

UPDATED

COVID-19: Guidance for School Reopening

JULY 29, 2020



SickKids

In partnership with

CHEO

Holland Bloorview
Kids Rehabilitation Hospital

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Preamble

The main objective of this document is to advocate for the safe return of children and youth to school by emphasizing the importance of school reopening for broader child health, balanced against the potential and important risks of coronavirus disease 2019 (COVID-19).



This living document is meant to provide information to policy-makers by highlighting paediatric-specific considerations based on our collective experience with children and their families/caregivers. The first version of the document was created by a core group of health-care workers at The Hospital for Sick Children (SickKids) and Unity Health Toronto, including those with expertise in paediatrics, infectious diseases, infection prevention and control, school health, psychiatry and mental health.¹ In this updated version, refinements have been made with contributions and endorsements from other Ontario paediatric hospitals (McMaster Children's Hospital, London Health Sciences Centre, CHEO and Kingston Health Sciences Centre), epidemiologists, public health physicians, and an advisory group of volunteer teachers and parents. It was also reviewed by parent representatives and physicians from public health and adult infectious diseases.

Given that educators of elementary and secondary school students are best positioned to appreciate the operational and logistical considerations in adapting school and class routines to incorporate new health and safety protocols, the following is not intended as an exhaustive school guidance document or implementation strategy. The safe return to school is the primary responsibility of the Ministry of Education and should include input from several key stakeholders including the Chief Medical Officer of Health, Ministry of Health, Ministry of Labour, public health authorities, teachers, principals, other school-related authorities, parents and children.

It is essential to note that keeping schools open safely will be facilitated by low case burden and community transmission of SARS-CoV-2 and, therefore, it is imperative that interventions to reduce disease prevalence and community transmission be maintained.

The recommendations in this document were drafted and accepted based on consensus of the authors. Areas of disagreement are highlighted. Where evidence exists, it was summarized and used to form the basis of recommendations. However, several statements are made based on expert opinion with the rationale provided and evidence gaps highlighted. We acknowledge the existence of various support documents from other jurisdictions, including but not limited to those referenced herein.²⁻⁴

It is important to note that the recommendations reflect the epidemiology of Severe Acute Respiratory Syndrome-coronavirus-2 (SARS-CoV-2), the causative agent of COVID-19, in Ontario as of July 27, 2020 (with fewer than 200 new confirmed cases per day) and may evolve as the epidemiology of SARS-CoV-2 changes and as new evidence emerges. It is essential to note that keeping schools open safely will be facilitated by low case burden and community transmission of SARS-CoV-2 and, therefore, it is imperative that interventions to reduce disease prevalence and community transmission be maintained. As a society and individuals, we all have

a significant role in remaining vigilant and adhering to public health recommendations to keep community transmission as low as possible. As academic clinicians and scientists, we are also committed to the conduct of rigorous academic research that will help generate evidence where there may be gaps, which is of critical importance.

The ability of the public school system to effectively carry out its mission will depend in part on the resources made available to the schools. Personnel considerations include the potential need for trained screeners at school entry, health-care providers working with the schools (e.g. telephone or virtual support, on-site support), additional custodian and cleaning staff, and an expanded number of teachers, guidance counsellors, social workers, psychologists and support teachers. The adaptation of the curricula to permit expanded outdoor education and the development of distance learning options will also presumably require resources. Adequate supplies of personal protective equipment (PPE), hand hygiene supplies (soap and hand sanitizer) and environmental cleaning materials will be needed as well. Addressing structural deficiencies, such as large class sizes, small classrooms and poor ventilation, must be part of any plan to reopen schools.

Lastly, it is imperative that there are rigorous testing and contact tracing strategies in place, with clear roles and responsibilities outlined between schools and public health authorities around case, contact and outbreak management to help mitigate the impact in the event of students or teachers/school staff becoming sick at school and/or testing positive for SARS-CoV-2.

Introduction

In considering the reopening and maintaining the safe opening of schools during the current phase of the COVID-19 pandemic in Ontario, it is critical to balance the risk of direct infection and transmission of SARS-CoV-2 in children and youth, school staff and the community, with the harms of school closure on children's physical health, developmental health, mental health and learning. While school closures were reasonable as part of the early pandemic response, current evidence and experience support the concept that

children and youth can return to school in a manner that maximizes their health and minimizes risks from a public health perspective.⁵⁻⁸ The American Academy of Pediatrics,⁹ the Canadian Paediatric Society¹⁰ and The European Academy of Pediatrics¹¹ have issued statements emphasizing the importance of children and youth returning to school. We also believe education to be absolutely critical for the development of children and youth, a human right and a *sine qua non* for the future well-being of our society.



Maximizing Children's Health

Multiple reports from around the world indicate that children and youth account for less than 5-10% of SARS-CoV-2 symptomatic infections.¹²⁻¹⁴ In Canada, of 114,597 COVID-19 cases reported as of July 27, 2020, 8,747 (7.5%) were in individuals aged 0-19 years.¹⁵ While this may, at least in part, be related to testing strategies and test performance in children and youth as well as early school closure, there is some data to suggest children, particularly those under 10 years of age, may be less susceptible to SARS-CoV-2 infection and potentially less likely to transmit the virus to others.¹⁶⁻²¹ There is also strong evidence that the majority of children and youth who become infected with SARS-CoV-2 are either asymptomatic or have only mild symptoms, such as cough, fever and sore throat.^{12, 13, 22-24} Severe acute disease requiring intensive care admission has been described in a small minority of paediatric cases, particularly among those with certain underlying medical conditions, but the clinical

course is much less severe than in adults, and deaths are extremely rare.^{13, 14, 25, 26} However, it is important to emphasize that children (especially children with complex medical conditions) have largely been isolated, so it is possible that these data may change over time as children attend school and are interacting more with peers and adults. The recently described multisystem inflammatory syndrome in children (MIS-C) is a serious condition, potentially attributable to SARS-CoV-2 infection, for which ongoing surveillance is required; current data suggests MIS-C is rare, potentially treatable with immune modulatory therapies and associated with a low mortality rate of 0-2%.²⁷⁻³²

Thus, the primary impetus for reopening schools is to optimize the overall health and welfare of children and youth, rather than solely to facilitate parent/caregiver return to work or reopening of the economy.

The community-based public health measures (e.g. provincial lockdown, school closures, stay-at-home orders, self-isolation) implemented to mitigate COVID-19 and “flatten the curve” have significant adverse health and welfare consequences for children and youth.³³ Though unintended, some of these consequences include decreased vaccination coverage,³⁴ delayed diagnosis and care for non-COVID-19 related medical conditions,^{33, 35-37} and adverse impact on their social development and mental health.³⁸⁻⁴¹ Increased rates of depression and anxiety have already been observed; increased rates of substance use and addiction, and suicidal behaviour are believed to have occurred. A recent survey by Children’s Mental Health Ontario found one in three Ontario parents reported their child’s mental health has deteriorated from being home from school and more than half of the parents noticed behavioural changes in their child.⁴² These ranged from drastic changes in mood, behaviour and personality, to difficulty sleeping and more. Those with pre-existing mental health issues have been hit particularly hard. Several organizations, including the American Psychological Association (APA) and World Health Organization (WHO), have highlighted concerns about the potential impact of lockdown on family

discord, and family violence including intimate partner violence, and child/youth maltreatment.^{43, 44} Risk factors that may contribute to the increased risk of child/youth maltreatment in this context include the heightened rates of parental/caregiver unemployment, family financial stress, parental mental illness, including increased substance use and lack of social supports. Furthermore, current school closures mean that supervision of at-risk children/youth is reduced as is the identification by teachers and other school personnel of children/youth experiencing maltreatment.⁴⁵ Thus, the primary impetus for reopening schools is to optimize the overall health and welfare of children and youth, rather than solely to facilitate parent/caregiver return to work or reopening of the economy.

As mentioned, it is critical to balance the risk of direct infection and transmission of SARS-CoV-2 in children and youth, school staff and the community with the harms of school closure, which is impacting children and youth’s physical health, developmental health, mental health and learning. Based on the evidence available at the present time and the current epidemiology, it is our view that the adverse impacts of school closure on children and youth significantly outweigh the current benefit of keeping schools closed in order to reduce the risk of COVID-19 in children, youth, school staff and the community at large.

Public Health Implications of Return to School

While the concerns around infection and infectious complications in children and youth appear to be relatively small, it is important to consider the potential role they play in SARS-CoV-2 transmission and disease propagation particularly with respect to teachers, other school staff and families. Children and youth are considered to be efficient transmitters of influenza and other respiratory virus infections and this was one of the rationales for school closures early in the COVID-19 pandemic. However, data from multiple countries suggest that children under 10 years of age are probably less likely to transmit SARS-CoV-2 than older children or adults,^{6, 16, 17, 46-48} although the significance and magnitude of that difference remains uncertain. In addition, there are emerging data suggesting that children 10 years and older may transmit SARS-CoV-2 at rates similar to those of adults.²⁰

Studies focusing on SARS-CoV-2 transmission in the school setting are limited. However, there is some evidence to suggest that schools do not appear to have played a significant role in propagating SARS-CoV-2 transmission.⁵⁻⁸ Even when cases have been identified in schools, contact tracing and testing have not identified a large number of secondary cases in most circumstances.^{5, 6, 49, 50} Furthermore, several countries have reopened schools without demonstrating a significant increase in cases when community rates have been low.^{5, 6, 49-52} Vigilance is nevertheless warranted given the emerging data on transmission from teenagers noted above,²⁰ reports of school-based outbreaks (e.g. Israel⁵³ and Chile⁵⁴) and the high seroprevalence rate observed in a high school in a heavily impacted area in France.⁵⁵ Regarding the post-return to school outbreak that occurred in Israel, it is noteworthy that both index cases had attended school despite pre-existing mild symptoms, class sizes were large (35-38 students) and crowded, and a heat wave necessitated continuous air conditioning and discontinuation of mask use.⁵³ Furthermore, of those with confirmed infection, 57% of children/youth and 24% of teachers had no symptoms, symptoms were mild in those who developed symptoms, and no hospitalizations related to the outbreak were reported.

