Public Health Ontario | Santé publique Ontario

WEEKLY EPIDEMIOLOGICAL SUMMARY

COVID-19 in Ontario: Focus on January 23, 2022 to January 29, 2022

This report includes the most current information available from CCM as of **February 1, 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.

Highlights

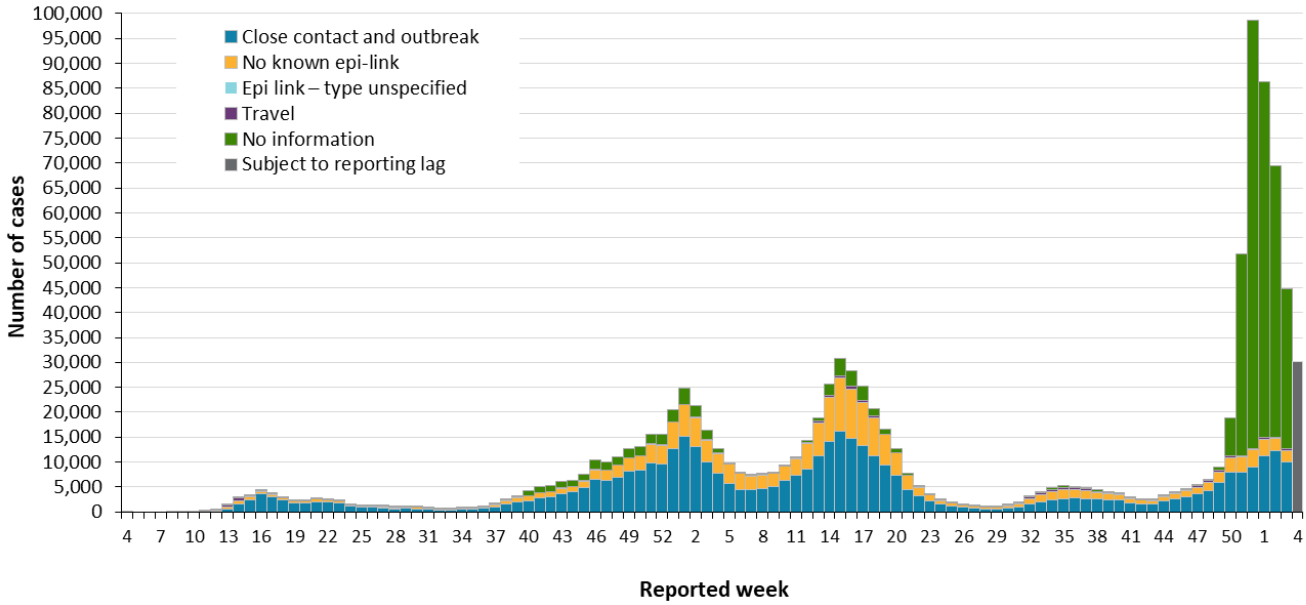
- There are a total of 1,033,026 confirmed cases of COVID-19 in Ontario with a public health unit reported date up to January 29, 2022.
- For the period with a public health unit (PHU) reported date between January 23 to 29, 2022 (Week 4):
    - A total of 30,084 cases were reported to public health compared to 44,746 cases the previous week (January 16 to 22, 2022 or week 3). The number of cases should be interpreted with caution due to changes in testing availability.
    - While the number of deaths appears to have peaked in week 3 (n=403), the decreasing trend in deaths reported this week should be interpreted with caution due to reporting lags.
    - There were three-times more outbreaks reported in hospital settings than long-term homes this week, however a greater number of outbreak associated cases were reported in long-term care home settings than hospitals. This may be due to a greater number of ongoing outbreaks in long-term care home settings.

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. For more information, please see our data caveats and check out our blog.

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.

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 4 (January 23 and 29, 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

