Public Health Ontario | Santé publique Ontario

WEEKLY EPIDEMIOLOGICAL SUMMARY

COVID-19 in Ontario: Focus on September 11, 2022 to September 17, 2022 (Week 37)

Published: September 23, 2022

Figures and tables in this report present the most recent 52 weeks of data for Ontario, ranging from **September 19, 2021 to September 17, 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 was 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 similar compared to last week among those eligible for testing**: The number of reported cases in Ontario was 7,694 this week, compared to 7,002 last week.
    - Case rates were similar or increased this week in 6 of Ontario's 7 regions, and were similar or increased in 28 of 34 public health units, compared to last week.
    - Case rates were similar or increased this week in all 7 age groups, compared to last week.
- **Percent positivity and testing volume similar compared to last week:** Percent positivity was 11.9% this week, compared to 11.4% last week. Testing volume this week was 60,707 tests, compared to 57,251 tests last week.

Severity

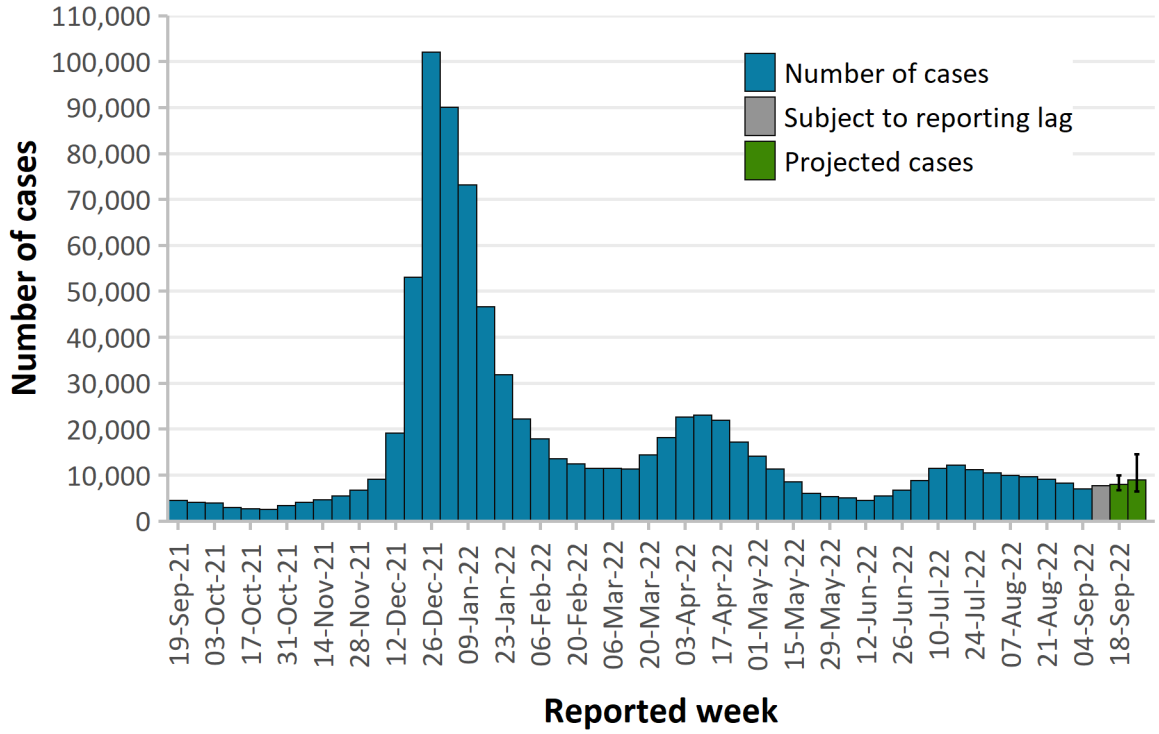
- **Hospital admissions down 24% and deaths down 23% compared to last week:** There were 286 hospital admissions reported this week, compared to 375 last week. There was a notable decrease in the rate of weekly hospital admissions for infants under 1 year old, from 11.2 to 4.2 per 100,000. There were 49 deaths reported this week, compared to 64 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 12% compared to last week:** The total number of outbreaks in high-risk settings was 129 this week, down from 147 last week. This week there was a notable decrease in long-term care home outbreaks (35% decrease) and a notable increase in hospital outbreaks (39% increase).
- **Outbreak-associated cases in high-risk settings similar compared to last week**: There were 1,817 outbreak-associated cases reported this week compared to 1,666 last week. Cases were similar overall in congregate care settings (long-term care homes, retirement homes, and hospitals) and increased 40% overall in congregate living settings (correctional facilities, shelters, and group homes/supporting housing).

