

WEEKLY EPIDEMIOLOGICAL SUMMARY

COVID-19 in Ontario: Focus on December 5, 2021 to December 11, 2021

This report includes the most current information available from CCM as of December 14, 2021.

Please visit the interactive <u>Ontario COVID-19 Data Tool</u> to explore recent COVID-19 data by public health unit, age group, sex, and trends over time.

A <u>daily summary</u> 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.

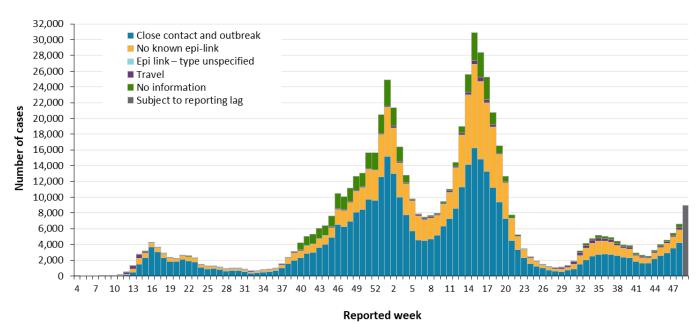
Highlights

- There are a total of 633,000 confirmed cases of COVID-19 in Ontario with a public health unit reported date up to December 11, 2021.
- For the period with a public health unit (PHU) reported date between December 5 to December 11, 2021 (week 49):
 - A total of 8,956 cases were reported to public health compared to 6,573 cases the previous week (November 28 to December 4, 2021).
 - There was a 36.3% increase in cases reported this week, with the highest rate of cases reported among the 5 to 11 age group (153 per 100,000 population).
 - In week 49, cases aged 20 to 39 accounted for 31.6% of all cases, including 46.6% of all reinfection cases.

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

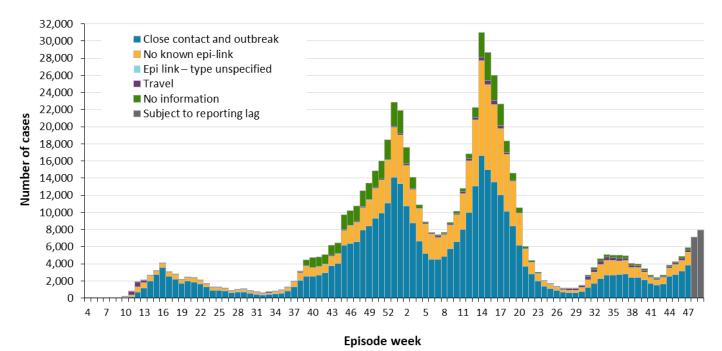
Figure 1. Confirmed cases of COVID-19 by likely source of acquisition and public health unit reported week: Ontario



Note: Include cases with reported dates ranging from week-4 (January 19 and 25, 2020) to week 49 (December 5 and December 11, 2021). See <u>Table 1A</u> in Appendix A for a list of the weeks and corresponding start and end dates. **Data Source:** CCM

COVID-19 in Ontario: Focus on December 5, 2021 to December 11, 2021

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



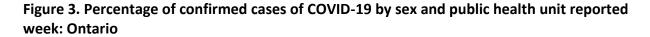
Note: Not all cases have an episode date. Cases without an episode date are not included in the figure. The definition for how episode date is defined is available in the technical notes. Include cases with episode dates ranging from week-4 (January 19 and 25, 2020) to week 49 (December 5 and December 11, 2021). See <u>Table 1A</u> in Appendix A for a list of the weeks and corresponding start and end dates.