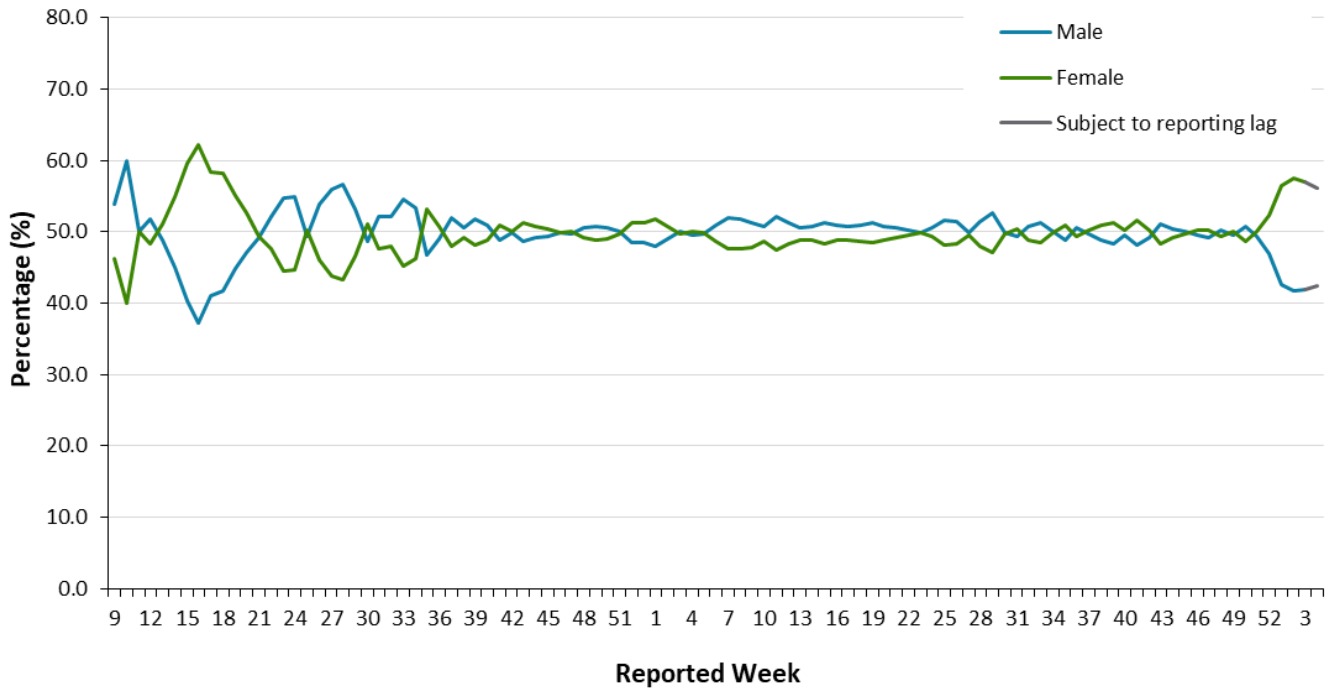
Case Characteristics

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

	Reported week 3 (January 16 to 22, 2022)	Reported week 4 (January 23 to 29, 2022)	Cumulative case count up to January 29, 2022	Cumulative rate per 100,000 population
Total number of cases	44,746	30,084	1,033,026	7,011.2
Sex: Male	18,741	12,798	495,316	6,804.3
Sex: Female	25,519	16,906	532,406	7,142.0
Ages: 0-4	1,378	1,076	29,929	4,139.5
Ages: 5-11	1,989	1,703	61,601	5,711.6
Ages: 12-19	2,503	1,669	89,087	6,700.9
Ages: 20-39	16,682	10,820	397,464	9,573.1
Ages: 40-59	12,683	7,939	287,286	7,374.8
Ages: 60-79	6,055	4,139	124,323	4,287.3
Ages: 80 and over	3,420	2,716	43,039	6,562.5
Number resolved	N/A	N/A	985,798	N/A

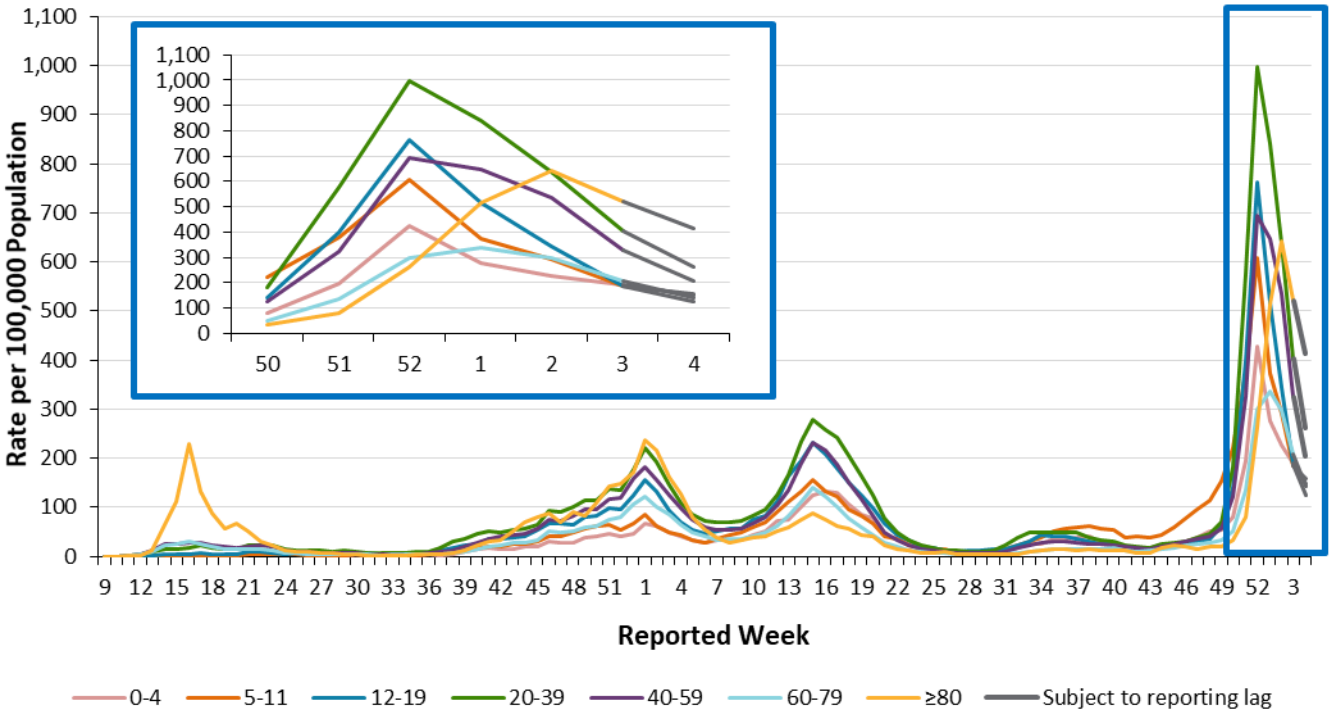
Note: Not all cases have an age or sex reported. Interpret information for the most recent week with caution due to reporting lags.
Data Source: CCM

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



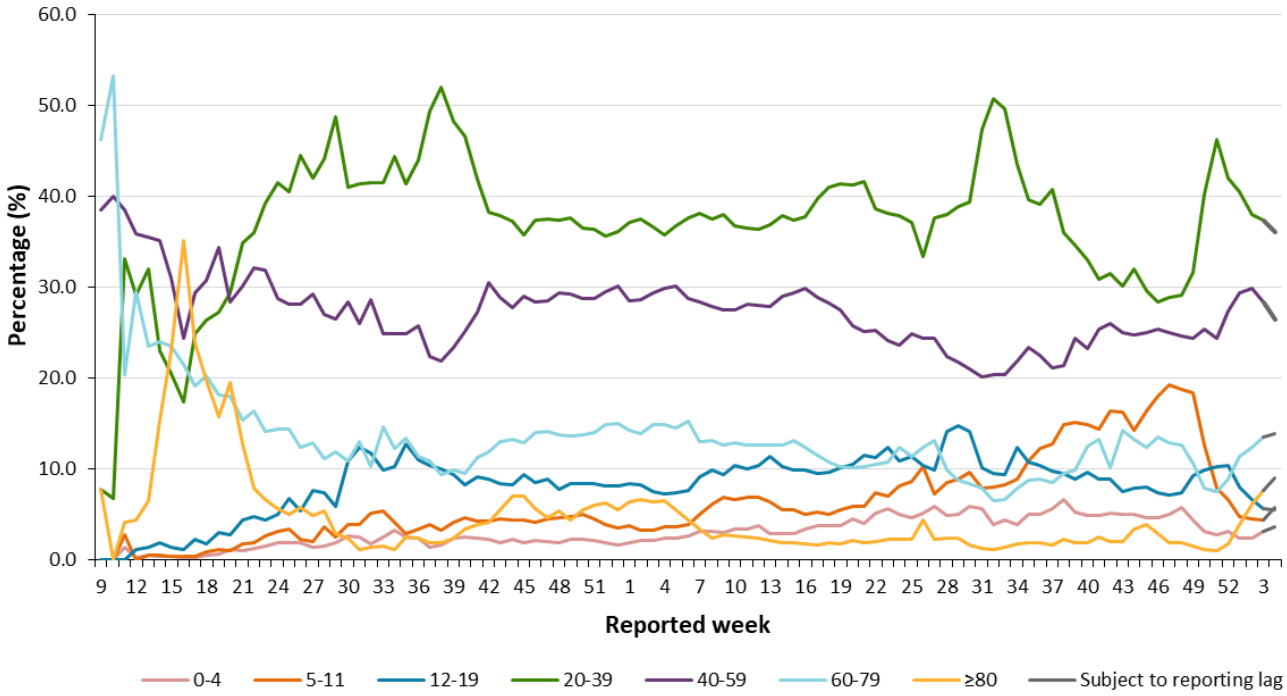
Note: Not all cases have a sex reported. The denominator for calculating weekly percentages includes all cases. Only weeks with more than 10 cases by public health unit reporting date are included (starting in week-9). Include cases with reported dates ranging from week-9 (February 23 and 29, 2020) to week 4 (January 23 and 29, 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 4 (January 23 and 29, 2022). See Table 1A in Appendix A for a list of the weeks and corresponding start and end dates.
Data Source: CCM