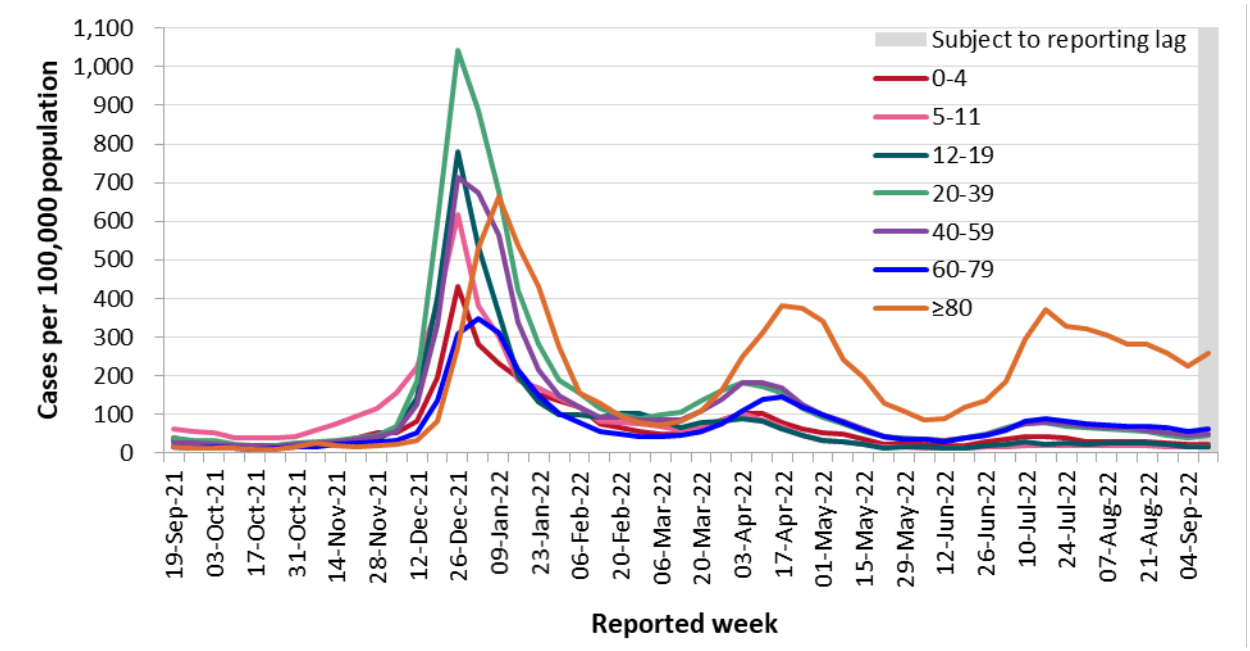
Cases

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.

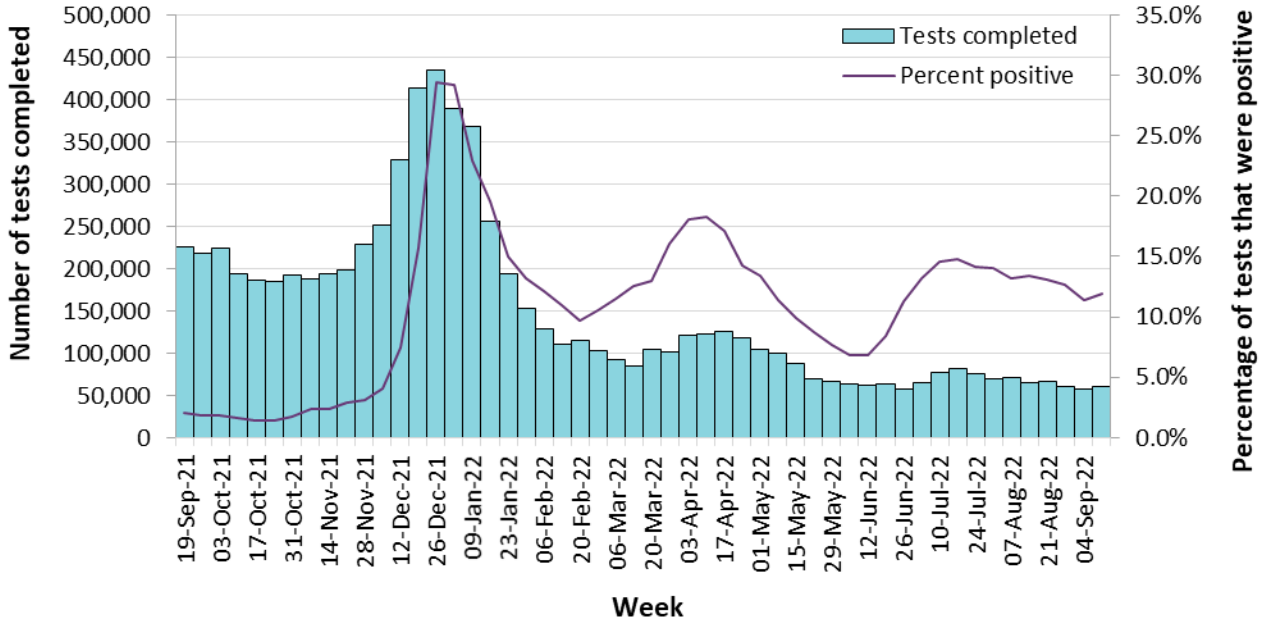
Figure 1b. Confirmed cases of COVID-19 (per 100,000 population), by age group and reported week



