

## Weekly Epidemiologic Summary

# COVID-19 in Ontario: Focus on February 21, 2021 to February 27, 2021

This report includes the most current information available from CCM as of **March 02, 2021**.

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

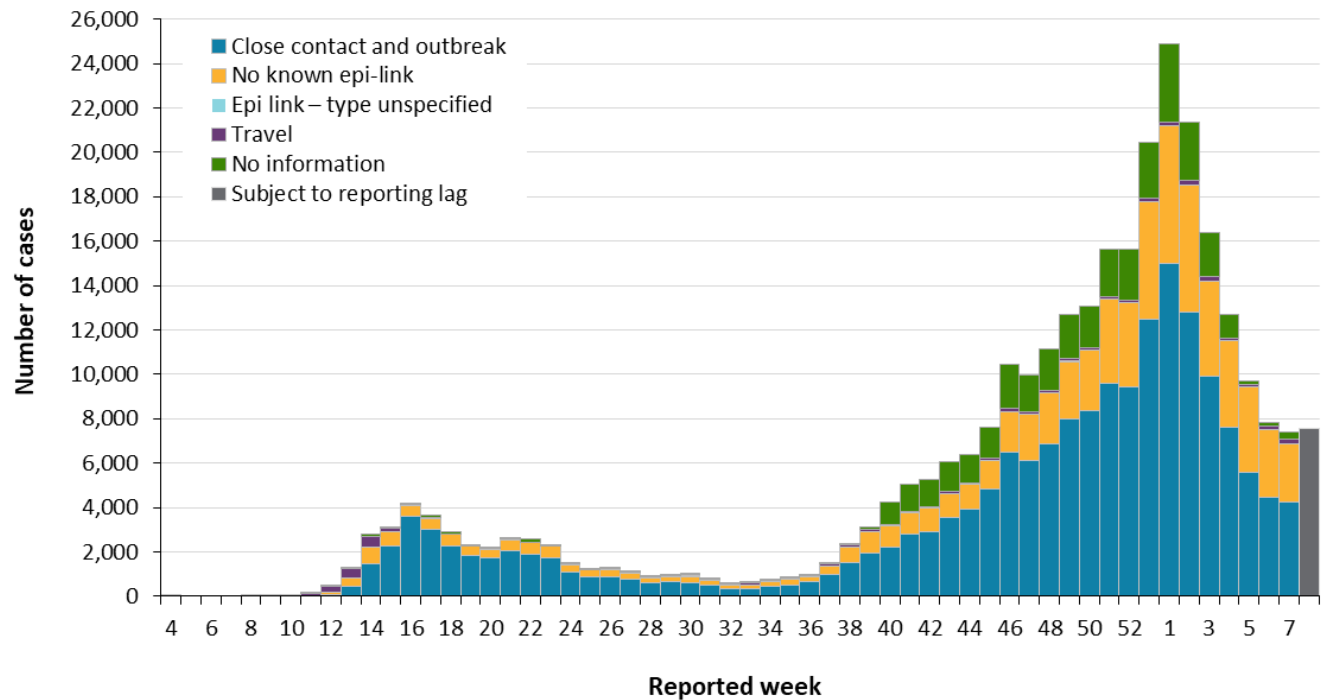
- There are a total of 301,474 confirmed cases of COVID-19 in Ontario with a public health unit reported date up to February 27, 2021.
- For the period with a public health unit reported date between February 21 to February 27, 2021 (week 8):
  - A total of 7,569 cases were reported to public health compared to 7,402 cases the previous week (February 14 to 20, 2021).
  - The rate of cases amongst those <20 years of age has increased steadily since February 7th (week 6). This increase may be associated with the recent increase in outbreaks reported in educational settings (42 newly reported outbreaks in week 8 compared to 33 in week 7 and 17 in the week 6).
  - As of February 27th, over half of public health units in Ontario (18/34) have reported at least one variant of concern (n=580). Approximately 57% of these cases were reported in health units within the GTA.

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

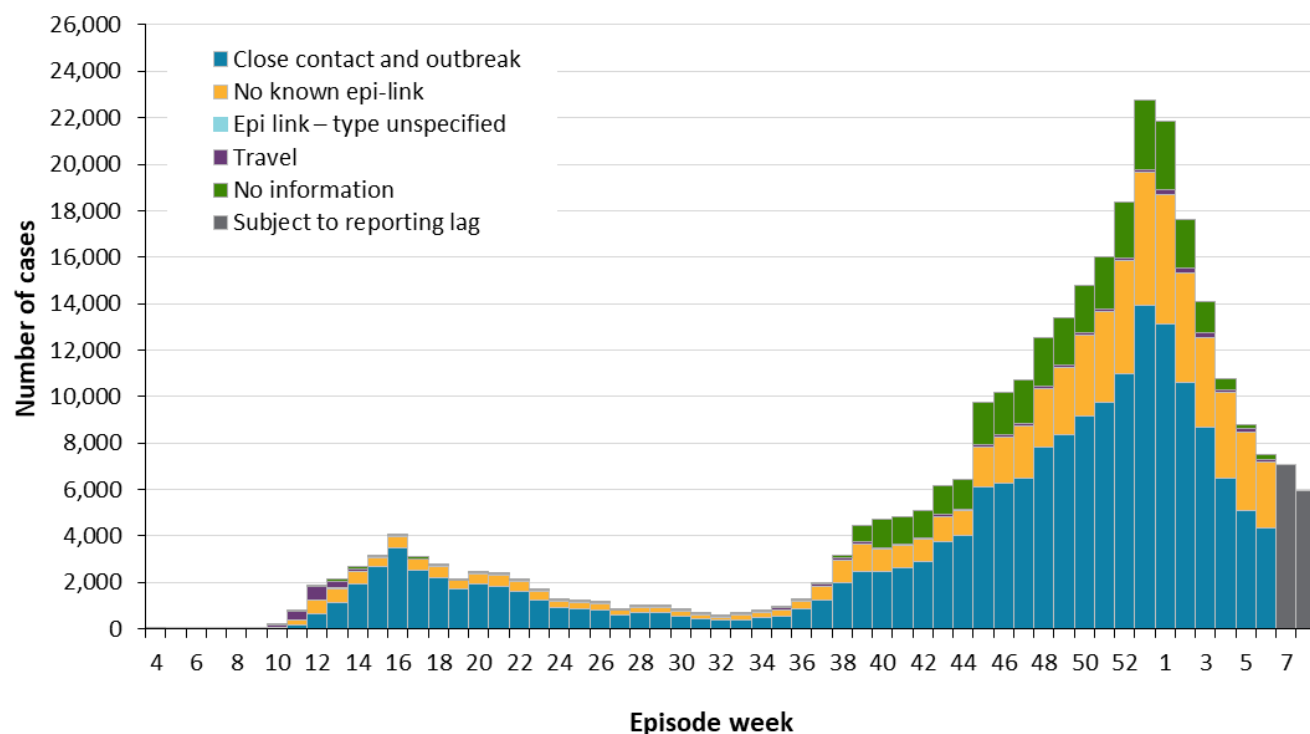
**Figure 1. Confirmed cases of COVID-19 by likely source of acquisition and public health unit reported week: Ontario**



**Note:** Include cases with reported dates ranging from week 4 (January 19 and 25, 2020) to week 8 (February 21 and 27, 2021). See [Table 1A](#) in Appendix A for a list of the weeks and corresponding start and end dates.

**Data Source:** CCM

**Figure 2. Confirmed cases of COVID-19 by likely source of acquisition and approximation of symptom onset week: Ontario**



**Note:** Not all cases have an episode date. Cases without an episode date are not included in the figure. The definition for how episode date is defined is available in the technical notes. Include cases with episode dates ranging from week 4 (January 19 and 25, 2020) to week 8 (February 21 and 27, 2021). See [Table 1A](#) in Appendix A for a list of the weeks and corresponding start and end dates.