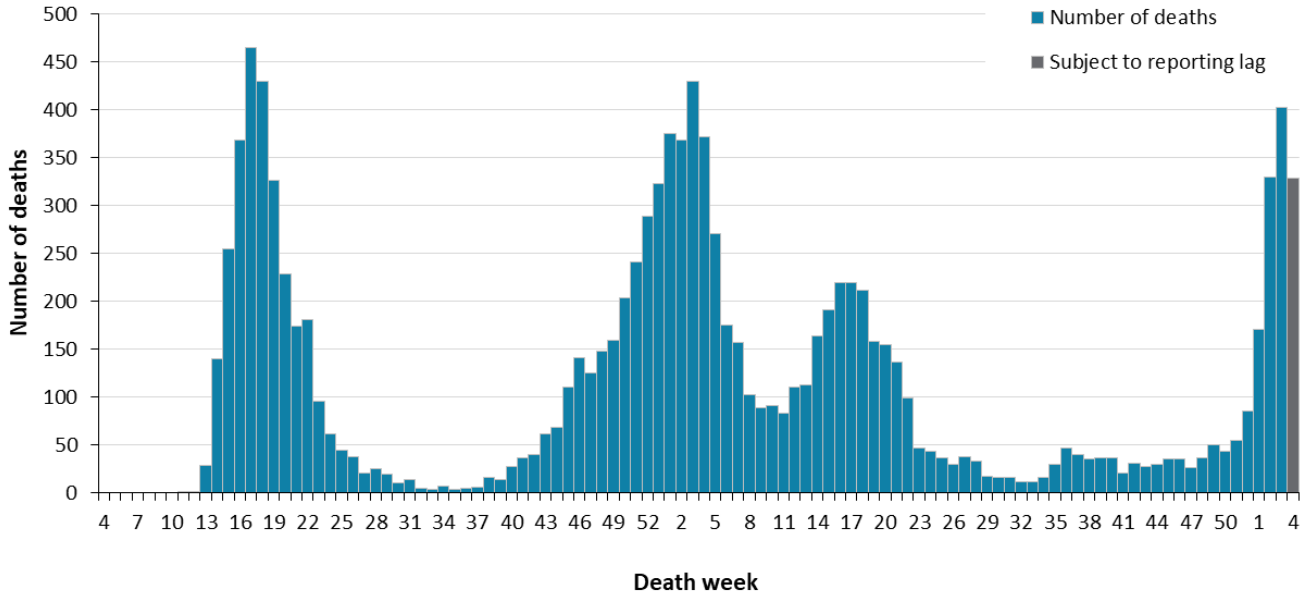
Figure 3b. Percentage of confirmed cases of COVID-19 by age group and public health unit reported week: Ontario



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 4 (January 23 and 29, 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 4 (January 23 and 29, 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 3 (January 16 to 22, 2022)	Reported week 4 (January 23 to 29, 2022)	Cumulative case count up to January 29, 2022	Cumulative rate per 100,000 population
Number of deaths	240	88	11,569	78.5
Sex: Male	127	48	6,030	82.8
Sex: Female	110	37	5,473	73.4
Ages: 19 and under	0	0	10	0.3
Ages: 20-39	0	2	126	3.0
Ages: 40-59	21	10	839	21.5
Ages: 60-79	78	30	3,857	133.0
Ages: 80 and over	141	46	6,735	1,026.9

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 3 (January 16 to 22, 2022)	Percentage	Reported week 4 (January 23 to 29, 2022)	Percentage	Cumulative case count up to January 29, 2022	Cumulative percentage
Travel	434	1.0%	352	1.2%	17,557	1.7%
Outbreak-associated or close contact of a confirmed case	10,016	22.4%	7,276	24.2%	446,244	43.2%
Epidemiological link – type unspecified	0	0.0%	0	0.0%	43	<0.1%
No known epidemiological link	2,195	4.9%	1,733	5.8%	201,927	19.5%
Information missing or unknown	32,101	71.7%	20,723	68.9%	367,255	35.6%
Total	**44,746**		**30,084**		**1,033,026**	

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 3 (January 16 to 22, 2022)	Reported week 4 (January 23 to 29, 2022)	Cumulative case count up to January 29, 2022
Number of cases	1,350	950	33,337
Ever hospitalized	0	0	496
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 3 (January 16 to 22, 2022)	Reported week 4 (January 23 to 29, 2022)	Cumulative case count up to January 29, 2022
Residents	1,601	1,165	22,355
Deaths among residents	51	12	4,297
Health care workers	343	200	9,679
Deaths among health care workers	0	0	10

