

Ontario Returns to School: An Overview of the Science

Ontario COVID-19 Science Advisory Table

January 12, 2022



Key Messages

- Ontario evidence shows that school closures are associated with substantial mental health and educational attainment harms. These risks are cumulative and are disproportionately experienced among families from marginalized groups.
- Emerging evidence suggests Ontarians aged 5-19 years appear to be at low risk of hospitalization and severe disease from Omicron, compared to other ages. Hospitalization risk is further reduced by vaccination.
- Existing evidence suggests that closures of in-person learning has a smaller effect on community spread of SARS-CoV-2 compared to many other public health measures.
- Vaccination, ventilation and filtration, cohorting, testing, staying home when sick and high-quality masks mitigate risks of SARS-CoV-2 transmission in schools. It is important to prioritize these resources for schools in high-risk communities.

School closures are associated with educational and social challenges for children and families

Learning disruption is cumulative and sustained

- Ontario's schools have been closed 27+ weeks since March 2020, longer than any other Canadian jurisdiction and most European countries.
- International data show declines in student achievement associated with pandemic-related school closures and online learning.
- Ontario data show sixfold increase in extreme student absenteeism (not being present for more than 50% of classes) during the pandemic.
- Harms of school closures disproportionately affect low-income families, essential workers, racialized groups, marginalized communities and people with disabilities, already hard-hit by COVID-19 associated hardships.
- School closures reduce labour force participation among parents, particularly women.

School closures are associated with serious risks for children

Ontario evidence shows deterioration in children's mental health that is substantial and sustained

- School closures increase social isolation, a major contributor to the worsening of children's mental health in Ontario.
- A study of Ontario children aged 6-18 with no pre-existing psychiatric diagnoses demonstrated increased clinically significant symptoms of depression and/or anxiety. The proportion of children with clinically significant symptoms of depression and/or anxiety nearly tripled during the COVID-19 pandemic to 1 in 4 for depression and 1 in 5 for anxiety.
- Ontario children with higher levels of screen use had significantly higher levels of mental health symptoms during the COVID-19 pandemic.
- Higher levels of online learning time during school closures were associated with higher levels of depression and anxiety in a study of Ontario children and youth.

Most children have mild illness with SARS-CoV-2 infection

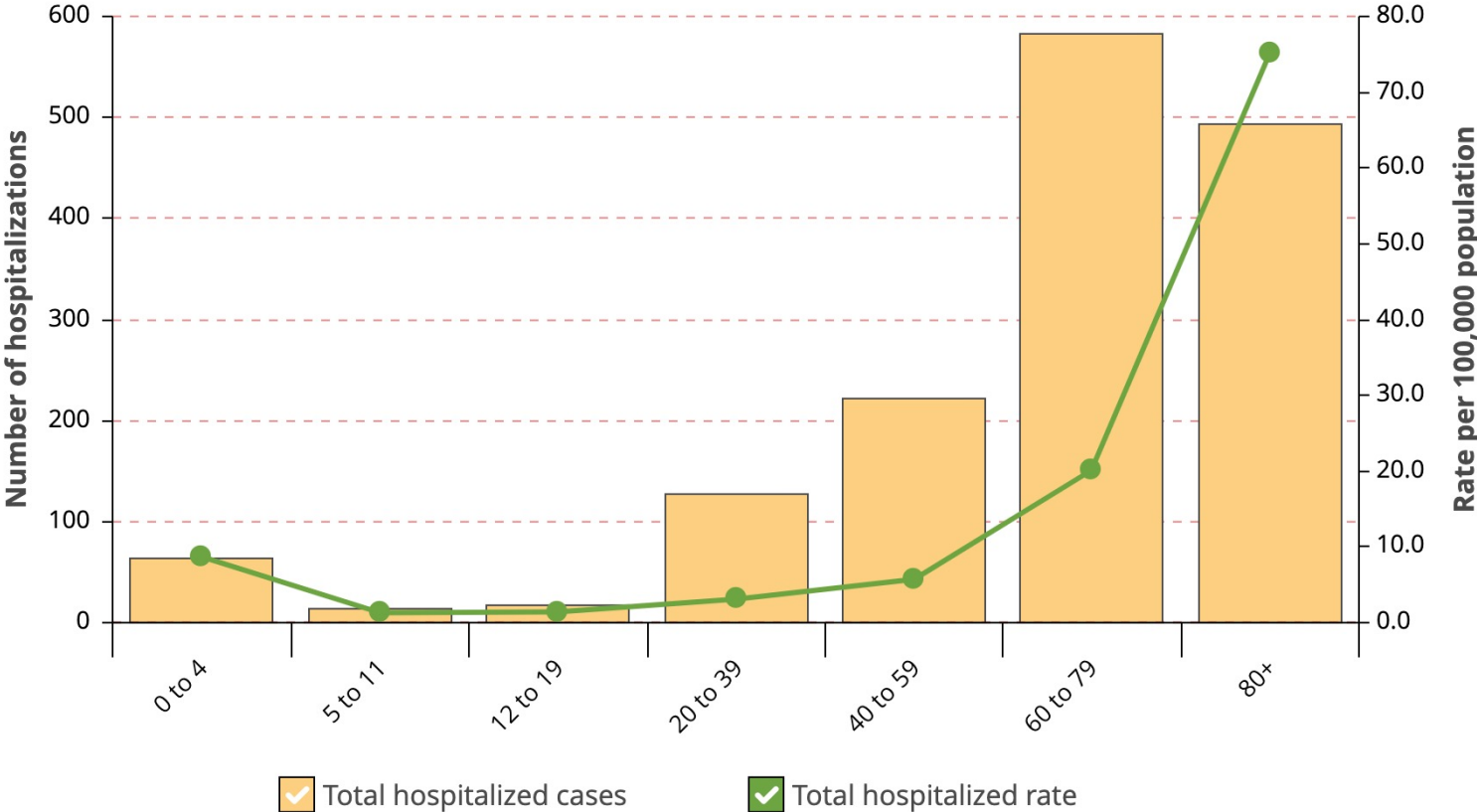
- The risk of severe disease is low but hospitalization is possible in children, especially among those with risk factors.
- Vaccination further reduces severe disease and hospitalizations.
- Risk factors for severe disease and hospitalization are emerging and include the following:
 - Age < 5 years, notably children < 2 years of age
 - Presence of medical comorbidities (e.g., existing lung disease)
 - Unvaccinated status
 - Lower socio-economic characteristics
- The short and long-term health risks associated with Omicron in children are emerging and should be carefully monitored.

