



May 27, 2020

OCPHO Backgrounder:

Coronavirus Disease (COVID-19), Children and the Re-Opening of Schools

In response to the COVID-19 pandemic and the limited available research on the virus at the time, schools in most countries closed, including the Northwest Territories (NWT). From the point of view of numbers of attendees and contact intensity, child and youth settings present unique risks for transmission of COVID-19. However, it is recommended that school closures be reconsidered and for appropriate infection prevention and public health controls are used to enable children and youth in the NWT to return to school safely. In doing so, there will need to be a balance between protecting against the spread of COVID-19 while minimizing unintended harms.

Mitigation measures such as school closures have a high economic and social cost. Schools and childcare facilities play many important roles in communities. They provide necessary education and opportunities for social interaction (prepares children for adulthood). Long term online education for K-12 is not a substitute for in-person learning and socialization that takes place in a school setting. Shutdowns have the potential to lead to education gaps and other consequences for many children. Particular groups may be disproportionately affected, such as children who receive school-based meals or counselling, children who are in situations of domestic violence or abuse, children with disabilities who rely on the certainty of education and social supports to maintain health and community inclusion, children who lack access to internet and children of essential workers or low income families or single parents who have not had access to flexible work arrangements or paid leave. As businesses reopen, many workers will be dependent on access to childcare, schools and childcare facilities.

Evidence

In Canada as of May 26, 2020:

- Children and youth ≤ 19 years of age represented:
 - 6% of reported COVID-19 cases in Canada
 - 1% of COVID-19 hospitalizations with 3 cases admitted to Intensive Care Unit (ICU).
 - 0% of those deceased from COVID-19

Canadian data on reported laboratory-confirmed cases, the age distribution among confirmed cases in individuals 19 years of age or younger in Canada as of April 27, 2020, can be found in *Appendix 1*¹. The data shows that the rate of infection increases with age (with the exception of infants <1 year). Youth 15- to 19- years of age had the highest rate of infection among those < 20 years old (20.7 per 100,000), whereas children between 1- to 14- years-of-age show a lower, more consistent rate (7.1 -11.4 per 100,000). However, one study found no difference between the prevalence of COVID-19 antibodies

¹ Paquette, D., Bell, C., Roy, M., Whitmore, L., Currie, A., Archibald, C., MacDonald, D., & Pennock, J. (2020). Laboratory-confirmed COVID-19 in children and youth in Canada, January 15-April 27, 2020.

(immunity of COVID-19) between children (5 to 19 years of age) and middle-aged adults (20 to 49 years of age), suggesting no difference in exposure and subsequent infection. However, children, for the most part, have much milder disease².

Children, especially those below 10 years of age, appear to experience less severe illness due to COVID-19 which explains why they form a very small proportion of reported cases to date.^{3,4} There is concern, however, about whether children are major vectors for COVID-19 transmission as they are with influenza. Transmission of COVID-19 in children is not fully understood. Although studies are sparse to date, they are somewhat reassuring in this regard. Unlike influenza, preliminary evidence has not found children to be comparatively significant transmitters of COVID-19.^{5,6,7,8,9} In addition, in most household cluster investigations, children were rarely the index case.¹⁰

Additionally, the unintentional harms of closing schools must be considered. Schools serve as a place of safety for many children and the distancing from schools has increased risk associated to isolation, food insecurity and family stress. Children and youth may be at an increased risk to harm during these stressful times. With fewer people interacting with children outside the home, we are seeing a decrease in reports to Child and Family Services, including reports received from schools. Now more than ever – child and youth safety becomes everyone’s responsibility. It is important that anyone who suspects child maltreatment and neglect continues to have a responsibility to report these concerns to their local Child and Family Services office. Contact information for these offices is available on the Department of Health and Social Services website at www.hss.gov.nt.ca/report-child-neglect.

Recommended Action

The public health principles of benevolence (do good) and non-maleficence (do no harm) must be considered in every public health control implemented during the COVID-19 pandemic. Given the evidence that those ≤ 19 years of age are at lower risk of contracting and transmitting COVID-19 in conjunction with the evidence of increased harm experienced by children NWT children as a result of school closures, **the NWT Chief Public Health Officer (CPHO) recommends re-opening schools in the Northwest Territories with appropriate risk mitigation measures in place. In addition, the Office of Chief Public Health Officer will provide direction and approval on all school reopening risk assessment plans.**

² Stringhini S, Wisniak A, Piumatti G et al., (2020). Repeated seroprevalence of anti-SARS-CoV-2 IgG antibodies in a population-based sample. Doi: <https://www.medrxiv.org/content/10.1101/2020.05.02.20088898v1>