Despite the overall reassuring, albeit limited, evidence cited above, it is imperative that ongoing surveillance and research be conducted on the role of children and youth who are asymptomatic and symptomatic in propagating SARS-CoV-2 transmission once schools are reopened. It needs to be recognized that it will not be possible to remove all risk of infection and disease now that SARS-CoV-2 is well-established in many communities. Mitigation of risk, while easing restrictions, will be needed for the foreseeable future. The mitigation strategies implemented for school reopening have varied from country to country,⁵⁶ in part depending on local epidemiology. While outbreaks have been reported in schools in some countries (e.g. Israel⁵³ and Chile⁵⁴), the risk mitigation strategies appear to have been largely successful in the majority of other countries when community transmission is low.^{5, 6, 49-52}

Minimizing Individual and Public Health Risks

Return to school has generally been associated with an increase in cases of community-associated seasonal respiratory viral infections. As a result, it is anticipated



that there may be an increase in cases of COVID-19 and other seasonal respiratory viral infections with similar symptoms upon the resumption of school and appropriate measures should be proactively put in place to mitigate the effects of such an increase. It will be critical to monitor the impact of school reopening on SARS-CoV-2 transmission and thresholds should be identified that would trigger re-evaluation of mitigation strategies as well as the school model. However, given the significant adverse health and social implication of school closure on children, youth and families, and the likelihood that other social factors/clusters (e.g. other congregate settings and large social gatherings) will be the primary drivers of case increases, school closure should be a last-resort intervention; public health measures should prioritize closure of all other non-essential congregate settings prior to school closures. To prevent premature school closing, robust public health interventions, including readily available rapid-turnaround testing and contact tracing, should be prioritized and pre-specified thresholds for implementing more intensive mitigation strategies should be developed. It will be important to thoroughly investigate outbreaks to determine their causes and, specifically, to investigate the role of children and youth versus adults in order to better understand SARS-CoV-2 spread dynamics in general and to be able to improve mitigation strategies.

Public health measures should prioritize closure of all other non-essential congregate settings prior to school closures.

School Delivery

The Ontario Ministry of Education has released guidance around the return to school and identified several options for education delivery, including remote, hybrid/adapted and daily in-person.⁵⁷ Potential advantages and disadvantages of various school models are summarized in Appendix 1. In our view, given the current epidemiology, a daily school model is best as it allows for consistency, stability and equity regardless of the region in which children and youth live. Though full-time remote learning would diminish the

Our recommendation from an overall health perspective is that children and youth return to a daily school model with risk mitigation strategies in place.

likelihood of SARS-CoV-2 transmission, it almost certainly would be insufficient to meet the needs of Ontario children and youth. A hybrid/adapted model would also likely be inferior (especially in elementary school) to a daily school model in terms of educational outcomes, would be problematic for working parents and caregivers, and it may not lead to reduced risk of SARS-CoV-2 spread because of the potential need for families to find care on off days (e.g. many families may engage grandparents or high-school students as babysitters or combine resources with other families). Irrespective of the chosen model, educators should prepare for transition from one model to another depending on local SARS-CoV-2 epidemiology. For example, temporary transition to hybrid or full-time distance learning may be needed if a large-scale school-based outbreak were to occur.

Emerging evidence indicates that the social and economic burden of COVID-19 disproportionately impacts racialized communities and those with less wealth.⁵⁸ This is likely related to a variety of factors, including more crowded living spaces, reduced access to health care, PPE or testing, and, for some, frontline work with increased exposure risk.⁵⁸ Distance learning further disadvantages children and youth living in higher-burden COVID-19 areas where socioeconomic and language barriers limit access to quality online learning. The effect on these children's and youth's education has already been substantial and further delays of return-to-school will almost certainly compound educational disparities.

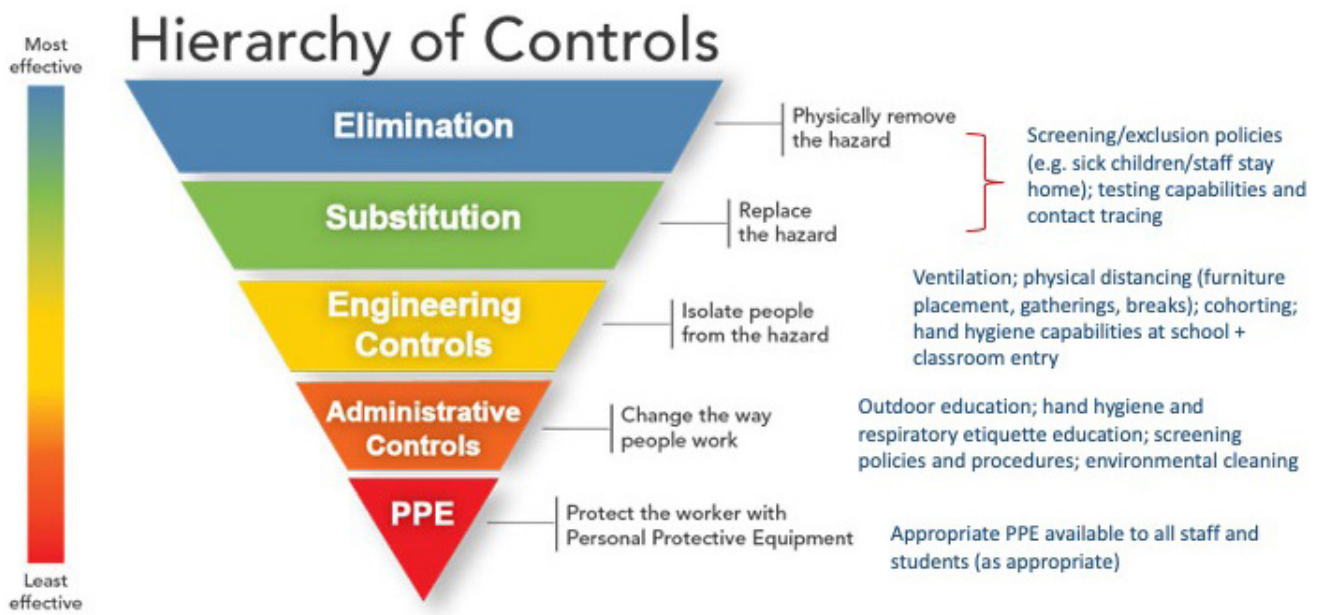
Our recommendation from an overall health perspective is that children and youth return to a daily school model with risk mitigation strategies in place. Educators must be consulted to provide input on each model from a learning impact lens. It is important to acknowledge that there is not one specific measure that will prevent infections from occurring in schools, but rather a bundle of infection prevention and control measures that need to be put into

place to help reduce infection risks (Figure 1, Hierarchy of controls; adapted from CDC, available at: <https://www.cdc.gov/niosh/topics/hierarchy/default.html>).⁵⁹ Equity of resources and management/auditing of these risk mitigation strategies will be critical, and policy makers must ensure that an ethical framework with transparent rationale is provided to the public to ensure buy-in and trust in the decisions made.

At the same time, it is important that the new normal in school is designed to optimize learning and social development, while ensuring that the health and safety of teachers and school staff remain a top priority. With this in mind, the following sections of the document summarize the considerations for school reopening based on the available evidence, as well as expert opinion, organized into the categories that follow. Where appropriate, recommendations have been provided for elementary school (Grade K-5), middle school (Grades 6-8) and high school (Grades 9-12) classes/students.

1. Screening to prevent symptomatic individuals from entering the school
2. Hand hygiene
3. Physical distancing
4. Non-medical and medical face masks for students
5. Cohorting
6. Environmental cleaning
7. Ventilation
8. Mitigation of risk for students at higher risk for severe disease
9. Special considerations for children and youth with medical, physical, developmental and/or behavioural complexities
10. Mental health awareness and support for all children
11. Protection of teachers and school staff
12. Protection of at-risk persons or families
13. Management of suspected and confirmed SARS-CoV-2/COVID-19 cases and their contacts
14. Communicating about COVID-19 to children, youth and parents/caregivers
15. Opportunities to improve evidence-based decision making
16. Additional considerations

Figure 1. Hierarchy of Controls (Adapted from CDC)⁵⁹



1. Screening to prevent symptomatic individuals from entering the school

In order to prevent the spread of SARS-CoV-2 infection, students, teachers and other employees who have signs/symptoms of COVID-19 (according to Ministry of Health and local public health guidance) must stay home and decisions about testing and return to school should be guided by provincial public health guidance. In addition, return to school decisions for those who have had an exposure to SARS-CoV-2 should be in accordance with local public health recommendations.

