

## QUICK EPIDEMIOLOGICAL SUMMARY

# School Outbreak-Associated COVID-19 Cases in Ontario by Vaccination Status and Vaccination Age-Eligibility: July 4, 2021 to November 6, 2021

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## Purpose

This brief report summarizes information on COVID-19 cases associated with school outbreaks with a focus on vaccination age-eligibility and vaccination status. It examines the number of confirmed cases associated with school outbreaks, the proportion of outbreak-associated cases that are unvaccinated or partially vaccinated, the prevalence of breakthrough infections, and case characteristics of those age-eligible for vaccination. During the surveillance period covered by this report (July 4 to November 6, 2021), no vaccine was authorized by Health Canada for individuals <12 years of age. Individuals were considered age-eligible for vaccination if they were aged 12 years or older at time of vaccination.

For more information on COVID-19 in children and school settings, please refer to the surveillance report: [COVID-19 in Children, Education and Child Care Settings](#).

## Definition of Terms

Cases that are **unvaccinated and not age-eligible for vaccination** includes cases that are under 12 years of age and have not yet received a dose of a Health Canada authorized COVID-19 vaccine. During the surveillance period covered by this report (July 4 to November 6, 2021), COVID-19 vaccines were **not yet authorized** for this age group by Health Canada.

Cases that are **unvaccinated and age-eligible for vaccination** includes cases that are 12 years of age and older and have not yet received a dose of a Health Canada authorized COVID-19 vaccine. COVID-19 vaccines **were authorized** for this age group.

The following definitions were used to describe COVID-19 infection following vaccination among age-eligible cases. For more information please refer to the [Confirmed Cases of COVID-19 Following Vaccination in Ontario](#) report:

- **Cases not yet protected from vaccination** includes cases with a symptom onset date that was 0 to <14 days following the first dose of a Health Canada authorized COVID-19 vaccine.
- **Partially vaccinated cases** includes cases with a symptom onset date that was 14 or more days following the first dose of a 2-dose series of a Health Canada authorized COVID-19 vaccine or 0 to <14 days after receiving the second dose of a 2-dose Health Canada authorized COVID-19 vaccine series.

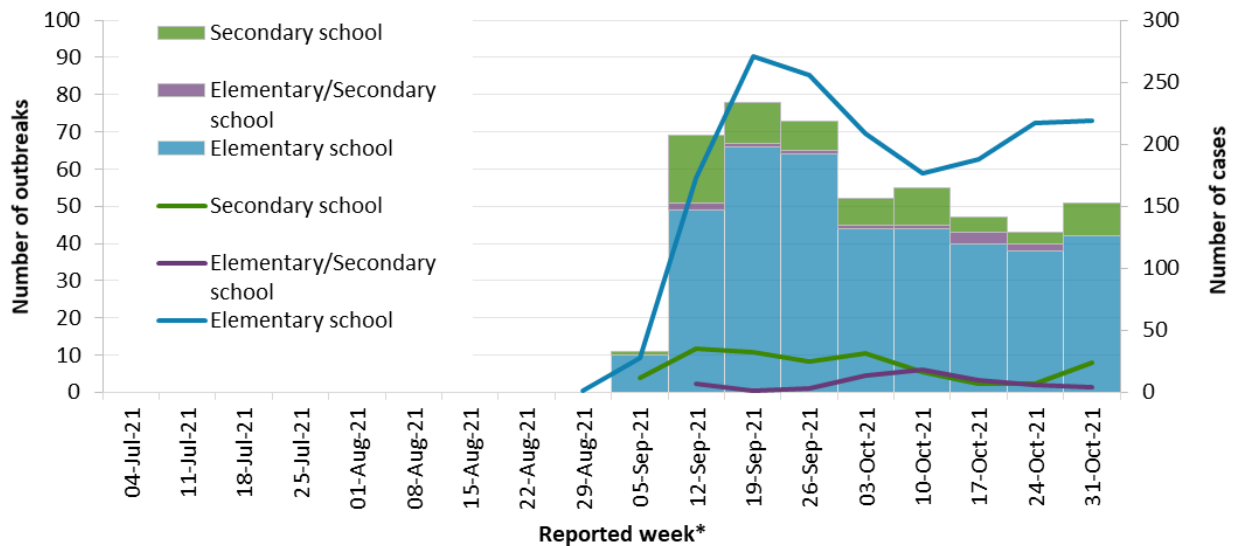
- **Breakthrough (i.e., fully vaccinated) cases** include cases with a symptom onset date that was 14 or more days following receipt of the second dose of a 2-dose series of a Health Canada authorized COVID-19 vaccine, 14 or more days following the first dose of a Health Canada authorized COVID-19 vaccine product with a 1-dose schedule, or 0 to <14 days after receiving the third dose of a Health Canada authorized COVID-19 vaccine.

