

## Enhanced Epidemiologic Summary

# (ARCHIVED) COVID-19 in Ontario: Elementary and Secondary School Outbreaks and Related Cases, August 30, 2020 to April 24, 2021

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### ARCHIVED DOCUMENT

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This report includes the most current information available from CCM as of **June 29, 2021**. All data in this report are preliminary and may change as more case reports and case details are received.

Note: The Ontario government made the decision to move all elementary and secondary schools in the province to remote learning, as of April 12, 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 Epidemiological Summary](#), a [Weekly Epidemiological Summary](#), as well as additional Enhanced Epidemiological Reports (including on [COVID-19 Infection in Children](#)) are available on the Public Health Ontario website.

## Purpose

This report provides a focused analysis on confirmed outbreaks in public and private schools reported to local public health units in Ontario from August 30 to April 24, 2021, as per the Ministry of Health's [School Outbreak definition](#). This report also includes data on cases associated with these outbreaks.

## Highlights

- A total of 406,303 confirmed cases of COVID-19 were reported in Ontario from August 30 to April 24, 2021. School-aged children (i.e., ages 4-17 years) accounted for 11.0% (44,594/406,303) of these cases. School outbreak-associated cases linked to outbreaks reported between August 30 and April 24, 2021 accounted for 9.6% (4,290/44,594) of all cases in school-aged children reported within this period.

- Of the 4,290 school-outbreak associated cases reported, 1,912 (44.6%) were linked to outbreaks reported in the fall semester (between August 30, 2020 to January 3, 2021) and 2,378 (55.4%) were linked to outbreaks reported in the winter semester (between January 4, 2021 and April 24, 2021).
- There were 1,366 school-associated outbreaks in 32 public health units between August 30 and April 24, 2021. Of the 1,366 school-associated outbreaks, 553 were reported in the fall semester and 813 in the winter semester.
  - The total number of cases associated with school outbreaks is 5,791 which includes students and staff. The median number of cases per outbreak was 3 and the maximum number of cases associated with a school outbreak was 60. Two or fewer cases were reported in 46.1% (630/1,366) of these outbreaks.
- There have been 547 school-associated outbreaks with at least one case with a variant of concern (VOC)-associated mutation or VOC lineage confirmed from January 31 to April 24, 2021. The laboratory detection of a variant of concern (VOC) is a multi-step process. Samples that test positive for SARS-CoV-2 and have a cycle threshold (Ct) value  $\leq 35$  can be tested for mutations common to variants of concern. If positive for the mutation of interest with a Ct value of  $\leq 30$ , these samples may then undergo genomic analyses to identify the VOC lineage. Overall, there was a significant difference in the median number of cases per outbreak with a VOC-associated mutation or confirmed VOC detected (median=3) compared to outbreaks without a VOC-associated mutation or confirmed VOC detected (median=2).
- Elementary schools account for 77.1% (1,053/1,366) of school-associated outbreaks and 75.7% (4,386/5,791) of cases associated with school outbreaks. Elementary schools account for 76.0% of all elementary and/or secondary schools in Ontario.
- Among school-aged cases, there is a trend of increasing rates of COVID-19 with increasing levels of neighbourhood diversity, with the most diverse neighbourhoods having rates that are approximately 3.5 times higher than rates in the least diverse neighbourhoods. Rates were 1.6 times higher in the most deprived neighbourhoods compared to the least deprived.
- From mid-February to mid-April 2021, increasing rates of COVID-19 were observed in school-aged cases in children and youth aged 4-17 years, as well as those aged 18 years and older. In the context of increasing community incidence, the number of reported school outbreaks also increased over time from mid-February to mid-April 2021.

## Limitations

- This report reflects cases associated with confirmed school outbreaks (i.e., outbreaks among students or staff attending school in-person) and not all individual cases in school-aged children attending school in-person or school staff members attending in-person.
  - Due to outbreak identification and data entry practices, additional school outbreaks were reported after most schools closed in the fall semester (December 18th, 2020) as well as the winter semester (April 9, 2021).

- Schools in Ontario began to re-open for in-person attendance for most students between January 11 and February 16, 2021 and subsequently began to close to in-person learning between March 1 and April 12, 2021. Over this period of time, changes occurred among provincial restrictions for various public health units and settings. For further details on the timeline of school re-opening/closure as well as provincial re-openings in other settings please see [Table A2](#) in the appendix.
- Under-detection of school outbreaks and related cases are possible as not all COVID-19 cases or transmission events in school will be detected (e.g., due to asymptomatic or mild infection in an individual that is not tested). Under-detection may lead to an outbreak not being identified and declared or an under-estimate of the number of cases associated with a school outbreak.
  - However, over-detection for a given outbreak is possible as the [School Outbreak Guidance](#) directs public health units to declare a school outbreak when there are two or more epidemiologically-linked cases where at least one could have reasonably been acquired in school, including if there is no obvious source of infection outside the school. As such, this has the potential to capture transmission that occurred outside the school setting. Details on transmission events (including location/activity within the school or adherence to guidance) leading to school outbreaks were not available.
- Details on the number of students attending school in-person, or on whether a school was providing in-person learning were not available.
- Due to variations in data entry processes across public health units, not all data provided in this report align with guidance on entering outbreak related data (e.g., minimum size of outbreak or duration of outbreak).

## Outbreak and Case Characteristics

For context, a total of 406,303 confirmed cases of COVID-19 were reported in Ontario from August 30, 2020 to April 24, 2021. School-aged children (i.e., children ages 4-17 years, irrespective of school attendance) accounted for 11.0% (44,594) of these cases. School outbreak-associated cases linked to outbreaks reported between August 30, 2020 and April 24, 2021 accounted for 9.6% (4,290/44,594) of all cases in school-aged children reported within this period.

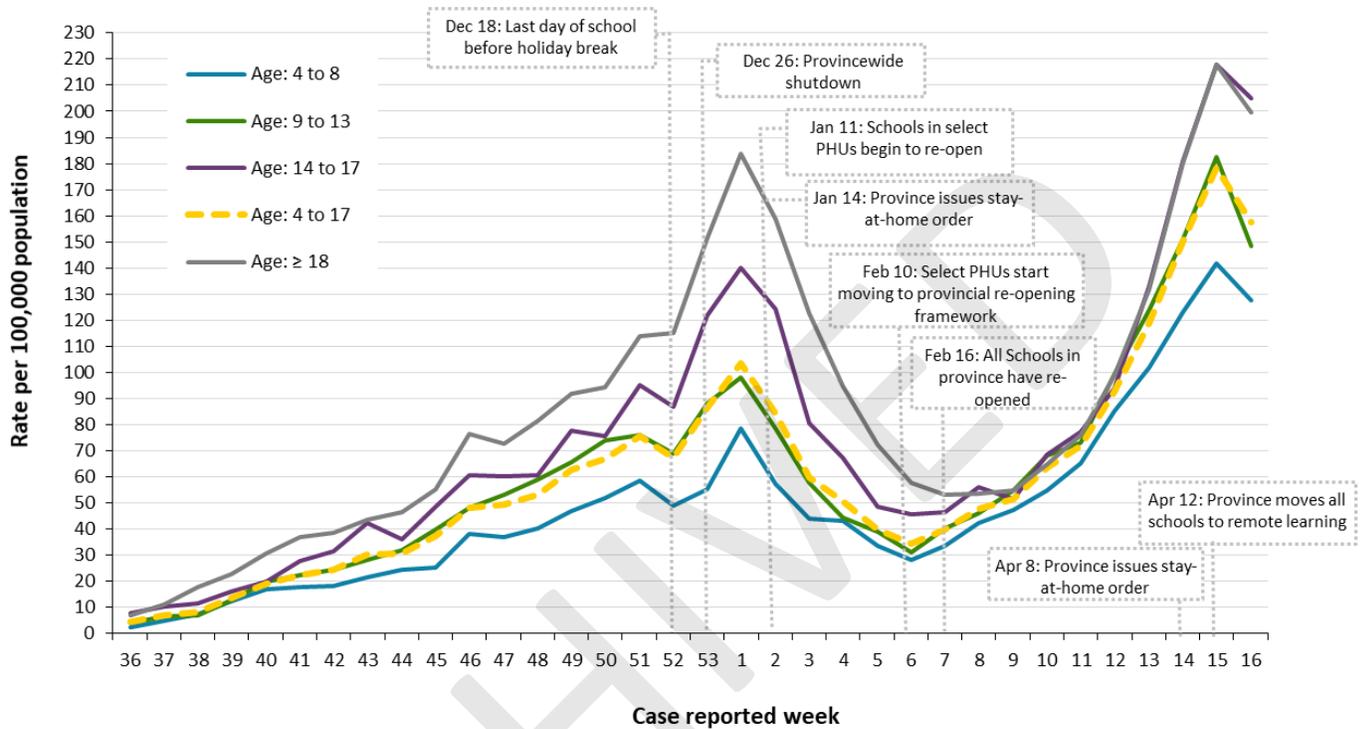
**Table 1. Summary of confirmed COVID-19 cases among school-aged children and cases associated with school outbreaks reported August 30, 2020 to April 24, 2021: Ontario**

	Number of cases	Percent	Number of school outbreak associated cases*	Percent
Ages: 4-8	12,406	27.8%	1,431	33.4%
Ages: 9-13	16,112	36.1%	2,055	47.9%
Ages: 14-17	16,076	36.0%	804	18.7%
<b>Total</b>	<b>44,594</b>	<b>100.0%</b>	<b>4,290</b>	<b>100.0%</b>

