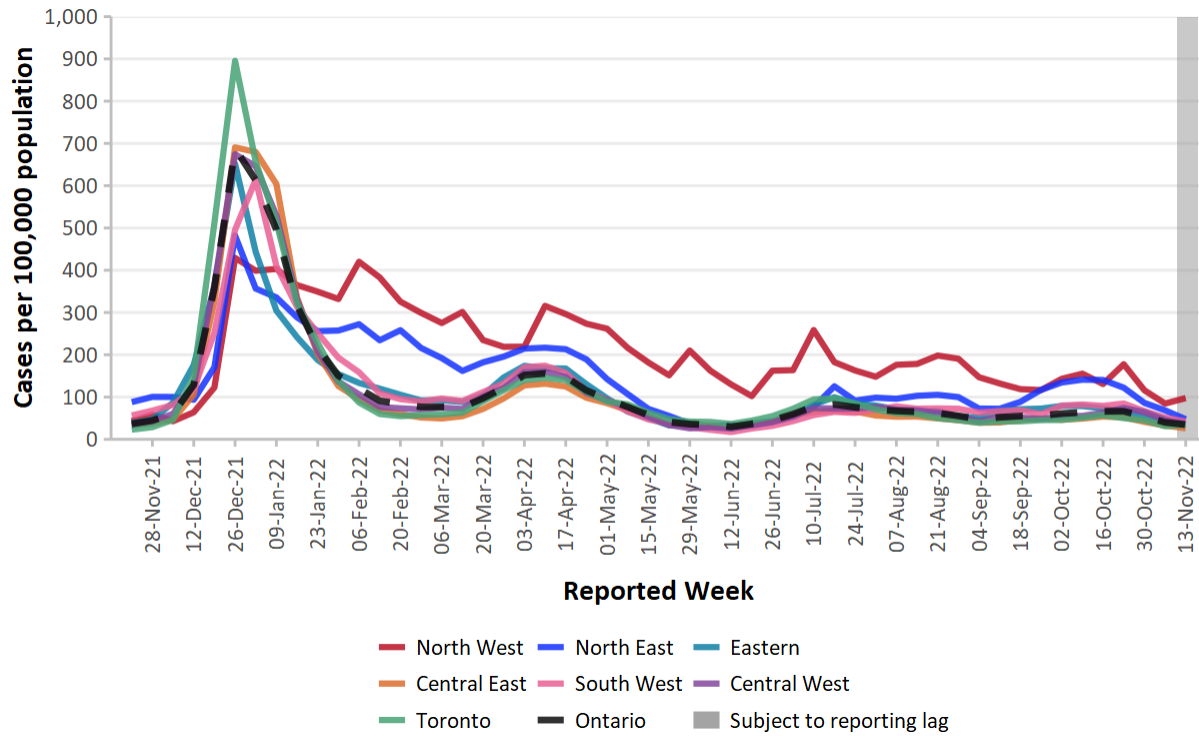
Table 3. Confirmed cases of COVID-19, by public health unit and region

Public Health Unit Name	Cases November 6 to November 12, 2022	Cases per 100,000 population November 6 to November 12, 2022	Cases November 13 to November 19, 2022	Cases per 100,000 population November 13 to November 19, 2022	Cases per 100,000 population Past 52 weeks (November 21, 2021 to November 19, 2022)
Northwestern Health Unit	81	99.3	75	91.9	14,904.9
Thunder Bay District Health Unit	120	76.9	157	100.6	8,696.2
TOTAL NORTH WEST	**201**	**84.6**	**232**	**97.6**	**10,828.5**
Algoma Public Health	89	76.0	73	62.3	8,709.8
North Bay Parry Sound District Health Unit	104	79.5	65	49.7	5,896.6
Porcupine Health Unit	21	24.9	30	35.6	7,663.8
Public Health Sudbury & Districts	165	80.3	94	45.7	8,052.8
Timiskaming Health Unit	13	38.0	9	26.3	6,884.1
TOTAL NORTH EAST	**392**	**68.6**	**271**	**47.4**	**7,567.1**
Ottawa Public Health	256	24.3	254	24.1	5,167.1
Eastern Ontario Health Unit	107	49.1	113	51.8	6,060.6
Hastings Prince Edward Public Health	78	44.8	62	35.6	6,821.0