## Summary

- A total of 479 school-associated outbreaks were reported to public health between July 4, 2021 and November 6, 2021. The total number of cases associated with school outbreaks was 1,991, including students and staff.
- Of the 1,991 cases associated with school outbreaks, 1,796 (90.2%) were unvaccinated.
  - 240 (12.1%) of the 1,991 cases were unvaccinated and age-eligible for vaccination (i.e. 12 years of age or older) and 1,556 (78.2%) were unvaccinated and not age-eligible for vaccination (i.e., under 12 years of age).
- Of the 1,991 cases associated with school outbreaks, 191 (9.6%) were vaccinated.
  - 136 (6.8%) of the 1,991 cases were breakthrough cases (i.e., fully vaccinated), 35 (1.8%) were partially vaccinated and 20 (1.0%) were not yet protected from vaccination.

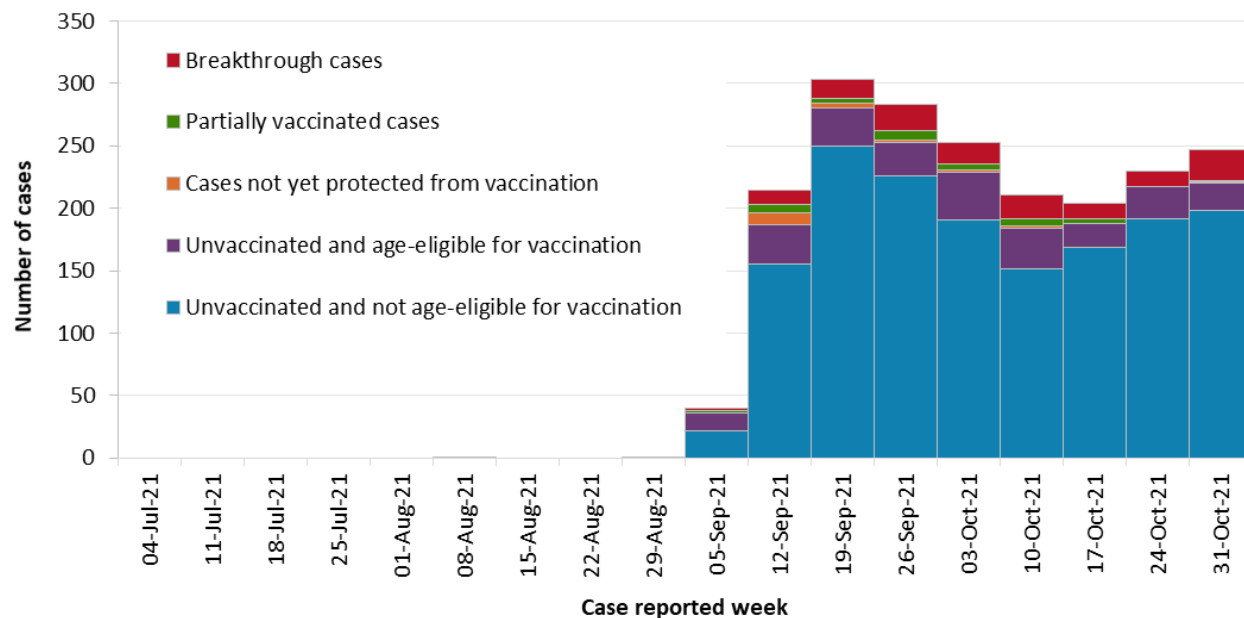
## Results

**Figure 1. Public health unit declared COVID-19 outbreaks in school settings and number of confirmed COVID-19 cases associated with outbreaks by reported week: Ontario, July 4, 2021 to November 6, 2021**



**Note:** Bars indicate number of outbreaks reported and lines indicate number of cases reported. Reported week refers to outbreak reported week for outbreaks and to case reported week for cases. Outbreak reported week is the week the public health unit reported or created the outbreak. Case reported week is the week the case was reported to the public health unit. Includes cases associated with outbreaks that are ongoing and outbreaks that are no longer active. Includes outbreaks and cases with reported dates ranging from the week of July 4 to 10, 2021 to the week of October 31 to November 6, 2021.

**Figure 2. Number of confirmed COVID-19 cases associated with school outbreaks by vaccination status and reported week: Ontario, July 4, 2021 to November 6, 2021**



**Note:** Includes cases associated with outbreaks that are ongoing and outbreaks that are no longer active. Includes cases with reported dates ranging from the week of July 4 to 10, 2021 to the week of October 31 to November 6, 2021. Vaccination age-eligibility is informed by vaccine product recommendations (i.e. no vaccine authorized or recommended in individuals <12 years of age during the surveillance period covered by this report [July 4 to November 6, 2021]). Four cases that were 11 years old at the time of vaccination were excluded from these analyses.