**Data Source:** CCM

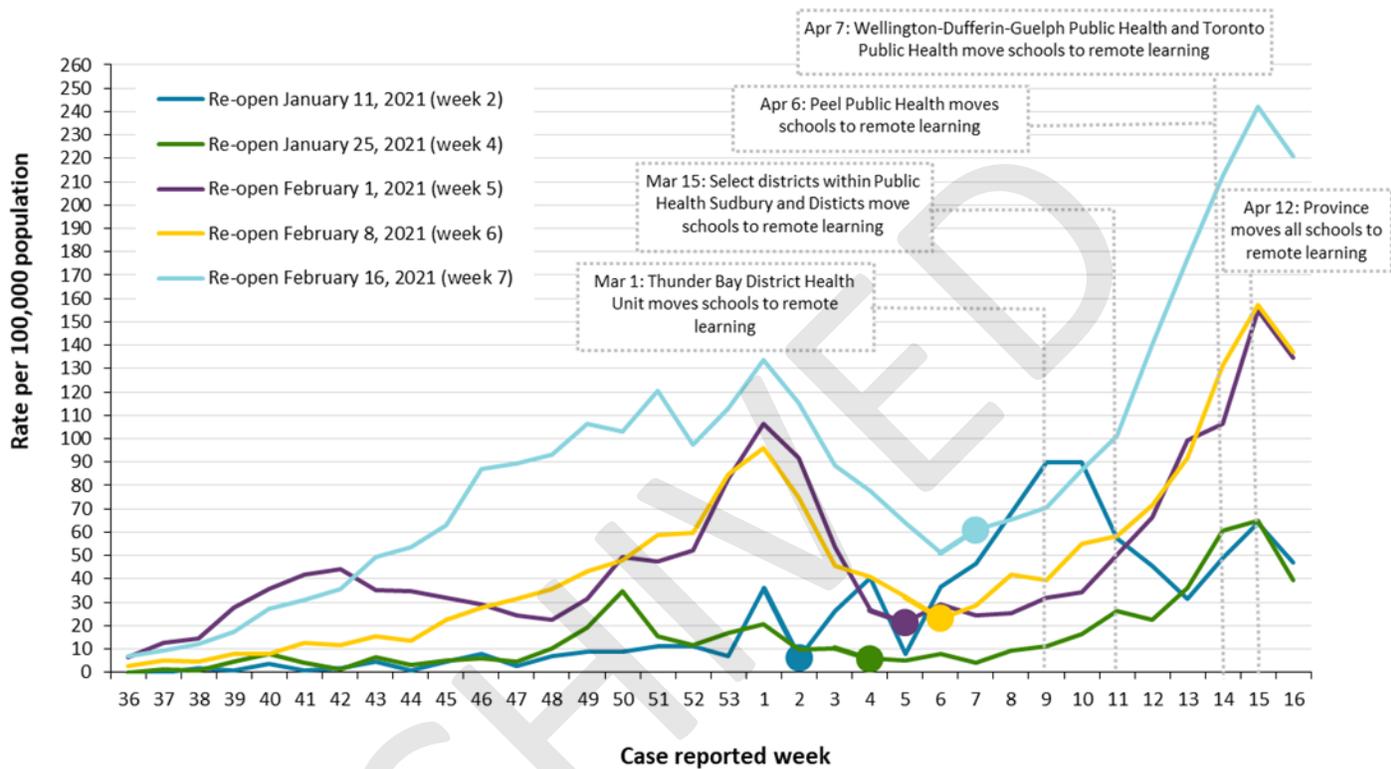
\*29 cases associated with a school outbreak were in children aged 0-3 years, 1,470 cases were in those aged ≥18 years and 2 case had an unknown age

**Figure 1. Rate of COVID-19 per 100,000 population among cases reported August 30, 2020 to April 24, 2021 by case reported week.**



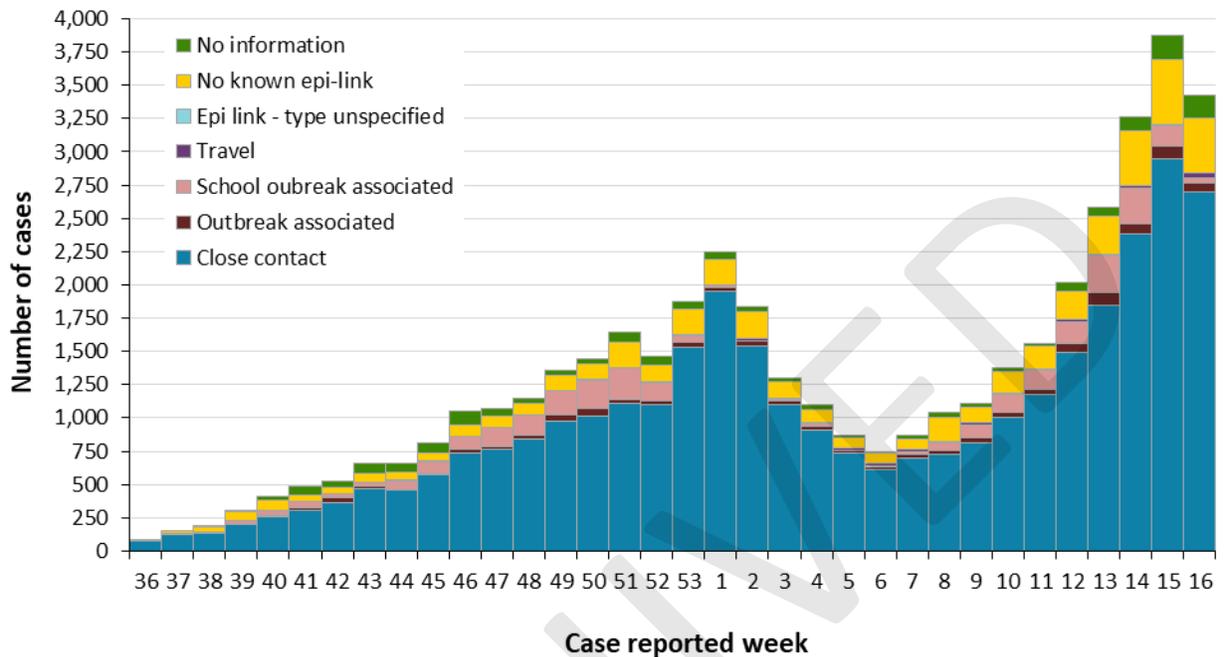
**Note:** See [Table A1](#) in Appendix A for a list of the weeks and corresponding start and end dates. In-person school re-opening/closure dates varied by public health unit in Ontario. Additionally, public health measures/restrictions and/or outbreaks in other settings that would impact case trends varied by public health unit and over time. See [Table A2](#) for timeline of in-person school re-opening/closure for most students as well as other public health measures/restrictions related to school outbreaks in Ontario.

**Figure 2. Rate of COVID-19 per 100,000 population among school-aged children reported August 30, 2020 to April 24, 2021 by case reported week and school re-opening date.**



**Note:** Public health units are grouped by school re-opening date. Dot markers signify the week schools re-opened in that group. See [Table A1](#) in Appendix A for a list of the weeks and corresponding start and end dates. In-person school re-opening/closure dates varied by public health unit in Ontario. Additionally, public health measures/restrictions and/or outbreaks in other settings that would impact case trends varied by public health unit and over time. See [Table A2](#) for timeline of in-person school re-opening/closure for most students as well as other public health measures/restrictions related to school outbreaks in Ontario.

**Figure 3. Confirmed COVID-19 cases among school-aged children by likely acquisition and case reported week: Ontario, August 30, 2020 to April 24, 2021**

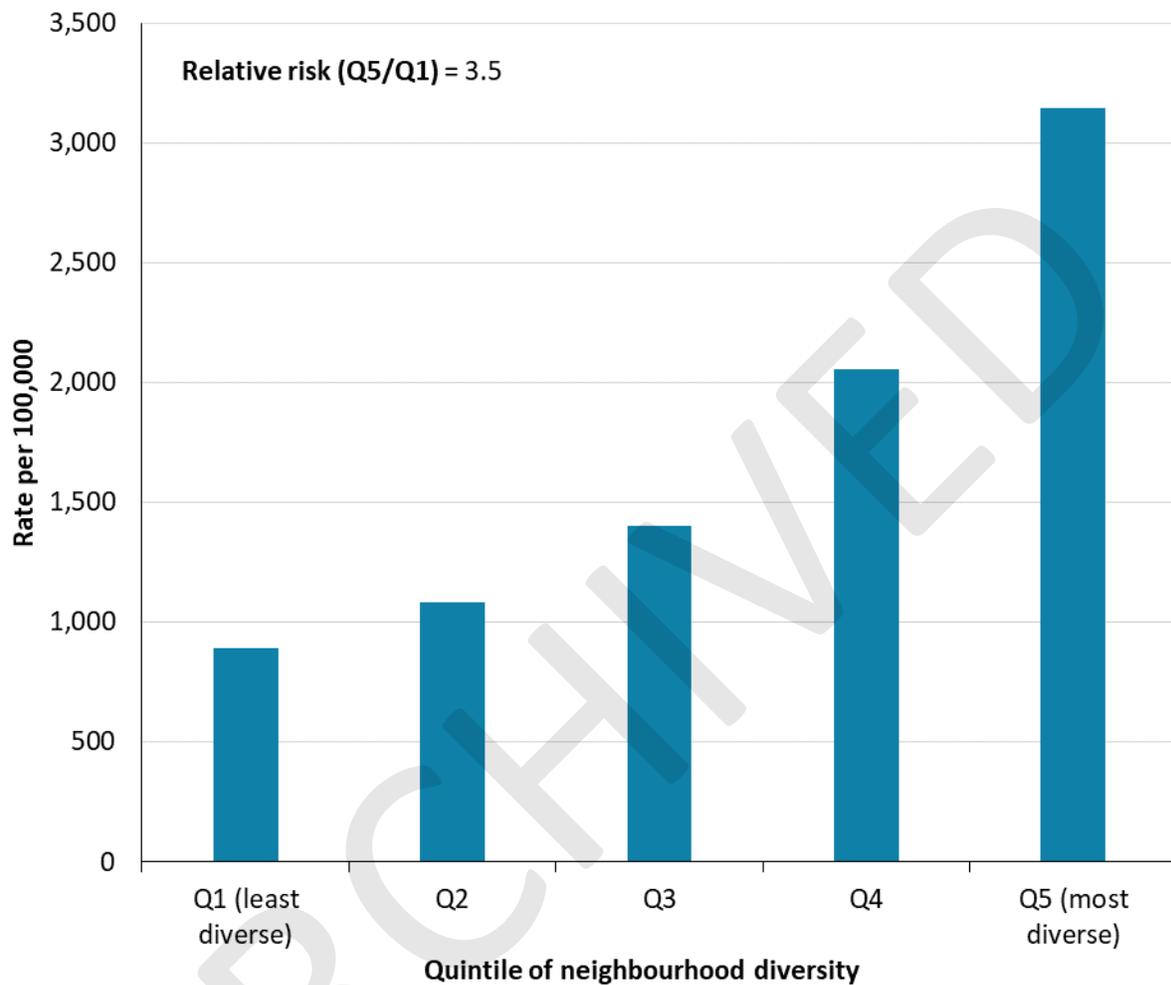


**Note:** Not all ‘Cases associated with school outbreaks’ have ‘outbreak associated’ reported as their likely source of acquisition. More information for how cases are grouped within each likely acquisition category is available in the [technical notes](#). See [Table A1](#) in Appendix A for a list of the weeks and corresponding start and end dates. In-person school re-opening/closure dates varied by public health unit in Ontario. Additionally, public health measures/restrictions and/or outbreaks in other settings that would impact case trends varied by public health unit and over time. See [Table A2](#) for timeline of in-person school re-opening/closure for most students as well as other public health measures/restrictions related to school outbreaks in Ontario.