**Data Source:** CCM

## Case Characteristics

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

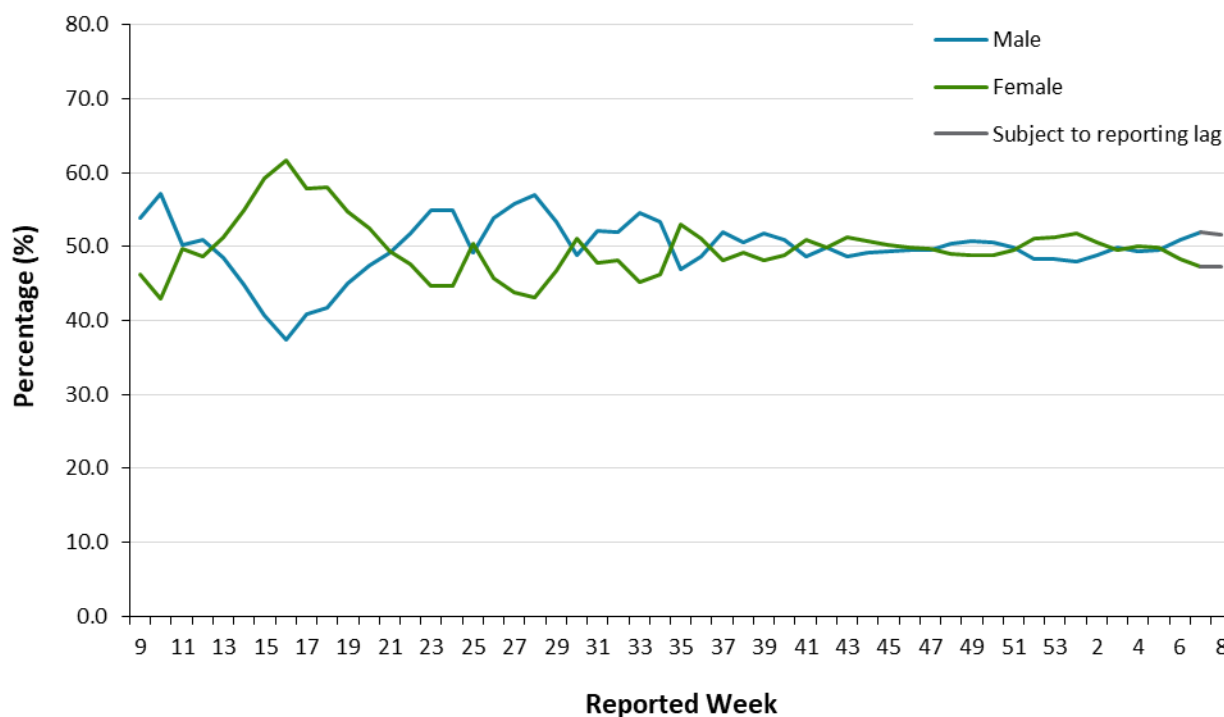
	Reported week 7 (February 14 to 20)	Reported week 8 (February 21 to 27)	Cumulative case count up to February 27	Cumulative rate per 100,000 population
Total number of cases	7,402	7,569	301,474	2,028.2
Gender: Male	3,842	3,903	148,289	2,026.0
Gender: Female	3,503	3,576	151,653	2,009.9
Ages: 19 and under	1,271	1,451	40,337	1,286.1
Ages: 20-39	2,822	2,839	110,431	2,657.0
Ages: 40-59	2,092	2,114	87,067	2,211.2
Ages: 60-79	969	983	43,367	1,467.6
Ages: 80 and over	246	180	20,213	2,975.7
Number resolved	N/A	N/A	286,295	N/A

**Note:** Not all cases have an age or gender reported.

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

**Data Source:** CCM

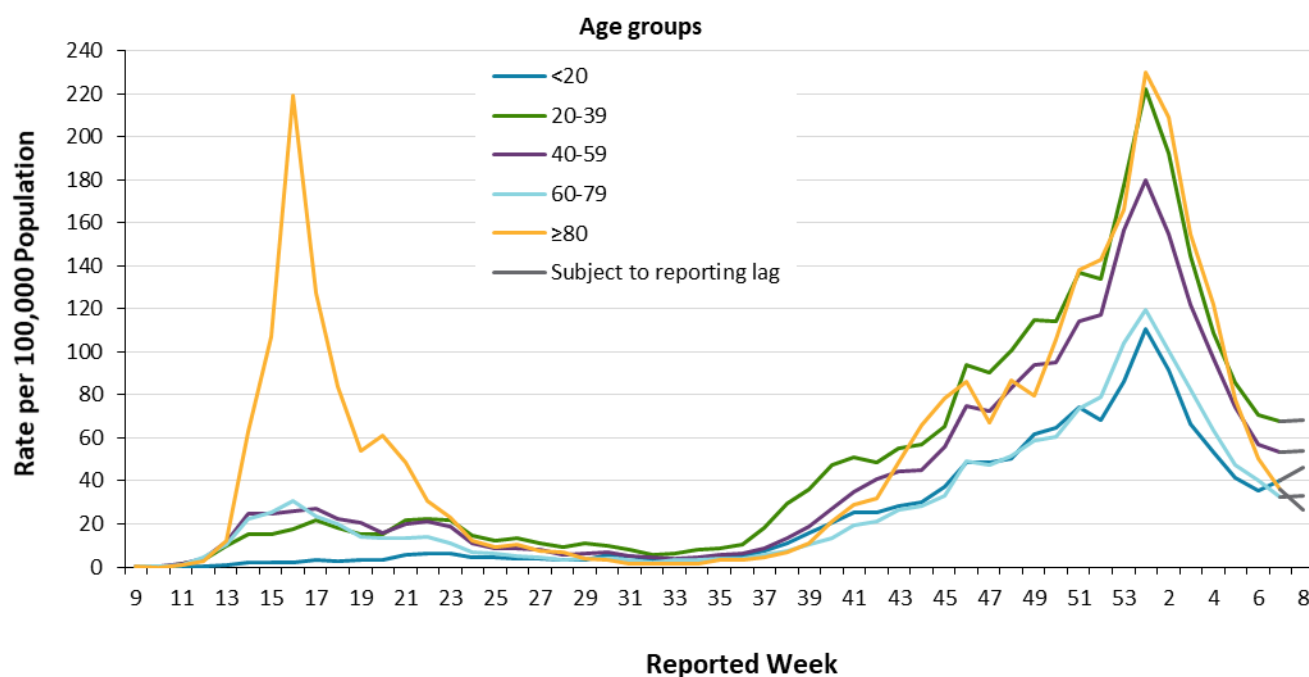
**Figure 3. Percentage of confirmed cases of COVID-19 by gender and public health unit reported week: Ontario**



**Note:** Not all cases have a gender 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 8 (February 21 and 27, 2021). See [Table 1A](#) in Appendix A for a list of the weeks and corresponding start and end dates.

**Data Source:** CCM

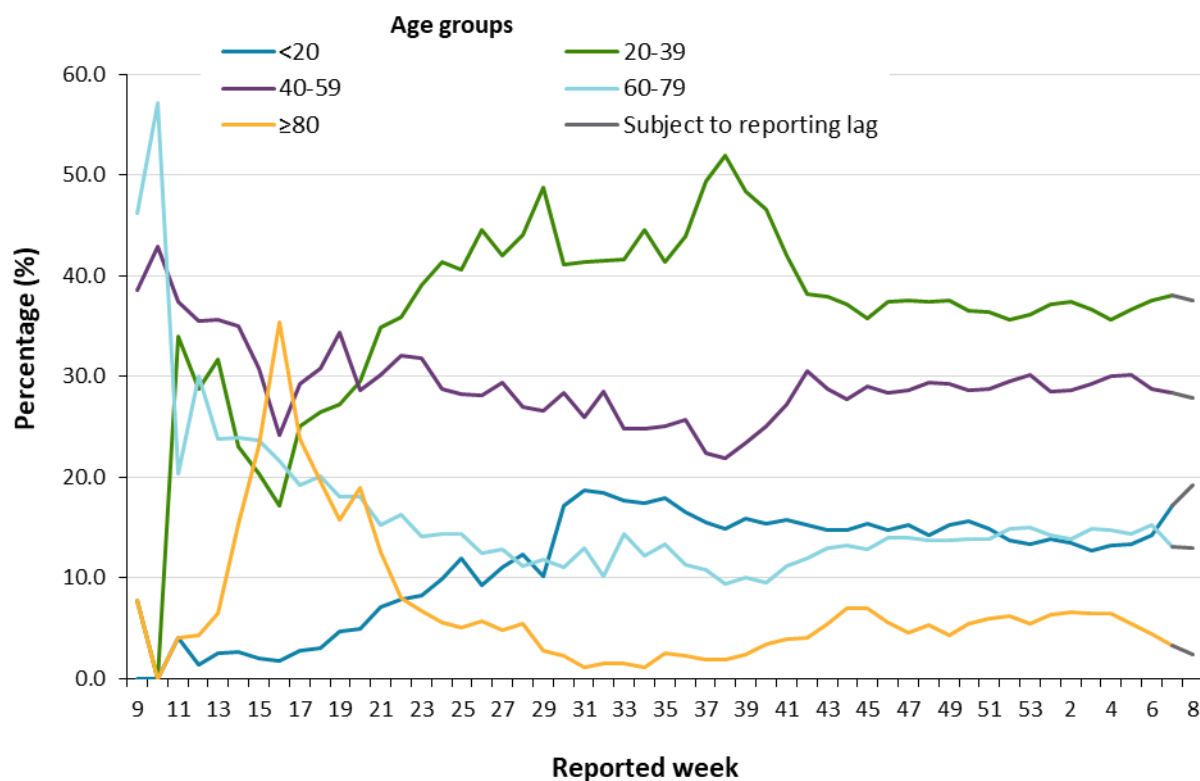
**Figure 4a. Rate of confirmed cases of COVID-19 per 100,000 population by age group and public health unit reported week: Ontario**



**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 8 (February 21 and 27, 2021). See [Table 1A](#) in Appendix A for a list of the weeks and corresponding start and end dates.