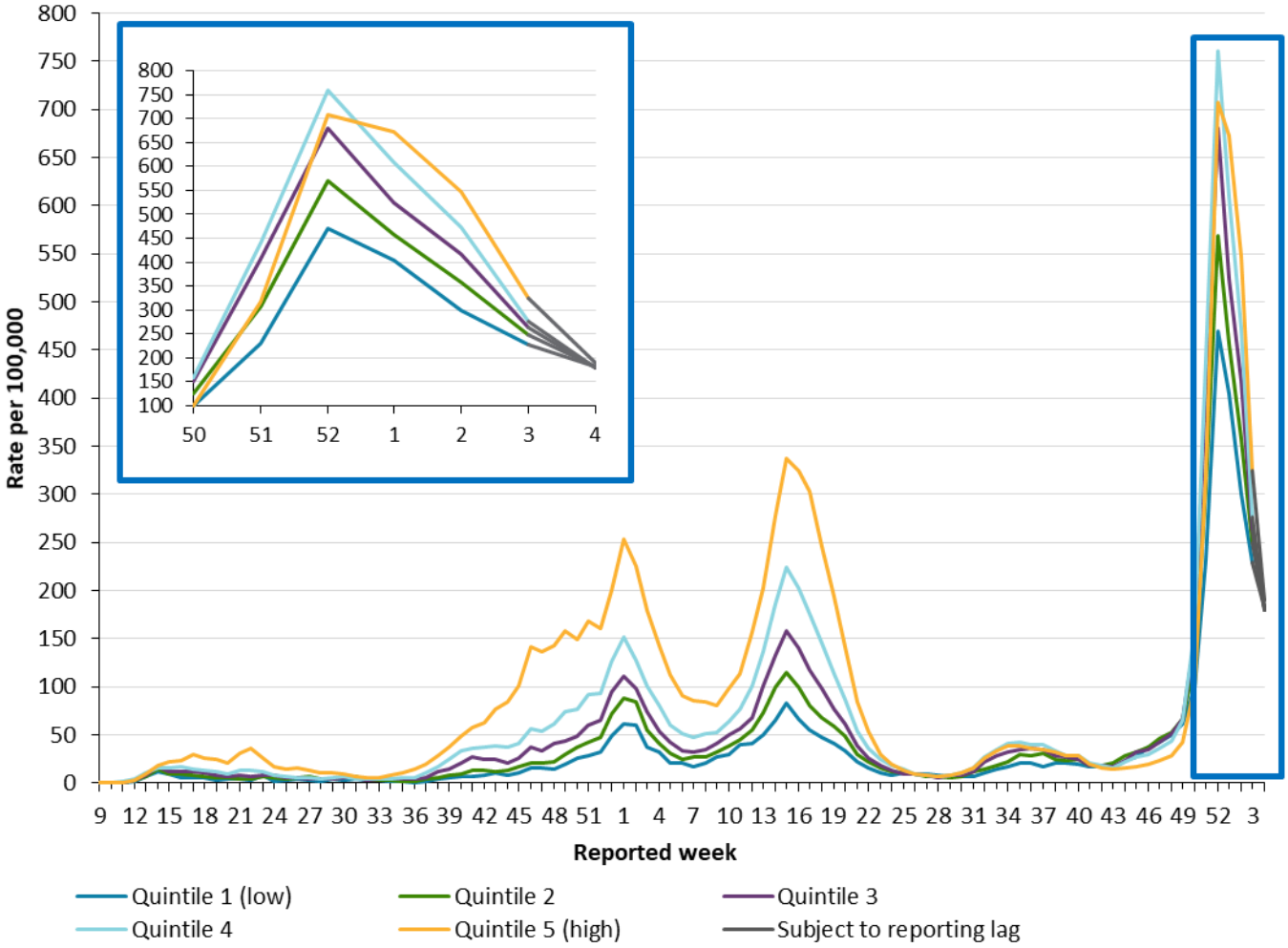
Note: Information on how long-term care home residents and health care workers are identified is available in the technical notes. Interpret information for the most recent week with caution due to reporting lags.
Data Source: CCM

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

Age Group	Reported week 3 (January 16 to 22, 2022)	Reported week 4 (January 23 to 29, 2022)	Cumulative count from November 1, 2020 up to January 29, 2022	Percent of reinfection cases
Ages: 0-4	3	5	49	1.1%
Ages: 5-11	10	19	94	2.0%
Ages: 12-19	33	24	268	5.8%
Ages: 20-39	374	309	2,127	46.3%
Ages: 40-59	247	212	1,369	29.8%
Ages: 60-79	68	82	401	8.7%
Ages: 80 and over	69	57	281	6.1%
Total reinfection cases	**804**	**708**	**4,589**	**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

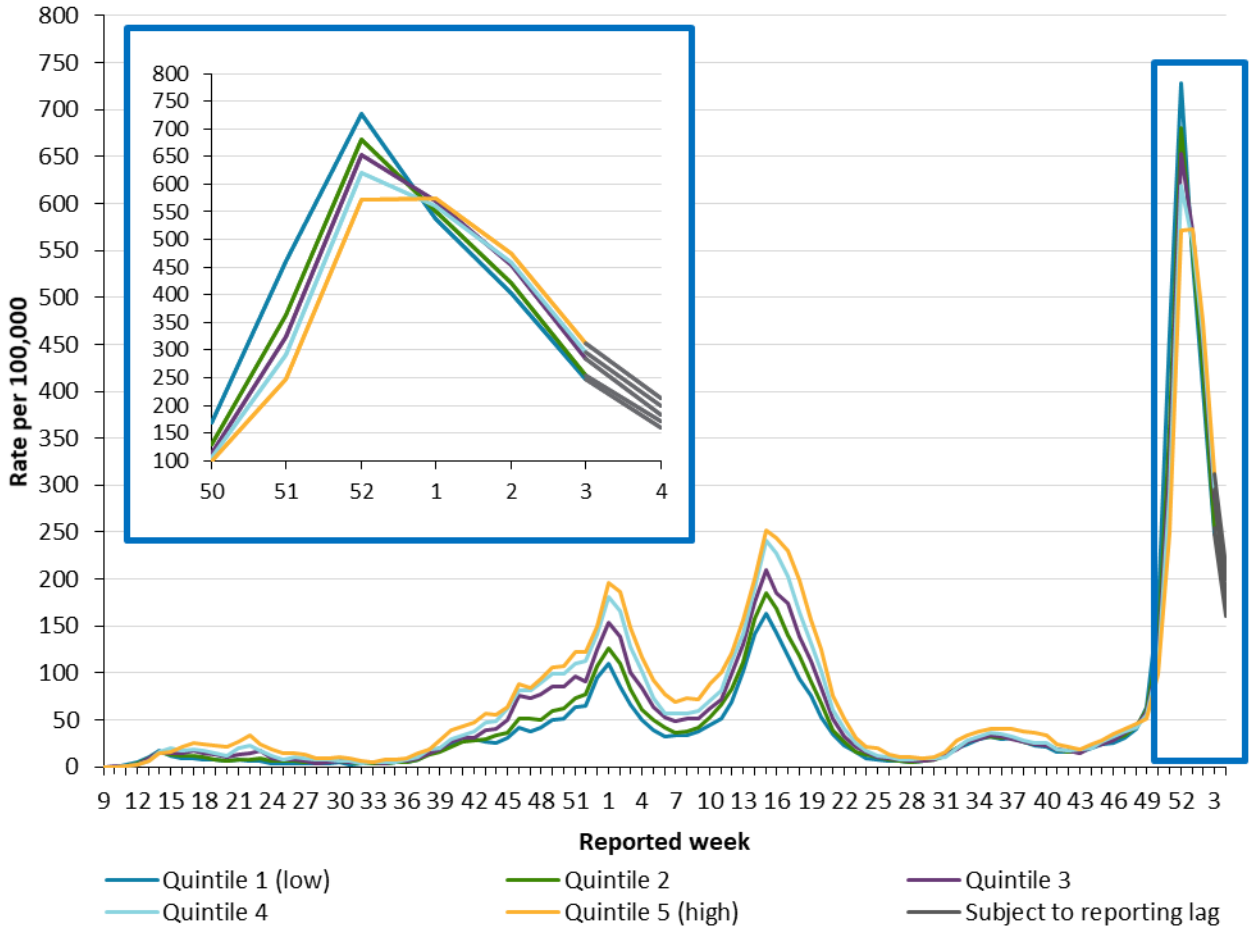
Figure 5. Rate of confirmed cases of COVID-19 per 100,000 population by quintile of neighbourhood diversity and public health unit reported week: Ontario