Guidance Statement(s):

- It is essential that strict screening and exclusion policies are in place for students and employees who are symptomatic or have been exposed to SARS-CoV-2 and directed to self-isolate by public health.
- Teachers and principals should be provided with information on symptoms of COVID-19 in children⁶⁰ so that appropriate action can be taken if children develop symptoms during the day.
- Screening students for signs and symptoms of SARS-CoV-2 infection could occur prior to arrival at school, on site (i.e. at the school) or a combination.
 - Daily screening on site provides reassurance that the screening has been completed, however, it could result in increased lines (resulting in crowding and mixing between children, youth and parents/caregivers) and is likely not practical without significant staggering of start times. It is also not reasonable to expect teachers or other school staff to perform routine screening in addition to their regular work tasks.
 - We would strongly recommend that parents and caregivers be empowered to play an active role in daily screening of their children and youth prior to them leaving for school. A standard checklist should be provided for parents/caregivers/older students for this purpose (language and literacy considerations will be important). Parents/caregivers may require access/support from a health-care provider and/or local public health unit when they are unsure. This is especially the case for children and youth with underlying medical conditions and chronic symptoms.
 - Provision of an attestation of completion of the daily screening (either virtual, such as a cell phone app, or

paper for those unable to do so virtually) would add extra assurance, but consideration should be given to ensure that the process is not onerous such that it disadvantages groups with limited technological supports.

- Parents/caregivers should be educated around the importance of providing truthful information both for their child and others' safety. This has been the approach taken by public health for other communicable disease.
- If screening students as they enter the school is selected as a strategy, additional staff and infrastructure resources would be required and appropriate training provided to them to effectively complete the task.
- On-site temperature measurement or pulse oximeter checks are not recommended because fever and hypoxia are not consistent symptoms in children and youth (present in only a minority of cases)⁶¹ and would result in lines and delayed school entry, and has not been shown to be an effective screening strategy to date.
- Employers and the government play a critical role in supporting parents/caregivers who need to stay at home with their child because their child is sick or in isolation due to SARS-CoV-2 infection or exposure. This support is essential to reduce the burden on parents/caregivers and reduce the likelihood parents/caregivers will need to send their child/youth to school with symptoms (e.g. paid sick days available for workers).
- Virtual learning or other forms of structured learning should be put in place for children and youth who are required to stay home because they are sick or in isolation due to SARS-CoV-2 infection or exposure, or if parents/caregivers choose to keep their child/youth home from school. It will be important to continue to work to identify options for students who have limited internet availability or other barriers to online learning.

2. Hand hygiene

SARS-CoV-2 and other respiratory viruses are primarily spread by respiratory droplet transmission and should be the focus of preventative measures. As a result, and because virus shedding may occur prior to symptom onset or in the absence of symptoms, routine, frequent and proper hand hygiene (soap and water or hand sanitizer) is critical to limit transmission.⁶² Proper hand hygiene is one of the most

effective strategies to prevent the spread of most respiratory viruses, including SARS-CoV-2, alongside respiratory etiquette, particularly during the pre-symptomatic phase of illness.

Guidance Statement(s):

- Children and youth should be taught how to clean their hands properly (with developmentally and age-appropriate material)⁶³ and taught to try and avoid touching their face, eyes, nose and mouth as much as possible. This should be done in a non-judgmental and positive manner.
- Respiratory etiquette; children and youth who have symptoms of a respiratory tract infection must stay home and should be reminded to sneeze or cough into a tissue followed by hand hygiene, or their elbow/sleeve if no tissue is available.
- There should be age-appropriate signage placed throughout the school to remind children and youth to perform proper hand hygiene.
- Students and staff should perform hand hygiene upon entering and before exiting the building, after using the washroom, before and after eating, and before and after playtime with shared equipment/toys. In addition, a regular schedule for hand hygiene, above and beyond what is usually recommended, is advised. Possible options would be to have regularly-scheduled hand hygiene breaks based on a pre-specified schedule. For practical reasons and to avoid excess traffic in the hallways, the preferred strategy for these extra hand hygiene breaks would be hand sanitizer unless sinks are readily available in the classroom.
- If masks are worn, students and staff should be instructed to perform hand hygiene before putting on and after touching or removing their mask.
- Access to hand hygiene facilities (hand sanitizer dispensers and sinks/soap) is critical with consideration for ensuring accessibility for those with disabilities or other accommodation needs (See Section 9 for additional considerations). Hand sanitizer (60-90% USP grade alcohol, not technical grade alcohol) should be available in all classrooms. Safety precautions to avoid toxic exposure (e.g. ingestion) from hand sanitizers should be in place.
- Adequate resources and a replenishment process need to be in place to ensure supplies are available to perform hand hygiene frequently. Liquid soap and hand sanitizer

will need to be replenished and tissues available for drying. No-touch waste receptacles should be available for disposal of materials.

3. Physical distancing

The objective of physical distancing is to reduce the likelihood of contact that may lead to transmission and has been a widely used strategy during the pandemic.⁶⁴ In the school setting, several control measures can be put in place to encourage physical distancing, especially when prolonged exposure is expected (e.g. in the classroom). However, while physical distancing and its role in the prevention of infection transmission should be discussed with students of all ages, it is likely not practical to enforce strict physical distancing in elementary school children, especially during periods of play. Cohorting (discussed in Item #5) is an additional strategy that can be used to facilitate close interactions, while minimizing the number of potential exposures. Interaction, such as playing and socializing, is central to child development and should not be discouraged.

Current distancing recommendations in Canada and the United States are 2 metres and 6 feet, respectively. However, it is recognized that a 1 metre (or approximately 3 feet) separation also provides protection⁶⁴ and may approach the benefits of 2 metres (approximately 6 feet) in the school setting where children should be asymptomatic,⁹ and especially for younger children as they are likely less efficient transmitters of SARS-CoV-2.^{6, 16, 17, 46, 47} In middle and high school students, physical distancing is an important strategy, especially during periods of prolonged exposure indoors (e.g. the classroom), and they are more likely able to adhere to distancing recommendations. We emphasize that distancing is not an all-or-nothing proposition and optimizing distancing in as many indoor school settings as possible will likely diminish SARS-CoV-2 transmission substantially.

It is also acknowledged that transmission of the virus will likely be attenuated in outdoor settings and outdoor play and learning have many benefits for children and youth. School boards and educators should therefore incorporate outdoor learning activities into the curriculum.

Guidance Statement(s):

Education:

- The role of physical distancing to prevent infection transmission should be discussed with elementary, middle and high school students.
- All students should be informed about how physical distancing has been implemented in the school (e.g. desks separated, expected behaviours) and the expected practices in the school environment.
- Physical distancing will likely be difficult to strictly enforce in elementary school children, but developmentally and age-appropriate education can emphasize the importance of hand hygiene, avoiding body fluid exposure, putting toys in their mouth, good respiratory etiquette and avoiding close contact especially for long periods of time (e.g. touching, hugging, hand holding).



Classrooms

- When students are in the classroom, efforts should be made to arrange the classroom furniture to leave as much space as possible between students,⁶⁵ with seats facing the same direction, where possible.
 - For elementary and middle school students, a 1 metre (3 foot) separation between desks in the classroom may be a reasonable balance to achieve beneficial effect from distancing and to practically accommodate children in the classroom. For desks that are configured in a manner that makes this

impractical, a 1 metre separation between students can be considered. However, further data on age-related transmission risks may help to refine this recommendation.

- For high school students, a separation of 2 metres between students is preferred given the transmission risk may be higher in this age group.
- Smaller class sizes should be a priority strategy as it will aid in physical distancing and reduce potential spread from any index case. Several jurisdictions have reopened schools with maximum class sizes ranging from 10-15.⁵⁶ However, there is limited evidence on which to base a pre-specified class size. Decisions should take into account the available classroom space in addition to the number of exposures that would occur should a student or staff test positive.
- Where needed, the use of non-traditional spaces should be explored to accommodate smaller classes in order to allow daily school attendance. This may necessitate additional teacher/educational resources.
- Educators should be asked to assess and incorporate outdoor learning opportunities as weather permits. This will likely require specific programming and resources to optimize learning activities.

Large gatherings/assembly

- Large gatherings/assemblies should be cancelled for the immediate future. Any gathering size should be in accordance with local public health guidance.
- Choir practices/performances and band practices/performances involving wind instruments may pose a higher risk of transmission.^{66, 67} As such, it is recommended that these be cancelled for the immediate future. When the situation allows, special consideration should be given to safely resuming such activities (depending on local epidemiology and performance venue).
- When and if band practices/performances involving wind instruments resume, ideally instruments should not be shared between students. If sharing is required due to limited supply of instruments, it is essential that the instruments be thoroughly cleaned and disinfected between use.

Lunch and recess breaks

- Stagger break and lunch times (or have lunch in classrooms) to reduce larger crowds in cafeteria settings and keep groups of students together (see cohorting below).
- Hand hygiene should be performed prior to and after lunch breaks, with easy access to hand sanitizer.
- If weather permits, lunch and nutrition breaks should be held outside.
- Shorter lunch breaks with more frequent nutrition breaks may help reduce the length of less supervised interactions.

Outdoor and other activities

- During outdoor activities, such as recess, physical distancing should not be strictly enforced especially in elementary school children. A cohorting strategy (see Section #5) is preferred.
- All students should perform hand hygiene before and after sports activities/outdoor play/playground use.
- Sports and physical education classes should be encouraged and continue with risk mitigation strategies in place. It is advisable to delay restarting close contact sports (e.g. wrestling, rugby, football), as well as indoor team sports (e.g. basketball). When the situation allows (e.g. based on local epidemiology), special consideration should be given to their safe restart. We note that physical education classes will be much easier to have outside on a regular basis than other pedagogic activities.
- Hand hygiene is critical prior to and after all sports or physical activities.
- Sports equipment (e.g. balls, hockey sticks etc.) should be cleaned at the conclusion of the activity.
- Sharing of personal sports equipment should not occur.
- Schools should endeavour to offer as many of their usual clubs and activities as possible. Most clubs and activities, with the exception of choir/band, should involve less crowding than regular classes, and so should be feasible inside or outside.

