

DAILY EPIDEMIOLOGICAL SUMMARY

COVID-19 in Ontario: January 15, 2020 to March 31, 2022

Due to changes in the Ministry of Health's [updated guidance on testing and case, contact and outbreak management](#), case counts in this report are an underestimate of the true number of individuals with COVID-19 in Ontario. In addition, data for hospitalizations, intensive care unit (ICU) admission and deaths in the most recent reporting period should be interpreted with caution due to data entry and reporting lags.

Introduction

This report includes the most current information available from CCM as of **March 31, 2022**.

A [weekly summary report](#) is available with additional information to complement the daily report.

Please visit the interactive [Ontario COVID-19 Data Tool](#) to explore recent COVID-19 data by public health unit, age group, sex, and trends over time. For more information about whole genome sequencing, please see the [SARS CoV-2 Whole Genome Sequencing in Ontario report](#).

This **daily** report provides an epidemiologic summary of recent COVID-19 activity in Ontario. The change in cases is determined by taking the cumulative difference between the current day and the previous day.

In this document, the term 'change in cases' refers to cases publicly reported by the province for a given day. Data corrections or updates can result in case records being removed and or updated from past reports and may result in subset totals for updated case counts (i.e., age group, sex) differing from the overall updated case counts.

The term public health unit reported date in this document refers to the date local public health units were first notified of the case.

Highlights

- There are a total of 1,166,128 confirmed cases of COVID-19 in Ontario reported to date.
- Compared to the previous day, this represents:
 - An increase of 3,519 confirmed cases (percent change of +12.1%)
 - An increase of 9* deaths (percent change of +80.0%)
 - An increase of 2,173 resolved cases (percent change of +2.5%)

*This number only includes deaths that have occurred in the last month. In addition, there were 9 deaths that were reported more than one month ago added to the cumulative total based on data cleaning.

Case Characteristics

Table 1a. Summary of recent confirmed cases of COVID-19: Ontario

	Change in cases March 30, 2022	Change in cases March 31, 2022	Percentage change March 31, 2022 compared to March 30, 2022	Cumulative case count as of March 31, 2022
Total number of cases	3,139	3,519	+12.1%	1,166,128
Number of deaths	5	9	+80.0%	12,451*
Number resolved	2,121	2,173	+2.5%	1,131,601

Note: The number of cases publicly reported by the province each day may not align with case counts reported to public health on a given day; public health unit reported date refers to the date local public health was first notified of the case. Data corrections or updates can result in case records being removed and or updated from past reports. The number of deaths presented in the change in cases column for each day only includes deaths that occurred in the last 30 days.

* 9 deaths were added to the cumulative total based on data cleaning.

Data Source: CCM

Table 1b. Summary of recent confirmed cases of COVID-19 by age group and sex: Ontario

	Change in cases March 30, 2022	Change in cases March 31, 2022	Cumulative case count as of March 31, 2022
Sex: Male	1,225	1,394	550,778
Sex: Female	1,865	2,089	608,332
Ages: 0-4	112	92	34,768
Ages: 5-11	161	151	69,801
Ages: 12-19	209	205	99,859
Ages: 20-39	1,246	1,445	446,383
Ages: 40-59	887	1,013	324,330
Ages: 60-79	359	429	140,076
Ages: 80 and over	162	184	50,518

Note: Not all cases have an age or sex reported. Data corrections or updates can result in case records being removed and or updated from past reports and may result in subset totals (i.e., age group, sex) differing from past publicly reported case counts.

Data Source: CCM

Table 2. Summary of recent confirmed cases of COVID-19 in long-term care homes: Ontario