³ Dong Y, Mo X, Hu Y, et al. Epidemiological characteristics of 2143 pediatric patients with 2019 coronavirus disease in China. *Pediatrics* 2020 e20200702. doi:10.1542/peds.2020-0702

⁴ Ludvigsson JF. Systematic review of COVID-19 in children show milder cases and a better prognosis than adults. *Acta Paediatrica* 2020. doi:10.1111/apa.15270 [doi]

⁵ Gudbjartsson DF, Helgason A, Jonsson H, et al. Spread of SARS-CoV-2 in the Icelandic population. *N Engl J Med* 2020 Apr 14;NEJMoa2006100. doi: 10.1056/NEJMoa2006100. Online ahead of print.

⁶ Hua, C. Z., Miao, Z., Zheng, J., Huang, Q., Sun, Q., Lu, H., et al. (2020). What we should know about SARS-CoV-2 infection in children. SSRN- Lancet Prepublication. (3/26/2020). Available at SSRN: <https://ssrn.com/abstract=3564422> or <http://dx.doi.org/10.2139/ssrn.3564422>

⁷ Mehta N, Mytton O, Mullins E, et al. SARS-CoV-2 (COVID-19): What do we know about children? A systematic review. SSRN- Lancet Prepublication (3/18/2020). Available at: SSRN <https://ssrn.com/abstract=3558015>

⁸ Sun K, Chen J, Viboud C. Early epidemiological analysis of the coronavirus disease 2019 outbreak based on crowdsourced data: A population-level observational study. *Lancet Digital Health* 2020;2: e201–08
Published Online February 20, 2020. Available at: [https://doi.org/10.1016/S2589-7500\(20\)30026-1](https://doi.org/10.1016/S2589-7500(20)30026-1)

⁹ National Centre for Immunisation Research and Surveillance (NCIRS). COVID-19 in schools – the experience in NSW. 26 April 2020. Available from: http://ncirs.org.au/sites/default/files/2020-04/NCIRS%20NSW%20Schools%20COVID_Summary_FINAL%20public_26%20April%202020.pdf

¹⁰ Zhu Y, Bloxham CJ, Hulme KD, et al. Children are unlikely to have been the primary source of household SARS-CoV-2 infections. *Medrxiv*. 2020.03.26.20044826. doi:10.1101/2020.03.26.20044826

Examples of mitigation measures for child and youth settings are outlined below. It is anticipated that school boards and operators of other child and youth settings will find creative solutions to the challenges of physical distancing in their setting. The mitigation strategies can also be adapted for summer day camps for children. Child and youth settings must also consider this guidance in the context of their legal responsibilities under the applicable territorial Health and Safety legislation.

If schools are unable to meet this guidance, the OCPHO recommends partially opening schools to provide a safe space and food programming to vulnerable children and youth, following a risk assessment completed by OCPHO, with alternative guidance.

Guidance for Daycare and Educational Settings to Open/Operate

The following includes the adaptation of general guidelines provided by Public Health Agency of Canada (PHAC) of ongoing public health controls required to safely re-open schools:

- Maintain the provision of online learning as an option for K- Grade 12 students with conditions that place them at higher risk of severe illness from COVID-19 (i.e. those with preexisting health conditions or immune-compromised).
- Maintain the provision of online learning as an option for Grade 7- Grade 12 students if feasible and if physical distancing cannot be achieved with a ratio of 15 student to 1 teacher for grade 7 - 9, or a 10 students to 1 teacher ratio for grades 10 - 12. Priority for face to face would be students who do not have online access.
- Core personal measures are maintained (i.e., provide hygiene education, supervised hand hygiene)
- Regular screening of all staff and students/campers to ensure no symptoms
- Maintain physical distancing as much as possible (i.e., separation of desks, no assemblies, no high-contact sports, no indoor gym. limit extracurricular activities, no music or singing, no drama).
- Staff and students at higher risk of severe illness or those with household members at higher risk remain at home
- Environmental cleaning (increase frequency of cleaning/disinfecting high-touch surfaces and bathrooms at least twice per day)
- Students can use a non-medical mask (NMM) when unable to maintain physical distancing (Not recommended for children <2 years of age and not required for children in childcare facilities such as day homes/daycares)