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

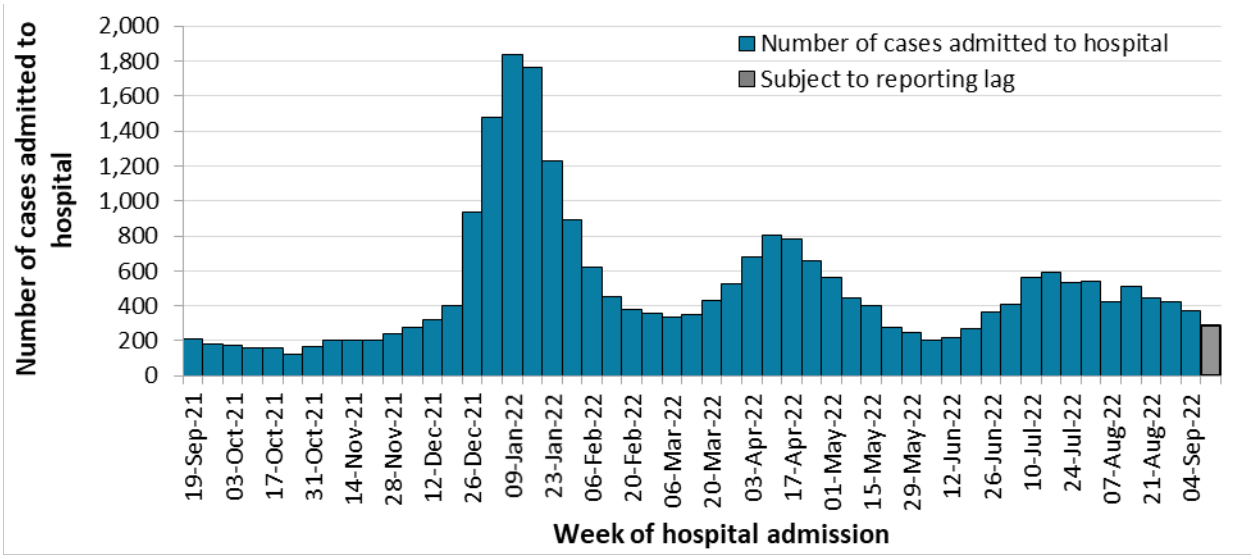
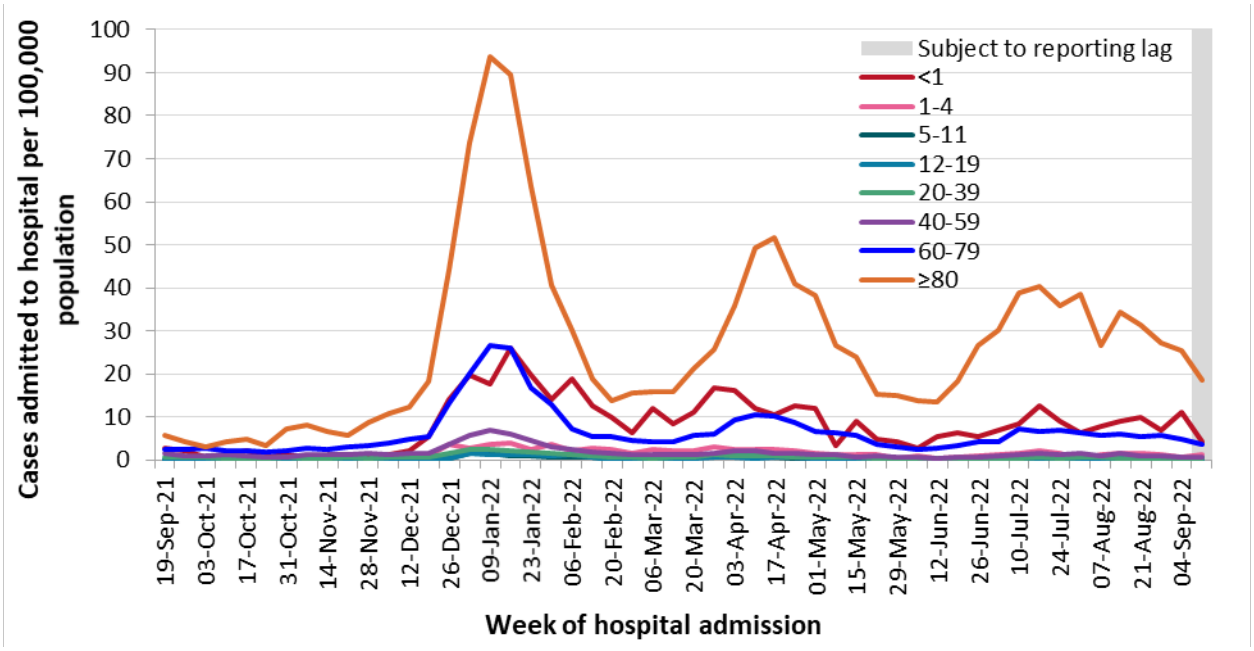


Figure 3b. Confirmed COVID-19 cases that were admitted to hospital (per 100,000 population), by age group and hospital admission date



Note: Not all cases have an age reported.