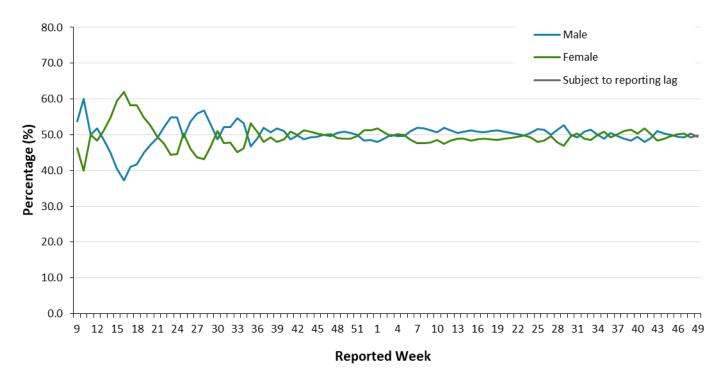
Case Characteristics

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

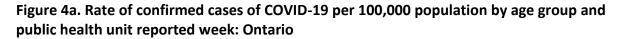
	Reported week 48 (November 28 to December 4)	Reported week 49 (December 5 to December 11)	Cumulative case count up to December 11	Cumulative rate per 100,000 population
Total number of cases	6,573	8,956	633,000	4,296.2
Sex: Male	3,309	4,432	316,405	4,346.6
Sex: Female	3,239	4,456	314,371	4,217.2
Ages: 0-4	378	383	18,757	2,594.3
Ages: 5-11	1,229	1,650	37,735	3,498.8
Ages: 12-19	490	823	56,189	4,226.4
Ages: 20-39	1,913	2,829	235,553	5,673.4
Ages: 40-59	1,614	2,178	176,148	4,521.8
Ages: 60-79	825	956	81,653	2,815.8
Ages: 80 and over	122	136	26,857	4,095.1
Number resolved	N/A	N/A	614,112	N/A

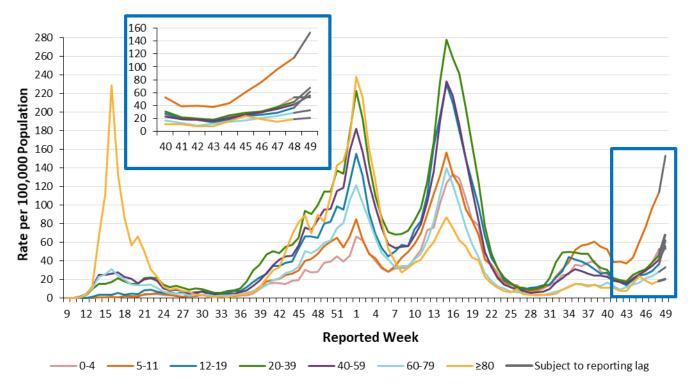
Note: Not all cases have an age or sex reported. Interpret information for the most recent week with caution due to reporting lags.





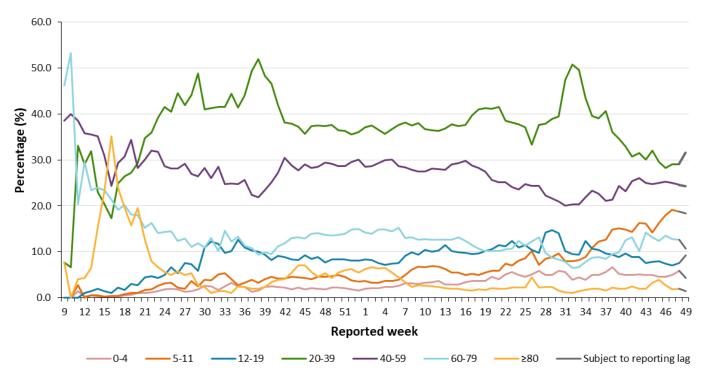
Note: Not all cases have a sex reported. The denominator for calculating weekly percentages includes all cases. Only weeks with more than 10 cases by public health unit reporting date are included (starting in week-9). Include cases with reported dates ranging from week-9 (February 23 and 29, 2020) to week 49 (December 5 and December 11, 2021). See <u>Table 1A</u> in Appendix A for a list of the weeks and corresponding start and end dates.





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 49 (December 5 and December 11, 2021). See <u>Table 1A</u> in Appendix A for a list of the weeks and corresponding start and end dates.