**Data Source:** CCM

**Figure 4b. Percentage of confirmed cases of COVID-19 by age group and public health unit reported week: Ontario**

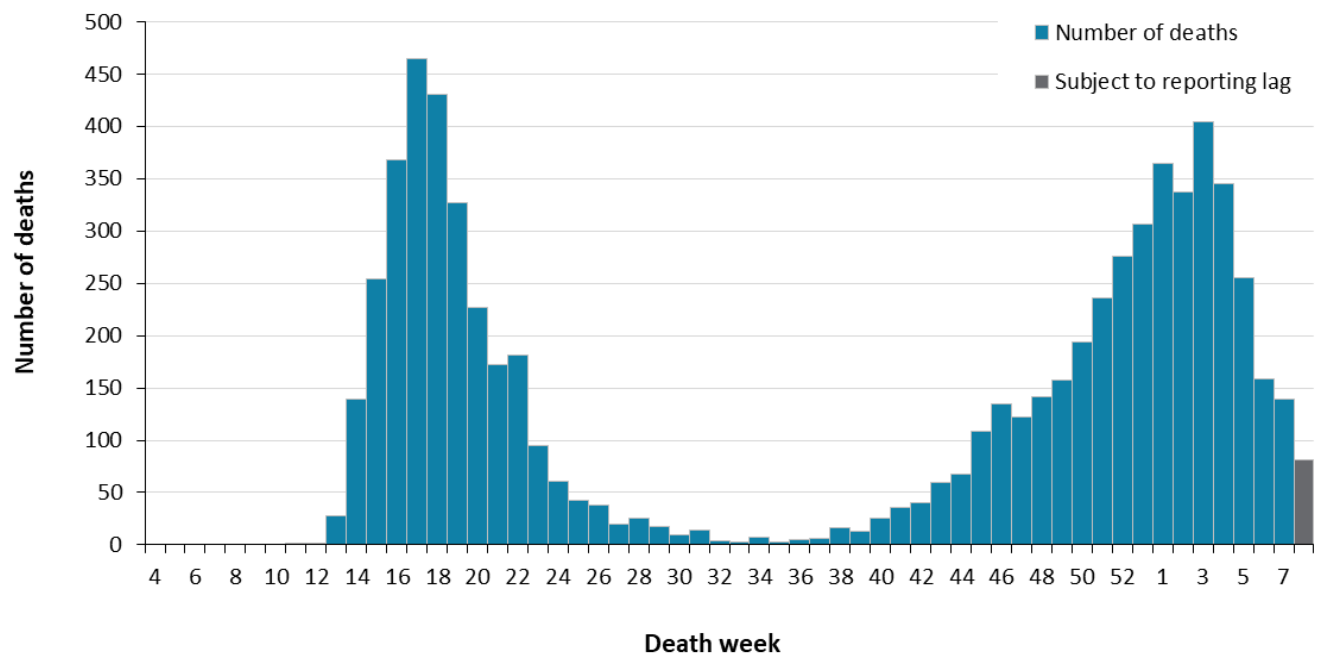


**Note:** Only weeks with more than 10 cases by public health unit reporting date are included (starting in week 9). Include cases with reported dates ranging from week 9 (February 23 and 29, 2020) to week 8 (February 21 and 27, 2021). See [Table 1A](#) in Appendix A for a list of the weeks and corresponding start and end dates.

**Data Source:** CCM

# Deaths

**Figure 5. 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 8 (February 21 and 27, 2021). 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 7 (February 14 to 20)	Reported week 8 (February 21 to 27)	Cumulative case count up to February 27	Cumulative rate per 100,000 population
Number of deaths	49	24	7,014	47.2
Gender: Male	30	12	3,388	46.3
Gender: Female	18	12	3,583	47.5
Ages: 19 and under	0	0	2	0.1
Ages: 20-39	1	0	30	0.7
Ages: 40-59	3	3	286	7.3
Ages: 60-79	17	9	1,928	65.2
Ages: 80 and over	28	12	4,767	701.8

**Note:** Age and gender 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 5 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 7 (February 14 to 20)	Percentage	Reported week 8 (February 21 to 27)	Percentage	Cumulative case count up to February 27	Cumulative percentage
Travel	164	2.2%	147	1.9%	5,436	1.8%
Outbreak-associated or close contact of a confirmed case	4,257	57.5%	4,087	54.0%	186,681	61.9%
Epidemiological link – type unspecified	0	0.0%	0	0.0%	170	0.1%
No known epidemiological link	2,636	35.6%	2,493	32.9%	73,651	24.4%
Information missing or unknown	345	4.7%	842	11.1%	35,536	11.8%
<b>Total</b>	<b>7,402</b>		<b>7,569</b>		<b>301,474</b>	

**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 7 (February 14 to 20)	Reported week 8 (February 21 to 27)	Cumulative case count up to February 27
Number of cases	234	236	19,396
Ever hospitalized	5	2	373
Ever in ICU	1	0	81

**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 7 (February 14 to 20)	Reported week 8 (February 21 to 27)	Cumulative case count up to February 27
Residents	33	20	14,957
Deaths among residents	2	1	3,869
Health care workers	28	24	6,630
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

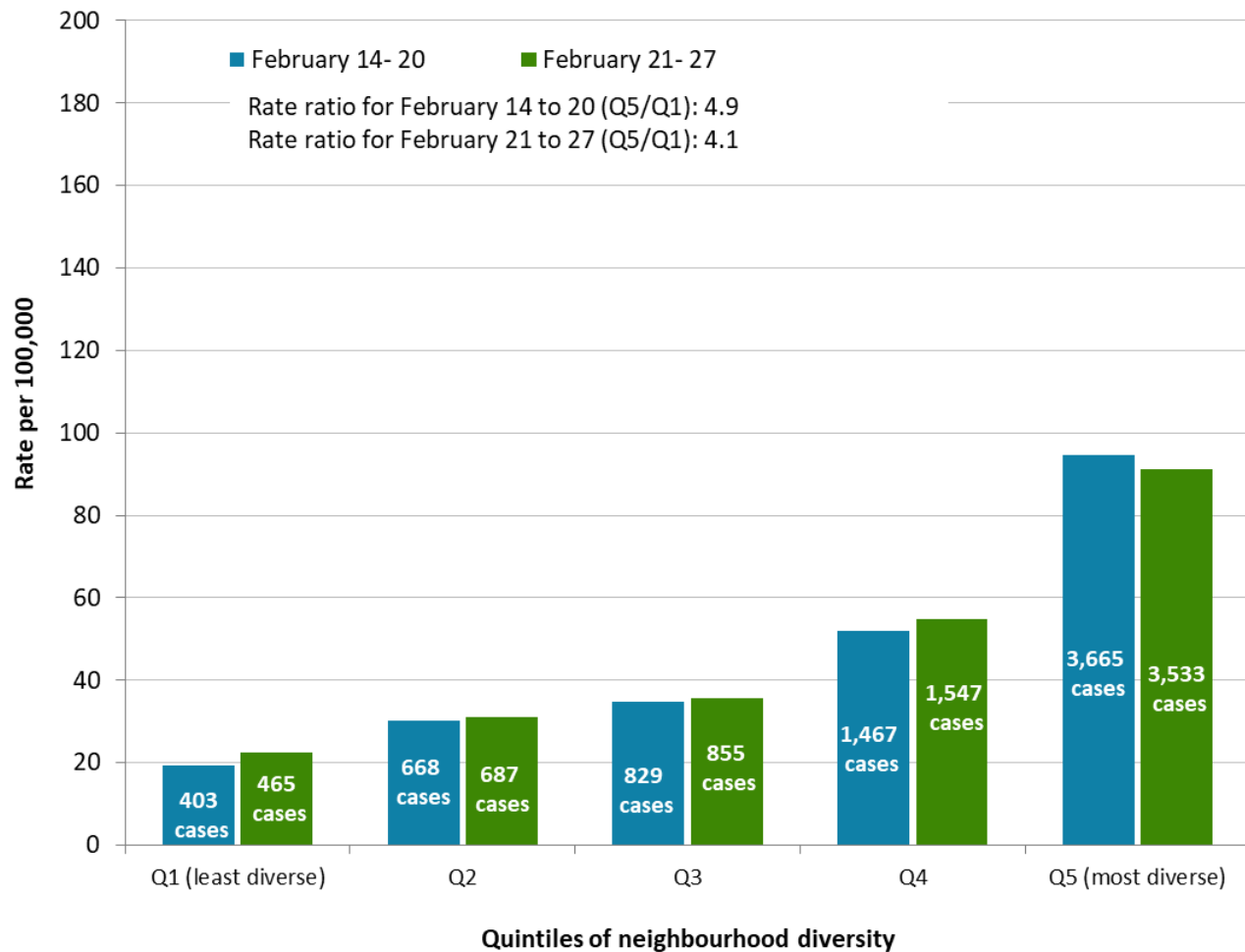
**Table 6: Summary of cases of COVID-19 among school aged children by age group: Ontario**

