

WEEKLY EPIDEMIOLOGICAL SUMMARY

COVID-19 in Ontario: Focus on February 27, 2022 to March 5, 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. Outbreaks in settings which are not among the highest risk settings prioritized for testing are also an underestimate as they are less likely to be declared, routinely reported or identified by public health units. 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 8, 2022**.

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.

A [daily summary](#) is available and provides an epidemiologic summary of recent COVID-19 activity in Ontario. This weekly report provides an epidemiologic summary of COVID-19 activity in Ontario over time.

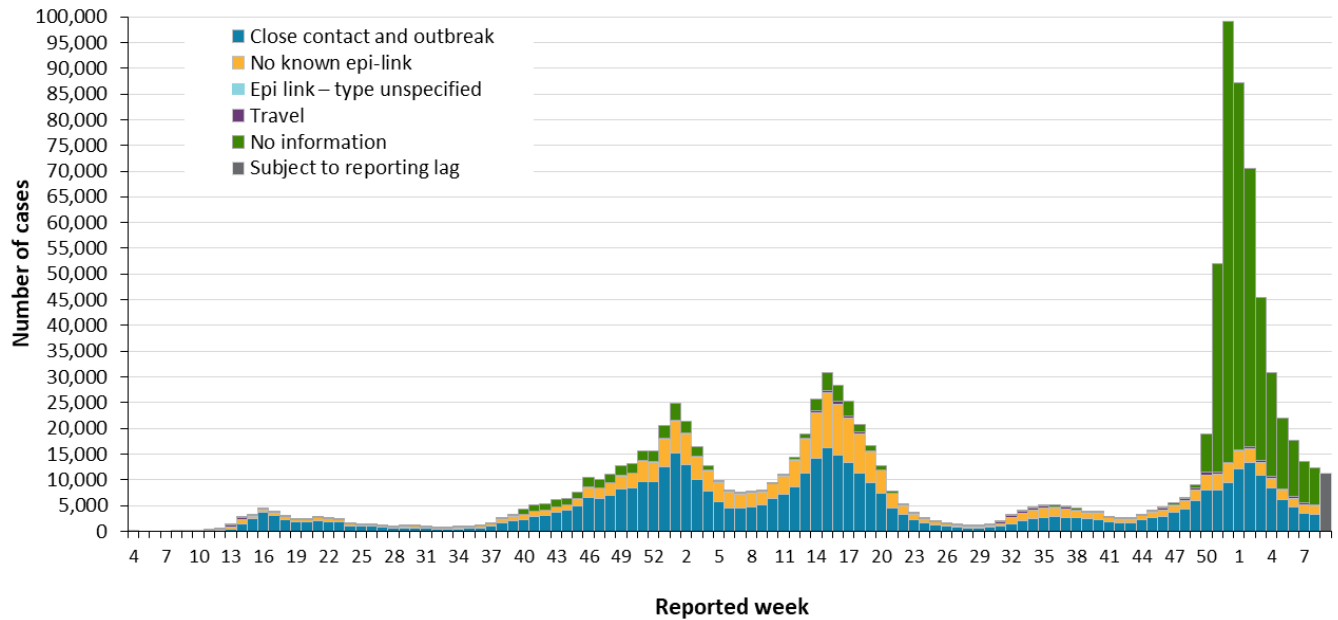
The term public health unit reported date in this document refers to the date local public health units were first notified of the case. Data corrections or updates can result in case records being removed and or updated from past reports. Thus comparisons of case counts by public health unit reported date may not align with daily change in cases publicly reported by the province for the same time period, which reflects the difference in cumulative counts between one day and the next.

Highlights

- There are a total of 1,114,152 confirmed cases of COVID-19 in Ontario with a public health unit reported date up to March 5, 2022.
- For the period with a public health unit (PHU) reported date between February 27 to March 5, 2022 (Week 9):
 - A total of 11,376 cases were reported to public health compared to 12,388 cases the previous week (February 20 to 26, 2022 or week 8). The number of cases should be interpreted with caution due to changes in testing availability.
 - Public health units in the North West and North East regions reported the highest rates of cases over the last two weeks. In week 9, Northwestern reported a rate of 422.5, Algoma reported a rate of 279.2 and Porcupine reported a rate of 252.9 (per 100,000 population).
 - While the number of outbreak-associated cases decreased for most congregate living settings between weeks 8 and 9, the number of outbreak-associated cases in group homes/supportive housing increased by 10.1% over this period (120 in week 9, up from 109 in week 8).

Cases Over Time

Figure 1. Confirmed cases of COVID-19 by likely source of acquisition and public health unit reported week: Ontario



Note: Include cases with reported dates ranging from week-4 (January 19 and 25, 2020) to Week 9 (February 27 and March 5, 2022). See [Table 1A](#) in Appendix A for a list of the weeks and corresponding start and end dates. 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

Case Characteristics

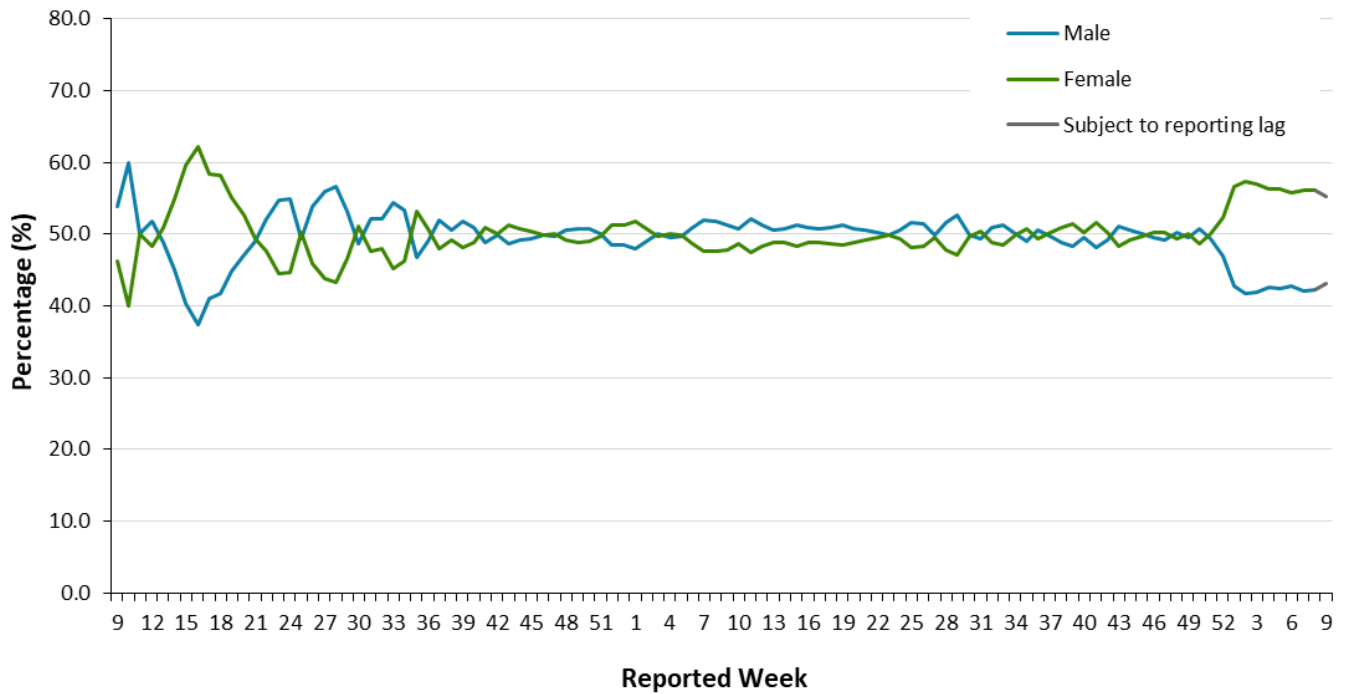
Table 1. Summary of confirmed cases of COVID-19 by public health unit reported date: Ontario

	Reported week 8 (February 20 to 26, 2022)	Reported week 9 (February 27 to March 5, 2022)	Cumulative case count up to March 5, 2022	Cumulative rate per 100,000 population
Total number of cases	12,388	11,376	1,114,152	7,561.8
Sex: Male	5,232	4,899	529,839	7,278.6
Sex: Female	6,957	6,287	577,880	7,752.0
Ages: 0-4	481	390	33,246	4,598.2
Ages: 5-11	843	795	67,068	6,218.5
Ages: 12-19	1,346	1,366	95,888	7,212.4
Ages: 20-39	4,153	3,771	426,131	10,263.5
Ages: 40-59	3,551	3,279	309,165	7,936.5
Ages: 60-79	1,382	1,248	134,178	4,627.2
Ages: 80 and over	624	513	48,104	7,334.8
Number resolved	N/A	N/A	1,088,241	N/A

Note: Not all cases have an age or sex reported. Interpret information for the most recent week with caution due to reporting lags.