Deaths

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

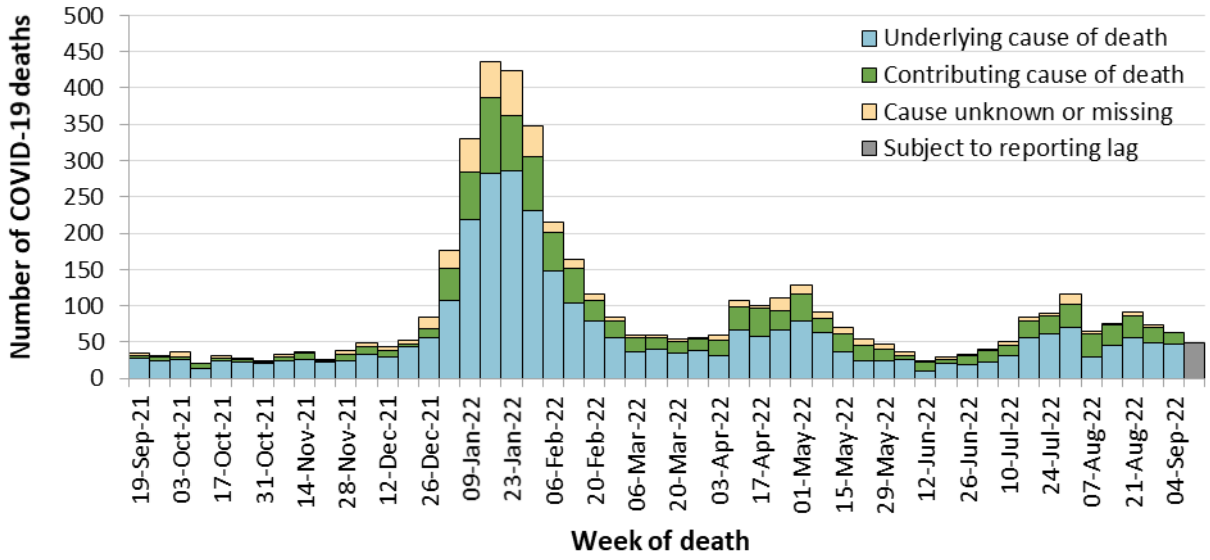
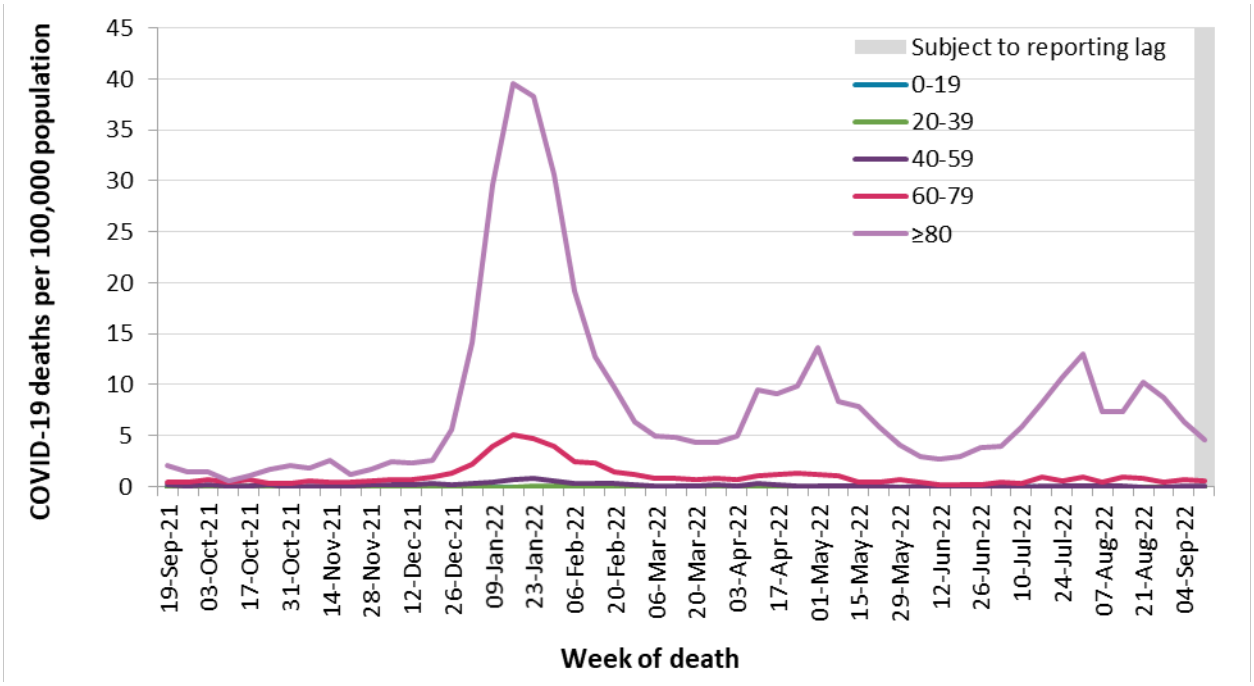
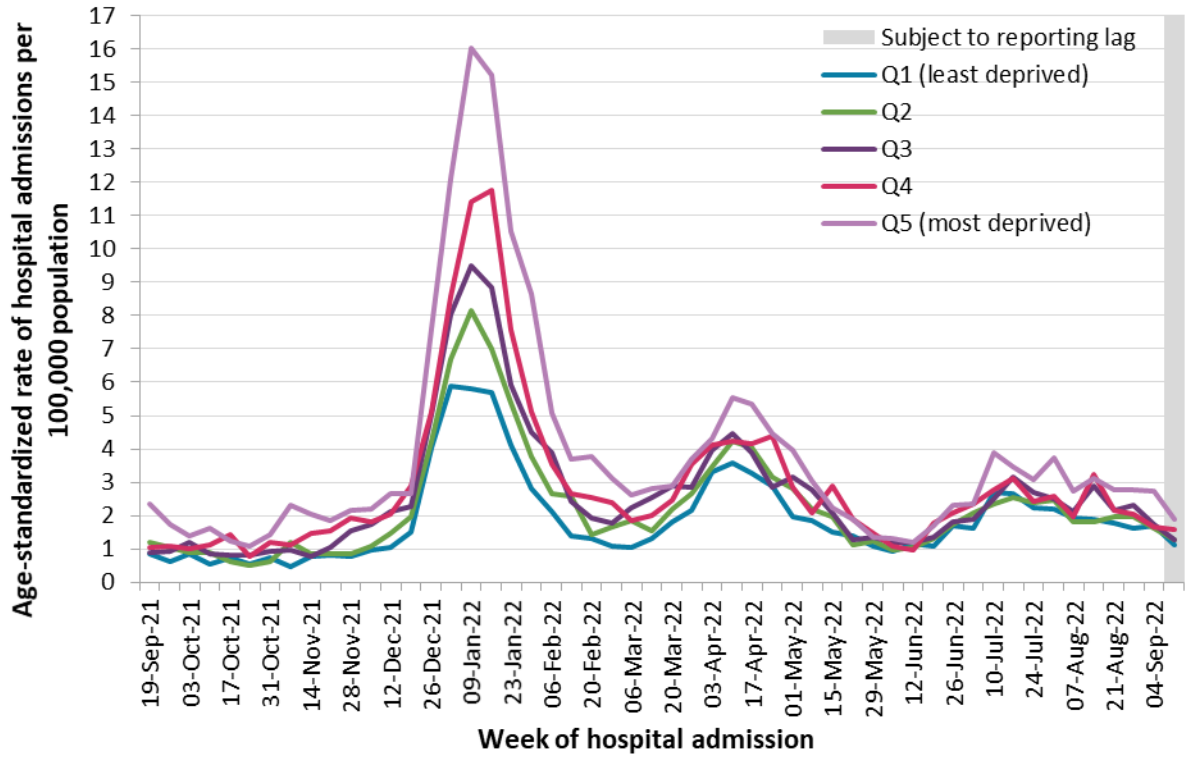


Figure 4b. Confirmed COVID-19 deaths (per 100,000 population), by age group and week of death