	Reported week 7 (February 14 to 20)	Reported week 8 (February 21 to 27)	Cumulative case count from August 30 up to February 27
Ages: 4-8	255	318	6,745
Ages: 9-13	311	361	9,075
Ages: 14-17	295	351	9,533

**Note:** Interpret information for the most recent week with caution due to reporting lags. Includes all confirmed cases of COVID-19 for specified ages, regardless of school attendance. Cumulative counts include cases of COVID-19 reported starting week 36 (August 30 to September 5, 2020).

**Data Source:** CCM

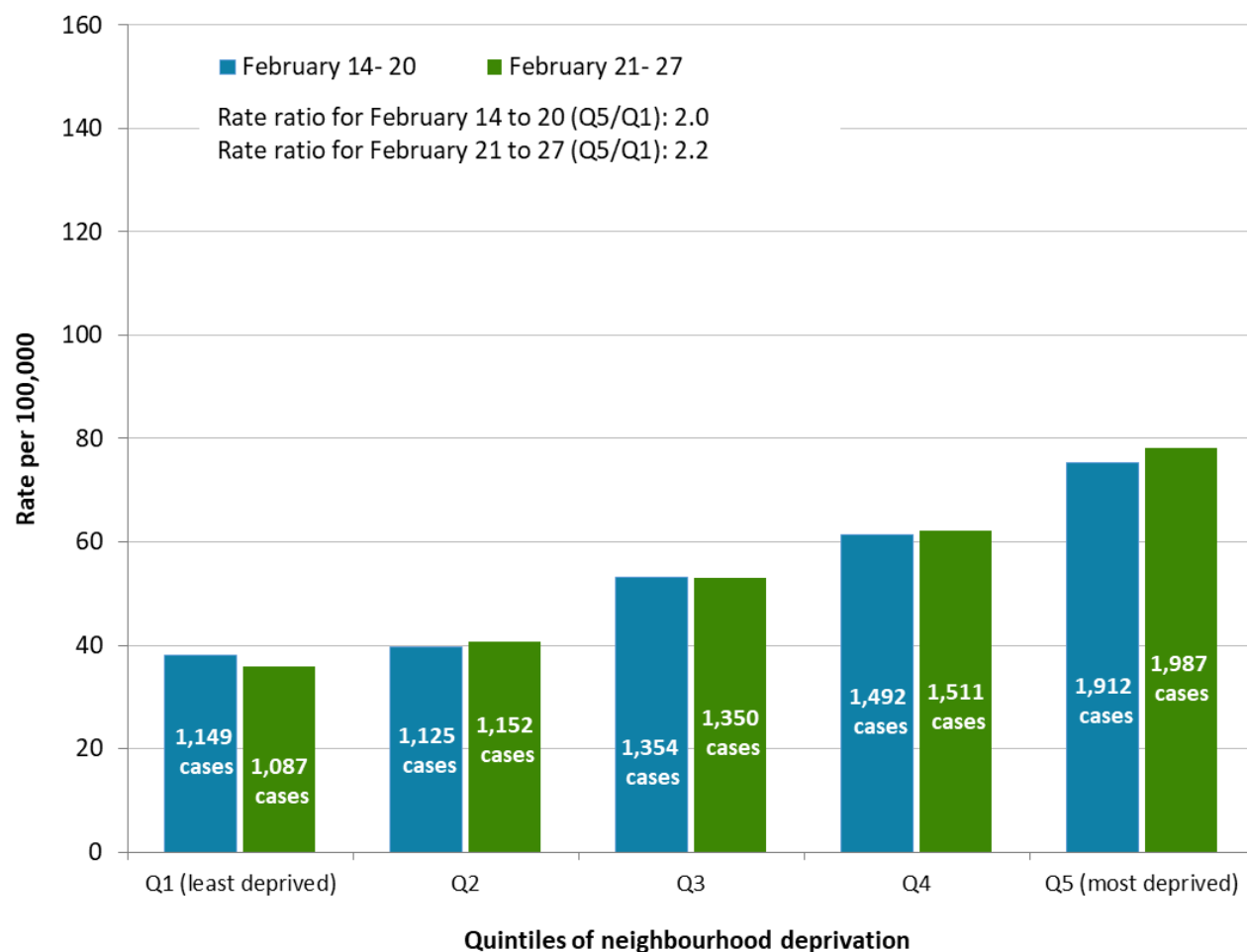
**Figure 6. Rate and number of confirmed cases of COVID-19 for each quintile of neighbourhood diversity: Ontario, week 7 (February 14 to 20, 2021) and week 8 (February 21 to 27, 2021).**



**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.

**Data Source:** CCM, Ontario Marginalization Index

**Figure 7. Rate and number of confirmed cases of COVID-19 for each quintile of neighbourhood deprivation: Ontario, week 7 (February 14 to 20, 2021) and week 8 (February 21 to 27, 2021).**

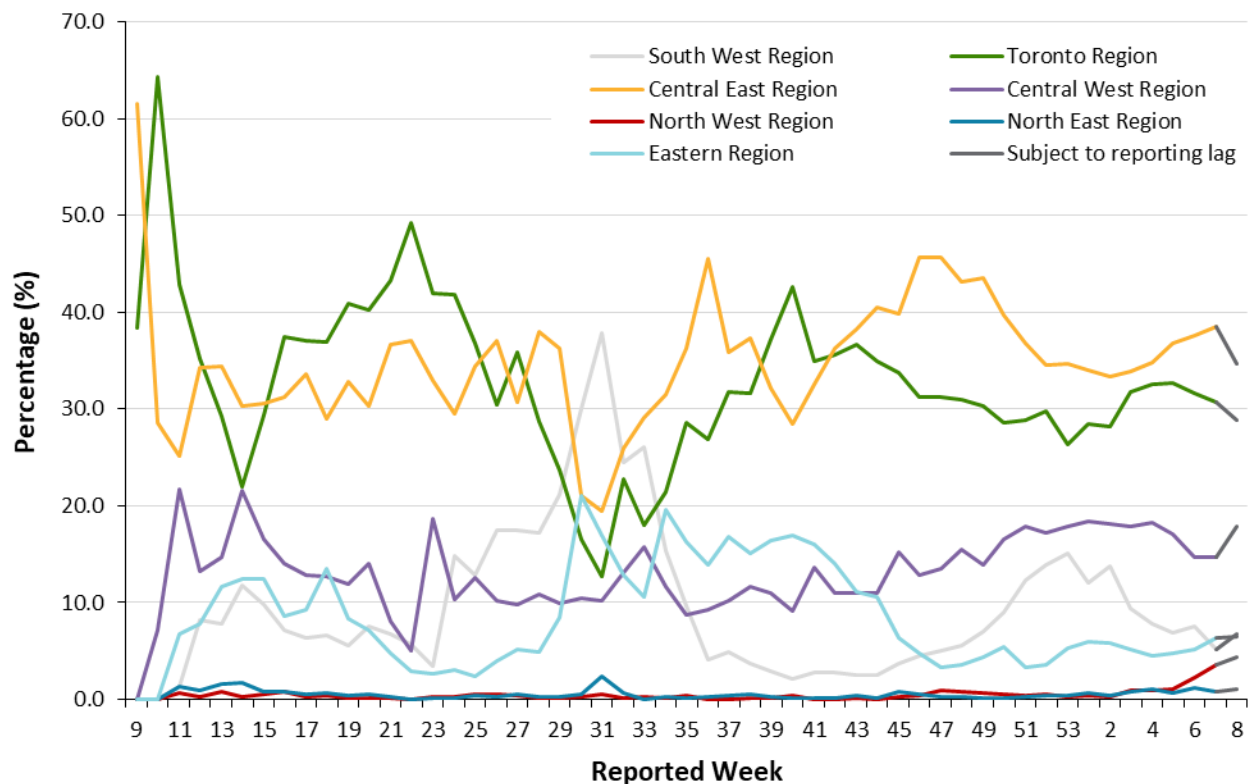


**Note:** Neighbourhood deprivation is measured using the material deprivation dimension of the Ontario Marginalization Index. The material deprivation dimension uses Canadian census data on income, quality of housing, educational attainment and family structure characteristics to assess the ability of individuals and communities to access and attain basic material needs.