Data Source: CCM

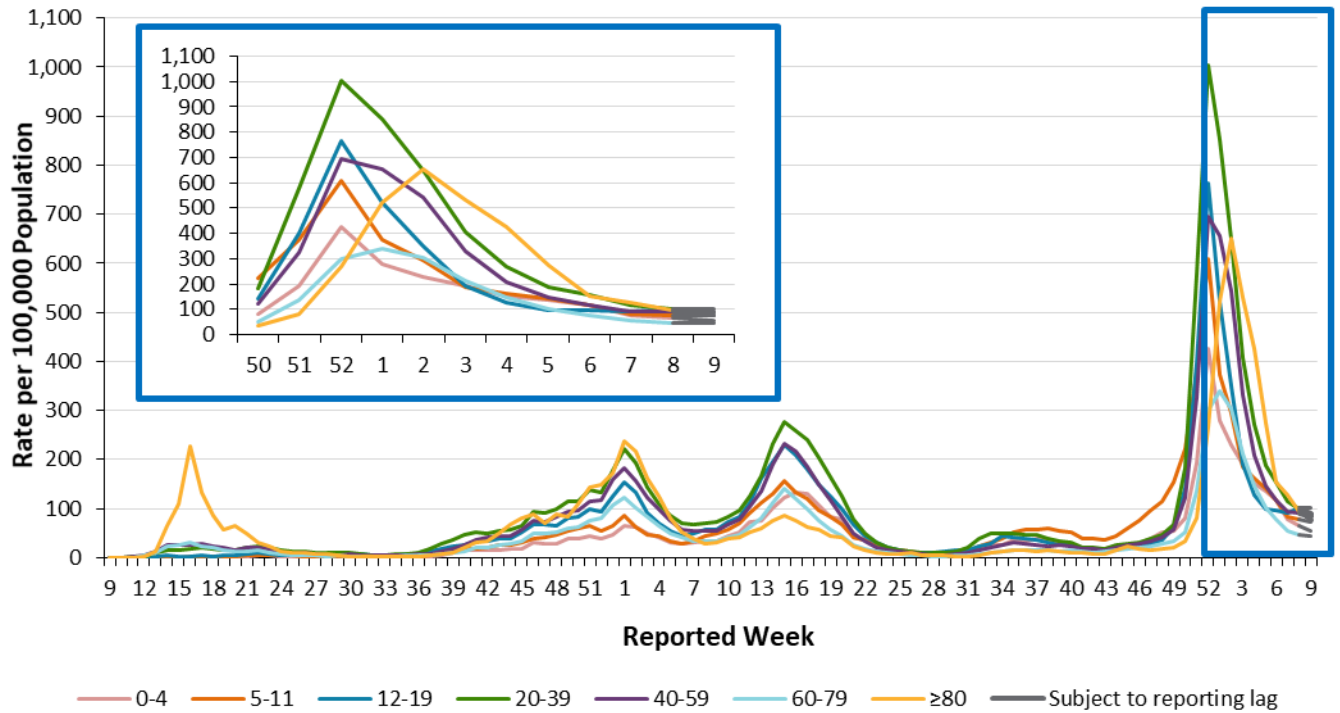
Figure 2. Percentage of confirmed cases of COVID-19 by sex and public health unit reported week: Ontario



Note: Not all cases have a sex reported. The denominator for calculating weekly percentages includes all cases. Only weeks with more than 10 cases by public health unit reporting date are included (starting in week-9). Include cases with reported dates ranging from week-9 (February 23 and 29, 2020) to week 9 (February 27 and March 5, 2022). See [Table 1A](#) in Appendix A for a list of the weeks and corresponding start and end dates.

Data Source: CCM

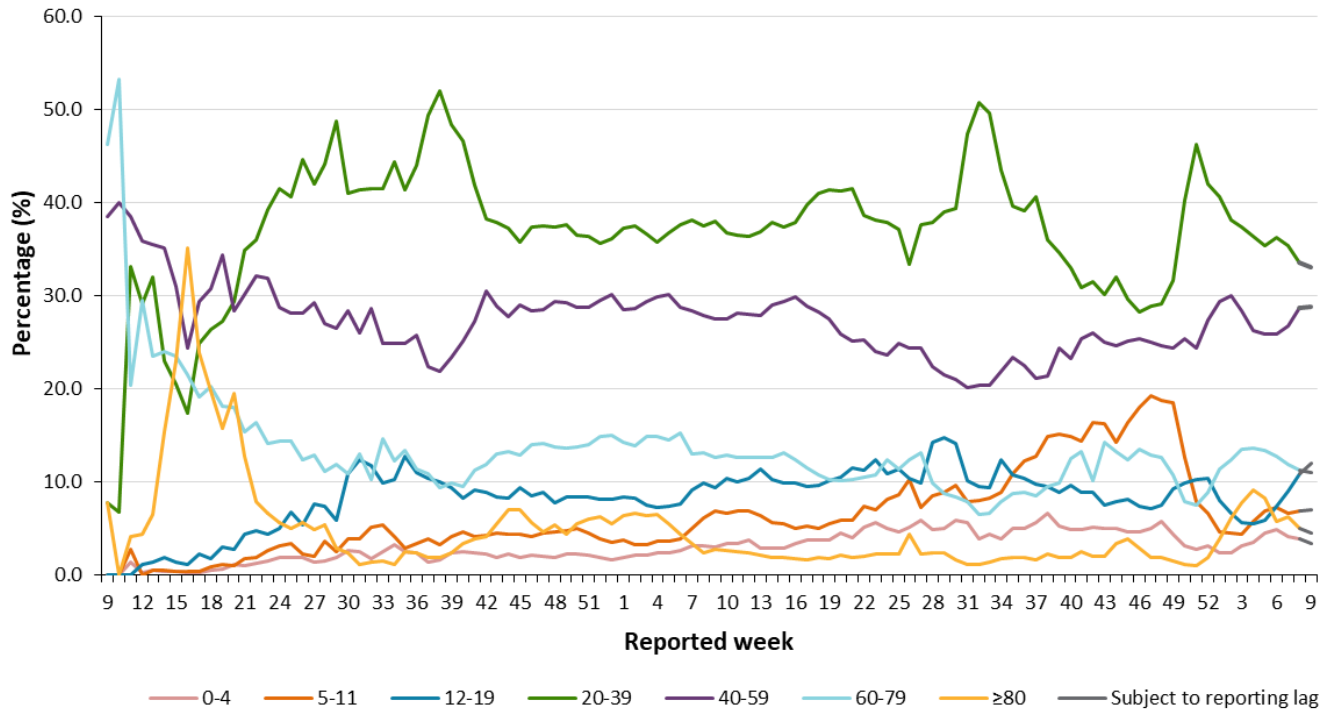
Figure 3a. Rate of confirmed cases of COVID-19 per 100,000 population by age group and public health unit reported week: Ontario



Note: Not all cases have an age reported. Only weeks with more than 10 cases by public health unit reporting date are included (starting in week 9). Include cases with reported dates ranging from week 9 (February 23 and 29, 2020) to Week 9 (February 27 and March 5, 2022). See [Table 1A](#) in Appendix A for a list of the weeks and corresponding start and end dates.

Data Source: CCM

Figure 3b. Percentage of confirmed cases of COVID-19 by age group and public health unit reported week: Ontario

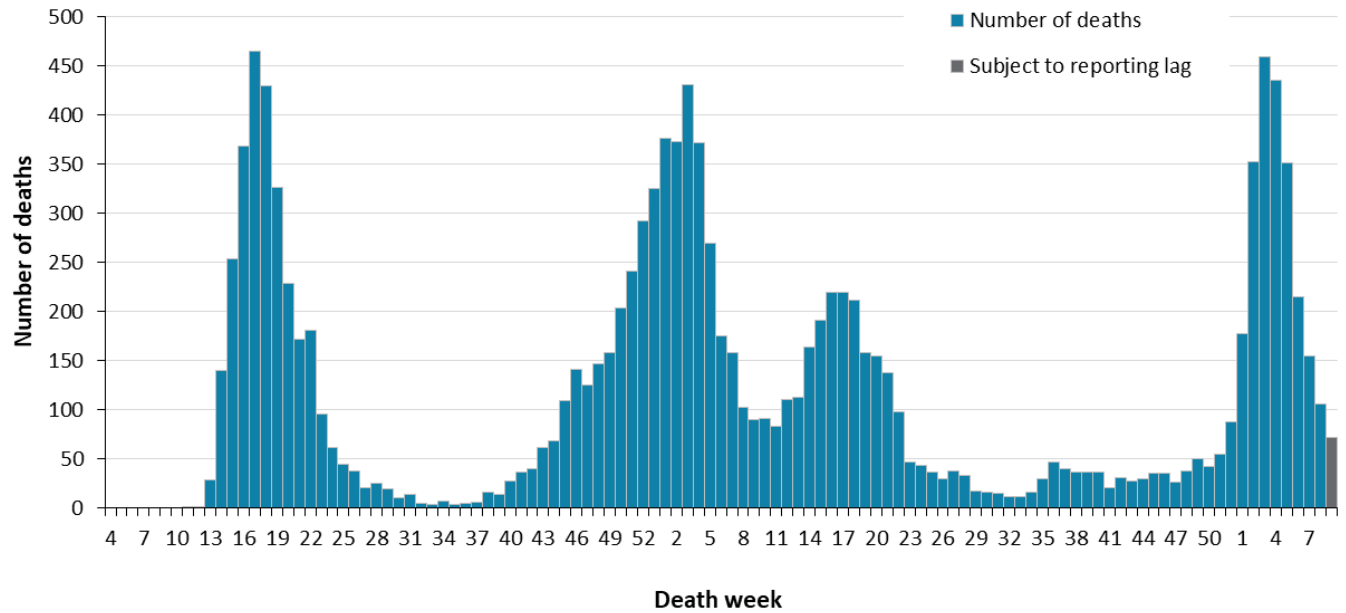


Note: Only weeks with more than 10 cases by public health unit reporting date are included (starting in week-9). Include cases with reported dates ranging from week-9 (February 23 and 29, 2020) to Week 9 (February 27 and March 5, 2022). See Table 1A in Appendix A for a list of the weeks and corresponding start and end dates.