**Table 1. Summary of confirmed COVID-19 cases associated with school outbreaks by age group and vaccination status: Ontario, July 4, 2021 to November 6, 2021**

	Cumulative case count	Percent of total cases
Cumulative number of school outbreaks <sup>1,2</sup>	479	N/A
Cumulative number of cases associated with school outbreaks <sup>1,2</sup>	1,991	100.0%
Total unvaccinated cases	1,796	90.2%
Unvaccinated and not age-eligible for vaccination	1,556	78.2%
0-4	165	8.3%
5-11	1,391	69.9%
Unvaccinated and age-eligible for vaccination	240	12.1%
12-17	164	8.2%
18+	76	3.8%
Cases not yet protected from vaccination	20	1.0%
12-17	16	0.8%
18+	4	0.2%
Partially vaccinated cases	35	1.8%
12-17	27	1.4%
18+	8	0.4%
Breakthrough cases	136	6.8%
12-17	54	2.7%
18+	82	4.1%

**Note:** Vaccination age-eligibility is informed by vaccine product recommendations (i.e. no vaccine authorized or recommended in individuals <12 years of age during the surveillance period covered by this report [July 4 to November 6, 2021]). Four cases that were 11 years old at the time of vaccination were excluded from these analyses.

<sup>1</sup>Cumulative counts include COVID-19 outbreaks in school settings and cases associated with these outbreaks reported starting the week of July 4 to 10, 2021.

<sup>2</sup>Outbreak counts include 17 confirmed COVID-19 outbreaks in schools that had zero cases linked to them.

**Table 2. Characteristics of confirmed COVID-19 cases age-eligible (12 years of age and older) for vaccination associated with school outbreaks: Ontario, July 4, 2021 to November 6, 2021**

Characteristic	Unvaccinated and age-eligible for vaccination	Cases not yet protected	Partially vaccinated cases	Breakthrough cases
Sex				
N Female (%)	124 (51.7%)	10 (50.0%)	12 (34.3%)	95 (69.9%)
N Male (%)	115 (47.9%)	10 (50.0%)	23 (65.7%)	40 (29.4%)
Age (years)				
Median age (IQR)	15.0 (13.0-33.0)	15.5 (12.0-17.0)	16.0 (13.0-17.0)	35.0 (15.5-46.5)
Risk Factors				
N student <sup>1</sup> (%)	51 (21.3%)	2 (10.0%)	6 (17.1%)	55 (40.4%)
N staff <sup>1</sup> (%)	112 (46.7%)	10 (50.0%)	23 (65.7%)	44 (32.4%)
N unknown <sup>2</sup> (%)	77 (32.1%)	8 (40%)	6 (17.1%)	37 (27.2%)
<b>N Total <sup>3</sup></b>	<b>240</b>	<b>20</b>	<b>35</b>	<b>136</b>

**Note:** Vaccination age-eligibility is informed by vaccine product recommendations (i.e. no vaccine authorized or recommended in individuals <12 years of age during the surveillance period covered by this report [July 4 to November 6, 2021]). Four cases that were 11 years old at the time of vaccination were excluded from these analyses.

<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".

<sup>2</sup> "Unknown" includes cases associated with school outbreaks where an in-person school attendance risk factor was not specified

<sup>3</sup> Totals include cases where sex was unknown.

## Data Source and Caveats

- 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 November 15, 2021 at 1 p.m. for cases reported from February 1, 2021 onwards and as of November 15, 2021 at 9 a.m. for cases reported up to January 31, 2021.
- COVID-19 vaccination data were based on information successfully extracted from the Ontario Ministry of Health's COVaxON application as of November 15, 2021 at approximately 7 a.m. COVaxON data was subsequently linked to COVID-19 case data based on information successfully extracted from the Public Health Case and Contact Management Solution (CCM) for all PHUs by PHO as of November 15, 2021 at 1 p.m.
- For more information on COVID-19 data, including COVID-19 vaccine uptake in the province, please refer to the [Ontario COVID-19 Data Tool](#).
- For more information on COVID-19 vaccine uptake in the province and impact of the vaccination program on COVID-19 cases and severe outcomes please refer to the [COVID-19 Vaccine Uptake and Program Impact in Ontario](#) report and the [Confirmed Cases of COVID-19 Following Vaccination in Ontario](#) report.

## Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). School outbreak-associated COVID-19 cases in Ontario by vaccination status and vaccination age-eligibility: July 4, 2021 to November 6, 2021. Toronto, ON: Queen's Printer for Ontario; 2021.

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