**Data Source:** CCM, Ontario Marginalization Index

## Geography

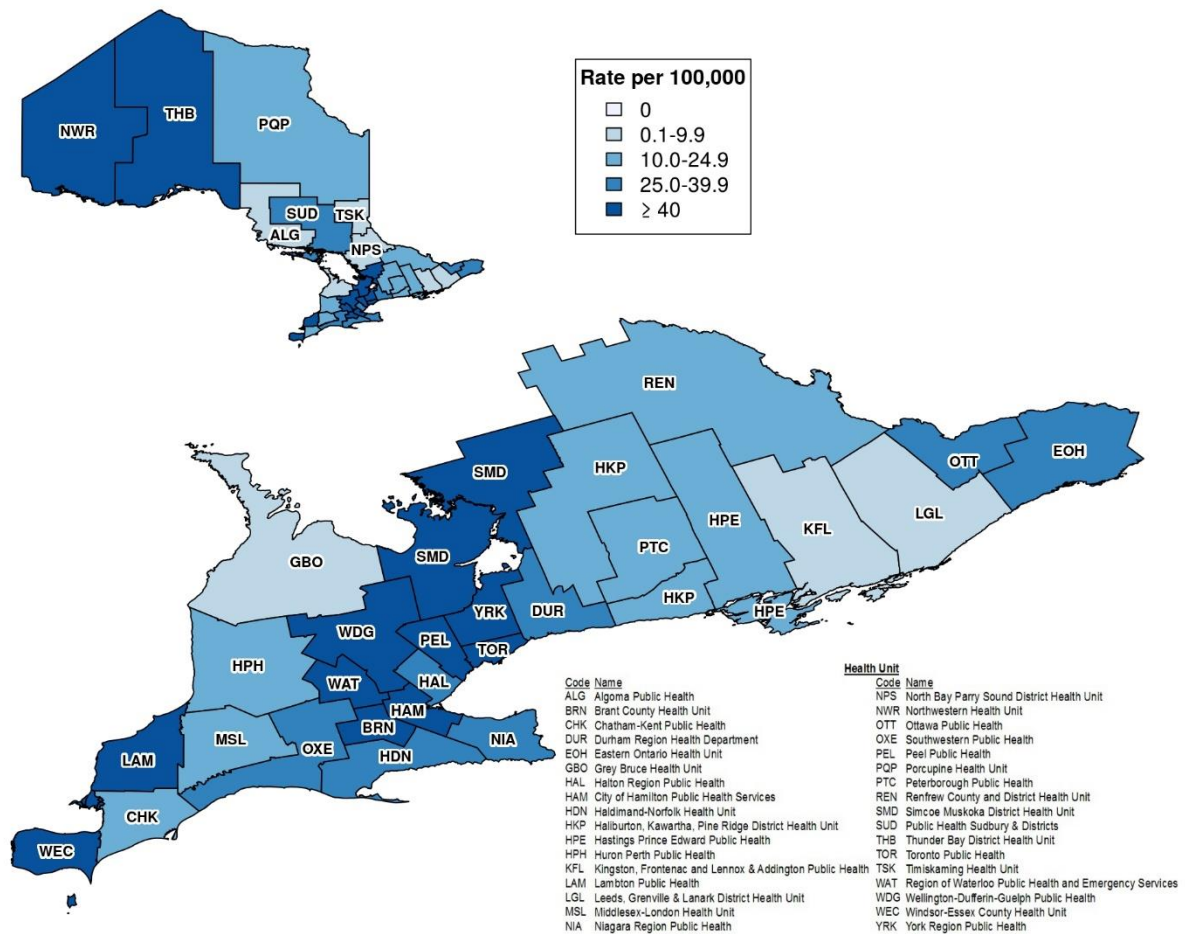
**Figure 8. Percentage of COVID-19 cases by geographic region and public health unit reported week: Ontario**



**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 8 (February 21 and 27, 2021). Table 2A in [Appendix A](#) has a listing of public health units by region.

**Data Source:** CCM

**Figure 9. Rate of confirmed cases of COVID-19 in public health reported week 8 (February 21 to 27, 2021) by public health unit: Ontario**



**Note:** The provincial rate of confirmed cases of COVID-19 reported in week 8 was 50.9 cases per 100,000 population.

**Data Source:** CCM



## Outbreaks

**Table 7. Number of public health unit declared COVID-19 outbreaks by setting type: Ontario**

Setting Type	Reported week 8 (February 21 to 27)	Number of ongoing outbreaks	Cumulative number of outbreaks reported to February 27
<b>Congregate Care</b>	<b>50</b>	<b>170</b>	<b>2,447</b>
Long-term care homes	24	88	1,278
Retirement homes	18	54	754
Hospitals	8	28	415
<b>Congregate Living</b>	<b>21</b>	<b>93</b>	<b>811</b>
Correctional facility	1	13	35
Shelter	5	30	154
Group Home/supportive housing	12	43	503
Short-term accommodations	0	2	17
Congregate other	3	5	102
<b>Education</b>	<b>42</b>	<b>83</b>	<b>1,080</b>
Child care	10	34	404
School – Elementary*	23	36	480
School – Elementary/secondary*	2	3	32
School – Secondary*	7	10	145
School – Post-secondary*	0	0	19
<b>Other settings</b>	<b>92</b>	<b>189</b>	<b>2,146</b>
Bar/restaurant/nightclub	7	12	164
Medical/health services	4	8	99

Setting Type	Reported week 8 (February 21 to 27)	Number of ongoing outbreaks	Cumulative number of outbreaks reported to February 27
Personal service settings	1	2	14
Recreational fitness	1	2	55
Retail	4	11	232
Other recreation/community	10	16	114
Workplace – Farm	5	17	102
Workplace - Food processing	3	8	162
Other types of workplaces	50	102	1,190
Other	6	8	10
Unknown	1	3	4
<b>Total number of outbreaks</b>	<b>205</b>	<b>535</b>	<b>6,484</b>

**Note:** Reported week is based on the outbreak reported date, and if unavailable, the date the public health unit created the outbreak. Ongoing outbreaks includes all outbreaks that are 'Open' in CCM without a 'Declared Over Date' recorded 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'. 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, construction, 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 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.