**Data Source:** CCM

Of the 4,290 school-aged cases associated with school outbreaks, 67.8 % (n=2,908) reported a likely source of acquisition of ‘outbreak associated’, 32.2% (n=1,380) reported a likely source of acquisition of ‘close contact’ and the remaining cases reporting a likely source of acquisition of ‘travel’ (<0.1%; n=2). For example, if an individual, such as the index case, was likely to have acquired their infection at home but was part of a school outbreak their acquisition may be entered as ‘close contact’.

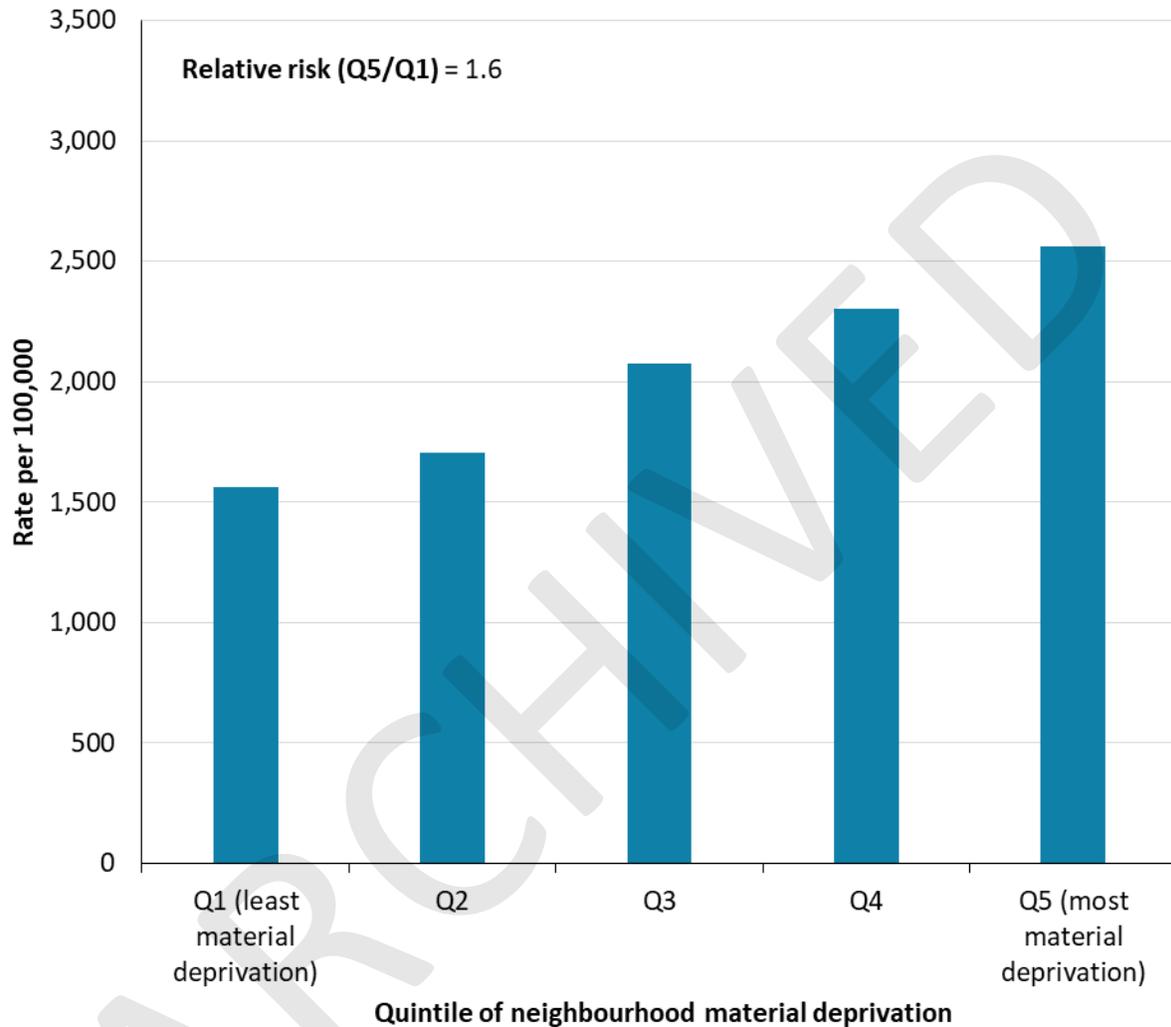
**Figure 4. Rate of confirmed cases of COVID-19 among school-aged children for each quintile of neighborhood diversity: Ontario, August 30, 2020 to April 24, 2021**



**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. Rates per 100,000 were calculated using population denominators of 4 to 17 year olds in Ontario derived from the 2016 census data.

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

**Figure 5. Rate of confirmed cases of COVID-19 among school-aged children for each quintile of neighborhood material deprivation: Ontario, August 30, 2020 to April 24, 2021**



**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. Rates per 100,000 were calculated using population denominators of 4 to 17 year olds in Ontario derived from the 2016 census data.

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

The rest of this report focuses on cases linked to school outbreaks in all ages.

**Table 2. Summary of confirmed COVID-19 outbreaks in schools and cases associated with school outbreaks reported August 30, 2020 to April 24, 2021: Ontario**

	School: Elementary	School: Elementary/ Secondary	School: Secondary	School: Total
<b>Cumulative number (N) of outbreaks</b>	1,053	63	250	1,366
<b>N cases per outbreak (column %)<sup>1</sup></b>				
≤1 case <sup>2</sup>	59 (5.6%)	6 (9.5%)	16 (6.4%)	81 (5.9%)
2 cases	412 (39.1%)	19 (30.2%)	118 (47.2%)	549 (40.2%)
3-5 cases	375 (35.6%)	23 (36.5%)	64 (25.6%)	462 (33.8%)
6-9 cases	140 (13.3%)	9 (14.3%)	31 (12.4%)	180 (13.2%)
≥10 cases	67 (6.4%)	6 (9.5%)	21 (8.4%)	94 (6.9%)
<b>Median number of cases per outbreak (IQR)<sup>1,2</sup></b>	3 (2-5)	3 (2-5)	2 (2-5)	3 (2-5)
Median number student cases per outbreak (IQR) <sup>1,2</sup>	2 (1-3)	1 (0-2)	2 (0-2)	2 (1-3)
Median number staff cases per outbreak (IQR) <sup>1,2</sup>	0 (0-1)	1 (0-1)	0 (0-1)	0 (0-1)
Median outbreak length of closed outbreaks in days (IQR) <sup>3</sup>	7 (3-11)	6 (3-9)	8 (4-12)	7 (3-11)

IQR; Interquartile Range

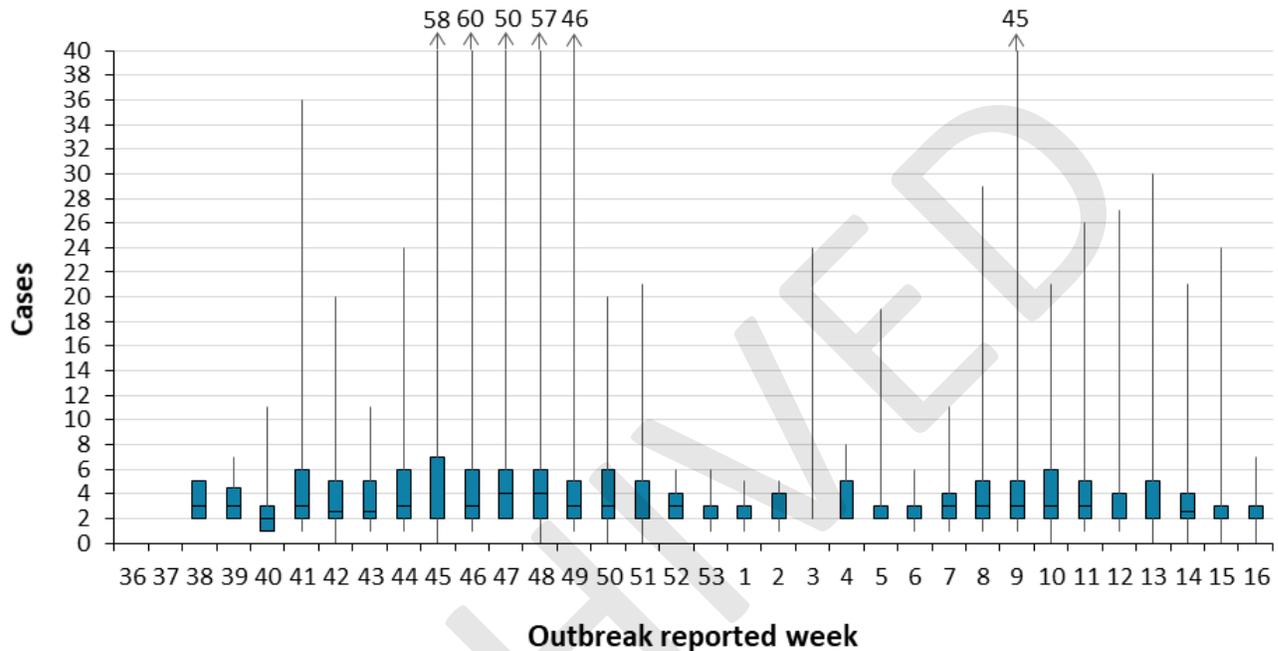
**Note:** <sup>1</sup>Due to reporting delays and potential variations in data entry processes across public health units, there may be additional school-associated COVID-19 cases that have not yet been entered in CCM, or have not been entered as linked to a school-associated outbreak. As a result, some school-associated outbreaks presented may not have two or more cases associated (with at least one reasonably acquired in school), which is the threshold for declaring an outbreak. Results should be interpreted with caution due to potential under-detection of outbreak associated cases.

<sup>2</sup>There were fourteen confirmed COVID-19 outbreaks in schools that had zero cases linked to the outbreak. Median number of cases per outbreak includes cases in individuals identified as students or staff, as well as those classified as unknown (i.e., cases associated with school outbreaks where an in-person school attendance risk factor was not specified).

<sup>3</sup>Outbreaks may be declared over after a minimum of 14 days. Due to variations in data entry processes across public health units, some outbreaks included in this report may not have met this criteria.