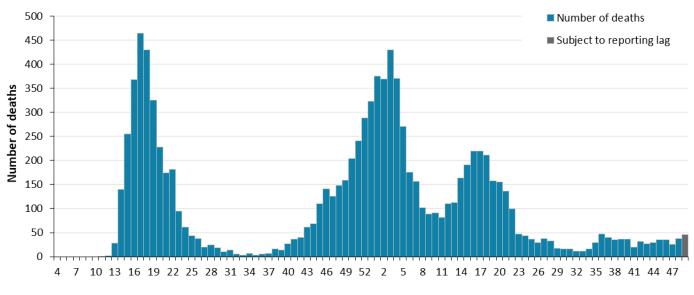
Figure 4b. Percentage of confirmed cases of COVID-19 by age group and public health unit reported week: Ontario



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 49 (December 5 and December 11, 2021). See Table 1A in Appendix A for a list of the weeks and corresponding start and end dates.

Deaths

Figure 5. Deaths among confirmed cases of COVID-19 by week of death: Ontario



Death week

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 49 (December 5 and December 11, 2021). See <u>Table 1A</u> in Appendix A for a list of the weeks and corresponding start and end dates.

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

Deaths	Reported week 48 (November 28 to December 4)	Reported week 49 (December 5 to December 11)	Cumulative case count up to December 11	Cumulative rate per 100,000 population
Number of deaths	28	8	10,092	68.5
Sex: Male	17	5	5,204	71.5
Sex: Female	11	3	4,833	64.8
Ages: 19 and under	0	0	7	0.2
Ages: 20-39	1	3	112	2.7
Ages: 40-59	1	1	712	18.3
Ages: 60-79	10	1	3,328	114.8
Ages: 80 and over	16	3	5,932	904.5

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 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.

Exposure

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

	Reported week 48 (November 28 to December 4)	Percentage	Reported week 49 (December 5 to December 11)	Percentage	Cumulative case count up to December 11	Cumulative percentage
Travel	330	5.0%	360	4.0%	15,087	2.4%
Outbreak- associated or close contact of a confirmed case	4,242	64.5%	5,294	59.1%	379,956	60.0%
Epidemiological link – type unspecified	0	0.0%	0	0.0%	45	<0.1%
No known epidemiological link	1,617	24.6%	1,967	22.0%	182,623	28.9%
Information missing or unknown	384	5.8%	1,335	14.9%	55,289	8.7%
Total	6,573	0.0%	8,956	0.0%	633,000	0.0%

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.

Sub-populations of interest

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

Health care workers	Reported week 48 (November 28 to December 4)	Reported week 49 (December 5 to December 11)	Cumulative case count up to December 11
Number of cases	126	150	25,491
Ever hospitalized	2	0	484
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

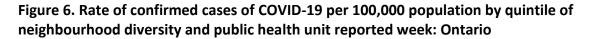
Long-term care home associated cases	Reported week 48 (November 28 to December 4)	Reported week 49 (December 5 to December 11)	Cumulative case count up to December 11
Residents	19	15	15,686
Deaths among residents	4	0	4,029
Health care workers	13	4	7,435
Deaths among health care workers	0	0	10

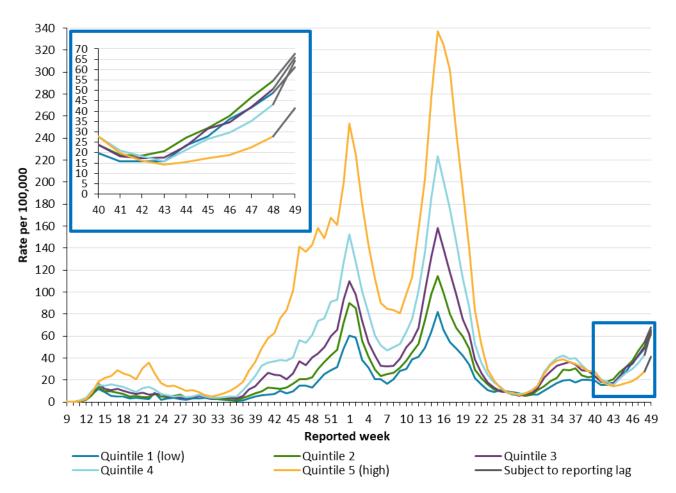
Note: Information on how long-term care home residents and health care workers are identified is available in the technical notes. Interpret information for the most recent week with caution due to reporting lags.