**Data Source:** CCM

**Table 8. 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 7 (February 14 to 20)	Reported week 8 (February 21 to 27)	Cumulative number of cases
<b>Congregate Care</b>	<b>263</b>	<b>207</b>	<b>36,288</b>
Long-term care homes	105	71	24,736
Retirement homes	52	46	6,664
Hospitals	106	90	4,888
<b>Congregate Living</b>	<b>362</b>	<b>379</b>	<b>6,018</b>
Correctional facility	77	55	1,087
Shelter	159	160	1,606
Group Home/supportive housing	116	79	2,476
Short-term accommodations	6	2	65
Congregate other	4	83	784
<b>Education</b>	<b>137</b>	<b>110</b>	<b>4,112</b>
Child care	59	36	1,114
School – Elementary*	56	62	2,051
School – Elementary/secondary*	4	2	214
School – Secondary*	16	10	662
School – Post-secondary*	2	0	71
<b>Other settings</b>	<b>537</b>	<b>417</b>	<b>16,498</b>
Bar/restaurant/nightclub	20	16	660
Medical/health services	8	13	424
Personal service settings	0	4	45
Recreational fitness	0	3	457

Cases associated with the outbreak setting type	Reported week 7 (February 14 to 20)	Reported week 8 (February 21 to 27)	Cumulative number of cases
Retail	14	11	1,047
Other recreation/community	180	121	1,350
Workplace - Farm	18	9	2,472
Workplace - Food processing	12	11	2,085
Other types of workplaces	246	192	7,854
Other	39	36	77
Unknown	0	1	27
<b>Total number of cases</b>	<b>1,299</b>	<b>1,113</b>	<b>62,916</b>

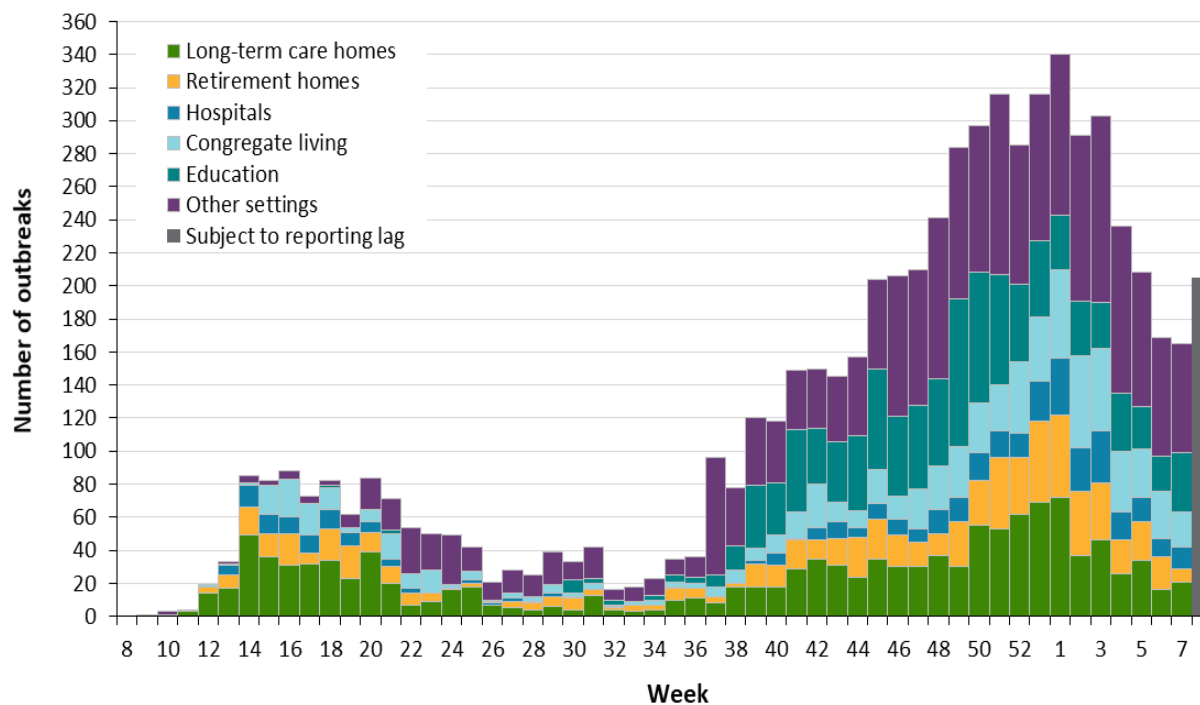
**Note:** Interpret case counts for the most recent week with caution due to reporting lags. Outbreak categories are mutually exclusive. Retail includes settings such as grocery stores, pharmacies, malls, etc. Other types of workplaces include settings such as offices as well as warehousing, shipping and distribution, construction, 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 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.

**Data Source:** CCM

**Figure 10. Public health unit declared COVID-19 outbreaks by outbreak setting type and public health unit reported week: Ontario**

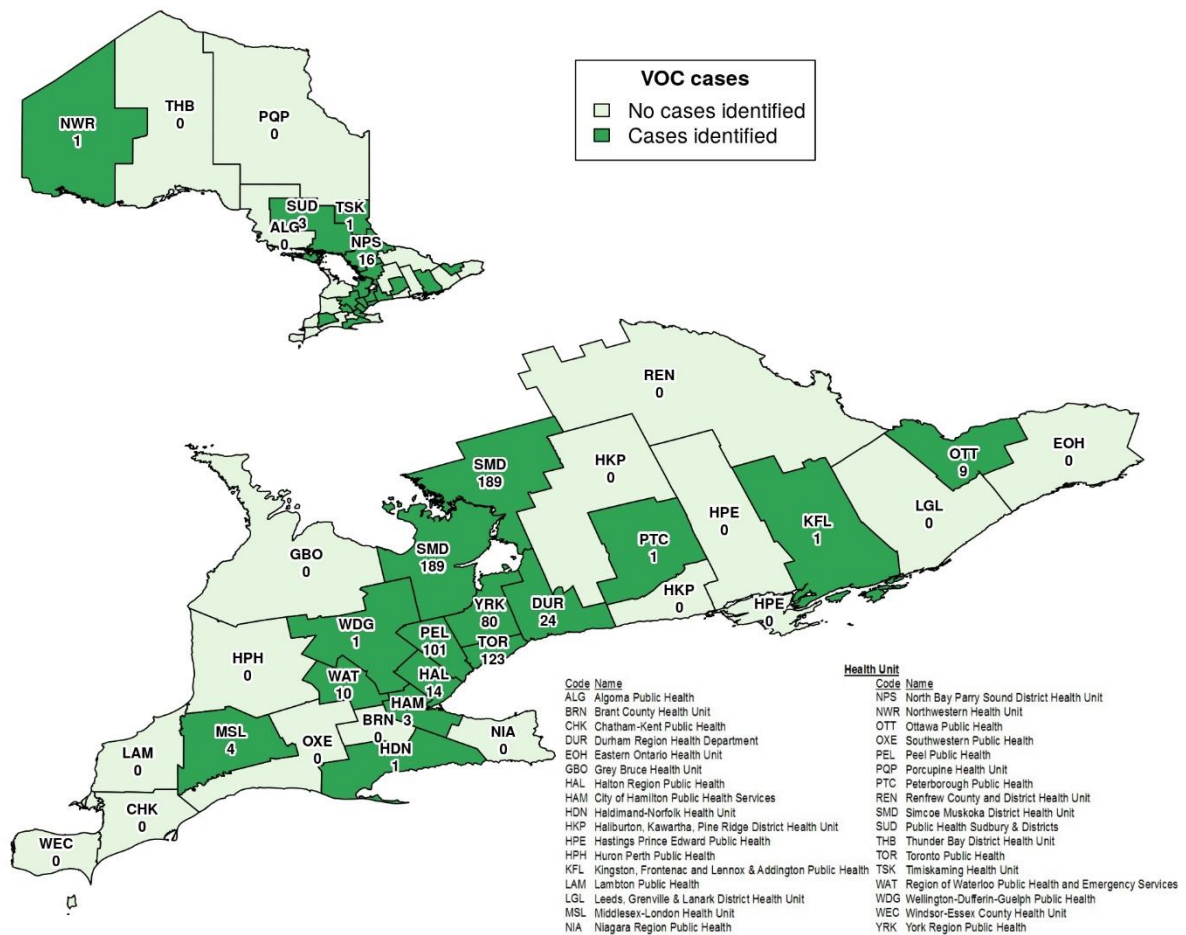


**Note:** If public health unit outbreak reported date is unavailable, the date the public health unit created the outbreak is used. Week 8 refers to February 16 and 22, 2020 and week 8 refers to February 21 and 27, 2021. Congregate living include group homes, shelters, correctional facilities, etc. Other settings include outbreaks within workplaces, childcare, schools, restaurants, recreation etc.