Data Source: CCM

Deaths

Figure 4. Deaths among confirmed cases of COVID-19 by week of death: Ontario



Note: Cases without a death date are not included in the figure. Include cases with date of death ranging from week-4 (January 19 and 25, 2020) to week 9 (February 27 and March 5, 2022). See [Table 1A](#) in Appendix A for a list of the weeks and corresponding start and end dates.

Data Source: CCM

Table 2. Summary of deaths among confirmed cases of COVID-19 by public health unit reported week: Ontario

Deaths	Reported week 8 (February 20 to 26, 2022)	Reported week 9 (February 27 to March 5, 2022)	Cumulative case count up to March 5, 2022	Cumulative rate per 100,000 population
Number of deaths	50	11	12,618	85.6
Sex: Male	30	8	6,619	90.9
Sex: Female	20	3	5,932	79.6
Ages: 19 and under	1	0	14	0.4
Ages: 20- 39	1	0	142	3.4
Ages: 40- 59	2	1	905	23.2
Ages: 60- 79	21	5	4,207	145.1
Ages: 80 and over	25	5	7,348	1,120.4

Note: Age and sex may not be reported for all cases. Reported week is the week the case was reported to the public health unit. This is different than the “week of death” presented in Figure 4 which reflects the week the case was reported to have a ‘Fatal’ outcome. Interpret information for the most recent week with caution due to reporting lags.

Data Source: CCM

Exposure

Table 3. Confirmed cases of COVID-19 by likely source of acquisition and public health unit reported week: Ontario

	Reported week 8 (February 20 to 26, 2022)	Percentage	Reported week 9 (February 27 to March 5, 2022)	Percentage	Cumulative case count up to March 5, 2022	Cumulative percentage
Travel	294	2.4%	232	2.0%	19,163	1.7%
Outbreak-associated or close contact of a confirmed case	3,305	26.7%	2,861	25.1%	471,427	42.3%
Epidemiological link – type unspecified	0	0.0%	0	0.0%	43	<0.1%
No known epidemiological link	1,574	12.7%	1,440	12.7%	210,733	18.9%
Information missing or unknown	7,215	58.2%	6,843	60.2%	412,786	37.0%
Total	12,388		11,376		1,114,152	

Note: Information for how cases are grouped within each category is available in the technical notes. Interpret information for the most recent week with caution due to reporting lags.

Data Source: CCM

Sub-populations of interest

Table 4. Summary of cases of COVID-19 among health care workers: Ontario

Health care workers	Reported week 8 (February 20 to 26, 2022)	Reported week 9 (February 27 to March 5, 2022)	Cumulative case count up to March 5, 2022
Number of cases	808	672	39,209
Ever hospitalized	0	1	499
Ever in ICU	0	0	100

Note: Interpret information for the most recent week with caution due to reporting lags.

Data Source: CCM

Table 5. Summary of cases of COVID-19 associated with long-term care home outbreaks: Ontario

Long-term care home associated cases	Reported week 8 (February 20 to 26, 2022)	Reported week 9 (February 27 to March 5, 2022)	Cumulative case count up to March 5, 2022
Residents	142	146	24,943
Deaths among residents	4	1	4,501
Health care workers	41	38	11,548
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. Interpret information for the most recent week with caution due to reporting lags.

Data Source: CCM

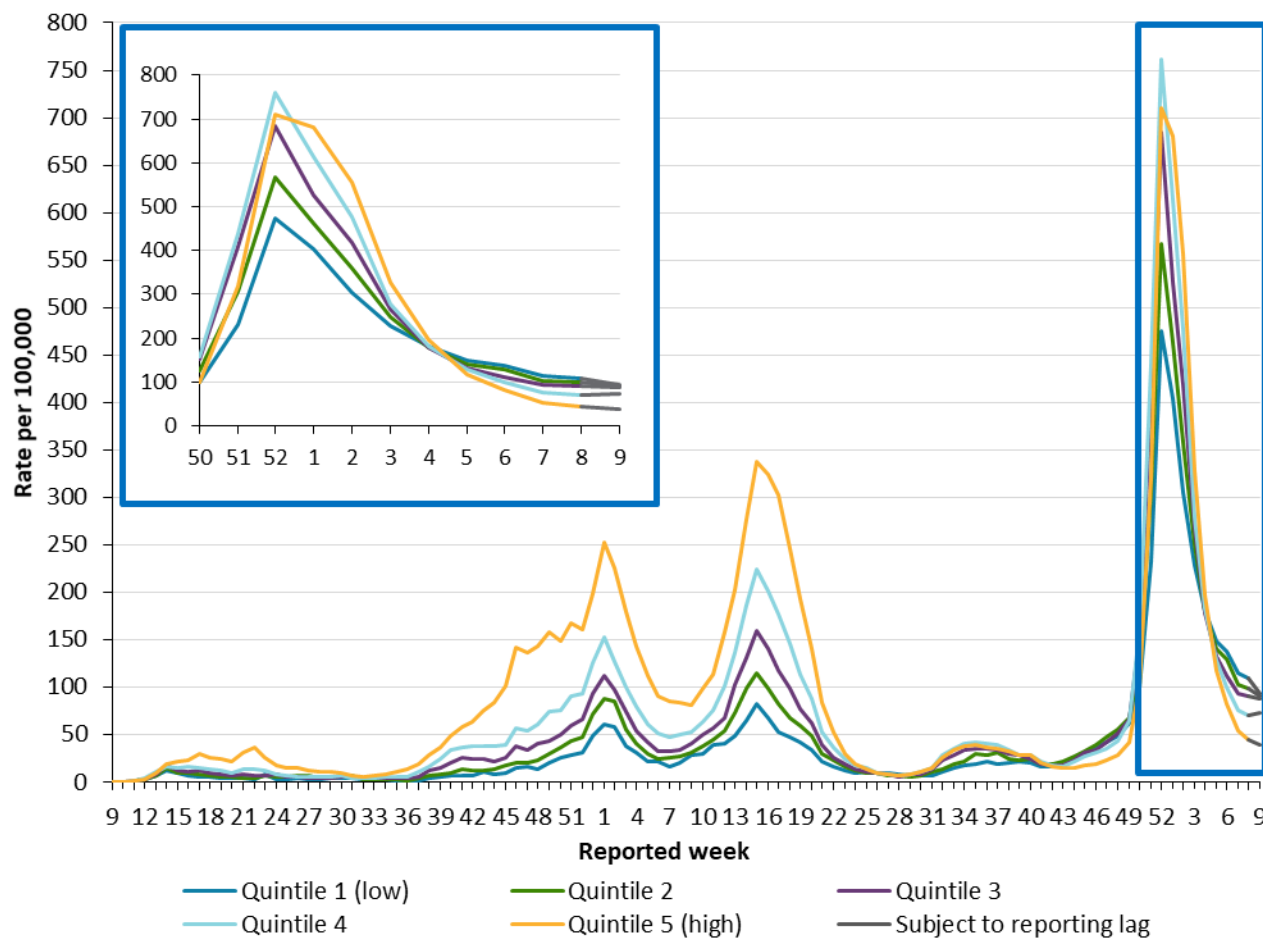
Table 6: Summary of reinfection cases of COVID-19 by age group and public health unit reported week: Ontario

Age Group	Reported week 8 (February 20 to 26, 2022)	Reported week 9 (February 27 to March 5, 2022)	Cumulative count from November 1, 2020 up to March 5, 2022	Percent of reinfection cases
Ages: 0-4	6	3	93	1.2%
Ages: 5-11	7	5	144	1.9%
Ages: 12-19	18	16	397	5.2%
Ages: 20-39	102	112	3,484	45.2%
Ages: 40-59	86	62	2,293	29.8%
Ages: 60-79	25	21	741	9.6%
Ages: 80 and over	12	7	548	7.1%
Total reinfection cases	256	226	7,700	100.0%