**Data Source:** CCM

**Figure 6. Boxplot of the outbreak size (number of cases per outbreak) of public health unit-declared confirmed COVID-19 outbreaks in schools by outbreak reported week: Ontario, August 30, 2020 to April 24, 2021**



**Note:** Y-axis restricted to a scale of 0 to 40 cases in order to improve visualization of boxplot. Maximum number of cases per week are presented above the box where these values have been cut-off due to the axis restriction. The boxplot displays the median (the mid-point of the data and is displayed as a line that divides the box into two parts) and interquartile range (displayed as a box that represents the range of the number of cases linked to a school outbreak from the lower to upper quartile) for school outbreaks by outbreak reported week. For the weeks where the median is not visible, the median were either equal to the 25<sup>th</sup> percentile (weeks 45, 51, 53, 1, 2, 4, 5, 6, 12, 13) or equal to the 75<sup>th</sup> percentile (week 15). In week 3, the median, 25<sup>th</sup> and 75<sup>th</sup> percentile were all equal to 3. Due to data entry practices, additional school outbreaks were reported after schools closed for the fall semester (December 18th, 2020) in week 52 and 53 as well as the winter semester (April 9, 2021) in week 15 and 16. [Table 4a and 4b](#) provides a summary of school outbreak sizes per week (starting week 5) linked with or without at least one case of a mutation or variant of concern detected. See [Table A1](#) in Appendix A for a list of the weeks and corresponding start and end dates. In-person school re-opening/closure dates varied by public health unit in Ontario. Additionally, public health measures/restrictions and/or outbreaks in other settings that would impact case trends varied by public health unit and over time. See [Table A2](#) for timeline of in-person school re-opening/closure for most students as well as other public health measures/restrictions related to school outbreaks in Ontario.

**Data Source:** CCM

**Table 3. Summary of confirmed COVID-19 cases associated with school outbreaks reported August 30, 2020 to April 24, 2021 by select characteristics: Ontario**

	School: Elementary	School: Elementary/ Secondary	School: Secondary	School: Total
<b>Cumulative number of cases (N) associated with outbreaks</b>	<b>4,386</b>	<b>331</b>	<b>1,074</b>	<b>5,791</b>
<b>N student<sup>1</sup> (%)</b>	<b>2,631 (60.0%)</b>	<b>116 (35.0%)</b>	<b>571 (53.2%)</b>	<b>3,318 (57.3%)</b>
<b>N staff<sup>1,2</sup> (%)</b>	<b>736 (16.8%)</b>	<b>62 (18.7%)</b>	<b>161 (15.0%)</b>	<b>959 (16.6%)</b>
Teacher	472 (64.1%)	43 (69.4%)	86 (53.4%)	601 (62.7%)
Education Assistant	98 (13.3%)	3 (4.8%)	20 (12.4%)	121 (12.6%)
Custodial Staff	42 (5.7%)	5 (8.1%)	25 (15.5%)	72 (7.5%)
Administrative Staff	27 (3.7%)	4 (6.5%)	11 (6.8%)	42 (4.4%)
Transportation Staff	9 (1.2%)	1 (1.6%)	2 (1.2%)	12 (1.3%)
Early Childhood Educator	33 (4.5%)	0 (0.0%)	0 (0.0%)	33 (3.4%)
Other Educational Staff	64 (8.7%)	6 (9.7%)	19 (11.8%)	89 (9.3%)
<b>N unknown<sup>3</sup> (%)</b>	<b>1,019 (23.2%)</b>	<b>153 (46.2%)</b>	<b>342 (31.8%)</b>	<b>1,514 (26.1%)</b>
Age: ≤ 17 years	759 (74.5%)	70 (45.8%)	226 (66.1%)	1,055 (69.7%)
Age: > 17 years	260 (25.5%)	83 (54.2%)	116 (33.9%)	459 (30.3%)
Median age student <sup>1</sup> (IQR)	9 (7-12)	12 (9-14.5)	15 (14-16)	11 (7-13)
Median age staff <sup>1</sup> (IQR)	44 (36-52)	43 (31-54)	46 (38-53)	44 (36-52)
Median age unknown <sup>3</sup> (IQR)	11 (7-20)	18 (15-35)	16 (15-21)	13 (9-24)

IQR; Interquartile Range

**Note:** 'Cases associated with outbreaks' include cases entered in CCM that are linked to an outbreak that met the definition of a school outbreak.

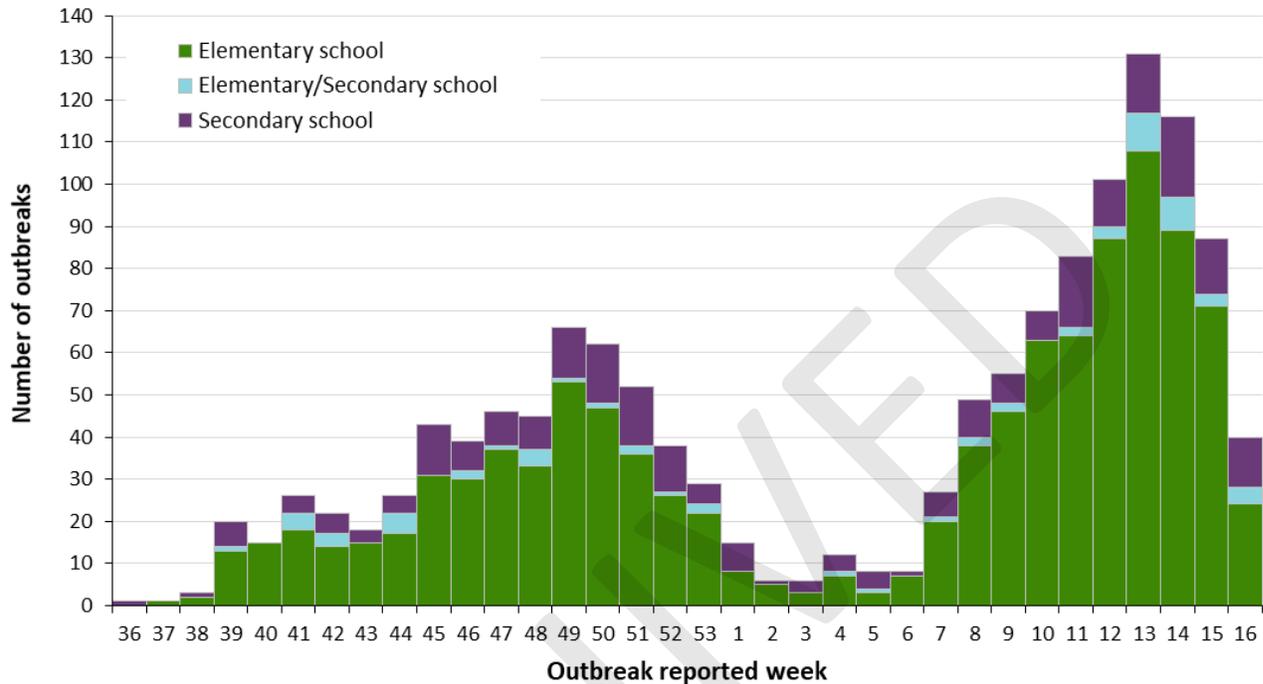
<sup>1</sup>In-person attendance as reported using occupational student/educational staff risk factor data where risk factor entered as either "YES" OR "YES – ELEMENTARY" OR "YES – ELEMENTARY/SECONDARY" OR "YES – SECONDARY". The range of ages of cases associated with a school outbreak may not align with expected ages at that schooling level. The range of ages of Secondary students may reflect that some schools classified as secondary may also have an intermediate school in the same location that start in Grade 7.

<sup>2</sup>The number of cases among staff may not be equal to the sum of cases reported within each staff category as multiple educational staff risk factors may be selected for a single case.

<sup>3</sup>"Unknown" includes cases associated with school outbreaks where an in-person school attendance risk factor was not specified.

**Data Source:** CCM

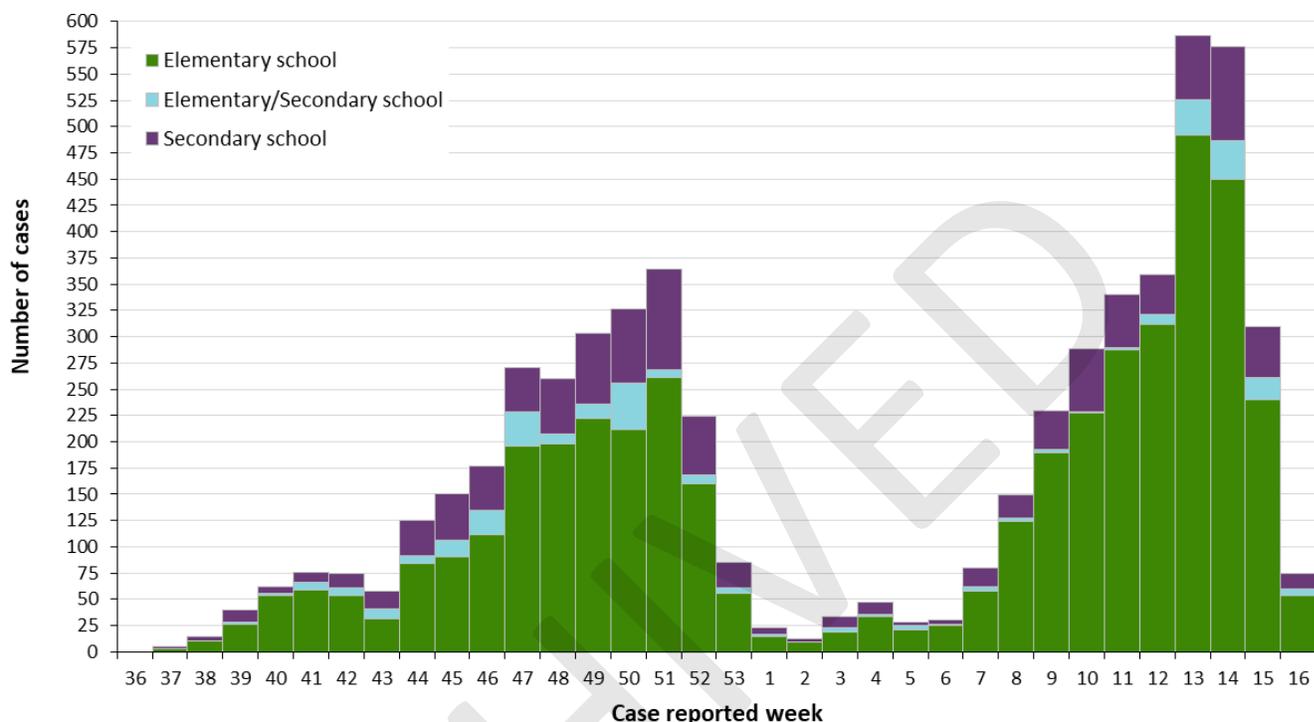
**Figure 7. Number of public health unit declared confirmed COVID-19 outbreaks in schools by outbreak reported week: Ontario, August 30, 2020 to April 24, 2021**



**Note:** If public health unit outbreak reported date is unavailable, the date the public health unit created the outbreak is used. Includes outbreaks that are ongoing and outbreaks that are no longer active. Due to data entry practices, additional school outbreaks were reported after schools closed for the fall semester (December 18th, 2020) in week 52 and 53 as well as the winter semester (April 9, 2021) in week 15 and 16. See [Table A1](#) in Appendix A for a list of the weeks and corresponding start and end dates. In-person school re-opening/closure dates varied by public health unit in Ontario. Additionally, public health measures/restrictions and/or outbreaks in other settings that would impact case trends varied by public health unit and over time. See [Table A2](#) for timeline of in-person school re-opening/closure for most students as well as other public health measures/restrictions related to school outbreaks in Ontario.