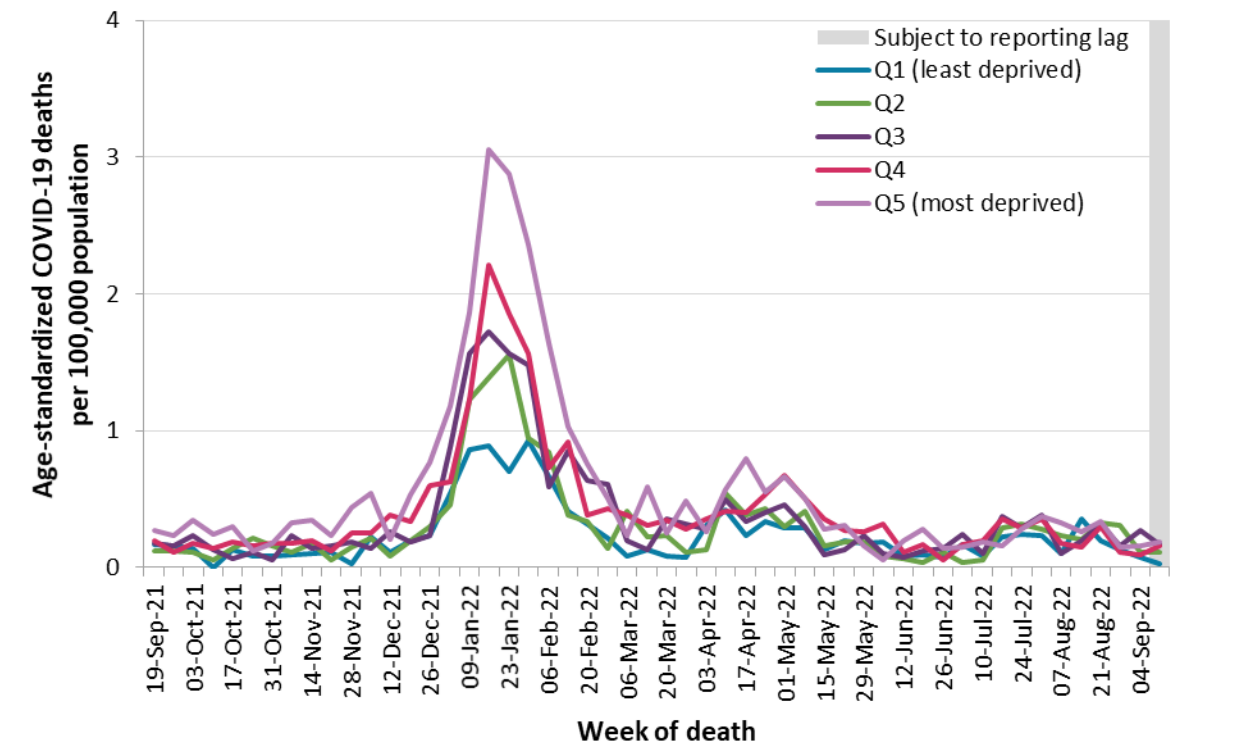
Severity by Neighbourhood Material Deprivation

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

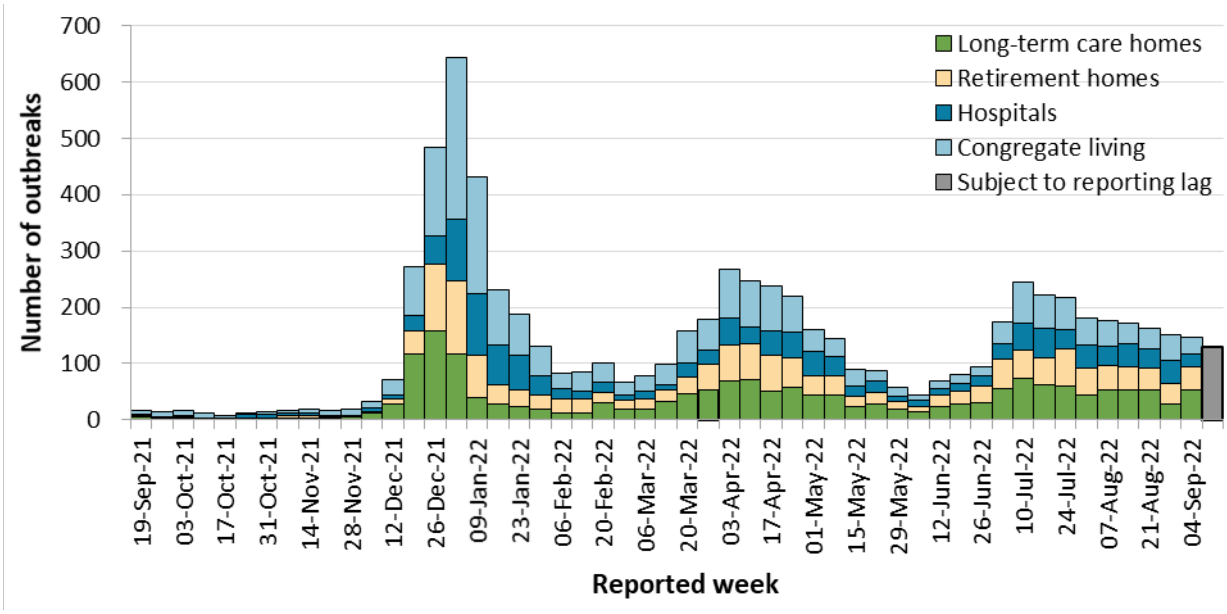
Figure 5b. Confirmed COVID-19 deaths (per 100,000 population), by quintile of neighbourhood material deprivation and week of death



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 September 4 to September 10, 2022	Reported September 11 to September 17, 2022	Ongoing outbreaks	Reported Past 52 Weeks (September 19, 2021 to September 17, 2022)
Congregate Care	**116**	**101**	**306**	**4,896**
Long-term care homes	52	34	141	1,869
Retirement homes	41	35	105	1,639
Hospitals	23	32	60	1,388
Congregate Living	**31**	**28**	**54**	**2,372**
Correctional facility	4	6	10	129
Shelter	8	5	9	435
Group home/supportive housing	19	17	35	1,808
Total number of outbreaks*	**147**	**129**	**360**	**7,268**

*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 September 4 to September 10, 2022	Reported September 11 to September 17, 2022	Reported Past 52 Weeks (September 19, 2021 to September 17, 2022)
Congregate Care	**1,578**	**1,694**	**83,044**
Long-term care homes	887	1,021	49,933
Retirement homes	422	498	20,743
Hospitals	269	175	12,368
Congregate Living	**88**	**123**	**13,983**
Correctional facility	16	55	4,293
Shelter	4	15	2,621
Group home/supportive housing	68	53	7,069
Total number of cases*	**1,666**	**1,817**	**97,027**

*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:
    - **September 20, 2022 at 1 p.m.** for cases reported from January 1, 2022 onwards
    - **September 19, 2022 at 9 a.m.** for cases reported from January 1, 2021 to December 31, 2021
    - **September 9, 2022 at 9 a.m.** for cases reported up to December 31, 2020.
- Hospital and ICU bed occupancy data were obtained from the Ministry of Health on **September 21, 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 2001-2020: Table 1 annual population estimates by age and sex for July 1, 2001 to 2020, health regions, Ontario [unpublished data table]. Ottawa, ON: Government of Canada; 2021 [received April 22, 2021].
- 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 **September 14, 2022** from PHO and **September 13, 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.