4. Non-medical and medical face masks for students

The use of non-medical cloth masks/face coverings (NMMs) in the school setting is a complex and nuanced issue. Unfortunately, current evidence does not provide clarity on the optimal approach and needs to consider the broad range

of student ages and developmental levels, the varying ability to practice physical distancing indoors, as well as the dynamic level of risk associated with community spread at any particular time and within specific communities. Based on current public health guidance recommending or mandating the use of NMMs in indoor public settings, we are currently recommending the use of masks for high school students (with consideration for middle school students) whenever physical distancing cannot be maintained (provided there is no contra-indication for developmental, medical or mental health reasons). It is important to try to find periods in the day where NMMs can be safely removed. However, given that there has been considerable disagreement among the authors around this issue, it will be critical to assess the use of masks on an ongoing basis throughout the school year and adjust accordingly based on the development of further evidence, changes and epidemiology. The following paragraphs highlight some of the important complexities of using masks in children, in particular as it relates to elementary school students.

The benefit of NMMs and medical masks is that they may reduce transmission from individuals who are shedding the virus, as they may help to prevent the respiratory droplets from the wearer from coming into contact with others.⁶⁸ While NMM use has been recommended and/or mandated for use by public health authorities in Ontario in indoor spaces,⁶⁹ it is important to note that their use is recommended primarily for source control (i.e. preventing infectious particles from spreading from the wearer), not as PPE. In children and youth, there are limited data on the effectiveness of NMM use for source control, but there remains a theoretical benefit especially for older children and youth. However, in order to be effective, NMMs would need to be worn correctly, which for many otherwise healthy children and youth will be difficult to do for a full school day; even more significant barriers exist for children and youth with underlying medical, developmental and mental health conditions.

In some countries, particularly in Asia where masking culture is more ingrained and longstanding, children have worn NMMs upon return to school. However, several European countries have had children successfully return to school without NMMs.⁶ Evidence specific to children and youth on NMMs is lacking.

Until there is definitive evidence, decisions around NMM use in schools should take into consideration the benefit from source control (which may vary by age) balanced with the negative consequences/risks (e.g. increased facial touching, false sense of safety) of NMM use. As noted above, the practicality of wearing a NMM for prolonged periods of time is an important consideration. Other factors to consider include availability of other risk mitigation strategies, local epidemiology and community public health directives. Finally, given this uncertainty, we feel that the perspective of educators on the front lines has to be taken into account when deciding on policy and implementation considerations relating to masking. Preferences in this regard might well vary across jurisdictions in relation to local epidemiology and perceived risks.

There was not full agreement among contributors on the need and role of NMM use in children in different circumstances. The guidance statements below reflect the consensus (preferred) recommendation and the percentages indicate the level of agreement among the contributing paediatric care providers (n=36).

Consensus Guidance Statement(s):

- The use of NMMs in the school setting should be driven by local epidemiology with age-specific considerations (agree 94%, neutral 3%, disagree 3%).
- When transmission in the community is low, the use of NMMs throughout the entire school day should not be mandatory for elementary, middle or high school students returning to school. But, NMM use should always be respected if a student chooses to wear one. Safe masking practices (e.g. proper wearing/storage/removal) should be reinforced with educational materials provided to parents, students and teachers (agree 78%, neutral 11%, disagree 11%).
- Given the current epidemiology, the use of NMMs is not recommended for elementary school students (agree 61%). A significant minority supported the use of NMMs when physical distancing was not possible (agree 33%).
- Given the current epidemiology, the use of NMMs is recommended for middle school students whenever physical distancing cannot be maintained, provided there is no contra-indication for developmental, medical or mental health reasons (agree 64%). A minority supported the mandatory use of NMMs at all times (agree 8%).
- Given the current epidemiology, the use of NMMs is recommended for high school students whenever physical distancing cannot be maintained, provided there is no contra-indication for developmental, medical or mental health reasons (agree 61%). A minority supported the mandatory use of NMMs at all times (agree 22%).
- As it is difficult to wear a NMM for a prolonged period of time, efforts should be made to ensure distancing in the classroom such that NMMs do not need to be worn constantly (see physical distancing section) (agree 92%, neutral 8%). Otherwise, it is important to try to find periods in the day where NMMs can be safely removed.
- In the setting of high or rising community transmission or school outbreaks (as directed by public health), the role of NMM use should be reassessed.
- Any recommendation or requirement to wear NMMs needs to address issues around equitable access to masks
- School-aged children and youth who are not able to remove their NMM without assistance should not wear a NMM due to safety concerns.⁶⁹ NMMs should also not be worn by children or youth who cannot tolerate a NMM due to cognitive, sensory or mental health issues.
- Rationale should be provided to children and youth to reconcile any differences in guidance between school and other indoor spaces (if public health mandates exist in their region). This could be accomplished by discussing the other safety measures in place (e.g. screening, hand hygiene, physical distancing, cohorting) that are being used to protect students and teacher/staff.
- Face shields as a mitigation strategy are not routinely recommended for elementary school students (agree 86%), middle school students (agree 89%) and high school children (agree 80%). But face shield use should be respected if a student chooses to wear one with or without a NMM.

The following points were considered in developing this guidance:

- Public mask wearing is likely beneficial as source control when worn by persons shedding infectious SARS-CoV-2 virus when physical distancing is not possible in public spaces (e.g. public transit, grocery store).⁶⁸
- There is a lack of evidence that wearing a NMM prevents SARS-CoV-2 transmission in children and youth, though it remains likely, especially for older children and youth. The

benefit for younger children may not be significant both because their baseline infection and transmission risk is probably lower and because of a higher likelihood of improper NMM use.

- It is recognized that high school-aged students and to lesser extent middle school-aged children may be able to wear NMMs for a longer period of time than younger children without close monitoring.
 - Children and youth's social development hinges upon their interactions, facial expressions and body language. Though important for all age groups, this is particularly so for younger children.
 - If worn incorrectly (e.g. touched frequently, not covering mouth and nose, removed and placed back without hand hygiene), NMMs could lead to increased risk of infection.
 - It is impractical to expect most children and youth to wear a NMM properly for the duration of the school day. Elementary school-aged children, in particular, would need assistance to follow appropriate procedures for putting on and taking off the NMM (e.g. during meal times, snack times). In addition, during these times when the NMM is removed, the NMM would need to be stored appropriately to prevent infection spread.
- While teaching and training children and youth on appropriate NMM use may overcome some of the limitations of NMM use, studies have shown that it is difficult for health-care workers to wear a mask for prolonged periods in the hospital setting and it is therefore anticipated that it would be difficult for children as well.
 - The NMM may not be tolerated by certain populations with underlying conditions (e.g. asthma, allergies, neurodevelopmental disorders, mental health challenges) and especially during warm/humid weather conditions.
 - The addition of NMMs may increase anxiety, interfere with the therapeutic learning environment, and increase inattention or distraction in children and youth, particularly for those who may already struggle with attention, such as those with attention deficit hyperactivity disorder (ADHD) or other developmental disorders.
 - Children and youth with expressive communication difficulties (including those with articulation problems, neurologic issues), those who are learning the primary Canadian language of instruction (English or French) as a second language, and many others may be disproportionately adversely affected by having to wear a NMM at school.



- The benefit of NMMs may be attenuated by the repeated and prolonged interactions at school. Children attend school for a significant portion of their waking hours and, as such, interactions are more similar to their home environment compared to brief community interactions where NMMs are recommended.
- It is likely that NMMs will be disposed of improperly throughout the school and potentially lead to increased risk by children playing with them. It is acknowledged that while fomite spread is not the predominant mode of transmission,⁷⁰ it likely contributes to transmission given evidence demonstrating presence of SARS-CoV-2 in the vicinity of infected individuals and the fact that fomite transmission does occur with other respiratory viruses, including human coronaviruses.⁷¹
- It will be very difficult for teachers and/or school administrators to enforce mandatory masking both in elementary and secondary schools.
- Patients have been required to wear a mask at numerous paediatric health-care facilities. In this context, mandatory masking is typically for a brief and well-defined period of time, when children and youth can be closely monitored by their parents and hospital staff to ensure appropriate mask use. This is also intended to prevent transmission to a population with significant medical comorbidities and/or immune compromise. Similarly, some jurisdictions have mandated that persons over 2 years wear masks in indoor spaces. Again, this is a time-limited scenario where they can be monitored by their parents/caregivers and should be differentiated from the school setting. Furthermore, the school setting is different from most settings where indoor masking is mandated where large numbers of strangers interact (e.g. shopping malls), physical distancing is difficult and contact tracing is not possible.
- Face shields have been suggested by some as an alternative to face masks as they may block aerosolized droplets. This supports its current use as a component of PPE, but there is currently no evidence that face shields alone are effective as source control.⁷²

5. Cohorting

The purpose of cohorting is to limit the mixing of students and staff so that if a child/youth or employee develops infection, the number of exposures would be reduced. It also allows for more timely case and contact follow-up. For

example, a single class in Grade 1 could represent a cohort and they should avoid close mixing with individuals from other classes/grades in confined indoor spaces. Cohorting is likely most beneficial in elementary school children where physical distancing is less practical. For high school students, the need to take different classes may make strict cohorting difficult and, as a result, physical distancing should be emphasized. We recognize that this poses a significant infrastructure challenge for many schools. The benefits of cohorting will be attenuated in many, such as those who require bus transport to school and those who require after-school care; such children could potentially be present in several cohorts (e.g. class cohort, bus cohort, after-school cohort).