**Data Source:** CCM

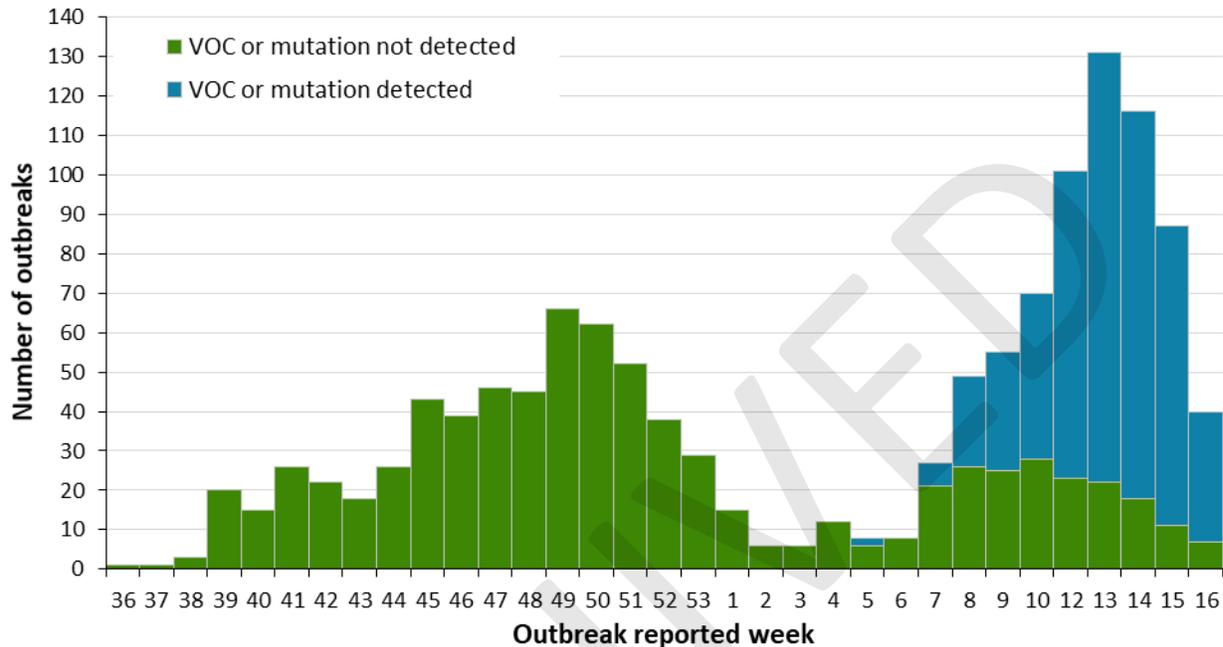
**Figure 8. Number of confirmed cases associated with COVID-19 outbreaks in schools by case reported week: Ontario, August 30, 2020 to April 24, 2021**



**Note:** Includes cases associated with outbreaks that are ongoing and outbreaks that are no longer active. There were 5 cases with case reported dates that occurred outside of the week ranges of focus and were therefore not included in the figure. These cases were included in all other outbreak associated case summaries in the report. Case reported week is the week the case was reported to the public health unit. This is different than the “Outbreak reported week” presented in Figures 7 which reflects the week the public health unit reported or created the outbreak. Due to data entry practices, additional school outbreaks were reported after schools closed for the fall semester (December 18th, 2020) in week 52 and 53 as well as the winter semester (April 9, 2021) in week 15 and 16. See [Table A1](#) in Appendix A for a list of the weeks and corresponding start and end dates. In-person school re-opening/closure dates varied by public health unit in Ontario. Additionally, public health measures/restrictions and/or outbreaks in other settings that would impact case trends varied by public health unit and over time. See [Table A2](#) for timeline of in-person school re-opening/closure for most students as well as other public health measures/restrictions related to school outbreaks in Ontario.

**Data Source:** CCM

**Figure 9. Number of public health unit declared confirmed COVID-19 outbreaks in schools with or without at least one case of a VOC-associated mutation or variant of concern (VOC) detected\* by outbreak reported week: Ontario, August 30, 2020 to April 24, 2021**



**Note:** If public health unit outbreak reported date is unavailable, the date the public health unit created the outbreak is used. Includes outbreaks that are ongoing and outbreaks that are no longer active.

\*Outbreaks were identified with at least one confirmed COVID-19 case with a mutation or VOC detected if at least one case was linked to the outbreak, and was confirmed as a COVID-19 case with a lineage or mutation reported in the Investigation Subtype field OR was identified as having a VOC-associated mutation or lineages using genomic analyses, using information from the Laboratory object in CCM. Comparisons to counts using only information from the Investigation Subtype field may not align. In most outbreaks under investigation, typically only a fixed number of specimens are to be submitted for laboratory testing; thus, although it is likely that cases epidemiologically linked to an outbreak with at least one VOC case would also be VOCs, this may not always be the case. See [Table A1](#) in Appendix A for a list of the weeks and corresponding start and end dates. In-person school re-opening/closure dates varied by public health unit in Ontario. Additionally, public health measures/restrictions and/or outbreaks in other settings that would impact case trends varied by public health unit and over time. See [Table A2](#) for timeline of in-person school re-opening/closure for most students as well as other public health measures/restrictions related to school outbreaks in Ontario.

**Data Source:** CCM

**Table 4a. Summary of the number of cases associated with confirmed COVID-19 outbreaks in schools reported January 31, 2021 to April 24, 2021 where a mutation or VOC was not detected†: Ontario**

Week	Measure	School - Elementary	School - Elementary/ Secondary	School - Secondary	School - Total
5	N OB	3	1	2	6
	Median cases per OB (IQR)	2(2-19)	3(3-3)	2(2-2)	2(2-3)
	Range	2-19	3-3	2-2	2-19
6	N OB	7	0	1	8
	Median cases per OB	2(2-3)	N/A	2(2-2)	2(2-3)
	Range	1-6	N/A	2-2	1-6
7	N OB	14	1	6	21
	Median cases per OB (IQR)	3(3-5)	3(3-3)	2(2-3)	3(2-4)
	Range	2-11	3-3	2-3	2-11
8	N OB	21	2	3	26
	Median cases per OB (IQR)	2(2-4)	2(2-2)	2(2-6)	2(2-4)
	Range	1-13	2-2	2-6	1-13
9	N OB	19	2	4	25
	Median cases per OB (IQR)	3(2-4)	2(1-3)	2(2-2)	2(2-3)
	Range	1-12	1-3	2-2	1-12
10	N OB	23	0	4	27
	Median cases per OB (IQR)	2(2-3)	N/A	2.5(2-4.5)	2(2-3)
	Range	1-7	N/A	2-6	1-7
11	N OB	25	2	6	33
	Median cases per OB (IQR)	2(2-3)	1.5(1-2)	2(2-2)	2(2-3)
	Range	1-8	1-2	2-3	1-8
12	N OB	16	1	6	23
	Median cases per OB (IQR)	2(2-2)	3(3-3)	2(2-3)	2(2-2)
	Range	1-3	3-3	2-6	1-6
13	N OB	18	2	1	21
	Median cases per OB (IQR)	2.5(2-4)	2.5(2-3)	2(2-2)	2(2-3)
	Range	1-14	2-3	2-2	1-14
14	N OB	13	1	2	16
	Median cases per OB (IQR)	2(2-3)	2(2-2)	2(2-2)	2(2-3)
	Range	1-7	2-2	2-2	1-7
15	N OB	6	2	1	9
	Median cases per OB (IQR)	2(1-3)	3(3-3)	2(2-2)	2(2-3)
	Range	1-3	3-3	2-2	1-3
16	N OB	4	0	1	5
	Median cases per OB (IQR)	2(1.5-2)	N/A	4(4-4)	2(2-2)
	Range	1-2	N/A	4-4	1-4
Total	N OB	169	14	37	220
	Median cases per OB (IQR)	2(2-3)	2.5(2-3)	2(2-2)	2(2-3)
	Range	1-19	1-3	2-6	1-19

**Note:** 'Week' is the Outbreak reported week and is based on the outbreak reported date, and if unavailable, the date the public health unit created the outbreak. Due to reporting delays and potential variations in data entry processes across public health units, there may be additional school-associated COVID-19 cases that have not yet been entered in CCM, or have not been entered as linked to a school-associated outbreak. As a result, some school-associated outbreaks presented may not have two or more cases associated (with at least one reasonably acquired in school), which is the threshold for declaring an outbreak. Outbreaks with zero linked cases were excluded from this table. This includes 6 outbreaks in Elementary schools and 2 in Secondary schools.

†Outbreaks were identified with at least one confirmed COVID-19 case with a mutation or VOC detected if at least one case was linked to the outbreak and was confirmed as a COVID-19 cases with a lineage or VOC-associated mutation reported in the Investigation Subtype field OR were identified as having a VOC-associated mutation or lineages using genomic analyses using information from the Laboratory object in CCM. Comparisons to counts using only information from the Investigation Subtype field may not align.