References

1. Venables WN, Ripley BD. Modern applied statistics with S. 4th ed. New York, NY: Springer; 2002.

2. Abbot S, Hellewell J, Sherratt K, Gostic K, Hickson J, Badr HS, et al. EpiNow2: estimate real-time case counts and time-varying epidemiological parameters. Zenodo 3957489 [Preprint]. 2021 Jun 28 [cited 2022 Sep 08]. Available from: https://doi.org/10.5281/zenodo.3957489

3. Abbot S, Hellewell J, Thompson RN, Sherratt K, Gibbs HP, Bosse NI, et al. Estimating the time-varying reproduction number of SARS-CoV-2 using national and subnational case counts [version 2; peer review: 1 approved, 1 approved with reservations]. Wellcome Open Res. 2020;5:112. Available from: https://doi.org/10.12688/wellcomeopenres.16006.2

4. Backer JA, Eggink D, Andeweg SP, Veldhuijzen IK, van Maarseveen N, Vermaas K, et al. Shorter serial intervals in SARS-CoV-2 cases with Omicron BA.1 variant compared with Delta variant, the Netherlands, 13 to 26 December 2021. Euro Surveill. 2022;27(6):2200042. Available from: https://doi.org/10.2807%2F1560-7917.ES.2022.27.6.2200042

5. Jansen L, Tegomoh B, Lange K, Showalter K, Figliomeni J, Abdalhamid B, et al. Investigation of a SARS-CoV-2 B.1.1.529 (Omicron) variant cluster – Nebraska, November – December 2021. MMWR Morb Mortal Wkly Rep. 2021;70(51-52):1782-4. Available from: https://doi.org/10.15585%2Fmmwr.mm705152e3

6. Abbot S, Sherratt K, Gerstung M, Funk S. Estimation of the test to test distribution as a proxy for generation interval distribution for the Omicron variant in England. medRxiv 22268920 [Preprint]. 2022 Jan 10 [cited 2022 Sep 08]. Available from: https://doi.org/10.1101/2022.01.08.22268920

Appendix A: Hospital Bed Occupancy

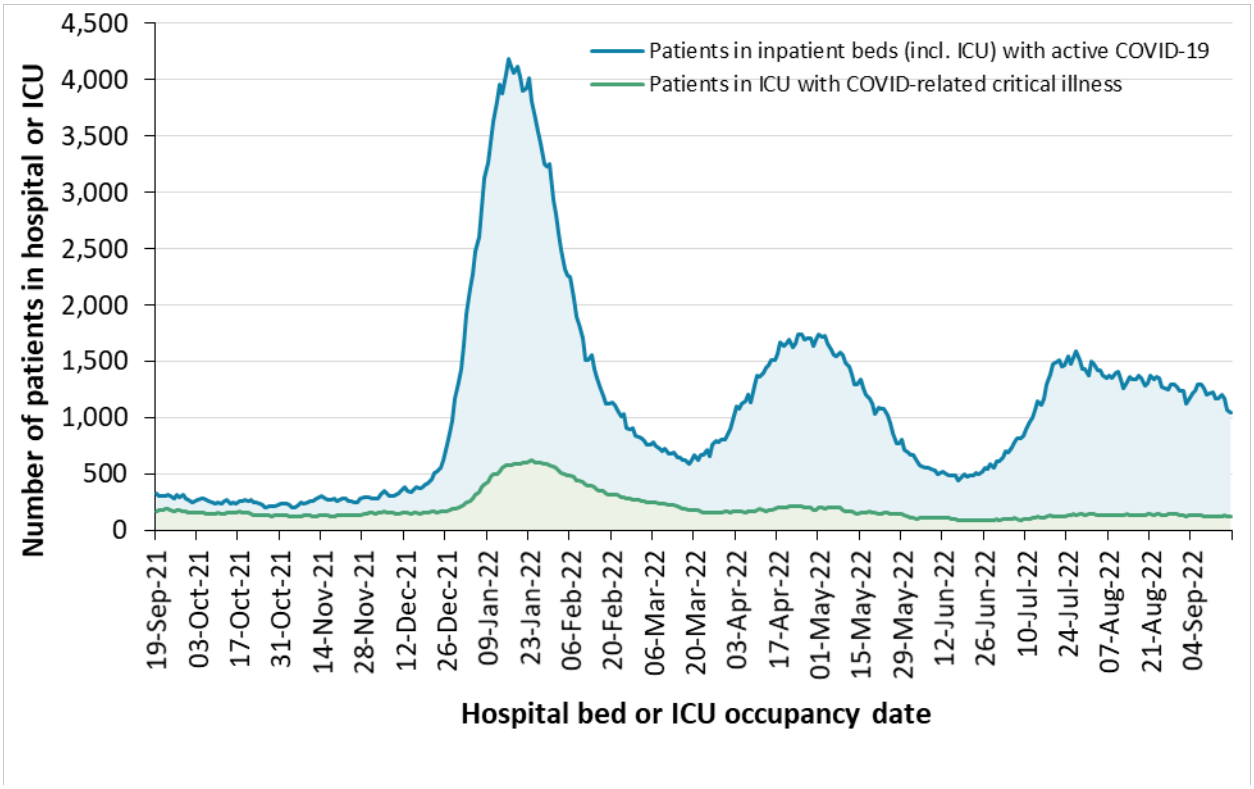
This graph shows a daily count of:

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



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

Appendix B: Cases by Public Health Unit

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

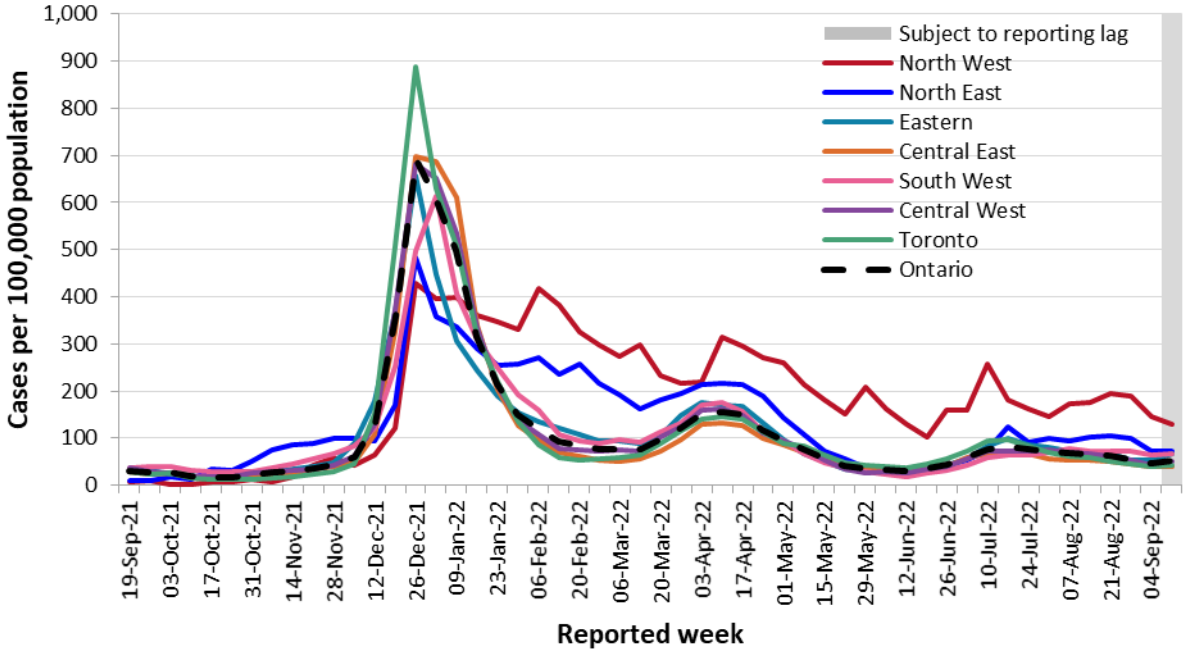


Table 3. Confirmed cases of COVID-19, by public health unit and region

Public Health Unit Name	Cases September 4 to September 10, 2022	Cases per 100,000 population September 4 to September 10, 2022	Cases September 11 to September 17, 2022	Cases per 100,000 population September 11 to September 17, 2022	Cases per 100,000 population Past 52 weeks (September 19, 2021 to September 17, 2022)
Northwestern Health Unit	88	108.4	85	104.7	13,644.1
Thunder Bay District Health Unit	258	163.6	227	143.9	7,645.2
TOTAL NORTH WEST	**346**	**144.8**	**312**	**130.6**	**9,683.9**
Algoma Public Health	59	50.1	94	79.8	7,747.8
North Bay Parry Sound District Health Unit	76	58.8	77	59.5	5,186.1
Porcupine Health Unit	48	56.5	47	55.3	7,102.4
Public Health Sudbury & Districts	212	103.3	175	85.3	7,644.6
Timiskaming Health Unit	21	62.0	21	62.0	6,226.9
TOTAL NORTH EAST	**416**	**72.8**	**414**	**72.5**	**6,944.6**
Ottawa Public Health	327	31.3	433	41.5	5,032.5
Eastern Ontario Health Unit	143	66.2	176	81.5	5,986.3

Public Health Unit Name	Cases September 4 to September 10, 2022	Cases per 100,000 population September 4 to September 10, 2022	Cases September 11 to September 17, 2022	Cases per 100,000 population September 11 to September 17, 2022	Cases per 100,000 population Past 52 weeks (September 19, 2021 to September 17, 2022)
Hastings Prince Edward Public Health	178	103.0	272	157.4	6,303.3
Kingston, Frontenac and Lennox & Addington Public Health	184	87.9	193	92.2	8,885.0
Leeds, Grenville & Lanark District Health Unit	112	62.2	183	101.7	5,202.1
Renfrew County and District Health Unit	66	60.8	51	47.0	4,691.4
TOTAL EASTERN	**1,010**	**52.3**	**1,308**	**67.8**	**5,667.4**
Durham Region Health Department	301	42.3	254	35.7	5,728.1
Haliburton, Kawartha, Pine Ridge District Health Unit	67	35.1	85	44.6	4,381.1
Peel Public Health	551	35.2	584	37.3	5,287.2
Peterborough Public Health	79	53.3	97	65.5	4,682.1
Simcoe Muskoka District Health Unit	256	42.3	291	48.1	6,183.2
York Region Public Health	489	40.7	457	38.1	5,479.9

Public Health Unit Name	Cases September 4 to September 10, 2022	Cases per 100,000 population September 4 to September 10, 2022	Cases September 11 to September 17, 2022	Cases per 100,000 population September 11 to September 17, 2022	Cases per 100,000 population Past 52 weeks (September 19, 2021 to September 17, 2022)
TOTAL CENTRAL EAST	**1,743**	**39.4**	**1,768**	**40.0**	**5,473.7**
Toronto Public Health	1,155	38.6	1,261	42.2	5,947.8
TOTAL TORONTO	**1,155**	**38.6**	**1,261**	**42.2**	**5,947.8**
Chatham-Kent Public Health	91	85.3	106	99.4	6,948.0
Grey Bruce Health Unit	79	44.8	73	41.4	4,332.7
Huron Perth Public Health	75	51.3	67	45.8	4,188.9
Lambton Public Health	74	55.7	93	69.9	6,863.9
Middlesex-London Health Unit	337	66.0	263	51.5	5,651.3
Southwestern Public Health	176	80.4	228	104.2	5,239.2
Windsor-Essex County Health Unit	268	62.2	328	76.1	6,654.9
TOTAL SOUTH WEST	**1,100**	**63.9**	**1,158**	**67.2**	**5,764.9**
Brant County Health Unit	60	39.1	82	53.4	5,614.8
City of Hamilton Public Health Services	347	59.7	417	71.7	7,073.0