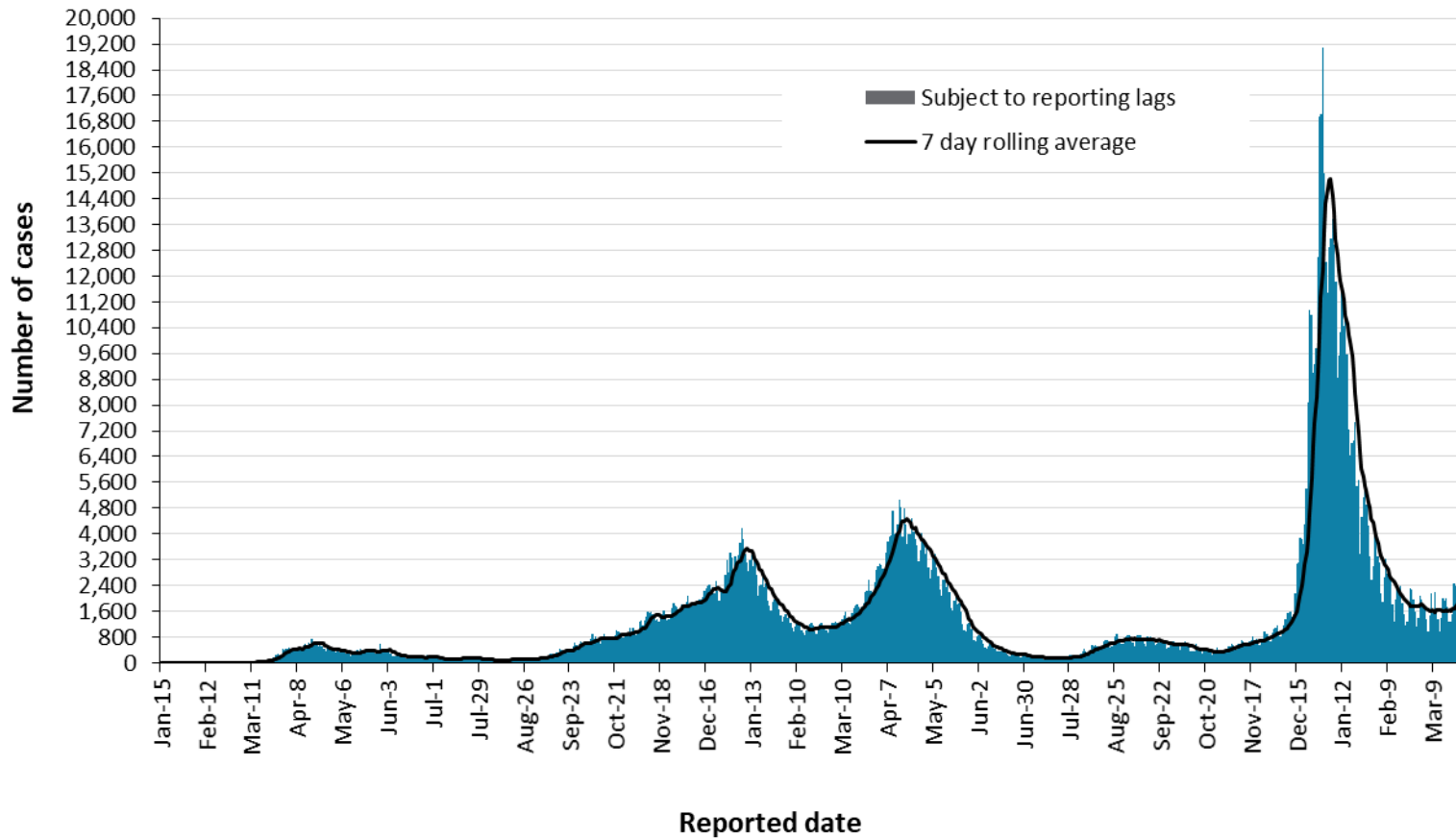
Long-term care home cases	Change in cases March 30, 2022	Change in cases March 31, 2022	Cumulative case count as of March 31, 2022
Residents	68	80	25,934
Health care workers	25	27	11,888
Deaths among residents	1	2	4,417
Deaths among health care workers	0	0	10

Note: Information on how long-term care home residents and health care workers are identified is available in the [technical notes](#). Also, the change in cases in these categories may represent existing case records that have been updated.