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

Age Group	Reported week 48 (November 28 to December 4)	Reported week 49 (December 5 to December 11)	Cumulative count from November 1, 2020 up to December 11, 2021	Percent of reinfection cases
Ages: 0-4	0	1	21	4.6%
Ages: 5-11	2	1	14	3.1%
Ages: 12-19	0	4	41	9.1%
Ages: 20-39	6	14	211	46.6%
Ages: 40-59	2	6	117	25.8%
Ages: 60-79	1	3	38	8.4%
Ages: 80 and over	0	1	11	2.4%
Total reinfection cases	11	30	453	100.0%

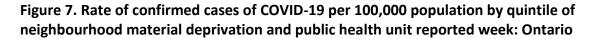
Note: Cases identified as reinfections meeting the <u>provincial definition</u> as indicated by public health units selecting the reinfection checkbox. Cumulative counts include cases of COVID-19 reinfection reported starting week-45 (November 1 to 7, 2020). Not all cases have a reported age or sex. 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.

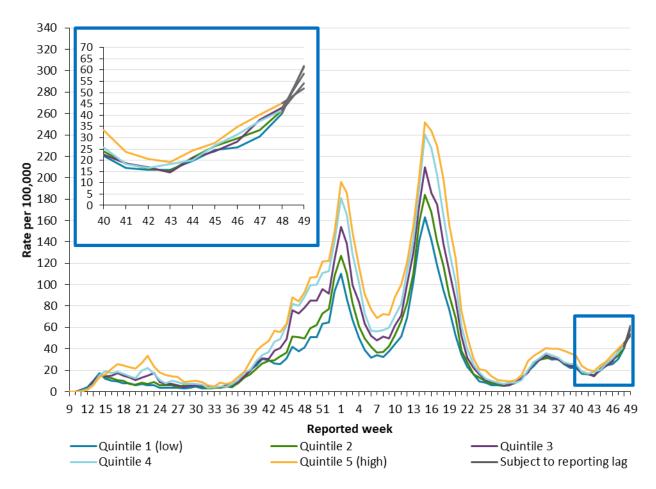




Note: Neighbourhood diversity is measured using the ethnic concentration dimension of the Ontario Marginalization Index. The ethnic concentration dimension is based on the proportion of non-white and non-Indigenous residents and/or the proportion of immigrants that arrived in Canada within the past five 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 49 (December 5 to December 11, 2021). 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





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 49 (December 5 to December 11, 2021). 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 48 (November 28 to December 4)	Cases Reported Week 49 (December 5 to December 11)	Cumulative case count up to December 11	Cumulative rate per 100,000 population up to December 11
Quintile 1 (least diverse)	1,085	1,361	39,250	1,767.1
Quintile 2	1,297	1,604	56,542	2,387.6
Quintile 3	1,312	1,704	79,512	3,067.5
Quintile 4	1,349	2,007	129,720	4,147.5
Quintile 5 (most diverse)	1,205	1,788	283,812	6,566.3