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 4 (January 23 to 29, 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 4 (January 23 to 29, 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 3 (January 16 to 22, 2022)	Cases Reported Week 4 (January 23 to 29, 2022)	Cumulative case count up to January 29, 2022	Cumulative rate per 100,000 population up to January 29, 2022
Quintile 1 (least diverse)	5,076	4,054	81,959	3,689.8
Quintile 2	5,897	4,309	109,715	4,633.0
Quintile 3	6,807	4,663	147,724	5,699.0
Quintile 4	8,642	5,633	220,468	7,049.0
Quintile 5 (most diverse)	14,038	8,227	407,491	9,427.7

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

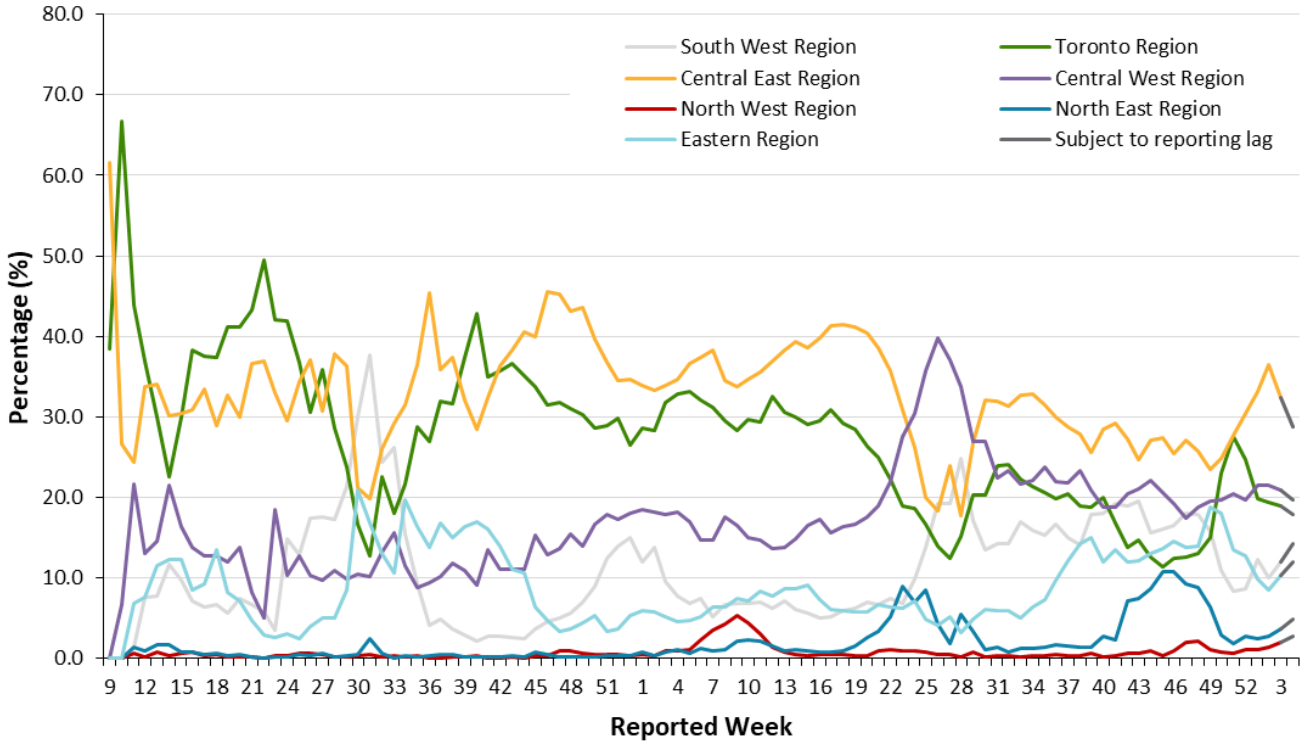
Table 8: Summary of cases of COVID-19 by quintile of neighbourhood material deprivation and public health unit reported week: Ontario

	Cases Reported Week 3(January 16 to 22, 2022)	Cases Reported Week 4 (January 23 to 29, 2022)	Cumulative case count up to January 29, 2022	Cumulative rate per 100,000 population up to January 29, 2022
Quintile 1 (least material deprivation)	8,528	5,519	195,953	5,686.1
Quintile 2	7,892	5,331	185,816	5,985.1
Quintile 3	7,906	5,078	184,644	6,658.8
Quintile 4	7,781	5,250	189,517	7,212.7
Quintile 5 (most material deprivation)	8,353	5,708	211,427	7,889.0