Data Source: CCM

Time

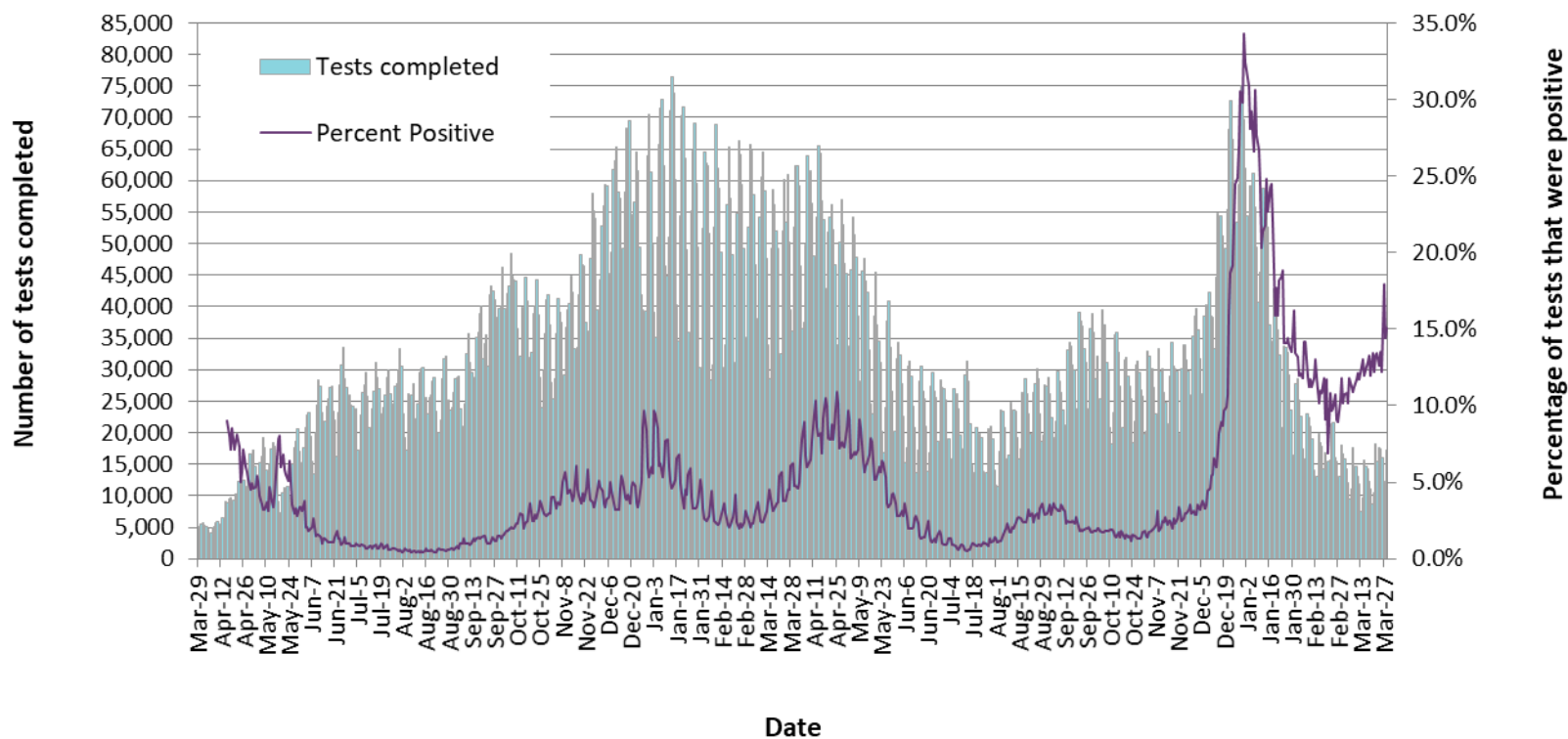
Figure 1. Confirmed cases of COVID-19 by public health unit reported date: Ontario, January 15, 2020 to March 31, 2022



Note: Changes in testing eligibility went into effect on December 31, 2021, limiting access to testing and resulting in a change in the population being tested.

Data Source: CCM

Figure 2. Number of COVID-19 tests completed and percent positivity: Ontario, March 30, 2020 to March 30, 2022