**Data Source:** CCM

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**Table 4b. Summary of the number of cases associated with confirmed COVID-19 outbreaks in schools reported January 31, 2021 to April 24, 2021 where a mutation or VOC was detected† among at least one case linked to an outbreak: Ontario**

Week	Measure	School - Elementary	School - Elementary/ Secondary	School - Secondary	School - Total
5	N OB	0	0	2	2
	Median cases per OB (IQR)	N/A	N/A	2.5(2-3)	2.5(2-3)
	Range	N/A	N/A	2-3	2-3
6	N OB	0	0	0	0
	Median cases per OB	N/A	N/A	N/A	N/A
	Range	N/A	N/A	N/A	N/A
7	N OB	6	0	0	6
	Median cases per OB (IQR)	2(1-3)	N/A	N/A	2(1-3)
	Range	1-6	N/A	N/A	1-6
8	N OB	17	0	6	23
	Median cases per OB (IQR)	3(2-7)	N/A	7.5(4-13)	4(2-10)
	Range	2-11	N/A	2-29	2-29
9	N OB	27	0	3	30
	Median cases per OB (IQR)	3(2-6)	N/A	9(3-11)	3(2-7)
	Range	1-45	N/A	3-11	1-45
10	N OB	39	0	3	42
	Median cases per OB (IQR)	5(3-8)	N/A	4(2-5)	4.5(3-7)
	Range	2-21	N/A	2-5	2-21
11	N OB	39	0	11	50
	Median cases per OB (IQR)	4(2-7)	N/A	3(2-5)	4(2-6)
	Range	2-26	N/A	2-13	2-26
12	N OB	71	2	5	78
	Median cases per OB (IQR)	3(2-4)	7.5(2-13)	2(2-2)	3(2-4)
	Range	1-27	2-13	2-2	1-27
13	N OB	89	7	13	109
	Median cases per OB (IQR)	2(2-5)	5(2-7)	3(2-6)	3(2-6)
	Range	1-30	2-11	2-25	1-30
14	N OB	74	7	17	98
	Median cases per OB (IQR)	3(2-5)	2(1-5)	2(2-4)	3(2-5)
	Range	1-21	1-7	1-17	1-21
15	N OB	63	1	12	76
	Median cases per OB (IQR)	3(2-4)	2(2-2)	2(2-3)	3(2-4)
	Range	2-24	2-2	2-6	2-24
16	N OB	20	4	9	33
	Median cases per OB (IQR)	2.5(2-3)	5(3.5-6)	2(2-2)	2(2-3)
	Range	1-7	3-6	2-3	1-7
Total	N OB	445	21	81	547
	Median cases per OB (IQR)	3(2-5)	4(2-6)	2(2-4)	3(2-5)
	Range	1-45	1-13	1-29	1-45

**Note:** 'Week' is the Outbreak reported week and is based on the outbreak reported date, and if unavailable, the date the public health unit created the outbreak. Due to reporting delays and potential variations in data entry processes across public health units, there may be additional school-associated COVID-19 cases that have not yet been entered in CCM, or have not been entered as linked to a school-associated outbreak. As a result, some school-associated outbreaks presented may not have two or more cases associated (with at least one reasonably acquired in school), which is the threshold for declaring an outbreak. Outbreaks with zero linked cases were excluded from this table.

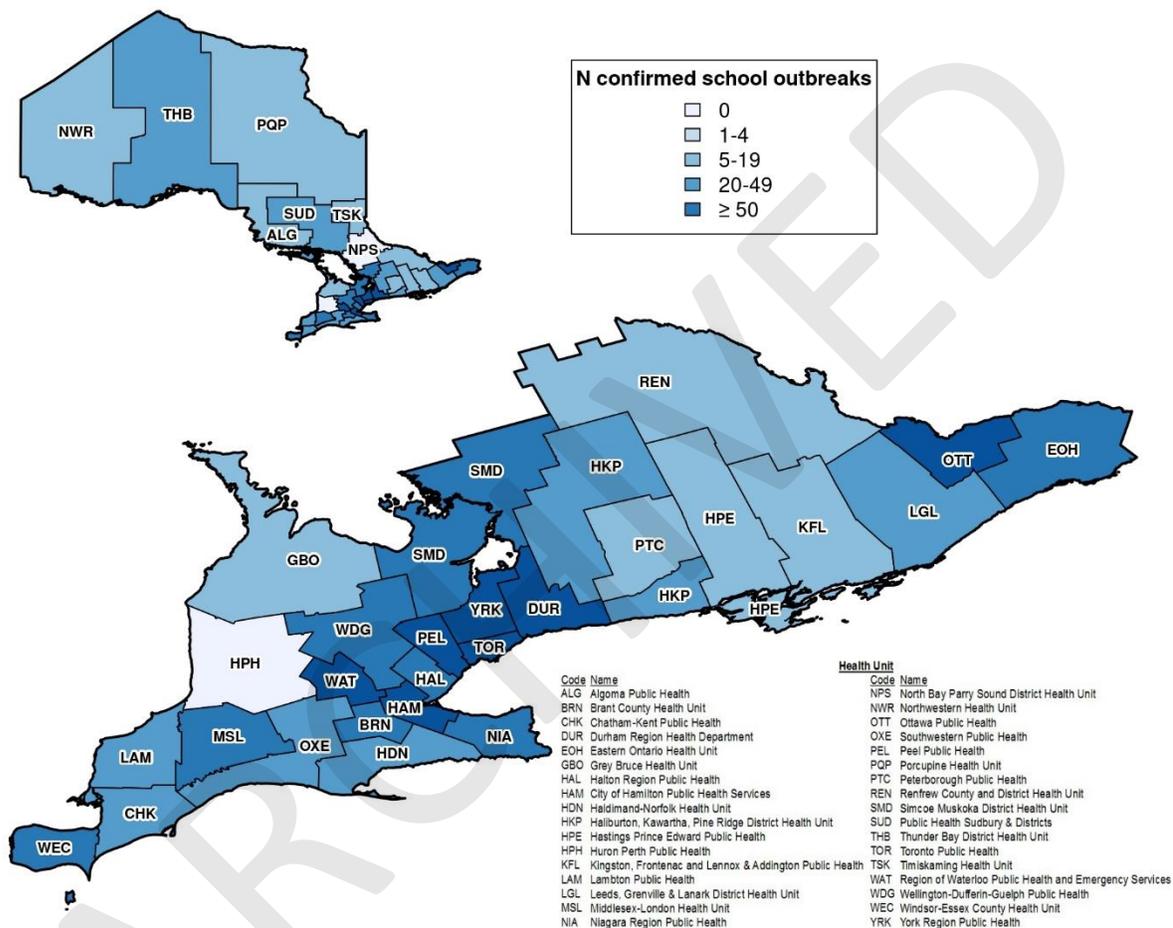
†Outbreaks were identified with at least one confirmed COVID-19 case with a mutation or VOC detected if at least one case was linked to the outbreak and was confirmed as a COVID-19 cases with a lineage or VOC-associated mutation reported in the Investigation Subtype field OR were identified as having a VOC-associated mutation or lineages using genomic analyses using information from the Laboratory object in CCM. Comparisons to counts using only information from the Investigation Subtype field may not align.

**Data Source:** CCM

For total school outbreaks (regardless of school level) reported between week 5 and 16, the median number of cases per outbreak was higher for outbreaks with at least one case of a mutation or VOC detected (median=3) versus not (median=2) ( $p < 0.001$ ).

# Geography

**Figure 10. Number of confirmed outbreaks declared in schools by public health unit: Ontario, August 30, 2020 to April 24, 2021**



**Note:** Includes outbreaks that are ongoing and outbreaks that are no longer active.  
**Data Source:** CCM

**Table 5. Geographic distribution of COVID-19 school-associated outbreaks by public health unit reported August 30, 2020 to April 24, 2021: Ontario**

Public Health Unit Name	Number of outbreaks in elementary schools	Number of outbreaks in elementary/secondary schools	Number of outbreaks in secondary schools	Total number of outbreaks	Total number of schools with any outbreak	Total number of schools in public health unit	Percentage of schools with any outbreak
Northwestern Health Unit	1	1	1	3	2	56	3.6%
Thunder Bay District Health Unit	9	0	3	12	12	86	14%
<b>TOTAL NORTH WEST</b>	<b>10</b>	<b>1</b>	<b>4</b>	<b>15</b>	<b>14</b>	<b>142</b>	<b>9.9%</b>
Algoma Public Health	0	0	1	1	1	73	1.4%
North Bay Parry Sound District Health Unit	0	0	0	0	0	78	0.0%
Porcupine Health Unit	3	0	1	4	4	70	5.7%
Public Health Sudbury & Districts	10	1	7	18	18	118	15.3%
Timiskaming Health Unit	0	0	1	1	1	30	3.3%
<b>TOTAL NORTH EAST</b>	<b>13</b>	<b>1</b>	<b>10</b>	<b>24</b>	<b>24</b>	<b>369</b>	<b>6.5%</b>
Ottawa Public Health	97	9	47	153	108	378	28.6%
Eastern Ontario Health Unit	13	1	7	21	21	119	17.6%

Public Health Unit Name	Number of outbreaks in elementary schools	Number of outbreaks in elementary/secondary schools	Number of outbreaks in secondary schools	Total number of outbreaks	Total number of schools with any outbreak	Total number of schools in public health unit	Percentage of schools with any outbreak
Hastings Prince Edward Public Health	0	1	0	1	0	82	0.0%
Kingston, Frontenac and Lennox & Addington Public Health	4	0	0	4	4	97	4.1%
Leeds, Grenville & Lanark District Health Unit	7	0	0	7	7	98	7.1%
Renfrew County and District Health Unit	0	0	3	3	3	63	4.8%
<b>TOTAL EASTERN</b>	<b>121</b>	<b>11</b>	<b>57</b>	<b>189</b>	<b>143</b>	<b>837</b>	<b>17.1%</b>
Durham Region Health Department	66	1	11	78	71	258	27.5%
Haliburton, Kawartha, Pine Ridge District Health Unit	5	0	4	9	9	80	11.3%
Peel Public Health	119	7	24	150	133	540	24.6%
Peterborough Public Health	0	0	3	3	3	60	5.0%
Simcoe Muskoka District Health Unit	22	0	13	35	31	213	14.6%

Public Health Unit Name	Number of outbreaks in elementary schools	Number of outbreaks in elementary/secondary schools	Number of outbreaks in secondary schools	Total number of outbreaks	Total number of schools with any outbreak	Total number of schools in public health unit	Percentage of schools with any outbreak
York Region Public Health	114	10	9	133	109	502	21.7%
<b>TOTAL CENTRAL EAST</b>	<b>326</b>	<b>18</b>	<b>64</b>	<b>408</b>	<b>356</b>	<b>1,653</b>	<b>21.5%</b>
Toronto Public Health	320	21	48	389	325	1,123	28.9%
<b>TOTAL TORONTO</b>	<b>320</b>	<b>21</b>	<b>48</b>	<b>389</b>	<b>325</b>	<b>1,123</b>	<b>28.9%</b>
Chatham-Kent Public Health	4	0	3	7	6	59	10.2%
Grey Bruce Health Unit	2	0	0	2	2	114	1.8%
Huron Perth Public Health	0	0	0	0	0	108	0.0%
Lambton Public Health	9	1	4	14	13	56	23.2%
Middlesex-London Health Unit	21	0	11	32	28	180	15.6%
Southwestern Public Health	9	2	0	11	11	95	11.6%
Windsor-Essex County Health Unit	16	0	6	22	21	156	13.5%
<b>TOTAL SOUTH WEST</b>	<b>61</b>	<b>3</b>	<b>24</b>	<b>88</b>	<b>81</b>	<b>768</b>	<b>10.5%</b>
Brant County Health Unit	15	1	6	22	18	63	28.6%