Note: Cases identified as reinfections meeting the [provincial definition](#) as either a laboratory-based reinfection or a time-based reinfection, as indicated by public health units. The provincial confirmed reinfection case definition was updated January 17, 2022 to include a time-based reinfection definition. Cumulative counts include cases of COVID-19 reinfection reported starting week-45 (November 1 to 7, 2020). Not all cases have a reported age or sex. 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

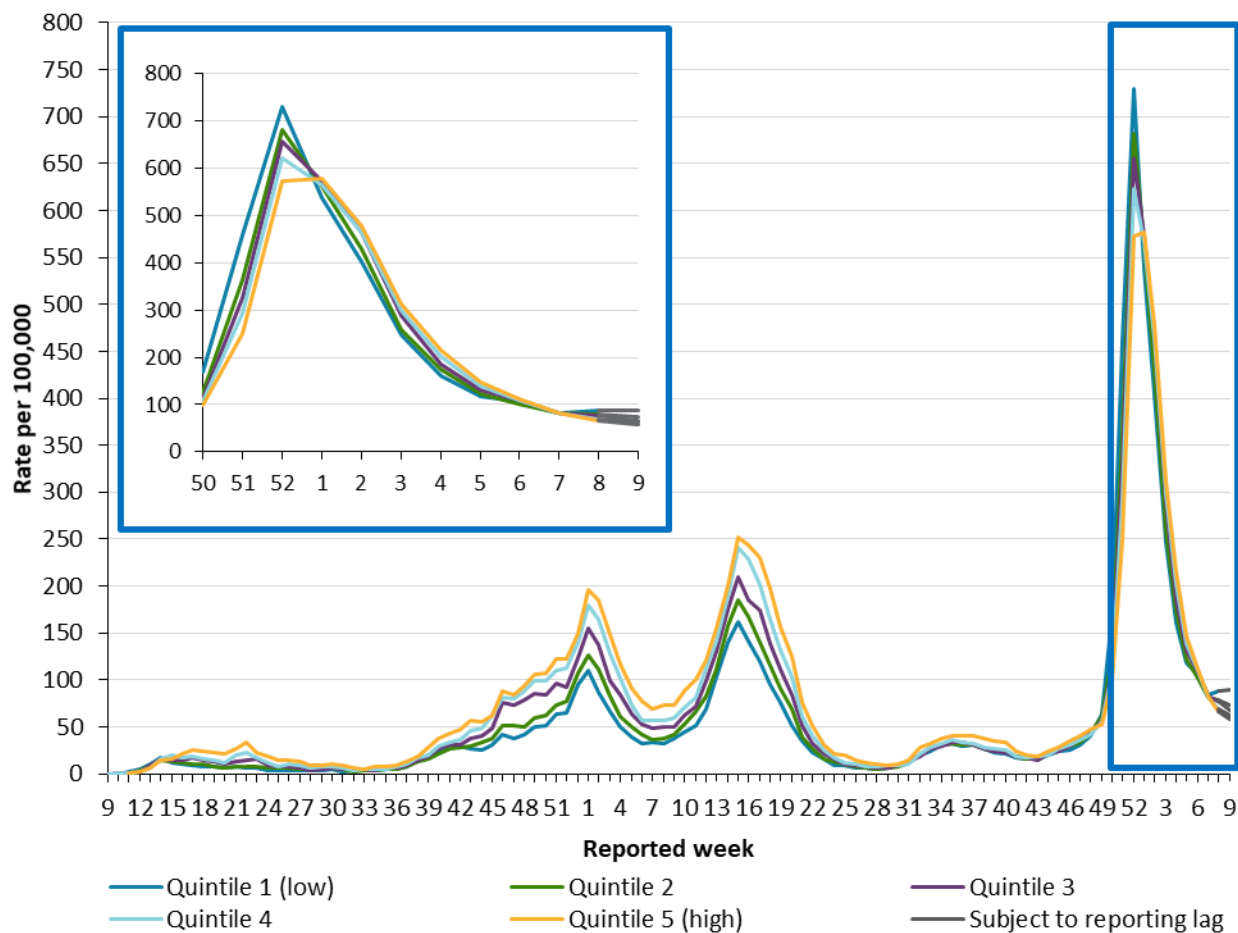
Figure 5. Rate of confirmed cases of COVID-19 per 100,000 population by quintile of neighbourhood diversity and public health unit reported week: Ontario



Note: Neighbourhood diversity is measured using the ethnic concentration dimension of the Ontario Marginalization Index. The ethnic concentration dimension is based on the proportion of non-white and non-Indigenous residents and/or the proportion of immigrants that arrived in Canada within the past five years. Only weeks with more than 10 cases by public health unit reporting date are included (starting in week 9). Include cases with reported dates ranging from weeks 9 (February 23 to 29, 2020) to Week 9 (February 27 to March 5, 2022). As of June 8, all rate denominators were changed to the 2021 OHIP RPDB population, and as a result, rates shown here may differ from previous reports. See Table 1A in Appendix A for a list of the weeks and corresponding start and end dates.

Data Source: CCM, Ontario Marginalization Index

Figure 6. Rate of confirmed cases of COVID-19 per 100,000 population by quintile of neighbourhood material deprivation and public health unit reported week: Ontario



Note: Neighbourhood material deprivation is measured using the material deprivation dimension of the Ontario Marginalization Index. The material deprivation dimension uses Canadian census data on income, quality of housing, educational attainment and family structure characteristics to assess the ability of individuals and communities to access and attain basic material needs. Only weeks with more than 10 cases by public health unit reporting date are included (starting in week 9). Include cases with reported dates ranging from weeks 9 (February 23 to 29, 2020) to Week 9 (February 27 to March 5, 2022). As of June 8, all rate denominators were changed to the 2021 OHIP RPDB population, and as a result, rates shown here may differ from previous reports. See Table 1A in Appendix A for a list of the weeks and corresponding start and end dates.

Data Source: CCM, Ontario Marginalization Index

Table 7: Summary of cases of COVID-19 by quintile of neighbourhood diversity and public health unit reported week: Ontario

	Cases Reported week 8 (February 20 to 26, 2022)	Cases Reported Week 9 (February 27 to March 5, 2022)	Cumulative case count up to March 5, 2022	Cumulative rate per 100,000 population up to March 5, 2022
Quintile 1 (least diverse)	2,428	2,060	95,304	4,290.6
Quintile 2	2,344	2,130	122,884	5,189.1
Quintile 3	2,332	2,260	161,129	6,216.1
Quintile 4	2,203	2,261	234,577	7,500.1
Quintile 5 (most diverse)	1,915	1,680	423,162	9,790.3

Note: Neighbourhood diversity is measured using the ethnic concentration dimension of the Ontario Marginalization Index. The ethnic concentration dimension is based on the proportion of non-white and non-Indigenous residents and/or the proportion of immigrants that arrived in Canada within the past five years. Cumulative counts and rates include cases of COVID-19 reported starting week 9 (February 23 to 29, 2020).

Data Source: CCM, Ontario Marginalization Index

Table 8: Summary of cases of COVID-19 by quintile of neighbourhood material deprivation and public health unit reported week: Ontario

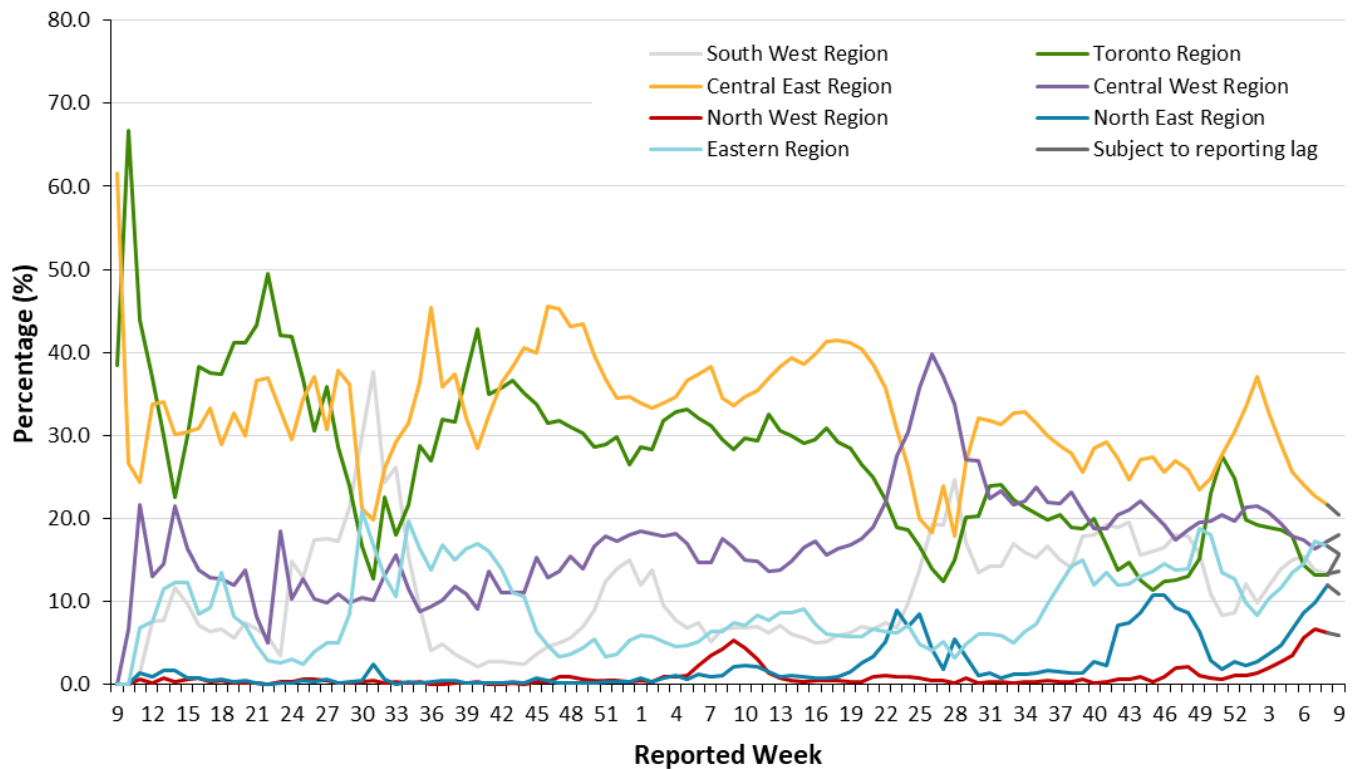
	Cases Reported Week 8 (February 20 to 26, 2022)	Cases Reported Week 9 (February 27 to March 5, 2022)	Cumulative case count up to March 5, 2022	Cumulative rate per 100,000 population up to March 5, 2022
Quintile 1 (least material deprivation)	3,019	3,069	212,504	6,166.4
Quintile 2	2,456	2,282	200,560	6,460.0
Quintile 3	2,159	1,864	198,153	7,146.0
Quintile 4	1,808	1,631	201,916	7,684.5
Quintile 5 (most material deprivation)	1,780	1,545	223,923	8,355.3