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

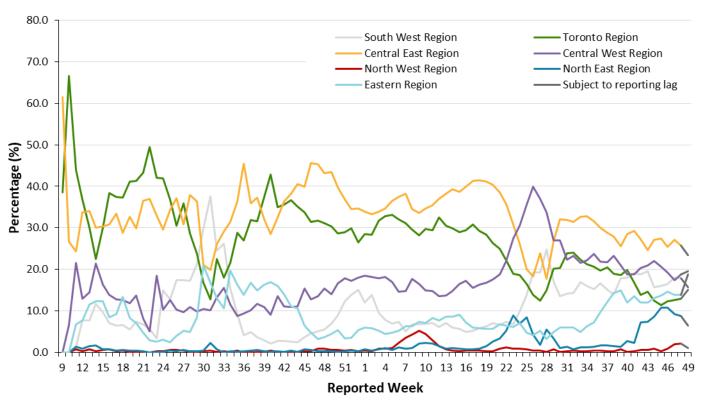
	Cases Reported Week 48 (November 28 to December 4)	Cases Reported Week 49 (December 5 to December 11)	Cumulative case count up to December 11	Cumulative rate per 100,000 population up to December 11
Quintile 1 (least material deprivation)	1,410	2,130	102,612	2,977.6
Quintile 2	1,309	1,901	105,847	3,409.3
Quintile 3	1,201	1,621	113,038	4,076.5
Quintile 4	1,111	1,420	122,843	4,675.2
Quintile 5 (most material deprivation)	1,217	1,392	144,496	5,391.6

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

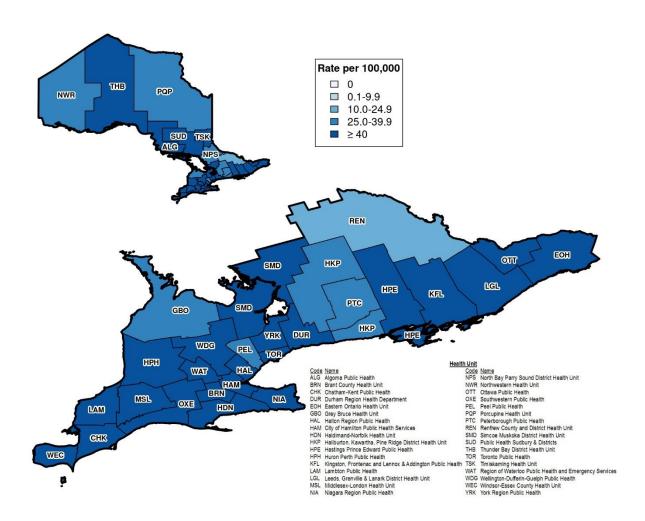
Geography

Figure 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 49 (December 5 and December 11, 2021). <u>Table 2A</u> in Appendix A has a listing of public health units by region.

Figure 9. Rate of confirmed cases of COVID-19 in public health reported week 49 (December 5 to December 11, 2021) by public health unit: Ontario



Note: The provincial rate of confirmed cases of COVID-19 reported in week 49 was 60.8 cases per 100,000 population.

Outbreaks

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

Setting Type	Reported week 49 (December 5 to December 11)	Number of ongoing outbreaks	Cumulative number of outbreaks reported to December 11
Congregate Care	12	22	3,114
Long-term care homes	4	12	1,560
Retirement homes	2	3	926
Hospitals	6	7	628
Congregate Living	13	31	1,476
Correctional facility	0	5	76
Shelter	2	6	306
Group Home/supportive housing	7	12	851
Short-term accommodations	0	0	49
Congregate other	4	8	194
Education and Childcare	152	374	3,769
Child care	14	34	1,240
Camp – Day*	0	0	21
Camp – Overnight*	0	0	1
Camp – Unspecified*	0	0	1
School – Elementary**	121	298	1,980
School – Elementary/secondary**	1	9	90
School – Secondary**	13	27	376
School – Post-secondary**	3	6	60
Other settings	107	208	5,245

Setting Type	Reported week 49 (December 5 to December 11)	Number of ongoing outbreaks	Cumulative number of outbreaks reported to December 11
Bar/restaurant/nightclub	10	17	448
Medical/health services	5	9	184
Personal service settings	0	0	39
Recreational fitness	21	27	187
Retail	6	11	546
Other recreation/community	7	20	331
Workplace – Farm	3	4	256
Workplace - Food processing	0	1	293
Other types of workplaces	35	72	2,801
Other	1	3	19
Unknown	19	44	141
Total number of outbreaks	284	635	13,604

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.

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.

^{*}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).