NWT CPHO Recommended approach to re-opening schools in the NWT – Phase 1

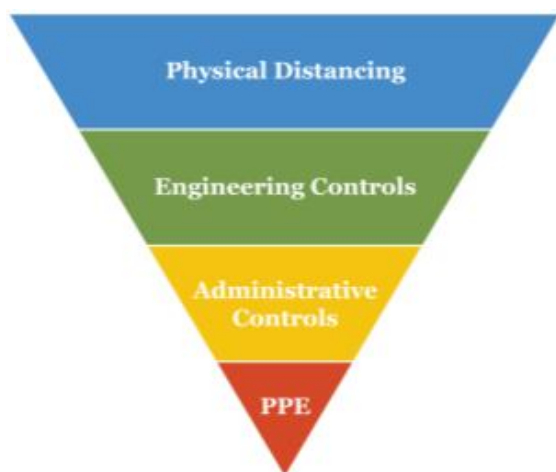
Phased Approach to Relaxing Public Health Measures: Re-opening NWT School

Phase*	Risk Level	Subgroup
Containment (Current State)	Low	Day homes, day cares and childcare supports remain open
Phase 1	Low/ Medium-low	At-risk programming (not classes)
		Junior Kindergarten to Grade 6- all can return with appropriate restrictions

(Based on how schools in communities split their learning, the entire school could be accommodated or split classes could separate eg. 5/6 or 6/7 split).		related to physical distancing, engineering & administrative controls, as well as NMM when unable to physically distance, Infection Prevention & Control Measures and PPE for staff as required based on WSCC guidance and risk assessment.
		Grade 7 - Grade 12 Staggered re-entry to limit size of classes. Grades 7 – 9 to maintain a 15 students to 1 teacher ratio. Grades 10 – 12 to maintain a 10 students to 1 teacher ratio. Additional restrictions related to physical distancing, engineering & administrative controls, Infection Prevention & Control Measures, a NMM when unable to physically distance and PPE for staff as required based on WSCC guidance and risk assessment.
		Alternate learning programs (i.e., Route 51) or night classes These programs should only open to youth 19-years-old and under
Phase 3	High	Colleges, adult learning and trades <i>This demographic will be addressed in Phase 3 and will require additional considerations**</i>

Public health measures and hierarchy of controls

Protecting students, staff and others involved in an educational setting is of the utmost importance. General protective public health controls need to be in place to ensure that the safety of everyone is considered and acted upon. The hierarchy of control illustrates the types of controls based on their effectiveness to reduce transmission of infection and prioritization.



Adapted from John Hopkins University, Bloomberg School of Public Health, Center for Health Security, Public Health Principles for a Phased Reopening During COVID-19: Guidance for Governors, April 2020

- 1. Physical distancing:** Employers/operators should restructure physical settings and responsibilities to adhere to the distance needed between people (e.g., increasing space between people and/or reducing the number of employees within a space at a given time).
- 2. Engineering controls:** creating physical barriers between people when distancing is not possible and increasing ventilation
- 3. Administrative controls:** redistribute responsibilities to reduce contact between individuals, using technology to facilitate communication
- 4. Personal Protective Equipment or non-medical masks:** having people wear medical PPE when required and Non-Medical Masks (NMM) or face coverings in the community setting.

Physical Distancing Recommendations:

- Maintain physical distance through spacing and time, control numbers throughout space capacity. If not possible, refer to PPE section.
- Ability to have remote access for students needing to work online from home (Live or pre-recorded)

or some form of learning and continuous contact between the school and student if not available for those who are unable to attend due to their condition or isolation requirements.

- Controlled numbers based on space capacity. Stagger the schedule to limit the numbers of children/youth in attendance at one time. Allow 50% of students at a time (half morning; half afternoon) or other staggered entry.
- Reduce contact during transportation to and from school (e.g. use of NMM on school buses for students if appropriate physical distancing cannot feasibly be maintained).
- Divide classes/groups into smaller numbers of children/youth.
- Increasing desk distance between students.
- Restrict or manage flow of common areas in the setting including hallways.
- Given the lower risk of transmission outdoors consider on the land learning options for students or consider smaller outdoor classrooms in open pavilions.

Additional Physical Distancing Guidance Specific for Middle and High schools

Given the higher rate of confirmed cases among those aged 15-19 years of age, in comparison to younger children (<15 years) as well as less severity of COVID 19 below age 10, more stringent physical distancing measures should be implemented **in addition to the measures noted above for middle and high school**. This would include:

- Limit classroom to student:teacher ratio indoors:
 - Grades 7 to 9 maintain a 15 students to 1 teacher ratio, if able to physically distance at that maximum
 - Grades 10 to 12 maintain a 10 students to 1 teacher ratio, if able to physically distance at that maximum
- Encourage remote access for students who can work online from home (live or pre-recorded) to further decrease numbers on site.
- Controlled numbers based on space capacity. Priority for face to face learning would be for students who do not have online access.
- All essential classes should be delivered in one larger time block to minimize time at school.
- Suspension of all lunch breaks, breaks and spares (times when not in class) to limit the amount of time in common areas.
- Limit number of hours in school to morning or afternoon shifts with one hour separation to avoid comingling). Staggered and alternative days for schooling so that only half the student body is in physical attendance at one time or other staggered entry. The other half can participate through online learning or by at home assignments.
- Students should come in for class and once class(es) are done the students must leave the school and go back home. Students need to immediately leave school site after their designated shift is complete.
- Personal belongings should kept under their desk, not locker.