Guidance Statement(s):

- To the extent possible, cohorting classes could be considered for the younger age groups and for children and youth with medical and/or behaviour complexities (see Section 9), so that students stay mostly with the same class group and there is less mixing between classes and years. This applies to both indoor as well as selected prolonged outdoor activities with close physical interactions.
- Student well-being and mental health should be prioritized, however, such that class or program switching should not be denied on the basis of cohorting.
- Cohorting and mixing should take into consideration the number of children/youth that would be exposed should a student or staff test positive for SARS-CoV-2 with the goal of minimizing the number of contacts.

6. Environmental cleaning

SARS-CoV-2 has been detected on a variety of surfaces⁷³ and survival depends on the type of surface. It is possible that infection can be transmitted via fomites by touching contaminated surfaces and then touching mucous membranes (i.e. mouth, nose, eyes).⁷⁴ While fomite transmission is not the predominant mode of transmission,⁷⁰ environmental cleaning and disinfection are important to reduce the risk of transmission of SARS-CoV-2 and other infections in schools.

Guidance Statement(s):

- A regular cleaning schedule, using Health Canada-approved disinfectants,⁷⁵ should be used with emphasis on high-touch surfaces and washrooms.
- Efforts should be made to reduce the need to touch objects/doors (no-touch waste containers, prop doors open).
- Policies to ensure there is “no sharing” of food, water bottles or cutlery should be enforced as a priority.
- The importance of hand hygiene to children after contact with any high-touch surface (such as door handles) should be reinforced.
- When possible, toys and class equipment that can be cleaned and disinfected by staff and/or students (as appropriate) should be used.
- School closures during school hours for the purpose of more intensive cleaning may carry more harm (in the form of missed instruction time) than benefit.

7. Ventilation

It is expected that environmental conditions and airflow influence the transmissibility of SARS-CoV-2. Adequately ventilated classroom environments (e.g. open windows with air flow, improved airflow through ventilation systems and reduction in recirculated air) are expected to be associated with less likelihood of transmission compared with poorly ventilated settings.

Guidance Statement(s):

- Attention should be paid to improving classroom ventilation (e.g. optimizing ventilation system maintenance and increasing the proportion of outside air brought in through these systems) in consultation with experts in physical plant design and modification.
- The use of outdoors or environments with improved ventilation should be encouraged (e.g. keeping windows open, weather permitting).

8. Mitigation of risk for students at higher risk for severe disease

Some children may be at higher risk of adverse outcome from COVID-19 due to underlying medical conditions, such as immunocompromised states or chronic medical

conditions, including cardiac and lung disorders and neuromuscular disorders.^{26, 76, 77} Children and youth who have medically complex conditions, particularly those with medical technological supports associated with developmental disabilities and/or genetic differences, are also in a potentially higher risk category.²⁶ At the present time, there is no convincing evidence to suggest the level of medical risk to these children and youth from SARS-CoV-2 is different from other respiratory viruses. As a result, given the unintended consequences associated with not attending school, attending school is recommended for the majority of these children and youth (see Section 9 for more details pertaining specifically to medically and behaviourally complex children and youth). Nevertheless, we recognize that the data pertaining to this group of children and youth is limited as they have likely been following isolation rules even more stringently than healthy children and, therefore, it is essential that ongoing monitoring take place so that adjustment of the school model and preventive interventions can be made according to emerging evidence.

Guidance Statement(s):

- The majority of children and youth with underlying medical conditions should be able to safely attend school provided that the appropriate enhanced safety measures are in place. However, it is recommended that parents/caregivers discuss this with the child’s health-care providers so that they can make an informed decision based on individual circumstances. This is particularly relevant for children with newly diagnosed illnesses requiring the first-time use of new or augmented immunosuppression.
- In the event that such children/youth have a documented exposure to SARS-CoV-2, in addition to involvement of the local public health unit, it is recommended that the child’s/youth’s parent/caregiver(s) contact the child’s/youth’s health-care provider for further management if they have concerns.

9. Special considerations for children and youth with medical, physical, developmental and/or behavioural complexities

Return to school will present unique challenges to children and youth with medical, developmental and/or behavioural complexities and their families. This includes children

requiring intensive supports for activities of daily living and/or medical conditions, such as feeding, toileting or breathing supports. Many of these families have had a prolonged period of time in home isolation compounded by a lack of respite and/or homecare supports. In particular, the challenges for families and children/youth with neurodevelopmental disorders, such as autism spectrum disorder, caused by cessation of school during the pandemic have been identified.⁷⁸ Transitioning medically and behaviourally complex children and youth back to school requires specific focus and should be prioritized as many of these children/youth and families have been disproportionately impacted by the pandemic response and are already in crisis mode.⁷⁹ Consultation with their parents and families to better understand their individual circumstances and needs is recommended.

Children and youth with medical, physical, developmental and/or behavioural complexities often have educational assistants (EAs) and nursing support in the school environment who may assist children/youth with toileting, suctioning, cough assist and G-tube feeds. These individuals require additional consideration with regards to measures to help mitigate their personal infection risk and infection transmission to others.

Guidance Statement(s):

- Parents/caregivers may consider scheduling appointment(s) with their health-care provider(s) for a return to school consultation(s) if they think their child's/youth's complexities and medical status warrant this.
 - Parents/caregivers and school staff should liaise to accommodate a more individualized return to school to ensure smoother transitions. Equitable access to school is essential.
 - Children and youth with neurodevelopmental disorders/behavioural challenges should be allowed modified transition back to school. Optimally, this would involve the option to visit the school prior to general school opening. Difficulties with transitioning back to school should not be used to exclude children and youth from school and any delayed transition plans need weekly reassessment.
 - Behaviour/ASD school board teams need to be involved in transition planning prior to school re-entry for children and youth who are likely to have significant challenges. More resources may need to be devoted to these teams due to increased demand.
- In cases where therapists (both internal and external to the school board) are supporting a child/family, active communication between the school, parents and therapist are encouraged to develop transition plans.
 - Ensure that those families who choose not to send their child/youth to school receive remote learning opportunities and do not lose access to in-home supports, including home care and respite supports.
 - Ensure that students continue to receive access to therapy and nursing services while in the school. Maximize continuity among those providing services and/or use virtual care for service provision, to decrease exposures. If in-school rehabilitation supports are delayed, accommodations should be made to ensure that their rehabilitation needs are being met either at home or in person at their local children's treatment centre.
 - Provide environmental (e.g. smaller class size) and classroom supports (e.g. teacher aides) for those children and youth who may need assistance with hygiene measures.
 - Guidelines for children and youth with complex respiratory needs, including ventilation/tracheostomy, are currently being developed by respiratory medicine specialists and the team from Holland Bloorview Kids Rehabilitation Hospital in consultation with public health.
 - Policies and procedures should be in place for the cleaning of specialized equipment.
 - EAs and nursing staff who support activities of daily living and cannot physically distance require appropriate PPE. Ideally, EAs should be assigned to a single classroom (if appropriate) and every effort should be made to minimize sharing of EAs between classrooms.
 - The additional resource requirements to facilitate safe return to school should not be a barrier to return to in-person education for children and youth with medical, developmental and/or behavioural complexities.

10. Mental health awareness and support for all students

A proactive approach to school reopening is important in order to minimize the adverse mental health impact on children/youth.³³ Where foreseeable, schools and school boards should make every effort to address known sources of distress and extend flexibility within existing administrative processes.

For example, many children and youth enrolled in transition years (Grades 6, 8, 12) during the 2019-2020 school year were required to make decisions regarding special education programs, school registration, or other specific educational programming in the absence of usual sources of information, including school visits or meetings. Every effort should be made to allow program flexibility in this regard during the first months of the school year, in the event that children/youth and parents realize they have made an incorrect program or school choice. It can be anticipated that rigidity would likely lead to increased stress, anxiety, depression and school refusal that could be otherwise avoided.

Similarly, children and youth can be anticipated to return to school at different academic levels even within a classroom. It will be critical to provide opportunities for early identification of learning needs and academic support to ensure that children and youth neither become overwhelmed nor bored in the school setting, as these are frequent antecedents to school refusal and mental health problems.

It can be anticipated that some children and youth may experience increased stress and anxiety related to the COVID-19 pandemic or to the implementation of risk mitigation strategies in their school environment.^{39, 80} In addition, children and youth may have pre-existing mental health conditions, such as anxiety, depression, ADHD and substance abuse, which may have been exacerbated by lockdown measures, including school closures, and may experience symptom escalation on return to school. Educators should have adequate guidance and information about possible signs of mental health struggles and parents and educators should be encouraged to engage with their associated school-based health centre where available or encourage families to seek support from the child's/youth's physician.

Guidance Statement(s):

- Flexibility in program and/or school enrolment should be provided for children and youth who have transitioned to a new program or school for the 2020-2021 school year. Students who are particularly anxious about attending a new school should be offered the opportunity to visit the school in the week prior to the first day of school.
- Increased and timely in-school educational support should be provided to students and classroom teachers

to enable early identification and remediation of learning gaps that some students will have incurred during the school closures.

- Teachers should be vigilant to potential child maltreatment situations given current concerns regarding possible elevated risk of child maltreatment that may have been undetected during the period of school closures.
- Children and youth with mental health concerns may or may not require graduated transition back to school; where required, active communication between the school, parent, youth and therapist should be undertaken on a regular basis to ensure continued progress toward full-time return to school.
- Accessible mental health support services adapted for diverse groups and at-risk populations should be provided, ideally in collaboration with educators, mental health professionals, and paediatricians.