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 48 (November 28 to December 4)	Reported week 49 (December 5 to December 11)	Cumulative number of cases
Congregate Care	65	57	41,343
Long-term care homes	40	30	26,986
Retirement homes	1	5	7,610
Hospitals	24	22	6,747
Congregate Living	70	163	10,952
Correctional facility	45	94	2,122
Shelter	3	11	2,946
Group Home/supportive housing	12	43	3,849
Short-term accommodations	4	0	269
Congregate other	6	15	1,766
Education and Childcare	747	737	16,305
Child care	58	30	4,939
Camp – Day*	0	0	109
Camp – Overnight*	0	0	11
Camp – Unspecified*	0	0	2
School – Elementary**	660	651	8,890
School – Elementary/secondary**	0	4	452
School – Secondary**	25	46	1,454
School – Post-secondary**	4	6	448
Other settings	491	491	40,732
Bar/restaurant/nightclub	44	62	2,240
Medical/health services	28	8	806

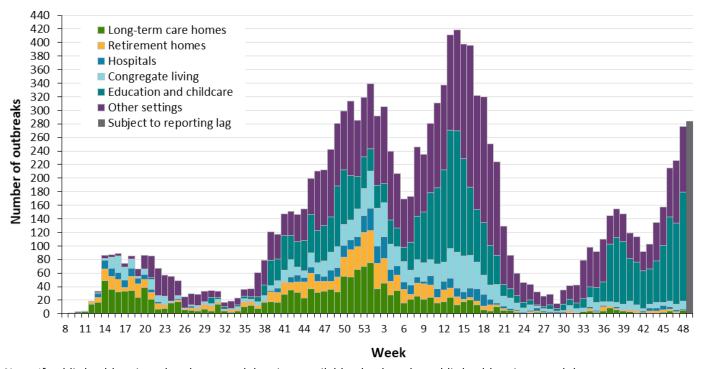
Cases associated with the outbreak setting type	Reported week 48 (November 28 to December 4)	Reported week 49 (December 5 to December 11)	Cumulative number of cases
Personal service settings	0	0	138
Recreational fitness	65	140	1,227
Retail	16	15	2,924
Other recreation/community	73	65	4,037
Workplace - Farm	0	5	3,244
Workplace - Food processing	10	0	4,018
Other types of workplaces	146	101	21,132
Other	12	3	107
Unknown	97	92	859
Total number of cases	1,373	1,448	109,332

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).

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.

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

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 49 refers to December 5 and December 11, 2021. Congregate living include group homes, shelters, correctional facilities, etc. Other settings include outbreaks within workplaces, restaurants, recreation etc.

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 **December 14, 2021 at 1 p.m.** for cases reported from February 1, 2021 onwards and as of **December 13, 2021 at 9 a.m.** for cases reported up January 31, 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

- 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 –
 <u>Coronavirus Disease (COVID-19) document</u> 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.
- 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.
- 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
- '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	1,325	1,952
14	March 29, 2020	April 4, 2020	2,796	4,748
15	April 5, 2020	April 11, 2020	3,166	7,914
16	April 12, 2020	April 18, 2020	4,262	12,176
17	April 19, 2020	April 25, 2020	3,650	15,826
18	April 26, 2020	May 2, 2020	2,901	18,727
19	May 3, 2020	May 9, 2020	2,353	21,080
20	May 10, 2020	May 16, 2020	2,223	23,303
21	May 17, 2020	May 23, 2020	2,617	25,920
22	May 24, 2020	May 30, 2020	2,611	28,531
23	May 31, 2020	June 6, 2020	2,302	30,833