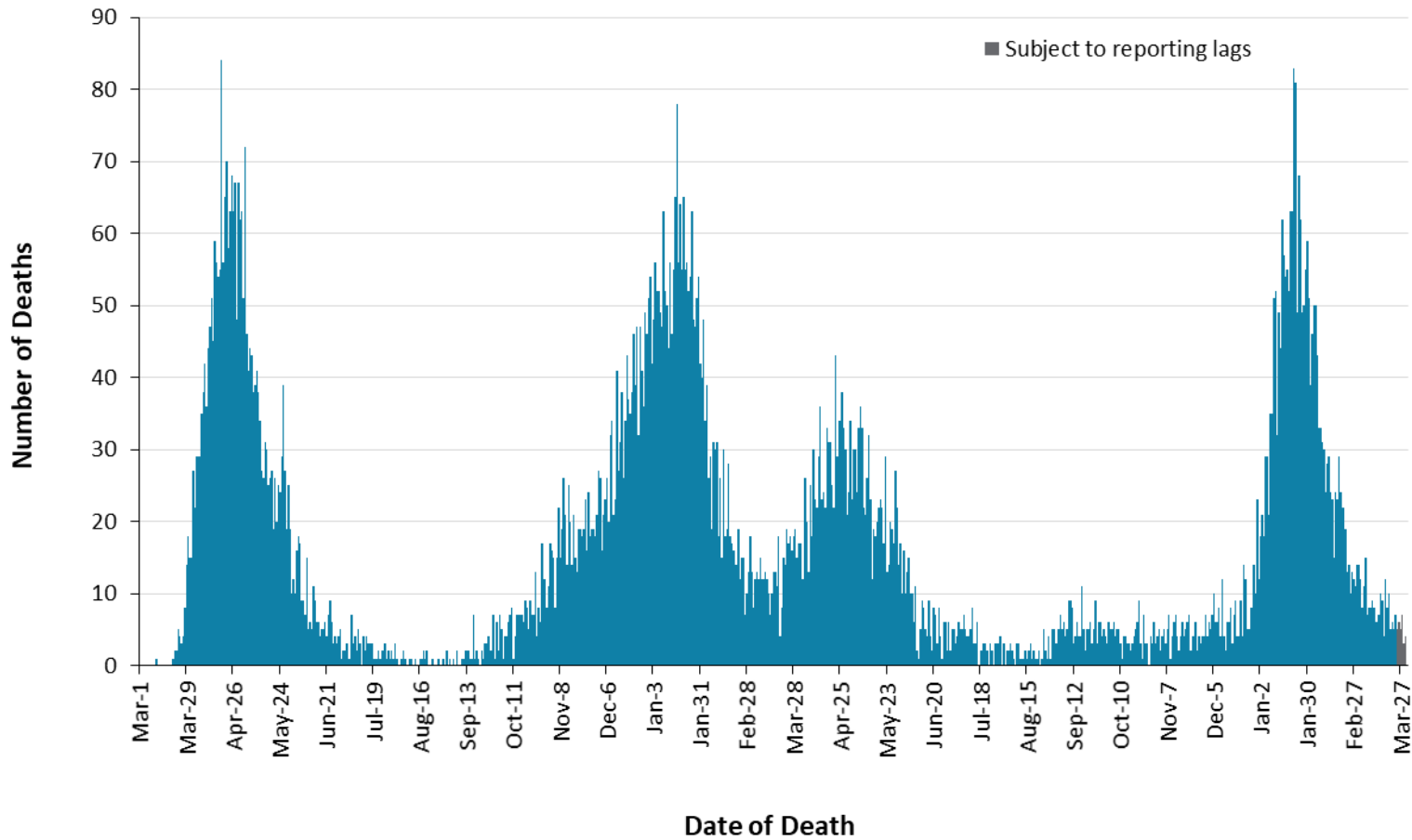


Note: The number of tests performed does not reflect the number of specimens or persons tested. More than one test may be performed per specimen or per person. As such, the percentage of tests that were positive does not necessarily translate to the number of specimens or persons testing positive. Changes in testing eligibility went into effect on December 31, 2021, limiting access to testing and resulting in a change in the population being tested.

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

Severity

Figure 3. Confirmed deaths among COVID-19 cases by date of death: Ontario, March 1, 2020 to March 31, 2022



Note: Cases without a death date are not included in the figure.

Data Source: CCM

Table 3. Confirmed cases of COVID-19 by severity: Ontario

	Cumulative case count as of March 31, 2022	Percentage of all cases
Cumulative deaths reported (please note there may be a reporting delay for deaths)	12,451	1.1%
Deaths reported in ages: 19 and under	15	<0.1%
Deaths reported in ages: 20-39	130	<0.1%
Deaths reported in ages: 40-59	883	0.3%
Deaths reported in ages: 60-79	4,191	3.0%
Deaths reported in ages: 80 and over	7,231	14.3%
Ever in ICU	7,987	0.7%
Ever hospitalized	43,751	3.8%

Note: Not all cases have an age reported. Data corrections or updates can result in case records being removed and/or updated and may result in totals differing from past publicly reported case counts. Percentage of deaths reported for each age group is calculated using all cases in the age group as the denominator.