Note: Neighbourhood material deprivation is measured using the material deprivation dimension of the Ontario Marginalization Index. The material deprivation dimension uses Canadian census data on income, quality of housing, educational attainment and family structure characteristics to assess the ability of individuals and communities to access and attain basic material needs. Cumulative counts and rates include cases of COVID-19 reported starting week 9 (February 23 to 29, 2020).

Data Source: CCM, Ontario Marginalization Index

Geography

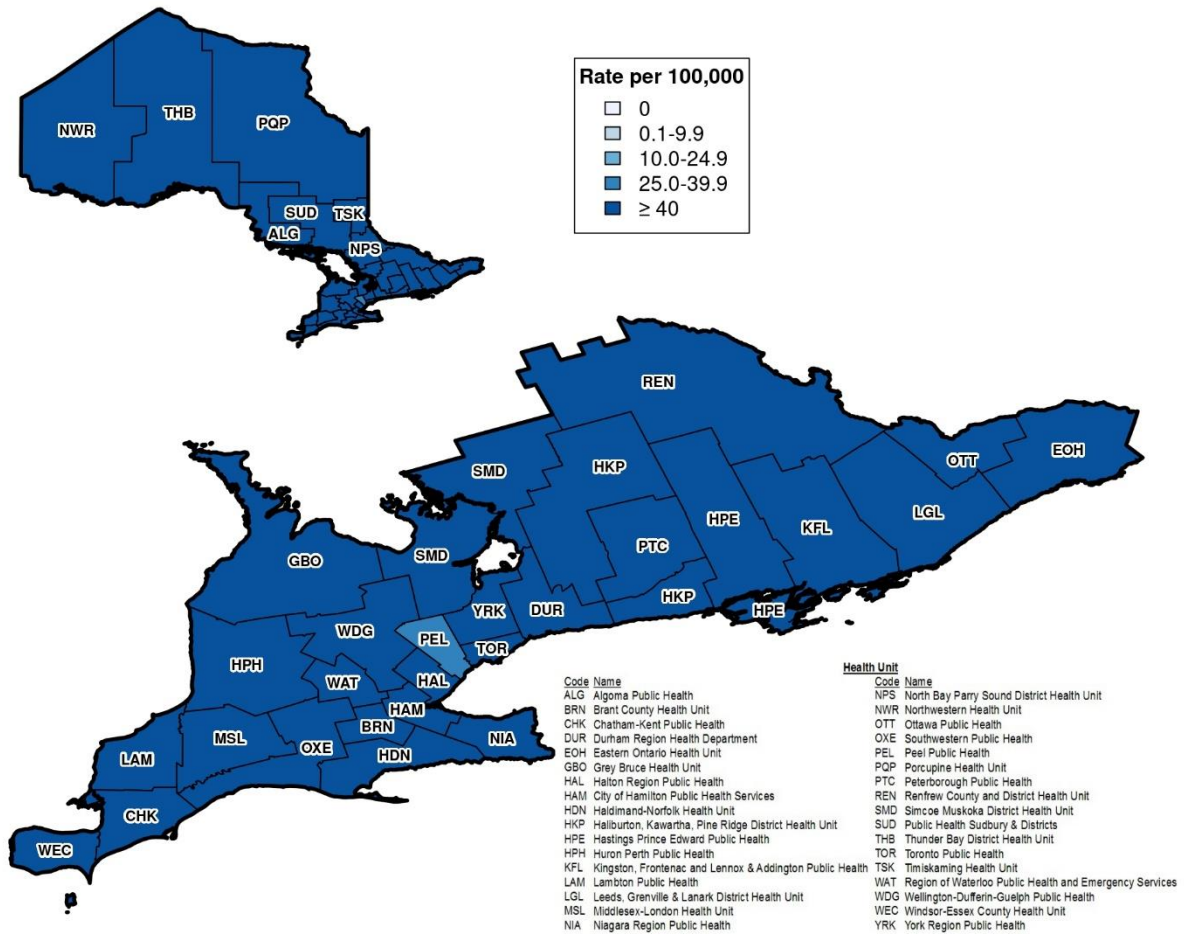
Figure 7. Percentage of COVID-19 cases by geographic region and public health unit reported week: Ontario



Note: Only weeks with more than 10 cases by public health unit reporting date are included (starting in week-9). Include cases with reported dates ranging from week-9 (February 23 and 29, 2020) to Week 9 (February 27 and March 5, 2022). [Table 2A](#) in Appendix A has a listing of public health units by region.

Data Source: CCM

Figure 8. Rate of confirmed cases of COVID-19 in public health reported Week 9 (February 27 to March 5, 2022) by public health unit: Ontario



Note: The provincial rate of confirmed cases of COVID-19 reported in Week 9 was 77.2 cases per 100,000 population.

Data Source: CCM

Outbreaks

Table 9. Number of public health unit declared COVID-19 outbreaks by setting type: Ontario

Setting Type	Reported week 9 (February 27 to March 5, 2022)	Number of ongoing outbreaks	Cumulative number of outbreaks reported to March 5, 2022
Congregate Care	36	121	4,780
Long-term care homes	14	51	2,165
Retirement homes	12	40	1,466
Hospitals	10	30	1,149
Congregate Living	28	70	2,754
Correctional facility	1	8	123
Shelter	4	8	510
Group Home/supportive housing	14	39	1,668
Short-term accommodations	1*	1*	56*
Congregate other	8*	14*	397*
Education and Childcare	1*	7*	4,396*
Child care	1*	7*	1,437*
Camp – Day**	0*	0*	22*
Camp – Overnight**	0*	0*	1*
Camp – Unspecified**	0*	0*	2*
School – Elementary***	0*	0*	2,300*
School – Elementary/secondary***	0*	0*	105*
School – Secondary***	0*	0*	466*
School – Post-secondary***	0*	0*	63*

Setting Type	Reported week 9 (February 27 to March 5, 2022)	Number of ongoing outbreaks	Cumulative number of outbreaks reported to March 5, 2022
Other settings	1*	4*	5,588*
Bar/restaurant/nightclub	0*	0*	473*
Medical/health services	0*	0*	202*
Personal service settings	0*	0*	40*
Recreational fitness	0*	0*	252*
Retail	0*	0*	561*
Other recreation/community	0*	0*	377*
Workplace – Farm	0*	0*	282*
Workplace - Food processing	0*	0*	295*
Other types of workplaces	0*	2*	2,932*
Other	1*	1*	46*
Unknown	0*	1*	128*
Total number of outbreaks	66	202	17,518

Note: Reported week is based on the outbreak reported date, and if unavailable, the date the public health unit created the outbreak. Ongoing outbreaks are those that are reported in CCM as 'Open' and without a 'Declared Over Date' recorded. Interpret information for the most recent week with caution due to reporting lags. Outbreak categories are mutually exclusive. Retail includes settings such as grocery stores, pharmacies, malls, etc. Other types of workplaces include settings such as offices as well as warehousing, shipping and distribution, manufacturing facilities, mines and construction sites, etc. Other recreation/community includes settings such as entertainment and event venues, gatherings (e.g., weddings), religious facilities, etc. Medical/health services refer to settings such as doctor's office or clinic, wellness clinics, etc., and excludes categories listed in the congregate care setting group.