Reported Week	Start date	End date	Number of cases	Cumulative count
24	June 7, 2020	June 13, 2020	1,472	32,305
25	June 14, 2020	June 20, 2020	1,226	33,531
26	June 21, 2020	June 27, 2020	1,251	34,782
27	June 28, 2020	July 4, 2020	1,085	35,867
28	July 5, 2020	July 11, 2020	866	36,733
29	July 12, 2020	July 18, 2020	931	37,664
30	July 19, 2020	July 25, 2020	993	38,657
31	July 26, 2020	August 1, 2020	808	39,465
32	August 2, 2020	August 8, 2020	592	40,057
33	August 9, 2020	August 15, 2020	610	40,667
34	August 16, 2020	August 22, 2020	728	41,395
35	August 23, 2020	August 29, 2020	850	42,245
36	August 30, 2020	September 5, 2020	976	43,221
37	September 6, 2020	September 12, 2020	1,505	44,726
38	September 13, 2020	September 19, 2020	2,371	47,097
39	September 20, 2020	September 26, 2020	3,123	50,220
40	September 27, 2020	October 3, 2020	4,223	54,443
41	October 4, 2020	October 10, 2020	5,035	59,478
42	October 11, 2020	October 17, 2020	5,276	64,754
43	October 18, 2020	October 24, 2020	6,041	70,795
44	October 25, 2020	October 31, 2020	6,389	77,184
45	November 1, 2020	November 7, 2020	7,601	84,785
46	November 8, 2020	November 14, 2020	10,441	95,226
47	November 15, 2020	November 21, 2020	10,037	105,263
48	November 22, 2020	November 28, 2020	11,136	116,399

Reported Week	Start date	End date	Number of cases	Cumulative count
49	November 29, 2020	December 5, 2020	12,684	129,083
50	December 6, 2020	December 12, 2020	13,064	142,147
51	December 13, 2020	December 19, 2020	15,660	157,807
52	December 20, 2020	December 26, 2020	15,627	173,434
53	December 27, 2020	January 2, 2021	20,451	193,885
1	January 3, 2021	January 9, 2021	24,873	218,758
2	January 10, 2021	January 16, 2021	21,383	240,141
3	January 17, 2021	January 23, 2021	16,403	256,544
4	January 24, 2021	January 30, 2021	12,770	269,314
5	January 31, 2021	February 6, 2021	9,780	279,094
6	February 7, 2021	February 13, 2021	7,900	286,994
7	February 14, 2021	February 20, 2021	7,456	294,450
8	February 21, 2021	February 27, 2021	7,686	302,136
9	February 28, 2021	March 6, 2021	7,935	310,071
10	March 7, 2021	March 13, 2021	9,483	319,554
11	March 14, 2021	March 20, 2021	11,023	330,577
12	March 21, 2021	March 27, 2021	14,391	344,968
13	March 28, 2021	April 3, 2021	18,948	363,916
14	April 4, 2021	April 10, 2021	25,579	389,495
15	April 11, 2021	April 17, 2021	30,890	420,385
16	April 18, 2021	April 24, 2021	28,342	448,727
17	April 25, 2021	May 1, 2021	25,208	473,935
18	May 2, 2021	May 8, 2021	20,755	494,690
19	May 9, 2021	May 15, 2021	16,525	511,215
20	May 16, 2021	May 22, 2021	12,650	523,865

Reported Week	Start date	End date	Number of cases	Cumulative count
21	May 23, 2021	May 29, 2021	7,758	531,623
22	May 30, 2021	June 5, 2021	5,215	536,838
23	June 6, 2021	June 12, 2021	3,484	540,322
24	June 13, 2021	June 19, 2021	2,418	542,740
25	June 20, 2021	June 26, 2021	1,881	544,621
26	June 27, 2021	July 3, 2021	1,473	546,094
27	July 4, 2021	July 10, 2021	1,226	547,320
28	July 11, 2021	July 17, 2021	1,044	548,364
29	July 18, 2021	July 24, 2021	1,109	549,473
30	July 25, 2021	July 31, 2021	1,350	550,823
31	August 1, 2021	August 7, 2021	1,906	552,729
32	August 8, 2021	August 14, 2021	3,172	555,901
33	August 15, 2021	August 21, 2021	4,144	560,045
34	August 22, 2021	August 28, 2021	4,775	564,820
35	August 29, 2021	September 4, 2021	5,184	570,004
36	September 5, 2021	September 11, 2021	5,054	575,058
37	September 12, 2021	September 18, 2021	4,916	579,974
38	September 19, 2021	September 25, 2021	4,398	584,372
39	September 26, 2021	October 2, 2021	3,951	588,323
40	October 3, 2021	October 9, 2021	3,843	592,166
41	October 10, 2021	October 16, 2021	2,902	595,068
42	October 17, 20210	October 23, 2021	2,626	597,694
43	October 24, 2021	October 30, 2021	2,502	600,196
44	October 31, 2021	November 6, 2021	3,289	603,485
45	November 7, 2021	November 13, 2021	3,983	607,468