Data Source: CCM

Geography

Table 4. Summary of recent confirmed cases of COVID-19 by public health unit and region: Ontario

Public Health Unit Name	Change in cases March 30, 2022	Change in cases March 31, 2022	Cumulative case count	Cumulative rate per 100,000 population
Northwestern Health Unit	66	85	6,678	8,225.7
Thunder Bay District Health Unit	15	39	9,827	6,231.2
TOTAL NORTH WEST	81	124	16,505	6,909.0
Algoma Public Health	59	50	6,675	5,664.5
North Bay Parry Sound District Health Unit	39	32	4,542	3,512.5
Porcupine Health Unit	19	13	6,259	7,363.5
Public Health Sudbury & Districts	54	71	12,698	6,186.4
Timiskaming Health Unit	10	13	1,386	4,090.3
TOTAL NORTH EAST	181	179	31,560	5,524.3
Ottawa Public Health	148	248	66,332	6,358.9
Eastern Ontario Health Unit	46	57	14,308	6,628.4
Hastings Prince Edward Public Health	56	61	7,999	4,628.2
Kingston, Frontenac and Lennox & Addington Public Health	100	113	12,705	6,072.3
Leeds, Grenville & Lanark District Health Unit	36	40	7,396	4,110.1
Renfrew County and District Health Unit	20	20	3,791	3,494.8
TOTAL EASTERN	406	539	112,531	5,832.2

Public Health Unit Name	Change in cases March 30, 2022	Change in cases March 31, 2022	Cumulative case count	Cumulative rate per 100,000 population
Durham Region Health Department	143	151	55,990	7,870.1
Haliburton, Kawartha, Pine Ridge District Health Unit	31	21	7,697	4,035.6
Peel Public Health	196	249	175,997	11,255.5
Peterborough Public Health	18	32	6,175	4,169.0
Simcoe Muskoka District Health Unit	198	181	38,769	6,413.3
York Region Public Health	170	165	101,983	8,496.7
TOTAL CENTRAL EAST	756	799	386,611	8,749.4
Toronto Public Health	760	724	290,567	9,723.1
TOTAL TORONTO	760	724	290,567	9,723.1
Chatham-Kent Public Health	13	22	7,305	6,851.4
Grey Bruce Health Unit	59	56	7,110	4,036.3
Huron Perth Public Health	38	33	6,277	4,292.2
Lambton Public Health	36	70	10,392	7,815.2
Middlesex-London Health Unit	91	148	34,056	6,669.7
Southwestern Public Health	41	54	12,009	5,485.9
Windsor-Essex County Health Unit	101	102	39,451	9,154.5
TOTAL SOUTH WEST	379	485	116,600	6,769.4
Brant County Health Unit	25	35	10,412	6,780.5
City of Hamilton Public Health Services	130	186	51,114	8,786.7
Haldimand-Norfolk Health Unit	16	48	7,528	6,272.9

Public Health Unit Name	Change in cases March 30, 2022	Change in cases March 31, 2022	Cumulative case count	Cumulative rate per 100,000 population
Halton Region Public Health	139	112	44,514	7,290.5
Niagara Region Public Health	77	119	36,195	7,513.6
Region of Waterloo Public Health and Emergency Services	114	90	42,284	6,986.4
Wellington-Dufferin-Guelph Public Health	75	79	19,707	6,316.5
TOTAL CENTRAL WEST	576	669	211,754	7,391.5
TOTAL ONTARIO	3,139	3,519	1,166,128	7,914.5

Notes: Health units with data corrections or updates could result in records being removed from totals, leading to negative or zero counts.

Data Source: CCM

Outbreaks

Table 5. Summary of recent confirmed COVID-19 outbreaks reported in long-term care homes, retirement homes and hospitals by status: Ontario

Institution type	Change in outbreaks March 30, 2022	Change in outbreaks March 31, 2022	Number of ongoing outbreaks	Cumulative number of outbreaks reported
Long-term care homes	5	8	90	2,272
Retirement homes	4	5	66	1,554
Hospitals	2	7	38	1,213

Note: Ongoing outbreaks are those that are reported in CCM as 'Open' and without a 'Declared Over Date' recorded. The start of the outbreak is determined by the onset date of first case, or if missing the outbreak reported date, or else if that is also missing, then the outbreak created date.