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

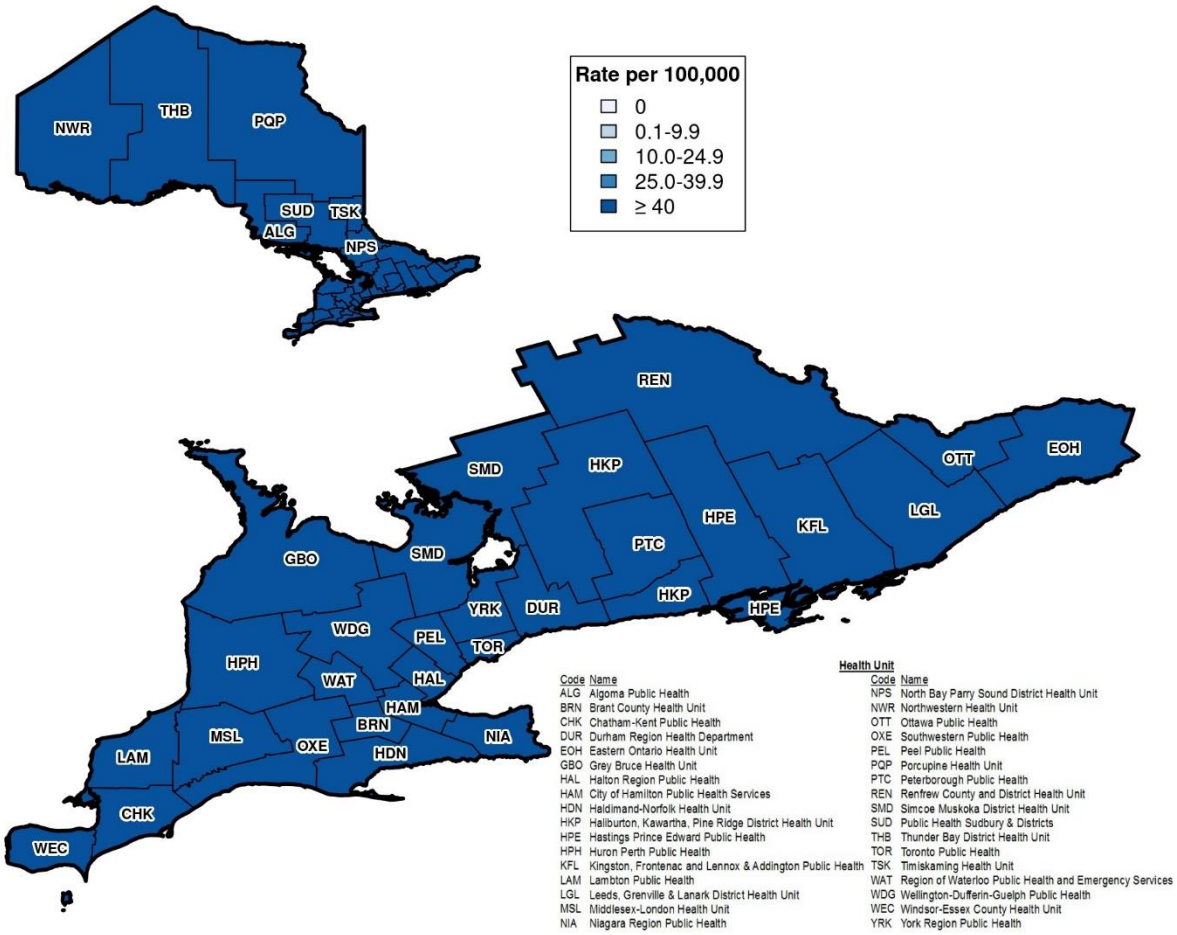
Geography

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 4 (January 23 and 29, 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 4 (January 23 to 29, 2022) by public health unit: Ontario



Note: The provincial rate of confirmed cases of COVID-19 reported in Week 4 was 204.2 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 4 (January 23 to 29, 2022)	Number of ongoing outbreaks	Cumulative number of outbreaks reported to January 29, 2022
Congregate Care	**97**	**727**	**4,466**
Long-term care homes	19	329	2,071
Retirement homes	21	216	1,344
Hospitals	57	182	1,051
Congregate Living	**63**	**267**	**2,538**
Correctional facility	3	20	109
Shelter	7	66	480
Group Home/supportive housing	47	143	1,539
Short-term accommodations	2	2	55
Congregate other	4	36	355
Education and Childcare	**17**	**39**	**4,383**
Child care	17	37	1,427
Camp – Day*	0	0	22
Camp – Overnight*	0	0	1
Camp – Unspecified*	0	0	2
School – Elementary**	0	1	2,299
School – Elementary/secondary**	0	1	105
School – Secondary**	0	0	464
School – Post-secondary**	0	0	63
Other settings	**14**	**42**	**5,550**

Setting Type	Reported week 4 (January 23 to 29, 2022)	Number of ongoing outbreaks	Cumulative number of outbreaks reported to January 29, 2022
Bar/restaurant/nightclub	0	0	472
Medical/health services	0	2	201
Personal service settings	0	0	40
Recreational fitness	0	0	252
Retail	0	0	560
Other recreation/community	0	1	373
Workplace – Farm	6	9	277
Workplace - Food processing	0	0	295
Other types of workplaces	5	15	2,922
Other	1	3	40
Unknown	2	12	118
Total number of outbreaks	**191**	**1,075**	**16,937**

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.
*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