Public Health Unit Name	Cases September 4 to September 10, 2022	Cases per 100,000 population September 4 to September 10, 2022	Cases September 11 to September 17, 2022	Cases per 100,000 population September 11 to September 17, 2022	Cases per 100,000 population Past 52 weeks (September 19, 2021 to September 17, 2022)
Haldimand-Norfolk Health Unit	44	36.7	57	47.5	5,609.6
Halton Region Public Health	245	40.1	239	39.1	5,687.1
Niagara Region Public Health	229	47.5	234	48.6	5,893.4
Region of Waterloo Public Health and Emergency Services	225	37.2	297	49.1	5,190.6
Wellington-Dufferin-Guelph Public Health	82	26.3	147	47.1	4,975.4
TOTAL CENTRAL WEST	**1,232**	**43.0**	**1,473**	**51.4**	**5,813.7**
TOTAL ONTARIO	**7,002**	**47.5**	**7,694**	**52.2**	**5,820.7**

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 September 4 to September 10, 2022	Hospital admissions per 100,000 population September 4 to September 10, 2022	Hospital admissions September 11 to September 17, 2022	Hospital admissions per 100,000 population September 11 to September 17, 2022	Hospital admissions Past 52 weeks (September 19, 2021 to September 17, 2022)	Hospital admissions per 100,000 population Past 52 weeks (September 19, 2021 to September 17, 2022)
Total Cases	375	2.5	286	1.9	25,636	174.0
Sex: Female	177	2.4	120	1.6	11,706	157.0
Sex: Male	198	2.7	166	2.3	13,891	190.8
Sex: Did not specify female or male	0	N/A	0	N/A	39	N/A
Ages: <1	16	11.2	6	4.2	610	428.3
Ages: 1 – 4	4	0.7	7	1.2	441	76.0
Ages: 5 – 11	3	0.3	4	0.4	208	19.3
Ages: 12 – 19	2	0.2	1	0.1	265	19.9
Ages: 20 – 39	19	0.5	12	0.3	1,654	39.8
Ages: 40 – 59	27	0.7	23	0.6	3,462	88.9
Ages: 60 – 79	138	4.8	111	3.8	9,917	342.0

Sex and age group	Hospital admissions September 4 to September 10, 2022	Hospital admissions per 100,000 population September 4 to September 10, 2022	Hospital admissions September 11 to September 17, 2022	Hospital admissions per 100,000 population September 11 to September 17, 2022	Hospital admissions Past 52 weeks (September 19, 2021 to September 17, 2022)	Hospital admissions per 100,000 population Past 52 weeks (September 19, 2021 to September 17, 2022)
Ages: 80 and over	166	25.3	122	18.6	9,079	1,384.3
Ages: Unknown	0	N/A	0	N/A	0	N/A

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

Sex and age group	Deaths September 4 to September 10, 2022	Deaths per 100,000 population September 4 to September 10, 2022	Deaths September 11 to September 17, 2022	Deaths per 100,000 population September 4to September 10, 2022	Deaths Past 52 weeks (September 19, 2021 to September 17, 2022)	Deaths per 100,000 population Past 52 weeks (September 19, 2021 to September 17, 2022)
Total Cases	64	0.4	49	0.3	4,790	32.5
Sex: Female	32	0.4	25	0.3	2,090	28.0
Sex: Male	32	0.4	24	0.3	2,689	36.9
Sex: Did not specify female or male	0	N/A	0	N/A	11	N/A
Ages: 0 – 19	0	0.0	0	0.0	13	0.4
Ages: 20 – 39	0	0.0	1	<0.1	62	1.5
Ages: 40 – 59	2	0.1	2	0.1	332	8.5
Ages: 60 – 79	20	0.7	16	0.6	1,616	55.7
Ages: 80 and over	42	6.4	30	4.6	2,767	421.9
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)	9,047	1,946	21.5%
Wave 3 (March 1, 2021 to July 31, 2021)	413	59	14.3%
Wave 4 (August 1, 2021 to December 14, 2021)	245	45	18.4%
Wave 5 (December 15, 2021 to February 28, 2022)	10,046	480	4.8%
Wave 6 (March 1, 2022 to June 18, 2022)	7,612	201	2.6%
Wave 7 (June 19, 2022 to September 17, 2022)[2]	11,564	313	2.7%
Total	**44,938**	**4,950**	**11.0%**

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 September 17, 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 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 modelling[3]. 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.

Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Weekly epidemiologic summary: COVID-19 in Ontario – September 11, 2022 to September 17, 2022. Toronto, ON: King's Printer for Ontario; 2022.

Disclaimer

This document was developed by Public Health Ontario (PHO). PHO provides scientific and technical advice to Ontario's government, public health organizations and health care providers. PHO's work is guided by the current best available evidence at the time of publication. The application and use of this document is the responsibility of the user. PHO assumes no liability resulting from any such application or use. This document may be reproduced without permission for non-commercial purposes only and provided that appropriate credit is given to PHO. No changes and/or modifications may be made to this document without express written permission from PHO.

For Further Information

For more information, email cd@oahpp.ca.

Public Health Ontario

Public Health Ontario is an agency of the Government of Ontario dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. Public Health Ontario links public health practitioners, front-line health workers and researchers to the best scientific intelligence and knowledge from around the world.

For more information about PHO, visit publichealthontario.ca.

Ontario