Public Health Unit Name	Cases November 6 to November 12, 2022	Cases per 100,000 population November 6 to November 12, 2022	Cases November 13 to November 19, 2022	Cases per 100,000 population November 13 to November 19, 2022	Cases per 100,000 population Past 52 weeks (November 21, 2021 to November 19, 2022)
Kingston, Frontenac and Lennox & Addington Public Health	144	68.7	122	58.2	9,484.4
Leeds, Grenville & Lanark District Health Unit	108	59.5	82	45.2	5,984.6
Renfrew County and District Health Unit	53	48.5	66	60.4	5,574.3
TOTAL EASTERN	**746**	**38.3**	**699**	**35.9**	**5,978.9**
Durham Region Health Department	229	31.5	159	21.9	5,820.9
Haliburton, Kawartha, Pine Ridge District Health Unit	49	25.4	51	26.4	4,827.9
Peel Public Health	449	28.6	368	23.4	5,362.2
Peterborough Public Health	58	39.3	59	39.9	5,582.4
Simcoe Muskoka District Health Unit	263	42.7	209	33.9	6,341.4
York Region Public Health	413	34.1	320	26.4	5,605.9
TOTAL CENTRAL EAST	**1,461**	**32.7**	**1,166**	**26.1**	**5,622.3**
Toronto Public Health	926	31.1	1,031	34.7	6,262.8
TOTAL TORONTO	**926**	**31.1**	**1,031**	**34.7**	**6,262.8**

Public Health Unit Name	Cases November 6 to November 12, 2022	Cases per 100,000 population November 6 to November 12, 2022	Cases November 13 to November 19, 2022	Cases per 100,000 population November 13 to November 19, 2022	Cases per 100,000 population Past 52 weeks (November 21, 2021 to November 19, 2022)
Chatham-Kent Public Health	70	64.9	85	78.8	6,988.3
Grey Bruce Health Unit	83	46.5	91	50.9	4,759.9
Huron Perth Public Health	85	57.4	42	28.4	4,539.3
Lambton Public Health	112	84.5	88	66.4	7,368.9
Middlesex-London Health Unit	243	47.2	199	38.6	6,026.2
Southwestern Public Health	114	51.1	73	32.7	5,387.1
Windsor-Essex County Health Unit	187	43.9	149	35.0	6,888.7
TOTAL SOUTH WEST	**894**	**51.6**	**727**	**42.0**	**6,061.4**
Brant County Health Unit	77	49.2	73	46.6	5,783.8
City of Hamilton Public Health Services	414	70.5	303	51.6	7,511.9
Haldimand-Norfolk Health Unit	58	47.5	40	32.8	5,818.3
Halton Region Public Health	212	34.2	141	22.8	5,783.2
Niagara Region Public Health	261	53.8	226	46.6	6,175.6

Public Health Unit Name	Cases November 6 to November 12, 2022	Cases per 100,000 population November 6 to November 12, 2022	Cases November 13 to November 19, 2022	Cases per 100,000 population November 13 to November 19, 2022	Cases per 100,000 population Past 52 weeks (November 21, 2021 to November 19, 2022)
Region of Waterloo Public Health and Emergency Services	220	36.0	172	28.1	5,351.7
Wellington-Dufferin-Guelph Public Health	104	32.8	70	22.1	5,091.0
TOTAL CENTRAL WEST	**1,346**	**46.4**	**1,025**	**35.4**	**6,033.9**
TOTAL ONTARIO	**5,966**	**40.2**	**5,151**	**34.7**	**6,087.8**

Note: Access to testing can vary across the province and as a result may impact the reported confirmed case rates by public health unit.

Appendix C: Severity Measures by Age and Sex

Table 4. Confirmed COVID-19 cases that were admitted to hospital, by sex and age group