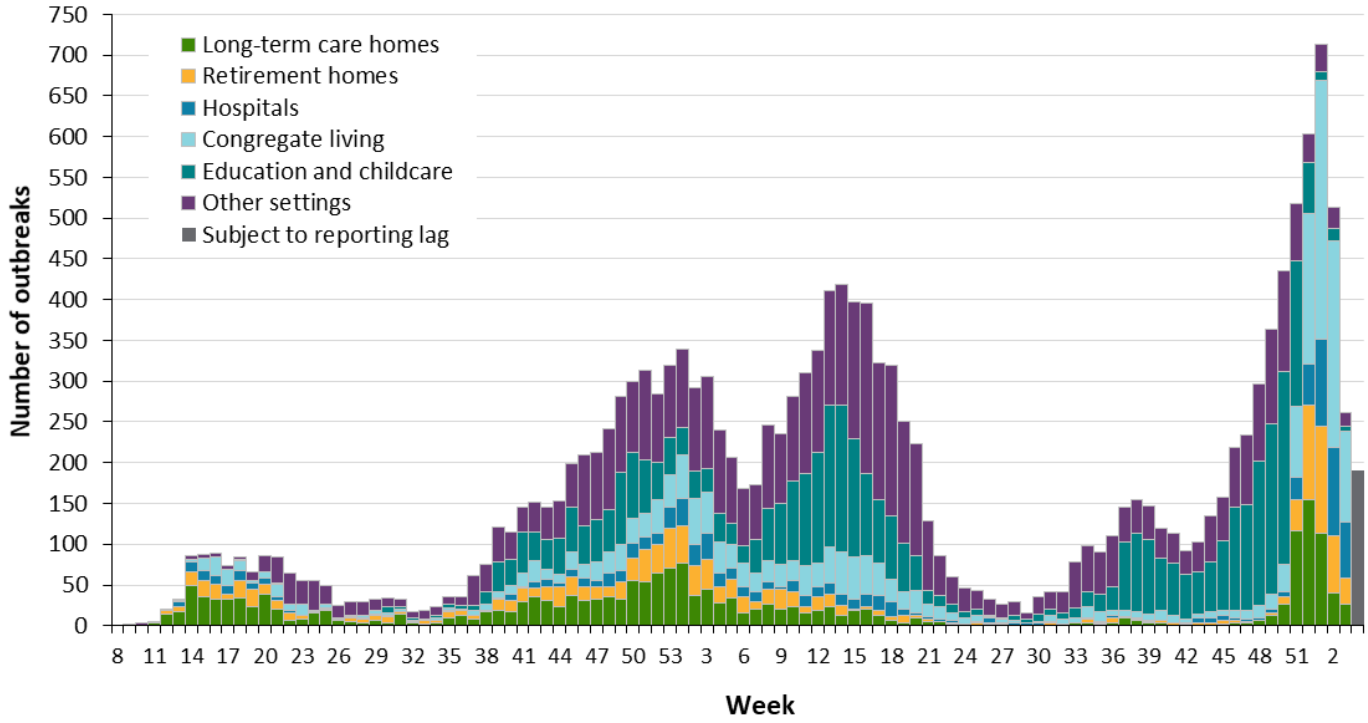
Table 10. Confirmed cases of COVID-19 associated with COVID-19 outbreaks by setting type and public health unit reported week: Ontario

Cases associated with the outbreak setting type	Reported week 3 (January 16 to 22, 2022)	Reported week 4 (January 23 to 29, 2022)	Cumulative number of cases
Congregate Care	**5,332**	**3,606**	**67,011**
Long-term care homes	3,380	2,200	43,046
Retirement homes	1,260	906	13,389
Hospitals	692	500	10,576
Congregate Living	**1,478**	**1,034**	**18,379**
Correctional facility	476	524	4,271
Shelter	327	129	4,470
Group Home/supportive housing	485	262	6,763
Short-term accommodations	2	5	332
Congregate other	188	114	2,543
Education and Childcare	**7**	**12**	**19,145**
Child care	5	8	5,404
Camp – Day*	0	0	111
Camp – Overnight*	0	0	11
Camp – Unspecified*	0	0	6
School – Elementary**	0	4	10,579
School – Elementary/secondary**	0	0	510
School – Secondary**	2	0	2,060
School – Post-secondary**	0	0	464
Other settings	**186**	**118**	**43,018**
Bar/restaurant/nightclub	0	0	2,475

Cases associated with the outbreak setting type	Reported week 3 (January 16 to 22, 2022)	Reported week 4 (January 23 to 29, 2022)	Cumulative number of cases
Medical/health services	7	2	875
Personal service settings	0	0	140
Recreational fitness	0	0	1,675
Retail	2	0	2,998
Other recreation/community	4	1	4,610
Workplace - Farm	11	42	3,312
Workplace - Food processing	1	0	4,049
Other types of workplaces	53	38	21,777
Other	63	20	296
Unknown	45	15	811
Total number of cases	**7,003**	**4,770**	**147,553**

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.
*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 4 refers to January 23 and 29, 2022. Congregate living include group homes, shelters, correctional facilities, etc. Other settings include outbreaks within workplaces, restaurants, recreation etc.
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 **February 1, 2022 at 1 p.m.** for cases reported from May 1, 2021 onwards and as of **January 31, 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	4,258	12,170
17	April 19, 2020	April 25, 2020	3,648	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	1,226	33,520
26	June 21, 2020	June 27, 2020	1,251	34,771
27	June 28, 2020	July 4, 2020	1,085	35,856
28	July 5, 2020	July 11, 2020	866	36,722
29	July 12, 2020	July 18, 2020	931	37,653
30	July 19, 2020	July 25, 2020	993	38,646
31	July 26, 2020	August 1, 2020	808	39,454
32	August 2, 2020	August 8, 2020	591	40,045
33	August 9, 2020	August 15, 2020	610	40,655
34	August 16, 2020	August 22, 2020	728	41,383
35	August 23, 2020	August 29, 2020	850	42,233
36	August 30, 2020	September 5, 2020	976	43,209
37	September 6, 2020	September 12, 2020	1,506	44,715
38	September 13, 2020	September 19, 2020	2,371	47,086
39	September 20, 2020	September 26, 2020	3,122	50,208
40	September 27, 2020	October 3, 2020	4,223	54,431
41	October 4, 2020	October 10, 2020	5,036	59,467
42	October 11, 2020	October 17, 2020	5,276	64,743
43	October 18, 2020	October 24, 2020	6,039	70,782
44	October 25, 2020	October 31, 2020	6,389	77,171
45	November 1, 2020	November 7, 2020	7,601	84,772
46	November 8, 2020	November 14, 2020	10,440	95,212
47	November 15, 2020	November 21, 2020	10,036	105,248
48	November 22, 2020	November 28, 2020	11,137	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	13,061	142,128
51	December 13, 2020	December 19, 2020	15,661	157,789
52	December 20, 2020	December 26, 2020	15,624	173,413
53	December 27, 2020	January 2, 2021	20,453	193,866
1	January 3, 2021	January 9, 2021	24,870	218,736
2	January 10, 2021	January 16, 2021	21,383	240,119
3	January 17, 2021	January 23, 2021	16,402	256,521
4	January 24, 2021	January 30, 2021	12,768	269,289
5	January 31, 2021	February 6, 2021	9,778	279,067
6	February 7, 2021	February 13, 2021	7,899	286,966
7	February 14, 2021	February 20, 2021	7,456	294,422
8	February 21, 2021	February 27, 2021	7,684	302,106
9	February 28, 2021	March 6, 2021	7,932	310,038
10	March 7, 2021	March 13, 2021	9,481	319,519
11	March 14, 2021	March 20, 2021	11,022	330,541
12	March 21, 2021	March 27, 2021	14,390	344,931
13	March 28, 2021	April 3, 2021	18,943	363,874
14	April 4, 2021	April 10, 2021	25,578	389,452
15	April 11, 2021	April 17, 2021	30,885	420,337
16	April 18, 2021	April 24, 2021	28,342	448,679
17	April 25, 2021	May 1, 2021	25,205	473,884
18	May 2, 2021	May 8, 2021	20,755	494,639
19	May 9, 2021	May 15, 2021	16,523	511,162
20	May 16, 2021	May 22, 2021	12,650	523,812