11. Protection of teachers and school staff

Although this document is focused on school-aged children and youth, we believe the safety of school staff is paramount, with the goal of having teachers and school staff, at a minimum, as safe in the classroom as they would be in other community or work environments. We recognize the tremendous challenge that teachers face from a personal, health perspective, as well as from an operational lens. Risk mitigation for teachers and other school staff should take into account situations where close contact and possible body fluid exposure (i.e. saliva, respiratory secretions) may occur. We have provided several considerations, but detailed recommendations are beyond the scope of this document.

Guidance Statement(s):

- Physical distancing of school staff from children/youth and other staff should be emphasized. Teachers should maintain a distance of 2 metres (~6 feet) from students and other staff as much as possible, recognizing that distancing will not be feasible in classrooms with the youngest children.
- Staff lounges and common areas should be restructured (as needed) to ensure physical distancing, and staff should be reminded of the importance of distancing from other staff. Whenever physical distancing cannot be maintained, whether in the classroom or other parts of the school building, we recommend the wearing a face mask/covering.
- Facial expression is a critical part of communication, particularly for younger children, children for whom English/French is a second language, and children with certain underlying conditions such as hearing impairment or speech delay. Facial expression is also critical to teacher-student connection, which is an important factor in teacher effectiveness. This should be taken into consideration when developing NMM and PPE strategies for teachers.
- Depending on community infection rates, if close prolonged contact with others cannot be avoided, the use of personal PPE is recommended with input from experts in occupational health and safety and the Ministry of Labour. However, if used in the classroom, the teacher should explain the rationale to the children/youth in a developmentally appropriate manner.
- It is acknowledged that some teachers and other school staff may choose to regularly wear NMMs or other PPE. This is a personal choice and should not be discouraged.
- Staff may need to use enhanced PPE, including medical masks, face shields, gowns and gloves, in specific situations (e.g. the child who becomes ill at school and needs close physical attention). Such PPE should be readily available together with the training and policies/procedures to deal with this situation. Having designated staff trained in PPE use may facilitate preparedness and comfort among staff.
- Policies and procedures need to be developed in consultation with individuals with occupational health and safety expertise for **all** staff, in particular staff workers that have increased risk of severe outcomes/complications from COVID-19 (e.g. high-risk

immunocompromised persons, such as those post-organ transplant, advanced age).

- To the extent possible, consideration should be given to assigning supply teachers to one school for as long a period of time as possible in order to minimize exposures both for their own safety and for the safety of other teachers and students. A minimum two-week interval between assignments would help reduce the risk of infection transmission from one school to another if there is a need for supply teachers to change schools.

12. Protection of at-risk persons or families

With regards to children and youth's home environment, it would be appropriate to consider the risk posed by potentially infected children/youth and school staff to household members (e.g. children, siblings, parents, grandparents, roommates). The risk posed by SARS-CoV-2 likely varies in relation to socioeconomic status, household overcrowding and the presence of other children/youth and adults at increased risk of severe COVID-19 at home.

Guidance Statement(s):

- A separate document is being prepared by SickKids in collaboration with others to provide guidance to families on how to mitigate risks in the home environment, especially where there is a sibling, parent or older adult with underlying conditions that put them at increased risk for more severe disease reside in the same home.

13. Management of suspected and confirmed SARS-CoV-2/COVID-19 cases and their contacts

It is anticipated that there will be cases of symptomatic and asymptomatic SARS-CoV-2 infection identified at schools and it is important that public health authorities and schools be prepared to respond to cases involving both students and staff. This includes the need for readily available testing and contact tracing, which is critical for the timely detection and avoidance of outbreaks. Parents and caregivers need to be empowered by their employers to be able to take paid sick days and/or work remotely if their children/youth are not able to attend school. We recognize that neither laypeople nor health-care providers will be able to reliably distinguish between COVID-19 and other respiratory viral illnesses on a clinical basis (i.e. without a diagnostic test).

Parents and caregivers need to be empowered by their employers to be able to take paid sick days and/or work remotely if their children/youth are not able to attend school.

Guidance Statement(s):

- Staff, families and children/youth should be aware of the symptoms and signs associated with COVID-19. Individuals with symptoms or signs consistent with COVID-19 must stay home. Staff and students who develop symptoms or signs consistent with COVID-19 while at school must be sent home with exposures to others minimized during this process.
 - Special awareness is required for those with medical conditions, such as asthma, allergic rhinitis and conjunctivitis, as the symptoms associated with flares may overlap with SARS-CoV-2 infectious symptoms. Every effort should be made by parents/caregivers in conjunction with the health-care team to maximize the control of these underlying conditions. In the event of an acute flare, depending on extent, children/youth may need to have nasopharyngeal testing for SARS-CoV-2.
 - A process should be in place for the management of symptomatic staff and students who are at school. This process should be clearly documented, prior to the reopening of schools, between local public health authorities and the school boards.
 - This should include separation from other students and staff, masking of the affected person if tolerated, use of PPE for other school staff if close interaction with the affected individual is required, cleaning surfaces the individual has been in contact with and, in the case of symptomatic students, contacting caregivers for pick up as soon as possible.
 - There should be clear protocols for management of staff and students who are exposed to a confirmed SARS-CoV-2/COVID-19 case.
 - All staff and students who develop signs or symptoms consistent with COVID-19 should undergo testing for SARS-CoV-2 in accordance with public health recommendations. There should be clear testing recommendations by local public health units with information about where testing can be completed.
- Schools should carefully document attendance of students, staff and visitors and ensure up-to-date contact information to facilitate public health management should a case be identified in the school. Schools should have a rapid method to contact students/families with information.
 - Rapid involvement of public health for any confirmed SARS-CoV-2/COVID-19 cases in the school setting is essential in order to perform timely contact tracing and followup. There should be clear testing recommendations for contacts with information about where testing can be completed.
 - There needs to be clear guidance from public health for return to school for those who test negative, test positive, and for those who do not get tested.
 - Educational materials targeted to school staff, children/youth and parents should be developed for those who are exposed, which are culturally sensitive and clearly delineate subsequent management.
 - Consideration must be given as to how to maintain confidentiality of confirmed SARS-CoV-2/COVID-19 cases within the school. Strategies should be put in place to manage potential issues when students return (e.g. stigma, bullying).

14. Communicating about COVID-19 to children, youth and parents/caregivers

It is acknowledged that clear, age and developmental stage-appropriate communication about COVID-19 and what to expect when children and youth return to school should occur in advance of school reopening. In addition, it will be important that regular updates be provided to children and their parents/caregivers throughout the school year.

Guidance Statement(s):

- Parents/caregivers, children/youth and the community at large should be educated that SARS-CoV-2 is likely to persist and circulate like other respiratory viruses in the future. It is unlikely that herd immunity will be achieved in Ontario (by vaccination or natural infection) in the near term, and so the operationalization of school in the context of COVID-19 will likely be an issue for a prolonged period.
- Parents/caregivers should be made aware that SARS-CoV-2 causes mild disease in the majority of children,

youth and young adults. The best overall strategy for these cohorts and the population at large, taking into account the massive secondary adverse health and well-being implication of the lockdown, is to return to school with enhanced safety measures in place.

- Parents/caregivers and children/youth and the community at large should be provided with up-to-date information on local COVID-19 epidemiology and other emerging evidence pertaining to COVID-19. It is felt that provision of such information will aid in reducing anxiety in parents/caregivers and children/youth.
- Ensuring up-to-date childhood immunizations, as well as annual influenza vaccination, should be promoted as a strategy to reduce the circulation of a common infectious agent circulating in fall/winter and thus limit, where possible, other preventable infections.

15. Opportunities to improve evidence-based decision making

Decisions about reopening schools in the safest way possible for students, families, teachers and other school staff are of unprecedented complexity especially given the existing gaps of evidence-based data relating to SARS-CoV-2 transmission and effectiveness of mitigation strategies in children. As schools begin to reopen over the coming months, this represents an opportunity to conduct rigorous research that will help close

the knowledge gap and will therefore continue to improve and inform decision-making during the school year. Priority areas of research include but are not limited to the following:

- Understanding optimal surveillance strategies for schools in areas of low and higher community transmission. Considerations include evaluating the use of non-testing-based data (e.g. absenteeism, screening) and testing-based strategies for students and teachers (including serology and PCR testing) for surveillance.
- Utility of innovative technologies for screening and contact tracing in the school setting (e.g. cellphone technologies).
- Assessing the effectiveness and consequences of risk mitigation strategies such as masking, face shields, physical distancing (1 metre versus 2 metre distance) and cohorting, on learning, health and mental health outcomes for children of different ages in schools within the context of existing school infrastructures.
- Investigation of school outbreaks to determine their causes and, specifically, to investigate the role of children and youth compared to staff/adults in order to better understand SARS-CoV-2 spread dynamics in general and to be able to improve mitigation strategies in the school setting.
- In order to facilitate the development of testing-based surveillance and monitoring strategies for SARS-CoV-2, there are various areas of research that require attention:



- The evaluation of point-of-care testing strategies, and contact tracing strategies for surveillance and management of potential outbreaks in schools.
- Development of new testing methodologies that are more comfortable, feasible, with rapid return compared to nasopharyngeal swabs. Experience from our academic hospitals has shown that children who require frequent nasal swabbing develop anxiety for the testing, which in many cases has led to test refusal. Examples for alternative sampling could include, anterior nares (front of the nose) nasal testing, buccal swab testing, saliva sampling, as well as swabs of the throat/oral cavity. Additionally, testing is being evaluated by some groups in an attempt to detect the urinary excretion of SARS-CoV-2.