* Outbreaks in these settings are less likely to be declared, routinely reported or identified by public health units as these settings are not among the [highest risk settings prioritized for testing](#). Interpret these data with caution.

**Cumulative counts include COVID-19 camp outbreaks reported starting week-27 of 2021 (July 4 to 10, 2021).

***Cumulative counts include COVID-19 school outbreaks reported starting week-36 (August-30 to September-5, 2020).

Ongoing re-classification of settings for reported outbreaks can result in outbreak counts that may differ from previously reported counts. Outbreaks in settings outside of Ontario are excluded from all outbreak counts.

Data Source: CCM

Table 10. Confirmed cases of COVID-19 associated with COVID-19 outbreaks by setting type and public health unit reported week: Ontario

Cases associated with the outbreak setting type	Reported week 8 (February 20 to 26, 2022)	Reported week 9 (February 27 to March 5, 2022)	Cumulative number of cases
Congregate Care	680	498	76,281
Long-term care homes	305	298	48,523
Retirement homes	251	139	15,760
Hospitals	124	61	11,998
Congregate Living	262	227	20,673
Correctional facility	69	66	5,107
Shelter	25	5	4,756
Group Home/supportive housing	109	120	7,606
Short-term accommodations	0*	0*	332*
Congregate other	59*	36*	2,872*
Education and Childcare	0*	3*	19,240*
Child care	0*	2*	5,456*
Camp – Day**	0*	0*	111*
Camp – Overnight**	0*	0*	11*
Camp – Unspecified**	0*	0*	6*
School – Elementary***	0*	1*	10,602*
School – Elementary/secondary***	0*	0*	513*
School – Secondary***	0*	0*	2,077*
School – Post-secondary***	0*	0*	464*
Other settings	34*	8*	43,261*
Bar/restaurant/nightclub	0*	0*	2,482*

Cases associated with the outbreak setting type	Reported week 8 (February 20 to 26, 2022)	Reported week 9 (February 27 to March 5, 2022)	Cumulative number of cases
Medical/health services	0*	0*	902*
Personal service settings	0*	0*	140*
Recreational fitness	0*	0*	1,676*
Retail	0*	0*	3,009*
Other recreation/community	1*	0*	4,618*
Workplace - Farm	14*	0*	3,344*
Workplace - Food processing	0*	0*	4,049*
Other types of workplaces	12*	3*	21,859*
Other	0*	3*	320*
Unknown	7*	2*	862*
Total number of cases	976	736	159,455

Note: Interpret case counts for the most recent week with caution due to reporting lags. Outbreak categories are mutually exclusive. Retail includes settings such as grocery stores, pharmacies, malls, etc. Other types of workplaces include settings such as offices as well as warehousing, shipping and distribution, manufacturing facilities, mines, and construction sites, etc. Other recreation/community includes settings such as entertainment and event venues, gatherings (e.g., weddings), religious facilities, etc. Medical/health services refer to settings such as doctor's office or clinic, wellness clinics, etc., and excludes categories listed in the congregate care setting group.

* Outbreaks in these settings are less likely to be declared, routinely reported or identified by public health units as these settings are not among the [highest risk settings prioritized for testing](#). Interpret these data with caution.

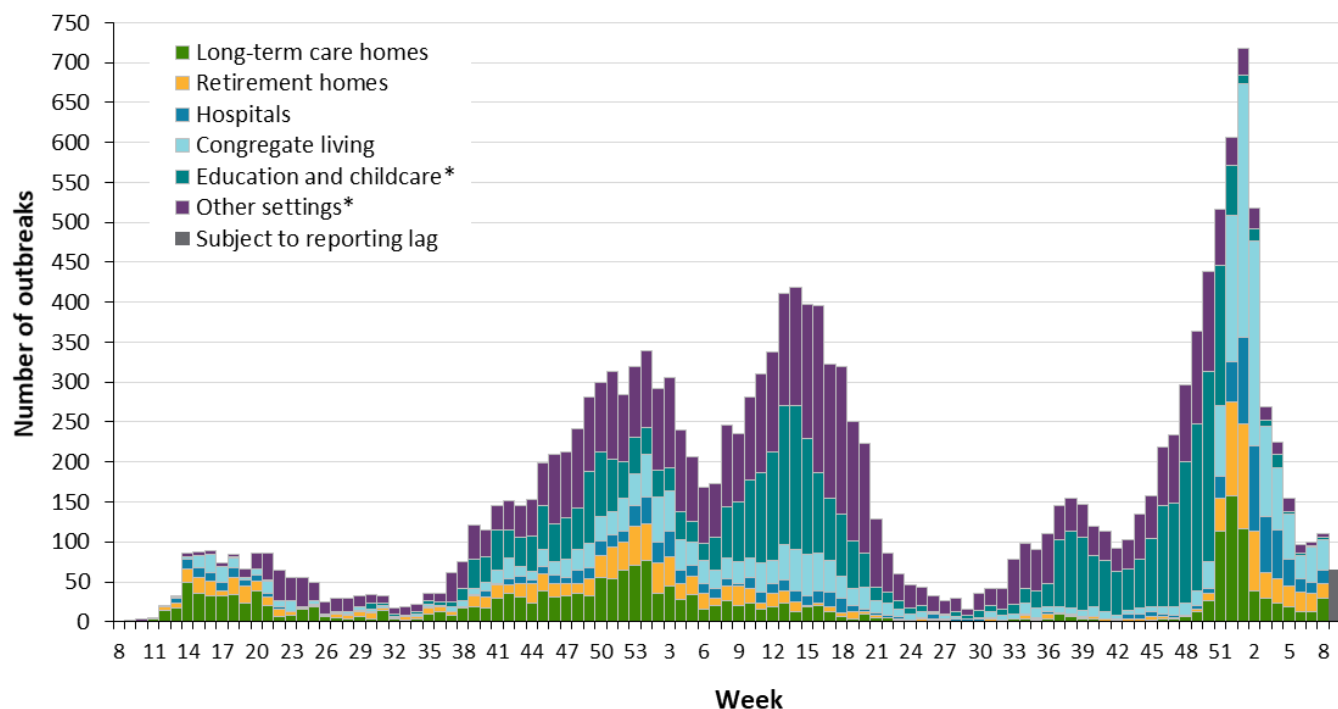
**Cumulative counts include cases of COVID-19 camp outbreaks reported starting week-27 of 2021 (July 4 to 10, 2021).

***Cumulative counts include cases of COVID-19 associated with school outbreaks reported starting week-36 (August 30 to September 5, 2020).

Ongoing re-classification of settings for reported outbreaks can result in case counts that may differ from previously reported counts. Cases associated with outbreaks outside of Ontario are excluded from case counts in this table.

Data Source: CCM

Figure 9. Public health unit declared COVID-19 outbreaks by outbreak setting type and public health unit reported week: Ontario



Note: If public health unit outbreak reported date is unavailable, the date the public health unit created the outbreak is used. Week 8 refers to February 16 and 22, 2020 and Week 9 refers to February 27 and March 5, 2022. Congregate living include group homes, shelters, correctional facilities, etc. Other settings include outbreaks within workplaces, restaurants, recreation etc.

* Outbreaks in these settings are less likely to be declared, routinely reported or identified by public health units as these settings are not among the highest risk settings prioritized for testing. Interpret these data with caution.

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 8, 2022 at 1 p.m.** for cases reported from May 1, 2021 onwards and as of **March 7, 2022 at 9 a.m.** for cases reported up to April 30, 2021.
- 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 7B.
- The health equity (neighbourhood-level diversity and 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]):
 - Matheson FI; van Ingen T. 2016 Ontario marginalization index. Toronto, ON: Providence St. Joseph's and St. Michael's Healthcare; 2018. Joint publication with Public Health Ontario.
 - Chung H, Fung K, Ishiguro L, Paterson M, et al. Characteristics of COVID-19 diagnostic test recipients, Applied Health Research Questions (AHRQ) # 2021 0950 080 000. Toronto: Institute for Clinical Evaluative Sciences; 2020.