Reported Week	Start date	End date	Number of cases	Cumulative count
21	May 23, 2021	May 29, 2021	7,758	531,570
22	May 30, 2021	June 5, 2021	5,214	536,784
23	June 6, 2021	June 12, 2021	3,484	540,268
24	June 13, 2021	June 19, 2021	2,418	542,686
25	June 20, 2021	June 26, 2021	1,882	544,568
26	June 27, 2021	July 3, 2021	1,473	546,041
27	July 4, 2021	July 10, 2021	1,226	547,267
28	July 11, 2021	July 17, 2021	1,046	548,313
29	July 18, 2021	July 24, 2021	1,108	549,421
30	July 25, 2021	July 31, 2021	1,350	550,771
31	August 1, 2021	August 7, 2021	1,906	552,677
32	August 8, 2021	August 14, 2021	3,171	555,848
33	August 15, 2021	August 21, 2021	4,143	559,991
34	August 22, 2021	August 28, 2021	4,774	564,765
35	August 29, 2021	September 4, 2021	5,183	569,948
36	September 5, 2021	September 11, 2021	5,055	575,003
37	September 12, 2021	September 18, 2021	4,917	579,920
38	September 19, 2021	September 25, 2021	4,398	584,318
39	September 26, 2021	October 2, 2021	3,952	588,270
40	October 3, 2021	October 9, 2021	3,842	592,112
41	October 10, 2021	October 16, 2021	2,902	595,014
42	October 17, 20210	October 23, 2021	2,626	597,640
43	October 24, 2021	October 30, 2021	2,501	600,141
44	October 31, 2021	November 6, 2021	3,291	603,432
45	November 7, 2021	November 13, 2021	3,981	607,413

Reported Week	Start date	End date	Number of cases	Cumulative count
46	November 14, 2021	November 20, 2021	4,577	611,990
47	November 21, 2021	November 27, 2021	5,435	617,425
48	November 28, 2021	December 4, 2021	6,586	624,011
49	December 5, 2021	December 11, 2021	8,987	632,998
50	December 12, 2021	December 18, 2021	18,948	651,946
51	December 19, 2021	December 25, 2021	51,842	703,788
52	December 26, 2021	January 1, 2022	98,732	802,520
1	January 2, 2022	January 8, 2022	86,227	888,747
2	January 9, 2022	January 15, 2022	69,449	958,196
3	January 16, 2022	January 22, 2022	44,746	1,002,942
4	January 23, 2022	January 29, 2022	30,084	1,033,026

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

Public Health Unit Name	Cases reported week 3	Rate per 100,000 population Reported week 3	Cases reported week 4	Rate per 100,000 population Reported week 4
Northwestern Health Unit	320	394.2	294	362.1
Thunder Bay District Health Unit	539	341.8	539	341.8
TOTAL NORTH WEST	**859**	**359.6**	**833**	**348.7**
Algoma Public Health	355	301.3	358	303.8
North Bay Parry Sound District Health Unit	259	200.3	234	181.0
Porcupine Health Unit	242	284.7	212	249.4
Public Health Sudbury & Districts	717	349.3	604	294.3
Timiskaming Health Unit	61	180.0	47	138.7
TOTAL NORTH EAST	**1,634**	**286.0**	**1,455**	**254.7**
Ottawa Public Health	2,568	246.2	1,812	173.7
Eastern Ontario Health Unit	744	344.7	565	261.7
Hastings Prince Edward Public Health	294	170.1	334	193.3
Kingston, Frontenac and Lennox & Addington Public Health	365	174.4	334	159.6
Leeds, Grenville & Lanark District Health Unit	377	209.5	330	183.4
Renfrew County and District Health Unit	265	244.3	207	190.8
TOTAL EASTERN	**4,613**	**239.1**	**3,582**	**185.6**
Durham Region Health Department	2,214	311.2	1,305	183.4
Haliburton, Kawartha, Pine Ridge District Health Unit	502	263.2	404	211.8

Public Health Unit Name	Cases reported week 3	Rate per 100,000 population Reported week 3	Cases reported week 4	Rate per 100,000 population Reported week 4
Peel Public Health	6,565	419.9	3,673	234.9
Peterborough Public Health	293	197.8	241	162.7
Simcoe Muskoka District Health Unit	1,813	299.9	1,264	209.1
York Region Public Health	3,120	259.9	1,773	147.7
TOTAL CENTRAL EAST	**14,507**	**328.3**	**8,660**	**196.0**
Toronto Public Health	8,462	283.2	5,361	179.4
TOTAL TORONTO	**8,462**	**283.2**	**5,361**	**179.4**
Chatham-Kent Public Health	446	418.3	389	364.8
Grey Bruce Health Unit	281	159.5	242	137.4
Huron Perth Public Health	283	193.5	250	170.9
Lambton Public Health	566	425.7	357	268.5
Middlesex-London Health Unit	1,571	307.7	1,337	261.8
Southwestern Public Health	566	258.6	433	197.8
Windsor-Essex County Health Unit	1,616	375.0	1,277	296.3
TOTAL SOUTH WEST	**5,329**	**309.4**	**4,285**	**248.8**
Brant County Health Unit	559	364.0	332	216.2
City of Hamilton Public Health Services	2,395	411.7	1,318	226.6
Haldimand-Norfolk Health Unit	366	305.0	273	227.5
Halton Region Public Health	2,030	332.5	1,097	179.7
Niagara Region Public Health	1,438	298.5	1,205	250.1

Public Health Unit Name	Cases reported week 3	Rate per 100,000 population Reported week 3	Cases reported week 4	Rate per 100,000 population Reported week 4
Region of Waterloo Public Health and Emergency Services	1,757	290.3	1,154	190.7
Wellington-Dufferin-Guelph Public Health	797	255.5	529	169.6
TOTAL CENTRAL WEST	**9,342**	**326.1**	**5,908**	**206.2**
TOTAL ONTARIO	**44,746**	**303.7**	**30,084**	**204.2**

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

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