**Data Source:** CCM

## Variant COVID-19 Cases

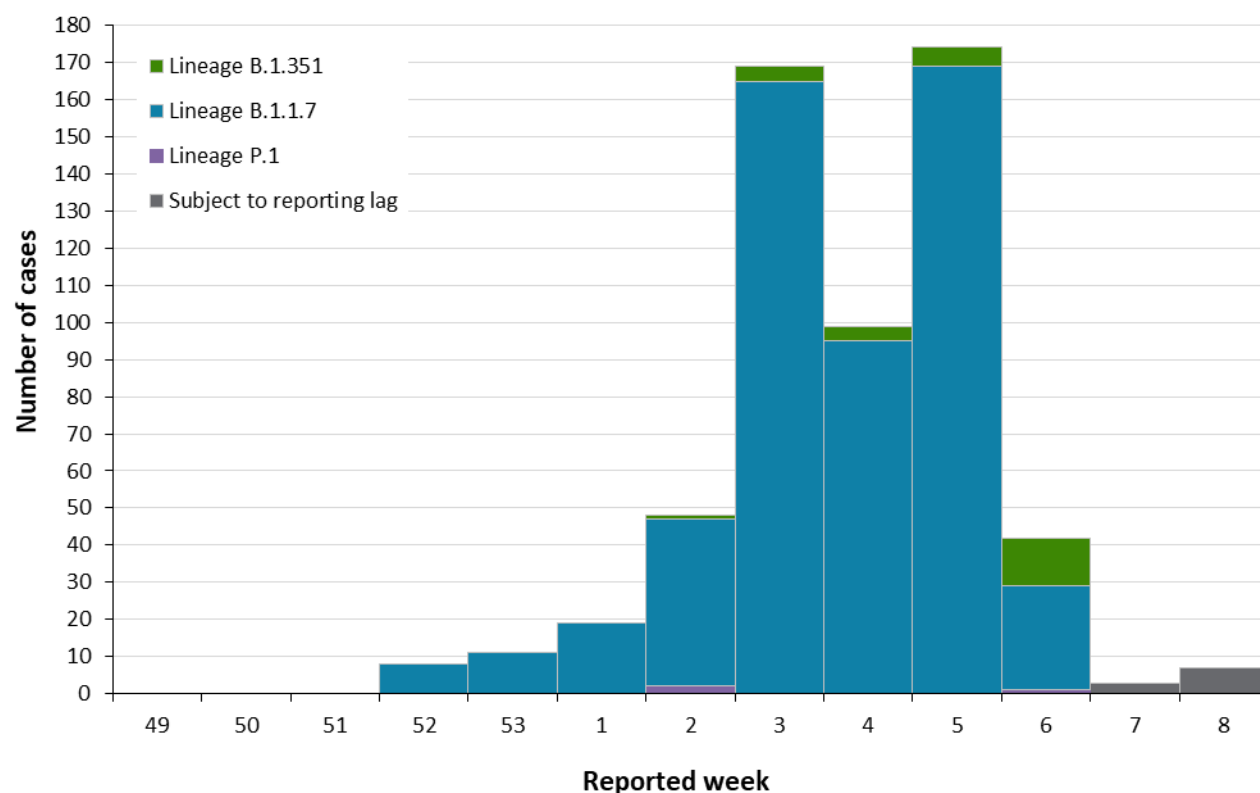
**Figure 11. Number of confirmed COVID-19 variants of concern (VOC) by public health unit: Ontario**



**Note:** Further details on testing for variants of concern can be found in the [Technical Notes](#). The cumulative number of cases with a variant of concern by public health unit and region are available in [Appendix A: Table 3A](#). Interpret the VOC trends with caution due to the varying time required to complete whole genome sequencing following the initial positive test for SARS-CoV-2.

**Data Source:** CCM

**Figure 12. Confirmed COVID-19 variants of concern (VOC) by public health unit reported week: Ontario**



**Note:** Reported week is based on the date the case was reported, not the date that the VOC was identified. Include cases with reported dates ranging from week 49 (November 29 and December 5, 2020) to week 8 (February 21 and 27, 2021). Additional testing was conducted in week 3 which led to an increase in the number of cases with variants of concern identified. Further details on screening for variants of concern can be found in the [technical notes](#). Interpret the VOC trends with caution due to the varying time required to complete whole genome sequencing following the initial positive test for SARS-CoV-2. See [Table 1A](#) in Appendix A for a list of the weeks and corresponding start and end dates.

**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 02, 2021 at 1 p.m.**
- CCM is a dynamic disease reporting systems, which allow ongoing updates to data previously entered. As a result, data extracted from CCM represent a snapshot at the time of extraction and may differ from previous or subsequent reports.
- Ontario population projection data for 2020 were sourced from Ministry, IntelliHEALTH Ontario. Data were extracted on November 26, 2019.
- Statistics Canada Postal Code Conversion File (PCCF), reference date of May 2020.
- The health equity (neighbourhood-level diversity and deprivation) analyses use data from the 2016 Ontario Marginalization Index and population counts from the 2016 Canada Census:
  - 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.
  - Statistics Canada. Census of Population, 2016: Profile for Canada, Provinces, Territories, Census Divisions, Census Subdivisions and Dissemination Areas. Retrieved from: [https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/download-telecharger/comp/GetFile.cfm?Lang=E&FILETYPE=CSV&GEONO=044\\_ONTARIO](https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/download-telecharger/comp/GetFile.cfm?Lang=E&FILETYPE=CSV&GEONO=044_ONTARIO).

## Data Caveats and Methods: Case Data

- The data only represent cases 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.
- 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.
- Case episode date is based on an estimate of the best date of disease onset. This date is calculated based on either the date of symptom onset, specimen collection/test date, or the date reported to the public health unit.
- 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 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.
- 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
- '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 diagnosing health unit (DHU). 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).
- PANGO lineage B.1.1.7: This lineage was first detected in England in September, 2020. Early evidence suggests that the N501Y mutation may increase SARS-CoV-2 transmissibility. The PANGO lineage B.1.1.7 is assigned to genome sequences with at least 5 of the 17 defining B.1.1.7 SNPs.
- PANGO lineage B.1.351 (also known as 501Y.V2): This lineage was first detected October, 2020 in South Africa and has several mutations of concern, including spike (S) gene: N501Y, K417N, and E484K. Early evidence suggests that these mutations may increase SARS-CoV-2 transmissibility and decrease vaccine efficacy. The PANGO lineage B.1.351 will be assigned to genome sequences at least 5 of the 9 defining B.1.351 SNPs.
- PANGO lineage P.1 (also known as 501Y.V3): This lineage was first detected January, 2021 in Brazil and has several mutations of concern, including spike (S) gene N501Y, K417T, and E484K. Early evidence suggests that these mutations may increase SARS-CoV-2 transmissibility and decrease vaccine efficacy. The PANGO lineage P.1 is assigned to genome sequences with more than 10 of the 17 defining P.1 SNPs.
- Public Health Ontario conducts variants of concern (VOC) surveillance on a subset of SARS-CoV-2 positive specimens. Additional SARS-CoV-2 specimens are referred to PHO Laboratory for screening provided they meet the criteria outlined here: <https://www.publichealthontario.ca/en/laboratory-services/test-information-index/covid-19-voc>

## 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 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). The Single Link Indicator Postal Code Conversion File (PCCF) was used to match individuals to a DA based on their postal code, which were 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.

## 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	14	31
11	March 8, 2020	March 14, 2020	147	178
12	March 15, 2020	March 21, 2020	437	615
13	March 22, 2020	March 28, 2020	1,308	1,923
14	March 29, 2020	April 4, 2020	2,781	4,704
15	April 5, 2020	April 11, 2020	3,135	7,839
16	April 12, 2020	April 18, 2020	4,208	12,047
17	April 19, 2020	April 25, 2020	3,632	15,679
18	April 26, 2020	May 2, 2020	2,889	18,568
19	May 3, 2020	May 9, 2020	2,344	20,912
20	May 10, 2020	May 16, 2020	2,192	23,104
21	May 17, 2020	May 23, 2020	2,616	25,720

Reported Week	Start date	End date	Number of cases	Cumulative count
22	May 24, 2020	May 30, 2020	2,602	28,322
23	May 31, 2020	June 6, 2020	2,304	30,626
24	June 7, 2020	June 13, 2020	1,472	32,098
25	June 14, 2020	June 20, 2020	1,232	33,330
26	June 21, 2020	June 27, 2020	1,252	34,582
27	June 28, 2020	July 4, 2020	1,084	35,666
28	July 5, 2020	July 11, 2020	868	36,534
29	July 12, 2020	July 18, 2020	931	37,465
30	July 19, 2020	July 25, 2020	990	38,455
31	July 26, 2020	August 1, 2020	804	39,259
32	August 2, 2020	August 8, 2020	593	39,852
33	August 9, 2020	August 15, 2020	610	40,462
34	August 16, 2020	August 22, 2020	730	41,192
35	August 23, 2020	August 29, 2020	853	42,045
36	August 30, 2020	September 5, 2020	979	43,024
37	September 6, 2020	September 12, 2020	1,503	44,527
38	September 13, 2020	September 19, 2020	2,372	46,899
39	September 20, 2020	September 26, 2020	3,123	50,022
40	September 27, 2020	October 3, 2020	4,224	54,246
41	October 4, 2020	October 10, 2020	5,037	59,283
42	October 11, 2020	October 17, 2020	5,283	64,566
43	October 18, 2020	October 24, 2020	6,043	70,609
44	October 25, 2020	October 31, 2020	6,385	76,994