Data Caveats and Methods: Case Data

- 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 represent case information reported to public health units and recorded in CCM. As a result, all counts are 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.
- Observed trends over time should be interpreted with caution for the most recent period due to reporting and/or data entry lags.
- 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. This includes persons with:
 - laboratory confirmation by a validated NAAT assay
 - a validated point-of-care (POC) assay deemed acceptable to provide a final result
 - a validated laboratory-based serological assay SARS-CoV-2

- Cases of confirmed reinfection, as defined in the provincial case definitions, are counted as unique investigations. Reinfection cases include cases for persons (CCM clients) with two or more confirmed case investigations where the case investigations after the first one have the reinfection checkbox marked as 'Yes'.
- Case classification information may be updated for individuals with a positive result issued from a point-of-care assays.
- 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.
- Reported date is the date the case was reported to the public health unit. This is different than the daily change in cases released by the Province for the same time period, which reflects the difference in cumulative counts reported to the Province between one day and the next.
- Reported weeks were created to align with the Public Health Agency of Canada (PHAC) influenza surveillance weeks.
- Cases with unknown or missing ages were excluded from age-specific analyses.
- Health care worker includes cases that reported 'Yes' to any of the following occupations: health care worker, doctor, nurse, dentist, dental hygienist, midwife, other medical technicians, personal support worker, respiratory therapist, first responder.
- Resolved cases are determined only for COVID-19 cases that have not died. Cases that have died are considered fatal and not resolved. The following cases are considered 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 hospitalization end date entered) and have a case status of 'closed' indicating that public health follow up is complete and are 14 days past their symptom onset date or specimen collection date
- Data on hospital admissions, ICU admissions and deaths are likely under-reported as these events may occur after the completion of public health follow up of cases. Cases that were admitted to hospital or died after follow-up was completed may not be captured in CCM.
- Deaths are determined by using the outcome field in CCM. Any case marked 'Fatal' is included in the deaths data. The CCM field Type of Death is not used to further categorize the data.
 - The date of death is determined using the outcome date field for cases marked as 'Fatal' in the outcome field.
- Hospitalization includes all cases for which a hospital admission date was reported or hospitalization/ICU was reported as 'Yes' at the time of data extraction. It includes cases that have been discharged from hospital as well as cases that are currently hospitalized. Emergency room visits are not included in the number of reported hospitalizations.

- 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.
- 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 this data field is supplemented by archived Male/Female information previously entered in the Gender field.
- Likely source of acquisition is determined by examining the epidemiologic link and epidemiologic link status fields in CCM and local systems. If no epidemiologic link is identified in those fields the risk factor fields are examined to determine whether a case travelled, was associated with a confirmed outbreak, was a contact of a case, had an Epidemiological link with type unspecified, had no known epidemiological link (sporadic community transmission) or was reported to have an unknown source/no information was reported. Some cases may have no information reported if the case is untraceable, was lost to follow-up or referred to FNIHB. Cases with multiple risk factors were assigned to a single likely acquisition source group which was determined hierarchically in the following order:
 - For cases with an episode date on or after April 1, 2020: Outbreak-associated > close contact of a confirmed case > travel > no known epidemiological link > information missing or unknown
 - For cases with an episode date before April 1, 2020: Travel > outbreak-associated > close contact of a confirmed case > no known epidemiological link > information missing or unknown
 - Case episode date represents an estimate of disease onset. This date is calculated based on the earliest date of symptom onset, specimen collection/test date, or the date reported to the public health unit.
- ‘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.
- ‘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.
- ‘Cases associated with school outbreaks’ includes cases that are linked to an outbreak, by school classification type (Elementary, Elementary/Secondary, Secondary, Post-Secondary), that met the definition of a [school outbreak](#).

- School classification types are defined by the Ministry of Education.
 - Elementary/Secondary schools include public or private schools educating children in a combination of elementary and secondary grades (e.g., Kindergarten to Grade 8, Grades 9 to 12, and Kindergarten to Grade 12).
- 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 (to signify a case that is not a resident of Ontario) have been excluded from the analyses.
 - GTA health units include: Durham Region Health Department, Peel Public Health, Toronto Public Health and York Region Public Health
- 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'.
- Outbreaks are declared by the local medical officer of health or their designate in accordance to the Health Protection and Promotion Act and criteria outlined in [Ministry guidance documents](#).
- School outbreaks include outbreaks declared on or after week-36 (August 30 to September 5, 2020).

Data Caveats and Methods: ON-Marg

- ON-Marg is a data tool that combines a wide range of demographic indicators into multiple distinct dimensions of marginalization. It is an area-based index which assigns a measure of marginalization based on neighbourhood versus individual characteristics. As such, the broader demographic trends of an area may not reflect all residents of a neighbourhood owing to the inherent heterogeneity of demographic characteristics which can vary substantially especially across large rural geographies. For more information, please visit [PHO's ON-Marg website](#).
- Neighbourhood diversity is defined using the ethnic concentration dimension of ON-Marg, which measures populations who may experience marginalization related to racism and discrimination. It is based on the proportion of non-white and non-Indigenous residents (visible minority) and/or the proportion of immigrants that arrived in Canada within the past five years. 'Visible minority' is a term used by Statistics Canada that, although is considered to be outdated, is used here to be consistent with the Canadian census.
- Neighbourhood material deprivation is defined using the material deprivation dimension of ON-Marg, which is closely connected to poverty. It refers to the inability of individuals and communities to access and attain basic material needs. The indicators included in this dimension measure income, quality of housing, educational attainment and family structure characteristics.

- “Neighbourhoods” are considered to be Statistic Canada dissemination areas (DA). Cases were probabilistically matched to a DA based on their postal code using Statistics Canada’s PCCF+ version 7B file, and subsequently assigned to a quintile of marginalization that contained 20% of Ontario neighbourhoods. The quintiles for the ethnic concentration and the material deprivation dimensions are ordered from quintiles 1 to 5, with quintile 1 having the lowest level of marginalization (i.e., least diverse or least deprived) and quintile 5 having the highest level of marginalization (i.e., most diverse or most deprived).
- The following were not included in analyses that summarize the impact of COVID-19 among Ontarians who may experience marginalization:
 - People who have tested positive for COVID-19 that reside in institutional and congregate settings are not included in the census data from which the marginalization indicators (ethnic concentration and material deprivation) are derived. Although these cases represent a large number of cases overall and deaths, their exclusion ensures appropriate comparisons since institutional and congregate setting residents are excluded from ON-Marg.
 - People who have tested positive for COVID-19 that reside in census dissemination areas where data has been suppressed, and cases that have missing or invalid postal codes could not be assigned to a quintile of marginalization.
 - Due to data suppression for some census indicators on Indian Reserves in Ontario, residents of Indian Reserves could not be included in ON-Marg and therefore people who have tested positive for COVID-19 and are living on Indian Reserves could not be assigned to a quintile of marginalization. While Indigenous individuals living off reserves are included in this analysis, Indigeneity data is not currently collected or captured in dimensions of ON-Marg.
- Population counts used in rate denominators were provided by ICES. Individuals alive and eligible for the Ontario Health Insurance Plan (OHIP) as of January 1st, 2021 using the OHIP RPDB were included.
 - Individuals residing in long-term care (LTC) homes were excluded. Recent health care transaction records (e.g., OHIP physician billings, Ontario Drug Benefit [ODB] Plan claims) and Resident Assessment Instrument (RAI) assessments from the Continuing Care Reporting System (CCRS) were used to identify individuals residing in a LTC home near the period prior to the index date.
 - Postal codes were assigned to individuals according to the most recent residential address available in the OHIP RPDB.
- This work is supported by the Applied Health Research Questions (AHRQ) Portfolio at ICES, which is funded by the Ontario Ministry of Health, and Ontario Health Data Platform (OHDP), a Province of Ontario initiative to support Ontario’s ongoing response to COVID-19 and its related impacts. Parts of this material are based on data and information compiled and provided by the Ontario Ministry of Health. The analyses, conclusions, opinions and statements expressed herein are solely those of the authors and do not reflect those of ICES, the OHDP or the funding or data sources; no endorsement is intended or should be inferred. For more information on AHRQ and how to submit a request, please visit www.ices.on.ca/DAS/AHRQ.

Appendix A

Table 1A. Confirmed cases of COVID-19 by public health unit reported week: Ontario

Reported Week	Start date	End date	Number of cases	Cumulative count
2	January 5, 2020	January 11, 2020	0	0
3	January 12, 2020	January 18, 2020	0	0
4	January 19, 2020	January 25, 2020	3	3
5	January 26, 2020	February 1, 2020	0	3
6	February 2, 2020	February 8, 2020	0	3
7	February 9, 2020	February 15, 2020	0	3
8	February 16, 2020	February 22, 2020	1	4
9	February 23, 2020	February 29, 2020	13	17
10	March 1, 2020	March 7, 2020	15	32
11	March 8, 2020	March 14, 2020	148	180
12	March 15, 2020	March 21, 2020	447	627
13	March 22, 2020	March 28, 2020	1,327	1,954
14	March 29, 2020	April 4, 2020	2,793	4,747
15	April 5, 2020	April 11, 2020	3,165	7,912
16	April 12, 2020	April 18, 2020	4,257	12,169
17	April 19, 2020	April 25, 2020	3,649	15,818
18	April 26, 2020	May 2, 2020	2,899	18,717
19	May 3, 2020	May 9, 2020	2,353	21,070
20	May 10, 2020	May 16, 2020	2,224	23,294
21	May 17, 2020	May 23, 2020	2,616	25,910
22	May 24, 2020	May 30, 2020	2,611	28,521
23	May 31, 2020	June 6, 2020	2,301	30,822