Sex and age group	Hospital admissions November 6 to November 12, 2022	Hospital admissions per 100,000 population November 6 to November 12, 2022	Hospital admissions November 13 to November 19, 2022	Hospital admissions per 100,000 population November 13 to November 19, 2022	Hospital admissions Past 52 weeks (November 21, 2021 to November 19, 2022)	Hospital admissions per 100,000 population Past 52 weeks (November 21, 2021 to November 19, 2022)
Total Cases	450	3.0	292	2.0	29,722	200.5
Sex: Female	237	3.2	147	2.0	13,727	183.0
Sex: Male	212	2.9	144	2.0	15,946	217.6
Sex: Did not specify female or male	1	N/A	1	N/A	49	N/A
Ages: <1	10	7.3	4	2.9	708	520.2
Ages: 1 – 4	7	1.2	3	0.5	504	87.4
Ages: 5 – 11	2	0.2	2	0.2	237	22.0
Ages: 12 – 19	3	0.2	2	0.2	277	21.2
Ages: 20 – 39	18	0.4	3	0.1	1,638	39.1
Ages: 40 – 59	32	0.8	16	0.4	3,498	90.3
Ages: 60 – 79	165	5.5	121	4.0	11,345	378.8
Ages: 80 and over	213	31.6	141	20.9	11,513	1,705.7
Ages: Unknown	0	N/A	0	N/A	2	N/A

Table 5. Confirmed COVID-19 deaths, by sex and age group

Sex and age group	Deaths November 6 to November 12, 2022	Deaths per 100,000 population November 6 to November 12, 2022	Deaths November 13 to November 19, 2022	Deaths per 100,000 population November 13 to November 19, 2022	Deaths Past 52 weeks (November 21, 2021 to November 19, 2022)	Deaths per 100,000 population Past 52 weeks (November 21, 2021 to November 19, 2022)
Total Cases	82	0.6	60	0.4	5,416	36.5
Sex: Female	43	0.6	32	0.4	2,417	32.2
Sex: Male	39	0.5	28	0.4	2,987	40.8
Sex: Did not specify female or male	0	N/A	0	N/A	12	N/A
Ages: 0 – 19	0	0.0	0	0.0	12	0.4
Ages: 20 – 39	0	0.0	0	0.0	54	1.3
Ages: 40 – 59	0	0.0	0	0.0	318	8.2
Ages: 60 – 79	20	0.7	21	0.7	1,747	58.3
Ages: 80 and over	62	9.2	39	5.8	3,285	486.7
Ages: Unknown	0	N/A	0	N/A	0	N/A

Appendix D: All Time Severe Outcomes

Table 6. Confirmed COVID-19 cases and deaths among LTCH residents, by wave[1]

Wave	Number of LTCH Resident Cases	Number of LTCH Resident COVID-19 deaths	Case Fatality Rate (CFR)
Wave 1 (February 26, 2020 to August 31, 2020)	6,011	1,906	31.7%
Wave 2 (September 1, 2020 to February 28, 2021)	9,049	1,948	21.5%
Wave 3 (March 1, 2021 to July 31, 2021)	415	60	14.5%
Wave 4 (August 1, 2021 to December 14, 2021)	247	45	18.2%
Wave 5 (December 15, 2021 to February 28, 2022)	10,169	482	4.7%
Wave 6 (March 1, 2022 to June 18, 2022)	7,703	204	2.6%
Wave 7 (June 19, 2022 to November 19, 2022)[2]	20,763	573	2.8%
Total	**54,357**	**5,218**	**9.6%**

Notes:

1. As of August 31, 2022, only LTCH resident cases linked to an outbreak are required to be identified as LTCH residents in CCM. As a result, fewer LTCH resident cases will be identified. The number of LTCH resident cases, deaths, and CFR should be interpreted with this reporting change in mind. 2. Wave 7 is ongoing and only includes cases up to November 19, 2022. Therefore, the case fatality rate for the time period of wave 7 presented here may increase.

Appendix E: Short-term Projections of COVID-19 in Ontario

- A multinomial logistic regression model (from the R package, *nnet*[1]) of whole genome sequencing (WGS) data, was used to estimate the proportion of each SARS-CoV-2 lineage over the last two and a half months. The lineage categorization is made using the top five prevalent lineages over that time. These proportions were then applied to the reported daily COVID-19 cases to determine the daily estimated number of cases for each lineage.

- The R package, *EpiNow2*[2], was used to project the daily number of cases forward 14 days. The model was run by lineage to ensure potential differences in lineage-specific transmission were accounted for. *EpiNow2*[2] calculates these projections using Bayesian latent variable modelling3. Model inputs included an incubation period of 4 days[4,5] and a generation time of 2.5 days[6]. The reporting delay was estimated to be about 3 days using the symptom onset date. The results by lineage were then summed to generate the projected total number of cases and 75% credible interval. Modelling results of past weeks were compared with reported cases to confirm model accuracy.

References

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