Reported Week	Start date	End date	Number of cases	Cumulative count
45	November 1, 2020	November 7, 2020	7,612	84,606
46	November 8, 2020	November 14, 2020	10,432	95,038
47	November 15, 2020	November 21, 2020	9,984	105,022
48	November 22, 2020	November 28, 2020	11,132	116,154
49	November 29, 2020	December 5, 2020	12,686	128,840
50	December 6, 2020	December 12, 2020	13,046	141,886
51	December 13, 2020	December 19, 2020	15,649	157,535
52	December 20, 2020	December 26, 2020	15,635	173,170
53	December 27, 2020	January 2, 2021	20,439	193,609
1	January 3, 2021	January 9, 2021	24,877	218,486
2	January 10, 2021	January 16, 2021	21,364	239,850
3	January 17, 2021	January 23, 2021	16,392	256,242
4	January 24, 2021	January 30, 2021	12,708	268,950
5	January 31, 2021	February 6, 2021	9,717	278,667
6	February 7, 2021	February 13, 2021	7,836	286,503
7	February 14, 2021	February 20, 2021	7,402	293,905
8	February 21, 2021	February 27, 2021	7,569	301,474



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

Public Health Unit Name	Cases reported week 7	Rate per 100,000 population Reported week 7	Cases reported week 8	Rate per 100,000 population Reported week 8
Northwestern Health Unit	95	108.4	41	46.8
Thunder Bay District Health Unit	169	112.7	288	192.1
<b>TOTAL NORTH WEST</b>	<b>264</b>	<b>111.1</b>	<b>329</b>	<b>138.4</b>
Algoma Public Health	2	1.7	4	3.5
North Bay Parry Sound District Health Unit	28	21.6	3	2.3
Porcupine Health Unit	18	21.6	14	16.8
Public Health Sudbury & Districts	16	8.0	54	27.1
Timiskaming Health Unit	0	0.0	2	6.1
<b>TOTAL NORTH EAST</b>	<b>64</b>	<b>11.4</b>	<b>77</b>	<b>13.8</b>
Ottawa Public Health	385	36.5	368	34.9
Eastern Ontario Health Unit	51	24.4	55	26.4
Hastings Prince Edward Public Health	10	5.9	20	11.9
Kingston, Frontenac and Lennox & Addington Public Health	10	4.7	10	4.7
Leeds, Grenville & Lanark District Health Unit	9	5.2	11	6.4
Renfrew County and District Health Unit	8	7.4	26	23.9
<b>TOTAL EASTERN</b>	<b>473</b>	<b>24.6</b>	<b>490</b>	<b>25.4</b>

Public Health Unit Name	Cases reported week 7	Rate per 100,000 population Reported week 7	Cases reported week 8	Rate per 100,000 population Reported week 8
Durham Region Health Department	298	41.8	232	32.6
Haliburton, Kawartha, Pine Ridge District Health Unit	37	19.6	25	13.2
Peel Public Health	1,364	84.9	1,453	90.5
Peterborough Public Health	31	20.9	28	18.9
Simcoe Muskoka District Health Unit	277	46.2	247	41.2
York Region Public Health	841	68.6	641	52.3
<b>TOTAL CENTRAL EAST</b>	<b>2,848</b>	<b>63.6</b>	<b>2,626</b>	<b>58.6</b>
Toronto Public Health	2,278	73.0	2,187	70.1
<b>TOTAL TORONTO</b>	<b>2,278</b>	<b>73.0</b>	<b>2,187</b>	<b>70.1</b>
Chatham-Kent Public Health	11	10.3	12	11.3
Grey Bruce Health Unit	10	5.9	8	4.7
Huron Perth Public Health	20	14.3	26	18.6
Lambton Public Health	73	55.7	76	58.0
Middlesex-London Health Unit	71	14.0	88	17.3
Southwestern Public Health	25	11.8	74	35.0
Windsor-Essex County Health Unit	173	40.7	227	53.4
<b>TOTAL SOUTH WEST</b>	<b>383</b>	<b>22.7</b>	<b>511</b>	<b>30.2</b>
Brant County Health Unit	60	38.7	146	94.1
City of Hamilton Public Health Services	308	52.0	336	56.7

Public Health Unit Name	Cases reported week 7	Rate per 100,000 population Reported week 7	Cases reported week 8	Rate per 100,000 population Reported week 8
Haldimand-Norfolk Health Unit	22	19.3	30	26.3
Halton Region Public Health	223	36.0	230	37.2
Niagara Region Public Health	111	23.5	118	25.0
Region of Waterloo Public Health and Emergency Services	283	48.4	348	59.6
Wellington-Dufferin-Guelph Public Health	85	27.3	141	45.2
<b>TOTAL CENTRAL WEST</b>	<b>1,092</b>	<b>38.3</b>	<b>1,349</b>	<b>47.3</b>
<b>TOTAL ONTARIO</b>	<b>7,402</b>	<b>49.8</b>	<b>7,569</b>	<b>50.9</b>

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

**Table 3A. Confirmed COVID-19 variants of concern by public health unit and region: Ontario**

Public Health Unit Name	Cumulative case count up to February 27 for Lineage B.1.1.7	Cumulative case count up to February 27 for Lineage B.1.351	Cumulative case count up to February 27 for Lineage P.1
Northwestern Health Unit	1	0	0
Thunder Bay District Health Unit	0	0	0
<b>TOTAL NORTH WEST</b>	<b>1</b>	<b>0</b>	<b>0</b>
Algoma Public Health	0	0	0
North Bay Parry Sound District Health Unit	2	14	0
Porcupine Health Unit	0	0	0
Public Health Sudbury & Districts	3	0	0
Timiskaming Health Unit	0	1	0
<b>TOTAL NORTH EAST</b>	<b>5</b>	<b>15</b>	<b>0</b>
Ottawa Public Health	8	1	0
Eastern Ontario Health Unit	0	0	0
Hastings Prince Edward Public Health	0	0	0
Kingston, Frontenac and Lennox & Addington Public Health	1	0	0
Leeds, Grenville & Lanark District Health Unit	0	0	0
Renfrew County and District Health Unit	0	0	0
<b>TOTAL EASTERN</b>	<b>9</b>	<b>1</b>	<b>0</b>
Durham Region Health Department	24	0	0
Haliburton, Kawartha, Pine Ridge District Health Unit	0	0	0
Peel Public Health	91	10	0

Public Health Unit Name	Cumulative case count up to February 27 for Lineage B.1.1.7	Cumulative case count up to February 27 for Lineage B.1.351	Cumulative case count up to February 27 for Lineage P.1
Peterborough Public Health	1	0	0
Simcoe Muskoka District Health Unit	189	0	0
York Region Public Health	80	0	0
<b>TOTAL CENTRAL EAST</b>	<b>385</b>	<b>10</b>	<b>0</b>
Toronto Public Health	119	1	3
<b>TOTAL TORONTO</b>	<b>119</b>	<b>1</b>	<b>3</b>
Chatham-Kent Public Health	0	0	0
Grey Bruce Health Unit	0	0	0
Huron Perth Public Health	0	0	0
Lambton Public Health	0	0	0
Middlesex-London Health Unit	4	0	0
Southwestern Public Health	0	0	0
Windsor-Essex County Health Unit	0	0	0
<b>TOTAL SOUTH WEST</b>	<b>4</b>	<b>0</b>	<b>0</b>
Brant County Health Unit	0	0	0
City of Hamilton Public Health Services	3	0	0
Haldimand-Norfolk Health Unit	1	0	0
Halton Region Public Health	14	0	0
Niagara Region Public Health	0	0	0
Region of Waterloo Public Health and Emergency Services	10	0	0
Wellington-Dufferin-Guelph Public Health	1	0	0

Public Health Unit Name	Cumulative case count up to February 27 for Lineage B.1.1.7	Cumulative case count up to February 27 for Lineage B.1.351	Cumulative case count up to February 27 for Lineage P.1
<b>TOTAL CENTRAL WEST</b>	<b>29</b>	<b>0</b>	<b>0</b>
<b>TOTAL ONTARIO</b>	<b>552</b>	<b>27</b>	<b>3</b>

**Note:** Caution should be taken when interpreting these data due to potential sampling biases and delay between sample collection and sequencing in recent weeks.

## Disclaimer

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## For Further Information

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## Public Health Ontario

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