Data Source: CCM

Technical Notes

Data Sources

- The data for this report were based on information successfully extracted from the Public Health Case and Contact Management Solution (CCM) for all PHUs by PHO as of **March 31, 2022 at 1 p.m.** for cases reported from May 1, 2021 onwards and as of **March 31, 2022 at 9 a.m.** for cases reported up to April 30, 2021.
- CCM is a dynamic disease reporting system, which allows ongoing updates to data previously entered. As a result, data extracted from CCM represent a snapshot at the time of extraction and may differ from previous or subsequent reports.
- 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].
- COVID-19 test data were based on information from The Provincial COVID-19 Diagnostics Network, reported by member microbiology laboratories.

Data Caveats

- Due to changes in the availability of testing, driven by increasing COVID-19 cases related to the Omicron variant, case counts in this report are an underestimate of the true number of individuals with COVID-19 in Ontario. As such, data should be interpreted with caution.
- The data only represent cases reported to public health units and recorded in CCM. As a result, all counts will be subject to varying degrees of underreporting due to a variety of factors, such as disease awareness and medical care seeking behaviours, which may depend on severity of illness, clinical practice, changes in laboratory testing, and reporting behaviours.
- Data cleaning for older cases is incorporated on Mondays and Thursdays and may impact the case count published on Tuesdays and Fridays.
- Lags in CCM data entry due to weekend staffing may result in lower case counts than would otherwise be recorded.
- Only cases meeting the confirmed case classification as listed in the [MOH Case Definition – Coronavirus Disease \(COVID-19\) document](#) are included in the report counts from CCM.
- Cases of confirmed reinfection, as defined in the provincial case definitions, are counted as unique investigations.
- Case classification information may be updated for individuals with a positive result issued from a point-of-care assays.
- The number of tests performed does not reflect the number of specimens or persons tested. More than one test may be performed per specimen or per person. As such, the percentage of tests that were positive does not necessarily translate to the number of specimens or persons testing positive.
- Reported date is the date the case was reported to the public health unit.

- For surveillance purposes, a COVID-19 death is defined as a death resulting from a clinically compatible illness unless there is a clear alternative cause of death that cannot be related to COVID-19 (e.g., trauma, medically assisted death). There should be no period of complete recovery from COVID-19 between illness and reported death.
- Deaths are determined by using the Outcome and Type of Death fields in CCM. COVID-19 deaths are counted where the Outcome value is 'Fatal' and the Type of Death value is not 'DOPHS was unrelated to cause of death'.
 - COVID-19 deaths are placed in time using the 'Date of Death' field in CCM. If the date of death is missing, the outcome date field is used as a proxy.
- Resolved cases are determined only for COVID-19 cases that are not considered COVID-19 deaths. The following cases are classified as resolved:
 - Cases that are reported as 'recovered' in CCM based on local public health unit assessment
 - Cases that are not hospitalized and are 14 days past their symptom onset date or specimen collection date (where symptom onset date is not known)
 - Cases that are currently hospitalized (no hospital end date entered) and have a status of 'closed' in CCM (indicating public health unit follow-up is complete) and are 14 days past their symptom onset date or specimen collection date
 - Cases that died with a Type of Death = "DOPHS was unrelated to cause of death". These are considered resolved for the purpose of COVID-19 surveillance and reporting
- Hospitalization includes all cases hospitalized (or that had their hospital stay extended) because of COVID-19. It includes cases that have been discharged from hospital as well as cases that are currently hospitalized. Includes Intensive Care Unit (ICU) cases but not emergency room visits. Hospitalizations were identified by a reported hospital admission date or reported 'Yes' for hospitalization/ICU
- ICU admission includes all cases for which an ICU admission date was reported at the time of data extraction. It is a subset of the count of hospitalized cases. It includes cases that have been treated or that are currently being treated in an ICU.
- Orientation of case counts by geography is based on the permanent health unit. This is equivalent to the diagnosing health unit (DHU) in iPHIS. DHU refers to the case's public health unit of residence at the time of illness onset and not necessarily the location of exposure. Cases for which the DHU was reported as MOH-PHO (to signify a case that is not a resident of Ontario) have been excluded from the analyses.
- Male/Female information presented in this report are sourced from the Sex field in CCM and are intended to represent sex assigned at birth. On October 14, 2021 changes were made in CCM to enable reporting on the Sex field where these data are supplemented by archived Male/Female information previously entered in the Gender field.
- COVID-19 cases from CCM for which the Classification and/or Disposition was reported as ENTERED IN ERROR, DOES NOT MEET DEFINITION, IGNORE, DUPLICATE or any variation on these values have been excluded. The provincial case count for COVID-19 may include some duplicate records, if these records were not identified and resolved.
- Ongoing outbreaks are those that are reported in CCM as 'Open' and without a 'Declared Over Date' recorded. Closed outbreaks are 'Closed' or have a 'Declared Over Date' recorded in CCM

or where the outbreak start date (determined by the onset date of first case, or if missing the reported date, or if missing the created date) is more than 5 months from the current date, even for outbreaks where the outbreak status value selected in CCM is 'OPEN'.