Ontarians ages 5-19 are the least likely to have serious disease with Omicron

Counts and rates of hospitalizations among recent COVID-19 cases by age group in Ontario

Last updated January 10, 2022

Hospitalization rates
Ages 0-4: 8.7 per 100,000
Ages 5-11: 1.3 per 100,000
Ages 12-19: 1.4 per 100,000



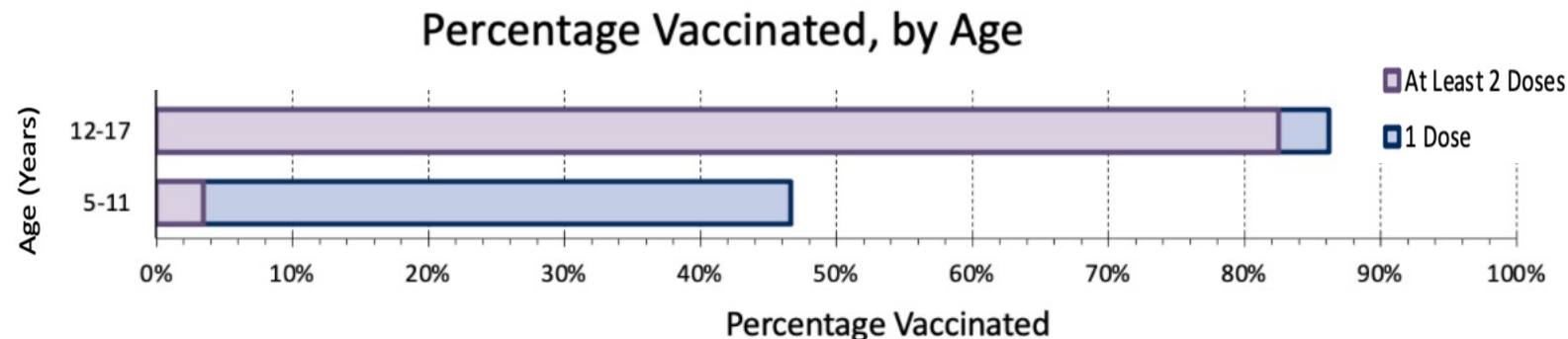
Evidence suggests efforts to control Omicron community transmission should focus on public health measures other than school closures and prioritize resources to highest-risk communities

- Ontario is experiencing widespread community transmission of Omicron.
- Evidence suggests that the effect of school closures to reduce transmission of SARS-CoV-2 is small compared to many other public health measures; there is not yet evidence whether this holds for Omicron.
- In Ontario historically, the highest proportion of SARS-CoV-2 infections have been in racially diverse and low-income communities with a larger proportion of essential workers and higher-density contact networks.
- In previous waves, a focus on highest-risk communities has reduced harms of COVID-19. Resource allocation should be focused on schools serving those communities at highest-risk.

Public health measures initiated in Ontario will mitigate Omicron transmission in schools

Vaccination helps to protect students, school staff and their families

- Priority first-dose vaccination of all students ≥ 5 years and priority vaccination of teachers, school staff (as well as families, with an emphasis on eligible unvaccinated household members).
- Vaccination in students ≥ 5 years protects against severe illness, hospitalization.
- Using an equity-based approach, vaccination efforts should prioritize communities with low uptake, including low-income, racialized and Indigenous communities.



Public health measures will mitigate Omicron transmission in schools; a number of these measures are underway or implemented

Multiple layers of protection are needed to reduce transmission and protect the vulnerable

- Tailored vaccination strategies, outreach and interventions in communities (e.g., low-income, racialized and Indigenous) where vaccine uptake is lower.
- Ventilation and filtration in schools through upgraded HVAC systems, or temporary measures including HEPA filters for classrooms and open windows when possible.
- Physical distancing and cohorting strategies, staying home when sick, symptom and exposure screening, and testing can help reduce transmission in school settings.
- High-quality, well-fitting masks for students, teachers and staff
- With high rates of community transmission, operational issues such as staffing may be a challenge to in-person learning.

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- Vaccination, ventilation and filtration, cohorting, testing, staying home when sick and high-quality masks mitigate risks of SARS-CoV-2 transmission in schools. It is important to prioritize these resources for schools in high-risk communities.

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Appendices and References

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