Reported Week	Start date	End date	Number of cases	Cumulative count
24	June 7, 2020	June 13, 2020	1,472	32,294
25	June 14, 2020	June 20, 2020	1,225	33,519
26	June 21, 2020	June 27, 2020	1,250	34,769
27	June 28, 2020	July 4, 2020	1,085	35,854
28	July 5, 2020	July 11, 2020	866	36,720
29	July 12, 2020	July 18, 2020	931	37,651
30	July 19, 2020	July 25, 2020	993	38,644
31	July 26, 2020	August 1, 2020	808	39,452
32	August 2, 2020	August 8, 2020	591	40,043
33	August 9, 2020	August 15, 2020	610	40,653
34	August 16, 2020	August 22, 2020	728	41,381
35	August 23, 2020	August 29, 2020	850	42,231
36	August 30, 2020	September 5, 2020	976	43,207
37	September 6, 2020	September 12, 2020	1,506	44,713
38	September 13, 2020	September 19, 2020	2,371	47,084
39	September 20, 2020	September 26, 2020	3,124	50,208
40	September 27, 2020	October 3, 2020	4,223	54,431
41	October 4, 2020	October 10, 2020	5,037	59,468
42	October 11, 2020	October 17, 2020	5,276	64,744
43	October 18, 2020	October 24, 2020	6,039	70,783
44	October 25, 2020	October 31, 2020	6,388	77,171
45	November 1, 2020	November 7, 2020	7,601	84,772
46	November 8, 2020	November 14, 2020	10,441	95,213
47	November 15, 2020	November 21, 2020	10,036	105,249
48	November 22, 2020	November 28, 2020	11,136	116,385

Reported Week	Start date	End date	Number of cases	Cumulative count
49	November 29, 2020	December 5, 2020	12,682	129,067
50	December 6, 2020	December 12, 2020	13,060	142,127
51	December 13, 2020	December 19, 2020	15,663	157,790
52	December 20, 2020	December 26, 2020	15,624	173,414
53	December 27, 2020	January 2, 2021	20,454	193,868
1	January 3, 2021	January 9, 2021	24,870	218,738
2	January 10, 2021	January 16, 2021	21,382	240,120
3	January 17, 2021	January 23, 2021	16,405	256,525
4	January 24, 2021	January 30, 2021	12,766	269,291
5	January 31, 2021	February 6, 2021	9,778	279,069
6	February 7, 2021	February 13, 2021	7,899	286,968
7	February 14, 2021	February 20, 2021	7,456	294,424
8	February 21, 2021	February 27, 2021	7,684	302,108
9	February 28, 2021	March 6, 2021	7,932	310,040
10	March 7, 2021	March 13, 2021	9,481	319,521
11	March 14, 2021	March 20, 2021	11,023	330,544
12	March 21, 2021	March 27, 2021	14,392	344,936
13	March 28, 2021	April 3, 2021	18,944	363,880
14	April 4, 2021	April 10, 2021	25,580	389,460
15	April 11, 2021	April 17, 2021	30,882	420,342
16	April 18, 2021	April 24, 2021	28,344	448,686
17	April 25, 2021	May 1, 2021	25,204	473,890
18	May 2, 2021	May 8, 2021	20,752	494,642
19	May 9, 2021	May 15, 2021	16,524	511,166
20	May 16, 2021	May 22, 2021	12,644	523,810

Reported Week	Start date	End date	Number of cases	Cumulative count
21	May 23, 2021	May 29, 2021	7,757	531,567
22	May 30, 2021	June 5, 2021	5,211	536,778
23	June 6, 2021	June 12, 2021	3,483	540,261
24	June 13, 2021	June 19, 2021	2,418	542,679
25	June 20, 2021	June 26, 2021	1,882	544,561
26	June 27, 2021	July 3, 2021	1,473	546,034
27	July 4, 2021	July 10, 2021	1,226	547,260
28	July 11, 2021	July 17, 2021	1,045	548,305
29	July 18, 2021	July 24, 2021	1,106	549,411
30	July 25, 2021	July 31, 2021	1,350	550,761
31	August 1, 2021	August 7, 2021	1,904	552,665
32	August 8, 2021	August 14, 2021	3,170	555,835
33	August 15, 2021	August 21, 2021	4,142	559,977
34	August 22, 2021	August 28, 2021	4,775	564,752
35	August 29, 2021	September 4, 2021	5,184	569,936
36	September 5, 2021	September 11, 2021	5,054	574,990
37	September 12, 2021	September 18, 2021	4,918	579,908
38	September 19, 2021	September 25, 2021	4,397	584,305
39	September 26, 2021	October 2, 2021	3,953	588,258
40	October 3, 2021	October 9, 2021	3,842	592,100
41	October 10, 2021	October 16, 2021	2,903	595,003
42	October 17, 2021	October 23, 2021	2,626	597,629
43	October 24, 2021	October 30, 2021	2,501	600,130
44	October 31, 2021	November 6, 2021	3,291	603,421
45	November 7, 2021	November 13, 2021	3,982	607,403

Reported Week	Start date	End date	Number of cases	Cumulative count
46	November 14, 2021	November 20, 2021	4,577	611,980
47	November 21, 2021	November 27, 2021	5,431	617,411
48	November 28, 2021	December 4, 2021	6,596	624,007
49	December 5, 2021	December 11, 2021	8,992	632,999
50	December 12, 2021	December 18, 2021	18,960	651,959
51	December 19, 2021	December 25, 2021	51,937	703,896
52	December 26, 2021	January 1, 2022	99,124	803,020
1	January 2, 2022	January 8, 2022	87,133	890,153
2	January 9, 2022	January 15, 2022	70,592	960,745
3	January 16, 2022	January 22, 2022	45,406	1,006,151
4	January 23, 2022	January 29, 2022	30,920	1,037,071
5	January 30, 2022	February 5, 2022	22,049	1,059,120
6	February 6, 2022	February 12, 2022	17,725	1,076,845
7	February 13, 2022	February 19, 2022	13,543	1,090,388
8	February 20, 2022	February 26, 2022	12,388	1,102,776
9	February 27, 2022	March 5, 2022	11,376	1,114,152

Table 2A. Confirmed cases of COVID-19 by public health unit and region: Ontario

Public Health Unit Name	Cases reported week 8	Rate per 100,000 population	Cases reported week 9	Rate per 100,000 population
		Reported week 8		Reported week 9
Northwestern Health Unit	391	481.6	343	422.5
Thunder Bay District Health Unit	375	237.8	320	202.9
TOTAL NORTH WEST	766	320.6	663	277.5
Algoma Public Health	366	310.6	329	279.2
North Bay Parry Sound District Health Unit	258	199.5	225	174.0
Porcupine Health Unit	291	342.4	215	252.9
Public Health Sudbury & Districts	539	262.6	420	204.6
Timiskaming Health Unit	23	67.9	43	126.9
TOTAL NORTH EAST	1,477	258.5	1,232	215.7
Ottawa Public Health	872	83.6	745	71.4
Eastern Ontario Health Unit	171	79.2	138	63.9
Hastings Prince Edward Public Health	266	153.9	194	112.2
Kingston, Frontenac and Lennox & Addington Public Health	471	225.1	489	233.7
Leeds, Grenville & Lanark District Health Unit	190	105.6	131	72.8
Renfrew County and District Health Unit	87	80.2	93	85.7
TOTAL EASTERN	2,057	106.6	1,790	92.8
Durham Region Health Department	547	76.9	512	72.0

Public Health Unit Name	Cases reported week 8	Rate per 100,000 population Reported week 8	Cases reported week 9	Rate per 100,000 population Reported week 9
Haliburton, Kawartha, Pine Ridge District Health Unit	140	73.4	123	64.5
Peel Public Health	623	39.8	510	32.6
Peterborough Public Health	170	114.8	108	72.9
Simcoe Muskoka District Health Unit	573	94.8	515	85.2
York Region Public Health	626	52.2	558	46.5
TOTAL CENTRAL EAST	2,679	60.6	2,326	52.6
Toronto Public Health	1,638	54.8	1,768	59.2
TOTAL TORONTO	1,638	54.8	1,768	59.2
Chatham-Kent Public Health	142	133.2	130	121.9
Grey Bruce Health Unit	171	97.1	174	98.8
Huron Perth Public Health	98	67.0	88	60.2
Lambton Public Health	131	98.5	123	92.5
Middlesex-London Health Unit	403	78.9	412	80.7
Southwestern Public Health	182	83.1	138	63.0
Windsor-Essex County Health Unit	515	119.5	480	111.4
TOTAL SOUTH WEST	1,642	95.3	1,545	89.7
Brant County Health Unit	116	75.5	84	54.7
City of Hamilton Public Health Services	423	72.7	414	71.2
Haldimand-Norfolk Health Unit	127	105.8	111	92.5
Halton Region Public Health	371	60.8	408	66.8

Public Health Unit Name	Cases reported week 8	Rate per 100,000 population Reported week 8	Cases reported week 9	Rate per 100,000 population Reported week 9
Niagara Region Public Health	453	94.0	483	100.3
Region of Waterloo Public Health and Emergency Services	389	64.3	319	52.7
Wellington-Dufferin-Guelph Public Health	250	80.1	233	74.7
TOTAL CENTRAL WEST	2,129	74.3	2,052	71.6
TOTAL ONTARIO	12,388	84.1	11,376	77.2

Note: Interpret information for the most recent week with caution due to reporting lags.

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