Public Health Unit Name	Number of outbreaks in elementary schools	Number of outbreaks in elementary/secondary schools	Number of outbreaks in secondary schools	Total number of outbreaks	Total number of schools with any outbreak	Total number of schools in public health unit	Percentage of schools with any outbreak
City of Hamilton Public Health Services	53	3	7	63	55	199	27.6%
Haldimand-Norfolk Health Unit	3	0	3	6	5	56	8.9%
Halton Region Public Health	29	1	4	34	30	209	14.4%
Niagara Region Public Health	29	1	7	37	31	208	14.9%
Region of Waterloo Public Health and Emergency Services	47	1	11	59	43	232	18.5%
Wellington-Dufferin-Guelph Public Health	25	0	5	30	26	150	17.3%
<b>TOTAL CENTRAL WEST</b>	<b>201</b>	<b>7</b>	<b>43</b>	<b>251</b>	<b>208</b>	<b>1,117</b>	<b>18.6%</b>
<b>TOTAL ONTARIO</b>	<b>1,053</b>	<b>63</b>	<b>250</b>	<b>1,366</b>	<b>1,153</b>	<b>6,009</b>	<b>19.2%</b>

**Note:** Includes outbreaks that are ongoing and outbreaks that are no longer active. 'Percentage of school with any outbreak' uses the 'Total number of schools with any outbreak' as the numerator and the 'Total number of schools in public health unit' as the denominator. Of all schools reporting any outbreak, 85.2% reported one outbreak, 12.2% reported two outbreaks, 2.2% reported three outbreaks, 0.2% reported four outbreaks and 0.2% reported eight outbreaks in the reporting period. 'Total number of schools in public health unit' include all public and private schools located in the public health unit, regardless of whether or not the school is currently providing in-person learning.

**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 **June 29, 2021 at 1 p.m.** 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 **June 29, 2021 at 1 p.m.** for cases reported from February 1, 2021 onwards and as of **June 28, 2021 at 9 a.m.** for cases reported up to January 31, 2021.
- VOC data for this report were based on information successfully extracted from CCM for all PHUs by PHO as of **June 29, 2021 at 1 p.m.** for cases reported from April 1, 2021 onwards and as of **June 28, 2021 at 9 a.m.** for cases reported up to March 31, 2021.
- CCM is a dynamic disease reporting system, which allows ongoing updates to data previously entered. As a result, data extracted from CCM represent a snapshot at the time of extraction and may differ from previous or subsequent reports.
- Data for the 'Total number of schools in public health unit' was obtained from the Ministry of Education's public and private schools lists loaded into the CCM Locations object and are accurate as of **August, 2020.**
- 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:

- School outbreaks are defined as two or more lab-confirmed COVID-19 cases in students and/or staff (or other visitors) in a school with an epidemiological link, within a 14-day period, where at least one case could have reasonably acquired their infection in the school (including transportation and before/after school care). Examples of reasonably having acquired infection in school include: No obvious source of infection outside of the school setting; OR Known exposure in the school setting.

- Only confirmed outbreaks are included in this report.
- All school outbreaks reported as confirmed in CCM were included in these analyses regardless of whether the case data in CCM supported the outbreaks' classification. Some confirmed outbreaks presented in this report may have fewer than two cases recorded in CCM at the time of writing.
- The data only represent cases reported to public health units and recorded in CCM. As a result, all counts will be subject to varying degrees of underreporting due to a variety of factors, such as disease awareness and medical care seeking behaviours, which may depend on severity of illness, clinical practice, changes in laboratory testing, and reporting behaviours.
- Lags in CCM data entry due to weekend staffing may result in lower case counts than would otherwise be recorded.
- Only cases meeting the confirmed case classification as listed in the [MOH Case Definition – Coronavirus Disease \(COVID-19\) document](#) are included in the report counts from CCM.
- Cases of confirmed reinfection, as defined in the provincial case definitions, are counted as unique investigations.
- Case classification information may be updated for individuals with a positive result issued from a point-of-care assays.
- 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.
- Case reported week uses the date the case was reported to the public health unit.
  - Outbreak reported week uses the date the public health unit reported the outbreak. If this date is unavailable, the date the public health unit created the outbreak is used.
  - Reported weeks were created to align with the Public Health Agency of Canada (PHAC) influenza surveillance weeks.
- Likely source of acquisition is determined by examining the epidemiologic link and epidemiologic link status fields in CCM. 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 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 the First Nations and Inuit Health Branch (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
- A close contact (household or non-household) is defined as an individual with a high-risk exposure to a confirmed or probable case.
- Ongoing outbreaks include all outbreaks that are 'Open' in CCM without a 'Declared Over Date' recorded, or where the outbreak started more than five months ago, even for outbreaks where the Outbreak Status value selected in CCM is 'OPEN'. Outbreak duration was calculated using the 'Outbreak Date' as the start date and the 'Outbreak Date End' as the end date. The "Outbreak Date" is a calculated field used to determine the outbreak declared date using the following hierarchy of date fields (Onset date of the first case > Reported Date > Created Date). The "Outbreak Date End" is a calculated field used to determine the end of the outbreak using the following hierarchy of date fields (Onset date of the last case > Declared Over Date). The [School Outbreak Guidance](#) states that outbreaks can be declared over if at least 14 days have passed with no evidence of ongoing transmission that could reasonably be related to exposures in the school and there are no further ill individuals associated with the initial exposed cohorts with tests pending. Variations in data entry processes across public health units may impact the calculated outbreak length (i.e., outbreak length may under or overestimate duration of outbreak).
- Orientation of outbreaks by geography is based on the primary health unit. The primary health unit is the public health unit in which the school is located.
  - 'Total number of schools in public health unit' include all schools located in the public health unit, regardless of whether or not the school is currently providing in-person learning. The number of schools in each public health unit was obtained using public and private school lists provided by the Ministry of Education.
- 'Cases associated with school outbreaks' includes cases reported in CCM between August 30, 2020 to April 24, 2021 that are linked to an outbreak, by school classification type (Elementary, Elementary/Secondary, Secondary), that met the definition of a school outbreak. This includes cases that may not have their likely source of acquisition reported as 'outbreak-associated'.
  - School classification types are defined by the Ministry of Education. Some schools classified as secondary may also have an intermediate school in the same location that start in Grade 7.
  - Elementary/Secondary schools include a public or private school educating children in a combination of elementary (Kindergarten to Grade 8) and secondary (Grade 9 to 12) grades (e.g., K-12 combined).
- 'Students' include cases reported between August 30, 2020 to April 24, 2021 that reported either "YES" OR "YES – ELEMENTARY" OR "YES – ELEMENTARY/SECONDARY" OR "YES – SECONDARY" to the in-person school attendance risk factor 'Occupational\_Student'.
- 'Staff' includes cases reported between August 30, 2020 to April 24, 2021 that reported either "YES" OR "YES – ELEMENTARY" OR "YES – ELEMENTARY/SECONDARY" OR "YES – SECONDARY" to the in-person school attendance occupational risk factors for Teacher, Education Assistant,

Custodial Staff, Administrative Staff, Transportation Staff, or Other Educational Staff; or reported either “YES” OR “YES – ELEMENTARY” OR “YES – ELEMENTARY/SECONDARY” to the occupational in-person school attendance risk factors for Early Childhood Educator.

- Cases with unknown or missing ages were excluded from age-specific analyses.
- Public Health Ontario conducts testing and genomic analyses for SARS-CoV-2 positive specimens using the criteria outlined here: <https://www.publichealthontario.ca/en/laboratory-services/test-information-index/covid-19-voc>
- Lineage nomenclature is dynamic. PANGO lineage naming and assignment may change as more samples are sequenced and analyzed.
- Variant status may be updated based on scientific evidence. Variants designated as a VOC in Canada is available on the Public Health Agency of Canada’s SARS-CoV-2 Variants webpage.
- Changes to the VOC testing algorithm may occur over time and trends should be interpreted with caution. Since February 3, 2021 all PCR positive SARS-CoV-2 specimens with CT values  $\leq 35$  are tested for a N501Y mutation. As of March 22, 2021, positive specimens with a Ct  $\leq 35$  are tested for both the N501Y and E484K mutation, with all E484K positive specimens with a Ct  $\leq 30$  forwarded for further genomic analysis. If found to be positive for the N501Y mutation only, no further genomic analysis are performed as these are presumed to be B.1.1.7. As of May 26, 2021, cases where an E484K mutation is detected will no longer be reflexed for sequencing as VOC testing labs switched to a representative sampling method where only a proportion of all positives with a Ct  $\leq 30$  are forwarded for further genomic analysis.
- The laboratory detection of a variant of concern is a multi-step process. Samples that test positive for SARS-CoV-2 and have a cycle threshold (Ct) value  $\leq 35$  can be tested for mutations common to variants of concern. If positive for the mutation of interest with a Ct value of  $\leq 30$ , these samples may then undergo genomic analyses to identify the VOC. VOC lineages may still be confirmed using genomic analysis despite specific S gene mutation(s) being documented as ‘unable to complete’ due to poor sequence quality at the genome position.
- Outbreaks were identified as having at confirmed COVID-19 case with a mutation or VOC detected if at least one case was linked to the outbreak and was confirmed as a COVID-19 cases with a lineage or mutation reported in the Investigation Subtype field OR were identified as having VOC-associated mutation detected, or lineages using genomic analyses using information from the Laboratory object in CCM.
- VOC testing data are analyzed for cases with a reported date on or after February 07, 2021. VOC testing data are based on CCM information reported within the laboratory object for select Logical Observation Identifiers Names and Codes (LOINC) and supplemented with information from the Investigation Subtype field. A confirmed Case Investigation is assigned a VOC test value (e.g., VOC test detected, VOC test not detected) based on the following hierarchy:
  - If multiple laboratory results are identified, a VOC test value is assigned based on the following hierarchy: Detected > Not Detected > Unable to complete.

- If a laboratory result is 'Not Detected' or 'Unable to complete', but data on the Investigation Subtype field is listed as a lineage or mutation common to a VOC, then the VOC test value is set to 'Detected'.
- Significance testing for the difference in median outbreak size by VOC status (Table 4a and 4b) was completed using the Mann-Whitney U test.