- 'Long-term care home residents' includes cases that reported 'Yes' to the risk factor 'Resident of a long-term care home'; or 'Yes' to the risk factor 'Resident of nursing home or other chronic care facility' and reported to be part of an outbreak assigned as a long-term care home (via the Outbreak number or case comments field); or were reported to be part of an outbreak assigned as a long-term care home (via the outbreak number or case comments field) with an age over 70 years and did not report 'No' to the risk factors 'Resident of long-term care home' or 'Resident of nursing home or other chronic care facility'. 'Long-term care home residents' excludes cases that reported 'Yes' to any of the health care worker occupational risk factors.
- The 'health care workers' variable includes cases that reported 'Yes' to any of the occupation of health care worker, doctor, nurse, dentist, dental hygienist, midwife, other medical technicians, personal support worker, respiratory therapist, first responder.
- 'Health care workers associated with long-term care outbreaks' includes 'health care workers' reported to be part of an outbreak assigned as a long-term care home (via the outbreak number or case comments field). Excludes cases that reported 'Yes' to risk factors 'Resident of long-term care home' or 'Resident of nursing home or other chronic care facility' and 'Yes' to the calculated 'health care workers' variable.
- Percent change is calculated by taking the difference between the current period (i.e., daily count or sum of the daily count over a 7-day period) and previous period (i.e., daily count or sum of the daily count over a 7-day period), divided by the previous period.

Appendix A

Table A1. Weekly rates of confirmed COVID-19 cases per 100,000 population over recent rolling 7-day periods, by reported date and public health unit: Ontario, March 16, 2022 to March 28, 2022

Public Health Unit Name	Mar 16 to Mar 22	Mar 17 to Mar 23	Mar 18 to Mar 24	Mar 19 to Mar 25	Mar 20 to Mar 26	Mar 21 to Mar 27	Mar 22 to Mar 28	% change from Mar 16 – Mar 22 to Mar 22 – Mar 28
NORTH WEST								
Northwestern Health Unit	553.1	490.2	438.5	457.0	438.5	428.7	448.4	-18.9%
Thunder Bay District Health Unit	138.2	133.2	131.3	125.6	123.6	107.8	121.1	-12.4%
NORTH EAST								
Algoma Public Health	297.0	303.0	326.7	316.5	313.1	303.0	306.3	+3.1%
North Bay Parry Sound District Health Unit	97.4	96.7	98.2	105.2	108.3	110.6	111.4	+14.4%
Porcupine Health Unit	135.3	154.1	155.3	150.6	170.6	158.8	143.5	+6.1%
Public Health Sudbury & Districts	137.9	134.5	140.8	149.1	155.4	160.8	171.5	+24.4%
Timiskaming Health Unit	168.2	171.2	188.9	188.9	191.8	177.1	191.8	+14.0%
EASTERN								
Ottawa Public Health	57.7	56.6	63.7	66.9	70.5	75.1	77.9	+35.0%
Eastern Ontario Health Unit	58.8	57.0	75.5	83.9	83.4	85.2	85.7	+45.7%
Hastings Prince Edward Public Health	156.2	158.5	147.0	160.3	159.1	166.6	174.7	+11.8%