16. Additional considerations

It is recognized that there are other school support staff, in addition to teachers, who may have significant exposure to students and other staff. Guidance for their safe return to work should be developed in collaboration with occupational health and safety and public health groups. In particular, bus drivers and transportation to school is an important consideration that will need detailed recommendations, including bus scheduling options, addressing bus capacity, and other safe operational considerations.

Guidance for parents/caregivers and children/youth on alternative travel options should be developed. One potential concern is that more parents/caregivers will drive their children/youth to school, either because of reduced school bus capacity (related to public health measures for buses) or because they feel it is safer, which could increase traffic congestion and risk of pedestrian injury. Strategies to accommodate such a scenario could include enhanced safety supervision and education, and expanding drop-off and pick-up locations near the school. For children and youth who do not live far from school, walking or cycling/scootering should be encouraged, weather permitting. Expanded facilities for storage of bicycles and scooters may be needed.

Summary

This document is intended to provide guidance for a safe return to school and highlight the harms caused by prolonged

school closure. It should not be viewed as a comprehensive guide to the precise mechanics of school reopening. As discussed, the risks of severe illness from SARS-CoV-2 infection in children, which appears to be relatively small, need to be balanced with the harms of school closure and the public health risks of disease transmission. Current evidence suggests that young children are less likely than teenagers or adults to transmit SARS-CoV-2 and, with few exceptions, school reopening with various implementations of infection prevention and control measures has been successful and not usually associated with outbreaks when community transmission is low. On balance, therefore, given the current epidemiology in Ontario, it is recommended that children and youth return to school and that the messaging around this clearly articulates the rationale for the recommendations outlined in this document in order to help reduce the fear and anxiety in parents and children/youth. It will also be critical to ensure that safety and wellness of teachers and school staff is prioritized.

In our view, a daily school model is best as it allows for consistency, stability and equity regardless of the region in which children live. An important factor to consider in this respect is emerging evidence indicating inequalities in the social and economic burden of COVID-19, which may further disadvantage children/youth living in areas with higher infection burden where educational inequality and barriers to online learning may be more pronounced.⁵⁸ Therefore, return to school and implementation prioritization decisions should be based on the principle of equity for all children and youth. The public school system is uniquely positioned to address some of the inequities that disproportionately impact Black, Indigenous, People of Colour and other disadvantaged groups in Ontario. In addition, we appreciate that the living conditions for children/youth vary across socioeconomic groups and, therefore, recommend that further work be done to develop guidance and identify supports needed for situations where children/youth reside within the same home as individuals with underlying conditions that put them at increased risk of more severe disease. Finally, it is important to note that these recommendations reflect the evidence available at the present time and are likely to evolve as new evidence emerges and as information is gathered from other jurisdictions that have reopened schools already.

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We are very grateful for the reviews and contributions provided by the following key stakeholders:

- Teachers: Nigel Bariffe, Laura McCoy, Stacie Carroll, Gioavanna Panzera, Jodi Greenwood
- Adult Infectious Disease Physicians: Andrew Morris, Daniel Ricciuto, Abdu A Sharkawy, Janine McCready
- Epidemiology: Amy Greer
- Bloorview family leader volunteers with lived experience expertise: Adrienne Zarem, Cheryl Peters, Jean Hammond, Joanne Downing, Oksana Romanov, Meredith Sandles, Aline Chan, Gunjan Seth
- Bloorview School Authority: Sarah Nauman (school principal)

- PONDA members: Olaf Kraus de Camargo, Mohammad Zubairi, Sarah Pot (parent), Jennifer McLean, Elizabeth Grier, Paige Church

We are also grateful to Julie Drury, Barbara Fallon, Jennifer Jenkins, and the SickKids Family Advisory Network for their review of the document and their valuable input.

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Appendix 1: Potential Advantages and Disadvantages of School Reopening Models ¥

FULL-TIME IN-PERSON SCHOOL WITH BASIC RISK MITIGATION §		
CATEGORY	POTENTIAL ADVANTAGES	POTENTIAL DISADVANTAGES
Educational environment	<ul style="list-style-type: none"> • Most comprehensive and holistic educational environment option for all children, especially those with developmental delays or special educational needs • Maximizes learning potential for all children, including those from families with limited financial, intellectual, or time resources to support schooling children at home • Maximizes teachers' ability to identify children with special needs, including those with cognitive delays or behavioural challenges and the ability to implement individual education plans (IEPs) • Maximizes teachers' ability to recognize mental health issues or social concerns for children including neglect or maltreatment 	<ul style="list-style-type: none"> • A substantial proportion of parents may choose not to let their children return to school because of fear of SARS-CoV-2, which would likely put their children at a disadvantage (with respect to learning, social interaction) • Teachers and other school staff may not feel adequately protected with this approach
Social environment	<ul style="list-style-type: none"> • Maximizes social development (socialization with peers and teachers); this will likely be of particular importance to children with certain underlying conditions, such as autism spectrum disorder • For young children in particular, face-to-face interaction is likely to enhance learning, including non-verbal communication skills, empathy and emotional regulation • Enhances daily routines for children and youth, which can support healthy eating, physical activity, and sleep 	<ul style="list-style-type: none"> • Bullying may be increased (e.g. those who want to wear masks may be bullied)
Health impacts	<ul style="list-style-type: none"> • Reduced risk of anxiety, depression and other mental health disorders related to not being with peers, teachers, and due to home isolation • Reduced impact on mental health and well-being in children with and without underlying mental health disorders related to not being with peers or teachers • Potentially increase physical activity through light exercise, such as walking, and moderate/vigorous activity with resumption of gym class and recess periods • Maximizes opportunity for children to participate in school-based extracurricular activities • Maximizes opportunities for school-based developmental supports (occupational therapy, physiotherapy, speech and language support) • Maintaining up-to-date school-based vaccination rates • Enable school breakfast programs to restart, nutritional programs in schools for families who may not be able to provide healthy meals/snacks 	<ul style="list-style-type: none"> • Potential risk of SARS-CoV-2 infection in school-aged children and school staff, including those with underlying co-morbidities and other risk factors • Potential risk of SARS-CoV-2 infection for other children and adults living in the home (including those at higher risk; e.g. grandparents) if a child or teacher/school staff becomes infected at school • Risk of outbreaks in school leading to disruption of school setup • Children with underlying allergies/chronic cough disorders (e.g. asthma) may be disadvantaged by being inappropriately barred from school attendance due to "symptoms" • Potential increased risk of anxiety or fear related to possibility of SARS-CoV-2 infection • Potentially less impact on school-based SARS-CoV-2 spread than more aggressive strategies outlined below • Potentially less impact on school-based spread of other respiratory viruses (e.g. influenza, respiratory syncytial virus) and some vaccine-preventable diseases (e.g. chickenpox, Streptococcus pneumoniae) especially in populations with reduced vaccination rates • Potential toxic exposure of children to cleaning agents
Family and societal impacts	<ul style="list-style-type: none"> • Minimizes risk of caregiver unemployment, loss of family income and subsequent impacts on health • Maximizes parental/work productivity potential 	<ul style="list-style-type: none"> • A substantial proportion of parents may choose to keep their children at home because of fear of infection • Teachers and other school staff may not feel adequately protected with this approach • Increased overall financial cost to schools and increased garbage volume on the school grounds related to personal protective equipment requirements • Children who do get sick will need to stay home, which could temporarily impact parent/caregiver ability to work