Reported Week	Start date	End date	Number of cases	Cumulative count
46	November 14, 2021	November 20, 2021	4,573	612,041
47	November 21, 2021	November 27, 2021	5,430	617,471
48	November 28, 2021	December 4, 2021	6,573	624,044
49	December 5, 2021	December 11, 2021	8,956	633,000

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

Public Health Unit Name	Cases reported week 48	Rate per 100,000 population Reported week 48	Cases reported week 49	Rate per 100,000 population Reported week 49
Northwestern Health Unit	19	23.4	22	27.1
Thunder Bay District Health Unit	119	75.5	77	48.8
TOTAL NORTH WEST	138	57.8	99	41.4
Algoma Public Health	220	186.7	178	151.1
North Bay Parry Sound District Health Unit	25	19.3	39	30.2
Porcupine Health Unit	6	7.1	33	38.8
Public Health Sudbury & Districts	292	142.3	287	139.8
Timiskaming Health Unit	31	91.5	34	100.3
TOTAL NORTH EAST	574	100.5	571	99.9
Ottawa Public Health	361	34.6	597	57.2
Eastern Ontario Health Unit	80	37.1	87	40.3
Hastings Prince Edward Public Health	133	77.0	193	111.7
Kingston, Frontenac and Lennox & Addington Public Health	245	117.1	637	304.4
Leeds, Grenville & Lanark District Health Unit	44	24.5	138	76.7
Renfrew County and District Health Unit	52	47.9	26	24.0
TOTAL EASTERN	915	47.4	1,678	87.0
Durham Region Health Department	188	26.4	384	54.0

Public Health Unit Name	Cases reported week 48	Rate per 100,000 population Reported week 48	Cases reported week 49	Rate per 100,000 population Reported week 49
Haliburton, Kawartha, Pine Ridge District Health Unit	44	23.1	49	25.7
Peel Public Health	441	28.2	515	32.9
Peterborough Public Health	39	26.3	42	28.4
Simcoe Muskoka District Health Unit	594	98.3	570	94.3
York Region Public Health	384	32.0	538	44.8
TOTAL CENTRAL EAST	1,690	38.2	2,098	47.5
Toronto Public Health	852	28.5	1,356	45.4
TOTAL TORONTO	852	28.5	1,356	45.4
Chatham-Kent Public Health	120	112.5	128	120.1
Grey Bruce Health Unit	39	22.1	59	33.5
Huron Perth Public Health	67	45.8	88	60.2
Lambton Public Health	68	51.1	69	51.9
Middlesex-London Health Unit	201	39.4	303	59.3
Southwestern Public Health	179	81.8	176	80.4
Windsor-Essex County Health Unit	499	115.8	581	134.8
TOTAL SOUTH WEST	1,173	68.1	1,404	81.5
Brant County Health Unit	110	71.6	152	99.0
City of Hamilton Public Health Services	208	35.8	337	57.9
Haldimand-Norfolk Health Unit	103	85.8	89	74.2
Halton Region Public Health	260	42.6	347	56.8
Niagara Region Public Health	196	40.7	287	59.6

Public Health Unit Name	Cases reported week 48	Rate per 100,000 population Reported week 48	Cases reported week 49	Rate per 100,000 population Reported week 49
Region of Waterloo Public Health and Emergency Services	236	39.0	337	55.7
Wellington-Dufferin-Guelph Public Health	118	37.8	201	64.4
TOTAL CENTRAL WEST	1,231	43.0	1,750	61.1
TOTAL ONTARIO	6,573	44.6	8,956	60.8

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

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