Public Health Unit Name	Mar 16 to Mar 22	Mar 17 to Mar 23	Mar 18 to Mar 24	Mar 19 to Mar 25	Mar 20 to Mar 26	Mar 21 to Mar 27	Mar 22 to Mar 28	% change from Mar 16 – Mar 22 to Mar 22 – Mar 28
Kingston, Frontenac and Lennox & Addington Public Health	262.9	244.2	259.5	255.2	277.2	277.7	299.2	+13.8%
Leeds, Grenville & Lanark District Health Unit	70.0	70.6	76.7	80.6	88.9	88.9	90.6	+29.4%
Renfrew County and District Health Unit	78.4	72.8	85.7	88.5	93.1	97.7	111.5	+42.2%
CENTRAL EAST								
Durham Region Health Department	70.3	73.8	77.7	78.3	78.7	89.0	89.0	+26.6%
Haliburton, Kawartha, Pine Ridge District Health Unit	66.6	73.9	79.7	80.7	80.2	80.7	86.5	+29.9%
Peel Public Health	35.2	37.3	39.4	43.0	45.7	46.4	46.9	+33.2%
Peterborough Public Health	85.1	85.7	89.1	95.2	87.8	95.9	92.5	+8.7%
Simcoe Muskoka District Health Unit	111.0	116.1	112.3	119.4	119.3	126.9	131.3	+18.3%
York Region Public Health	60.7	63.7	68.1	73.3	77.8	80.1	81.8	+34.8%
TORONTO								
Toronto Public Health	70.5	77.0	81.5	89.0	90.2	94.0	96.5	+36.9%
SOUTH WEST								
Chatham-Kent Public Health	66.6	79.7	85.3	91.0	94.7	106.0	109.7	+64.7%
Grey Bruce Health Unit	106.7	105.0	99.9	93.7	102.2	99.3	95.4	-10.6%

Public Health Unit Name	Mar 16 to Mar 22	Mar 17 to Mar 23	Mar 18 to Mar 24	Mar 19 to Mar 25	Mar 20 to Mar 26	Mar 21 to Mar 27	Mar 22 to Mar 28	% change from Mar 16 – Mar 22 to Mar 22 – Mar 28
Huron Perth Public Health	105.3	119.0	110.8	112.8	114.9	114.9	116.9	+11.0%
Lambton Public Health	94.0	93.3	106.8	115.1	127.1	145.9	141.4	+50.4%
Middlesex-London Health Unit	91.1	103.2	105.6	109.7	110.8	111.4	119.1	+30.7%
Southwestern Public Health	83.6	88.2	94.1	92.3	97.8	92.7	102.8	+23.0%
Windsor-Essex County Health Unit	112.8	115.6	117.6	120.7	123.0	129.3	123.2	+9.2%
CENTRAL WEST								
Brant County Health Unit	95.1	95.1	93.8	97.0	95.1	92.5	90.5	-4.8%
City of Hamilton Public Health Services	105.2	109.2	125.1	129.8	139.8	138.2	140.4	+33.5%
Haldimand-Norfolk Health Unit	77.5	74.2	77.5	80.0	89.2	88.3	103.3	+33.3%
Halton Region Public Health	74.4	79.8	86.0	93.7	95.6	98.6	100.2	+34.7%
Niagara Region Public Health	85.1	87.0	87.8	92.4	92.0	90.1	91.5	+7.5%
Region of Waterloo Public Health and Emergency Services	67.2	69.1	68.2	77.8	80.0	80.5	85.1	+26.6%
Wellington-Dufferin-Guelph Public Health	80.1	89.1	95.2	100.3	106.1	106.4	110.9	+38.5%
TOTAL ONTARIO	82.9	85.9	89.9	94.7	97.5	99.9	102.7	+23.9%

Note: Rates are based on the sum of the daily case counts during the date ranges specified in each column.

Data Source: CCM

Table A2. Number of confirmed COVID-19 cases with a fatal outcome by date of death in the last 30 days: Ontario

Date of Death	Number of deaths
March 2, 2022	14
March 3, 2022	12
March 4, 2022	8
March 5, 2022	11
March 6, 2022	15
March 7, 2022	7
March 8, 2022	8
March 9, 2022	8
March 10, 2022	9
March 11, 2022	8
March 12, 2022	6
March 13, 2022	6
March 14, 2022	7
March 15, 2022	10
March 16, 2022	9
March 17, 2022	4
March 18, 2022	12
March 19, 2022	8
March 20, 2022	10
March 21, 2022	5
March 22, 2022	6
March 23, 2022	5

Date of Death	Number of deaths
March 24, 2022	7
March 25, 2022	5*
March 26, 2022	6*
March 27, 2022	5*
March 28, 2022	7*
March 29, 2022	3*
March 30, 2022	4*
March 31, 2022	0*

Note: Cases without a death date are not included in the table.

*Subject to reporting lags

Data Source: CCM

Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Epidemiologic summary: COVID-19 in Ontario – January 15, 2020 to March 31, 2022. Toronto, ON: Queen’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, 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.



©Queen’s Printer for Ontario, 2022