FULL TIME IN-PERSON SCHOOL WITH RISK MITIGATION INCLUDING MANDATORY PERSONAL PROTECTIVE EQUIPMENT †

CATEGORY	POTENTIAL ADVANTAGES	POTENTIAL DISADVANTAGES
Educational environment	<ul style="list-style-type: none"> • Maximizes teachers' ability to identify those with special needs, including children with cognitive delays or behavioural challenges and the ability to implement individual education plans (IEPs) • Maximizes teachers' ability to recognize mental health issues or child abuse signs • Enhances learning potential for children from under-served communities • Reduces risk of adverse impacts on children from families with limited financial, intellectual, or time resources to support in-home child schooling • Teachers may feel more protected and therefore better able to carry out their teaching tasks 	<ul style="list-style-type: none"> • A proportion of parents may choose not to let their children return to school because of fear of SARS-CoV-2, which may put their children at a disadvantage (with respect to learning, social interaction) • Use of mitigation strategies may be distracting (uncomfortable etc.) for both teachers, other school staff and children, limiting the benefit of the school environment • Loss of opportunity for children to learn from facial expression and non-verbal cues if masking routinely used; this may be particularly problematic for those with developmental delays, special needs, hearing impairments and those for whom English is a second language • The need to use mitigation strategies and enforcement of these strategies may increase fear/anxiety for some children and potentially have long-term psychological impacts
Social environment	<ul style="list-style-type: none"> • Social development supported by being present with peers and teachers with some limited precautions • Enhances daily routines for children and youth, which is important to support healthy eating, physical activity and sleep 	<ul style="list-style-type: none"> • For young children in particular, use of mitigation interventions may to an extent adversely impact interaction and learning, particularly non-verbal communication skills • For children in transition (new to a school), masking may impair their ability to make new friends and connect with new teachers
Health impacts	<ul style="list-style-type: none"> • Potentially reduced risk of anxiety, depression and other mental health disorders compared with online school • Potentially reduced impact on symptoms in children with underlying mental health disorders compared with online school • Potentially increased physical activity through resumption of gym class and recess periods • Some opportunity for children to participate in school-based extracurricular activities • Some opportunities for school-based developmental supports (occupational therapy, physiotherapy, speech and language support) • May (with some restrictions) enable school breakfast programs to re-start, nutritional programs in schools for families who may not be able to provide healthy meals/snacks • Maintaining up-to-date school-based vaccination rates • Potential reduction in school-based spread of SARS-CoV-2 • Potential reduction in school-based spread of other respiratory viruses (e.g. influenza, respiratory syncytial virus) and some vaccine-preventable diseases (e.g. <i>Streptococcus pneumoniae</i>) especially in populations with reduced vaccination rates 	<ul style="list-style-type: none"> • Mitigation interventions may not be reasonable or feasible for many children, especially those who are younger or with underlying conditions • Improper use/application of mitigation interventions could increase the risk of SARS-CoV-2 infection in school age children and school staff infections, including those with underlying conditions • Improper use/application of mitigation interventions could potentially increase risk of SARS-CoV-2 infection for other children and adults living in the home (including those at higher risk; e.g. elderly grandparents) • Improper use/application of mitigation interventions could potentially increase risk of outbreaks in school leading to disruption of school setup • Wearing certain personal protective equipment (i.e. masks) may interfere with physical activity, such as during recess, gym class, and extracurricular sports • Children with underlying allergies/chronic cough disorders (e.g. asthma) may be disadvantaged by being inappropriately barred from school attendance due to "symptoms" • May increase anxiety, feelings of social anxiety for some children, and difficulties with peer or teacher interactions among children with social skills deficits/problems reading social cues (e.g. ADHD) • Potential toxic exposure of children to cleaning agents
Family and societal impacts	<ul style="list-style-type: none"> • Minimizes risk of caregiver unemployment, loss of family income and subsequent impacts on health • Maximizes parental/work productivity potential 	<ul style="list-style-type: none"> • Children who do get sick will need to stay home, which could temporarily impact parent/caregiver ability to work • Increased overall financial cost and garbage volume on the school grounds related to personal protective equipment requirements • Children who do get sick will need to stay home, which could temporarily impact parent/caregiver ability to work

HYBRID SCHOOLING APPROACH (ALTERNATING WEEKS OR DAYS AT SCHOOL AND VIRTUAL) WITH RISK MITIGATION OPTIONS AS ABOVE

CATEGORY	POTENTIAL ADVANTAGES	POTENTIAL DISADVANTAGES
Educational environment	<ul style="list-style-type: none"> • Reduced class size more manageable for teachers • Intermediate ability of teachers to identify special needs, implement IEPs, recognize delays/school challenges • Intermediate ability of teachers to identify and recognize mental health issues or child abuse signs 	<ul style="list-style-type: none"> • Reduced in-class time likely to adversely impact overall learning, disruptive schedule • Concomitant online classes may complicate schools' ability to cover full curriculum equitably • Intermediate ability to identify special needs, implement IEPs, recognize delays/school challenges • Intermediate ability to recognize mental health issues or child abuse signs • May pose a challenge for teachers in measuring learner engagement • Children from low resource settings and rural locations with poor Internet connectivity may fall behind due to lack of access to technology (software/hardware, connectability) • Inequity/disadvantage for families with no financial, intellectual, protected space or time resources to support online learning • Reduced opportunities for special education support (e.g. education assistant) for children with existing learning needs
Social environment	<ul style="list-style-type: none"> • Some socializing in the school environment is better than none 	<ul style="list-style-type: none"> • May heighten fear/anxiety for some children given the frequent changes to schedules, coping with two worlds (social and mental health impacts of this), increased absenteeism • Difficult for all children, most particularly for younger children and those with underlying conditions (e.g. anxiety, autism spectrum disorders etc.) where a routine structure is best • Challenging for children new to a school (e.g. Grades 6, 9) or new to a community as time in school may be too limited or fragmented to consolidate new connections
Health impacts	<ul style="list-style-type: none"> • May reduce risk of SARS-CoV-2 infection for school-aged children and school staff • May reduce risk of SARS-CoV-2 infection for other children and adults living in the home (including those at higher risk; e.g. grandparents) • May, with some restrictions, enable school breakfast programs to restart, nutritional programs in schools for families who may not be able to provide healthy meals/snacks • Potential reduction in school-based spread of SARS-CoV-2 due to enhanced social distancing, including less physical school attendance • Potential reduction in school-based spread of other respiratory viruses (e.g. influenza, respiratory syncytial virus) and some vaccine-preventable diseases (e.g. chickenpox, <i>Streptococcus pneumoniae</i>) in populations with reduced vaccination rates 	<ul style="list-style-type: none"> • Increase risk of anxiety, depression and other mental health disorders • Worsening of symptoms in children with underlying mental health disorders • Increased screen time during "off school" times • Potential risk of online bullying • Decreased physical activity • Children with underlying allergies/chronic cough disorders (e.g. asthma) may be disadvantaged by being inappropriately barred from school attendance due to "symptoms" • Risk of SARS-CoV-2 transmission from mixing of cohorts if parents hire middle school or high school students to care for their children so they can continue to work • Some children may be left unsupervised at home placing them at risk for accidental and non-accidental injury • Risk of child abuse may increase (e.g. may tip the balance in parents at risk of abusive behaviour)
Family and societal impacts	<ul style="list-style-type: none"> • May increase opportunities for parent-child bonding and promote meaningful interaction on off-days from school 	<ul style="list-style-type: none"> • Likely very disruptive to caregiver employment; may predispose to loss of family income; this is likely to disproportionately impact the most economically vulnerable groups (e.g. single-parent households) • Very disruptive to parental/work productivity potential

FULL-TIME ONLINE SCHOOL		
CATEGORY	POTENTIAL ADVANTAGES	POTENTIAL DISADVANTAGES
Educational environment	<ul style="list-style-type: none"> Beneficial for the minority of children who cannot attend school because they are sick or in isolation due to SARS-CoV-2 infection or exposure, or if parents/caregivers choose to keep their child home from school Potentially reduced risk of SARS-CoV-2 infection for teachers, which would be beneficial particularly for those at increased risk of severe disease Teacher cohort capacity likely to be maximized 	<ul style="list-style-type: none"> Reduction in overall achievement for students, especially those who lack self-regulation or who lack adequate supervision in the home Teachers may not be adequately trained/prepared for online learning management systems and online curriculum delivery Reduced ability to identify special needs, implement IEPs, recognize delays/ school challenges Reduced ability to recognize mental health issues or child abuse signs Children from low resource settings and rural locations with poor Internet connectivity may fall behind due to lack of access to technology (software/hardware, connectability) Inequity/disadvantage for families with no financial, intellectual, protected space or time resources to support online learning Reduced opportunities for special education support (e.g. education assistant) for children with existing learning needs No opportunities for school-based developmental supports (occupational therapy, physiotherapy, speech and language support) Home environment may not be conducive to learning because the space is small and shared by many people resulting in multiple distractions May be difficult for students with poor self-regulation
Social environment	<ul style="list-style-type: none"> Generally not advantageous; some ability for students to communicate with each other using the chat function of certain learning management systems (i.e. Brightspace) 	<ul style="list-style-type: none"> Decreased socialization with peers; reduction in social skill development; this is likely to be particularly harmful to those with special needs (e.g. autism spectrum disorders) Difficult for all children, most particularly for younger children and those with underlying conditions (e.g. anxiety, autism spectrum disorders etc.) where a routine structure is best Decreased face-to-face interaction leading to reduced pickup of facial expression and social cues
Health impacts	<ul style="list-style-type: none"> Eliminates risk of school-based SARS-CoV-2 infection for both school age children and school staff Reduced SARS-CoV-2 infection risk for other children and adults living in the home (including those at higher risk; e.g. grandparents) due to children/school staff having less risk of exposure Potential reduction in spread of other respiratory viruses (e.g. influenza, respiratory syncytial virus) and some vaccine-preventable diseases (e.g. chickenpox, Streptococcus pneumoniae) in populations with reduced vaccination rates 	<ul style="list-style-type: none"> Increase risk of anxiety, depression and other mental health disorders Worsening of symptoms in children with underlying mental health disorders Increased screen time Increased risk of online bullying May expose some children (e.g. teenagers) to potentially dangerous online activity (e.g. watching adult videos, gambling) Decreased physical activity Delayed receipt of routine childhood immunizations Risk of SARS-CoV-2 transmission from mixing of cohorts if parents hire middle school or high school students or other outside the home caregivers to care for their children so they can continue to work Some children may be left unsupervised at home placing them at risk for accidental and non-accidental injury Risk of child abuse may increase (e.g. may tip the balance in parents at risk of abusive behaviour)
Family and societal impacts	<ul style="list-style-type: none"> For some families the increased contact between parents and children may be beneficial 	<ul style="list-style-type: none"> Adverse impact on caregiver employment and family income Dramatic reduction in parental/work productivity; many parents will not be able to work No respite for parents (particularly for those with children of high needs, such as those who are medically complex)

¥ The purpose of this table is to provide general perspectives on potential advantages and disadvantages of the predominant school reopening models currently being contemplated. Some portions are more applicable to kindergarten and elementary school-aged children than older children.

§ Full-time school with basic risk mitigation = limited physical distancing measures, optional- only masking for school staff and students (on an age-appropriate basis and with provision of materials by the school board so as not to disadvantage those with limited resources), hand hygiene protocols, cleaning protocols and outbreak management protocols.

† Full-time school with risk mitigation = robust physical distancing, mandatory masking for school staff and students, hand hygiene protocols, cleaning protocols and outbreak management protocols.