## 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.
- ON-Marg assigns levels of marginalization to census dissemination areas (DAs). Cases were assigned DAs based on postal code of residence using the single-link indicator (SLI) version of the postal code conversion file (PCCF).
- Rates per 100,000 were calculated using population denominators of 4 to 17 year olds in Ontario derived from the 2016 census data.
- 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 A1. Reported week and corresponding start and end dates.**

Reported Week	Start date	End date
36	August 30, 2020	September 5, 2020
37	September 6, 2020	September 12, 2020
38	September 13, 2020	September 19, 2020
39	September 20, 2020	September 26, 2020
40	September 27, 2020	October 3, 2020
41	October 4, 2020	October 10, 2020
42	October 11, 2020	October 17, 2020
43	October 18, 2020	October 24, 2020
44	October 25, 2020	October 31, 2020
45	November 1, 2020	November 7, 2020
46	November 8, 2020	November 14, 2020
47	November 15, 2020	November 21, 2020
48	November 22, 2020	November 28, 2020
49	November 29, 2020	December 5, 2020
50	December 6, 2020	December 12, 2020
51	December 13, 2020	December 19, 2020
52	December 20, 2020	December 26, 2020
53	December 27, 2020	January 2, 2021
1	January 3, 2021	January 9, 2021
2	January 10, 2021	January 16, 2021
3	January 17, 2021	January 23, 2021

Reported Week	Start date	End date
4	January 24, 2021	January 30, 2021
5	January 31, 2021	February 6, 2021
6	February 7, 2021	February 13, 2021
7	February 14, 2021	February 20, 2021
8	February 21, 2021	February 27, 2021
9	February 28, 2021	March 6, 2021
10	March 7, 2021	March 13, 2021
11	March 14, 2021	March 20, 2021
12	March 21, 2021	March 27, 2021
13	March 28, 2021	April 3, 2021
14	April 4, 2021	April 10, 2021
15	April 11, 2021	April 17, 2021
16	April 18, 2021	April 24, 2021

**Table A2. Timeline of public health measures/restrictions relating to school outbreaks**

Reported Week/Date	Event
December 18, 2020 (week 51)	<ul style="list-style-type: none"> <li>• Last day of school before holiday break</li> </ul>
December 26, 2020 (week 52)	<ul style="list-style-type: none"> <li>• Province issues <a href="#">Province-wide Shutdown</a></li> </ul>
January 11, 2021 (week 2)	<ul style="list-style-type: none"> <li>• Schools in the following public health units re-opened for in-person attendance: <ul style="list-style-type: none"> <li>○ <i>Algoma Public Health</i></li> <li>○ <i>North Bay Parry Sound District Health Unit</i></li> <li>○ <i>Northwestern Health Unit</i></li> <li>○ <i>Porcupine Health Unit</i></li> <li>○ <i>Public Health Sudbury &amp; Districts</i></li> <li>○ <i>Thunder Bay District Health Unit</i></li> <li>○ <i>Timiskaming Health Unit</i></li> </ul> </li> </ul>
January 14, 2021 (week 2)	<ul style="list-style-type: none"> <li>• Province issues <a href="#">Stay-at-Home Order</a></li> </ul>
January 25, 2021 (week 4)	<ul style="list-style-type: none"> <li>• Schools in the following public health units re-opened for in-person attendance: <ul style="list-style-type: none"> <li>○ <i>Grey Bruce Health Unit</i></li> <li>○ <i>Haliburton, Kawartha, Pine Ridge District Health Unit</i></li> <li>○ <i>Hastings Prince Edward Public Health</i></li> <li>○ <i>Kingston, Frontenac and Lennox &amp; Addington Public Health</i></li> <li>○ <i>Leeds, Grenville &amp; Lanark District Health Unit</i></li> <li>○ <i>Peterborough Public Health</i></li> <li>○ <i>Renfrew County and District Health Unit</i></li> </ul> </li> </ul>
February 1, 2021 (week 5)	<ul style="list-style-type: none"> <li>• Schools in the following public health units re-opened for in-person attendance: <ul style="list-style-type: none"> <li>○ <i>Eastern Ontario Health Unit</i></li> <li>○ <i>Middlesex-London Health Unit</i></li> <li>○ <i>Ottawa Public Health</i></li> <li>○ <i>Southwestern Public Health</i></li> </ul> </li> </ul>

Reported Week/Date	Event
February 8, 2021 (week 6)	<ul style="list-style-type: none"> <li>• Schools in the following public health units re-opened for in-person attendance:               <ul style="list-style-type: none"> <li>○ <i>Brant County Health Unit</i></li> <li>○ <i>Chatham-Kent Public Health</i></li> <li>○ <i>City of Hamilton Public Health Services</i></li> <li>○ <i>Durham Region Health Department</i></li> <li>○ <i>Haldimand-Norfolk Health Unit</i></li> <li>○ <i>Halton Region Public Health</i></li> <li>○ <i>Huron Perth Public Health</i></li> <li>○ <i>Lambton Public Health</i></li> <li>○ <i>Niagara Region Public Health</i></li> <li>○ <i>Region of Waterloo Public Health and Emergency Services</i></li> <li>○ <i>Simcoe Muskoka District Health Unit</i></li> <li>○ <i>Wellington-Dufferin-Guelph Public Health</i></li> <li>○ <i>Windsor-Essex County Health Unit</i></li> </ul> </li> </ul>
February 10, 2021 (week 6)	<ul style="list-style-type: none"> <li>• The following public health units returned to the provincial re-opening framework, following the Province-wide Shut down that came into effect December 26, 2020:               <ul style="list-style-type: none"> <li>○ <i>Hastings Prince Edward Public Health</i></li> <li>○ <i>Kingston, Frontenac and Lennox &amp; Addington Public Health</i></li> <li>○ <i>Renfrew County and District Health Unit</i></li> </ul> </li> </ul>
February 16, 2021 (week 7)	<ul style="list-style-type: none"> <li>• The following public health units returned to the provincial re-opening framework:               <ul style="list-style-type: none"> <li>○ <i>Algoma Public Health</i></li> <li>○ <i>Brant County Health Unit</i></li> <li>○ <i>Chatham-Kent Public Health</i></li> <li>○ <i>City of Hamilton Public Health Services</i></li> <li>○ <i>Durham Region Health Department</i></li> <li>○ <i>Eastern Ontario Health Unit</i></li> <li>○ <i>Grey Bruce Health Unit</i></li> <li>○ <i>Haldimand-Norfolk Health Unit</i></li> <li>○ <i>Haliburton, Kawartha, Pine Ridge District Health Unit</i></li> </ul> </li> </ul>

Reported Week/Date	Event
	<ul style="list-style-type: none"> <li>○ <i>Halton Region Public Health</i></li> <li>○ <i>Huron Perth Public Health</i></li> <li>○ <i>Lambton Public Health</i></li> <li>○ <i>Leeds, Grenville &amp; Lanark District Health Unit</i></li> <li>○ <i>Middlesex-London Health Unit</i></li> <li>○ <i>Northwestern Health Unit</i></li> <li>○ <i>Ottawa Public Health</i></li> <li>○ <i>Peterborough Public Health</i></li> <li>○ <i>Porcupine Health Unit</i></li> <li>○ <i>Public Health Sudbury &amp; Districts</i></li> <li>○ <i>Region of Waterloo Public Health and Emergency Services</i></li> <li>○ <i>Simcoe Muskoka District Health Unit</i></li> <li>○ <i>Southwestern Public Health</i></li> <li>○ <i>Thunder Bay District Health Unit</i></li> <li>○ <i>Timiskaming Health Unit</i></li> <li>○ <i>Wellington-Dufferin-Guelph Public Health</i></li> <li>○ <i>Windsor-Essex County Health Unit</i></li> <li>● Schools in the following public health units re-opened for in-person attendance: <ul style="list-style-type: none"> <li>○ <i>Peel Public Health</i></li> <li>○ <i>Toronto Public Health</i></li> <li>○ <i>York Region Public Health</i></li> </ul> </li> </ul>
<p>February 22, 2021 (week 8)</p>	<ul style="list-style-type: none"> <li>● The following public health units returned to the provincial re-opening framework: <ul style="list-style-type: none"> <li>○ <i>York Region Public Health</i></li> </ul> </li> <li>● Screening guidance for the COVID-19 screening tool for school or child care was modified such that individuals, including young children, who are showing even one symptom of COVID-19 should be tested.</li> </ul>
<p>March 1, 2021 (week 9)</p>	<ul style="list-style-type: none"> <li>● Schools in <i>Thunder Bay District Health Unit</i> returned to remote learning.</li> <li>● The following public health units returned to the provincial re-opening framework: <ul style="list-style-type: none"> <li>○ <i>Niagara Region Public Health</i></li> </ul> </li> </ul>

Reported Week/Date	Event
March 8, 2021 (week 10)	<ul style="list-style-type: none"> <li>The following public health units returned to the provincial re-opening framework: <ul style="list-style-type: none"> <li><i>North Bay Parry Sound District Health Unit</i></li> <li><i>Peel Public Health</i></li> <li><i>Toronto Public Health</i></li> </ul> </li> </ul>
March 15, 2021 (week 11)	<ul style="list-style-type: none"> <li>Schools in Greater Sudbury and the Sudbury and Manitoulin districts (within <i>Public Health Sudbury &amp; Districts</i>), with the exception of Chapleau area schools, returned to remote learning</li> </ul>
April 3, 2021 (week 13)	<ul style="list-style-type: none"> <li>Province implements <a href="#">province wide emergency brake</a></li> </ul>
April 6, 2021 (week 14)	<ul style="list-style-type: none"> <li>Schools in Peel Public Health returned to remote learning</li> </ul>
April 7, 2021 (week 14)	<ul style="list-style-type: none"> <li>Schools in Wellington-Dufferin-Guelph Public Health and Toronto Public Health returned to remote learning</li> </ul>
April 8, 2021 (week 14)	<ul style="list-style-type: none"> <li>Province issues <a href="#">Stay-at-Home Order</a></li> </ul>
April 12, 2021 (week 15)	<ul style="list-style-type: none"> <li>Province moves all remaining schools to remote learning</li> </ul>

## Disclaimer

This document was developed by Public Health Ontario (PHO). PHO provides scientific and technical advice to Ontario's government, public health organizations and health care providers. PHO's work is guided by the current best available evidence at the time of publication.

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## For Further Information

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## Public Health Ontario

Public Health Ontario is an agency of the Government of Ontario dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. Public Health Ontario links public health practitioners, front-line health workers and researchers to the best scientific intelligence and knowledge from around the world.

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