Engineering Control Recommendations:

- Include physical barriers/plexi-glass where required.
- Considering barriers between desks (i.e. at mealtimes).

- Have students and staff enter one door and exit out.
- Stagger pick-up and drop-off of children/youth
- Defined areas to pick-up and drop off
- Encourage classes or drop –in questions outdoors weather permitting (open pavilion set-up).
- Use visual markers to comply with 2 metres physical distancing including the restructuring of class design.
- Set up barriers where people tend to congregate so that people will naturally stand or sit further away from each other. Reduce or eliminate communal areas.
 - ❖ **Mitigation options:**
 - Desks and seating areas are to be arranged in a manner that allows for appropriate physical distancing.
 - Signage, Plexi-glass and floor markings can be used.
 - Maintain directional flow within the school. This would include being able to enter the school through one door and exist through another door so that people do not have to cross paths and can maintain distance.
- Increase ventilation if possible by adjusting the HVAC system or opening windows.
- Encourage classes outdoors weather permitting (open pavilion set-up)

Administrative Controls Recommendations:

- Ensure that strict exclusion policies are in place for children/youth or staff who are ill. No staff and students that have symptoms of COVID-19 (fever, new or worsening cough, shortness of breath, muscle aches, extreme tiredness, sore throat, runny nose, headache, diarrhea, vomiting, loss of sense of smell/taste or generally feeling unwell) should come to school. They must remain home until they are well and follow health care provider advice. Cough (57%), runny nose (41.2%) and head ache (39.4%) were the most common symptoms among confirmed cases in those <20 years in Canada
 - Ensure that all staff and students that are required to self-isolate or isolate for any reason remain at home during their isolation period.
- Have a procedure for isolating children/youth who become sick in the setting
- Teach children/youth in age-appropriate and non-stigmatizing language how to identify symptoms of COVID-19 and instruct them to speak to a staff member if they are experiencing symptoms
- Consider special options for persons at high-risk of severe illness such as curb side pick-up for assignments, special hours for tutoring, tele-commute/remote learning, etc.)
- Stagger the timing of breaks during the day (e.g. lunch break, recess, play time) to allow small groups or eat in classrooms at spaced desks to limit numbers in the same location at the same time.
- Have minimum staff on-site. Continue teleworking for administrative staff if possible
- Limit staff to only those which are essential for keeping the school operational.
 - ❖ **Mitigation option:** If staff must come in, identify ways that will limit their contact with others (i.e. staggered shifts, working in the evening while school is closed, work half days, etc.)

- Identify staff and students who are at higher risk to severe outcomes from COVID-19 or those to live within a high risk household and advise those staff and students to remain working/learning from home. Those at higher risk include: older adults (>60 years of age) and those with chronic or immune-compromised conditions such as cancer, diabetes, renal, heart or lung disease.
- If possible, have classes contain the same children/youth, staff each day
- Cancel or modify programs that bring students from different classes/groups together
- Cancel or postpone special events or school visitors and guests
- Adopt a no visitors policy. This includes avoid having elders or guest speakers entering the school.
 - ❖ **Mitigation option:** switch elder programming or guest presentations to online opportunities to limit the amount of people in the school especially those at high risk.
- Not allowing assemblies, high-contact sports, indoor sports, extracurricular activities or volunteering and where physical distancing is not possible. This includes extracurricular activities where physical distancing is not possible or high transmission activities such as singing, music, and drama
 - ❖ **Mitigation option:** Consider webinars or digital announcements to student body.
- Essential curriculum only. Cancellation of all non-essential classes (i.e. gym, music, drama etc.)
- All field trips should be suspended with the exception of outdoor classes where students are dropped off or bussed directly too
- Personal belongings should be kept under desk, not in a locker.

Infection Prevention and Control (IPAC)

- *See general guidance for workplaces*
- Enhanced cleaning and disinfecting of bathrooms
- Enhanced custodial services and regular cleaning schedules to at minimum twice daily. This includes cleaning and disinfecting high touch surfaces more frequently (i.e. desks, light switches, door handles, bathrooms, etc.).
 - ❖ **Mitigation option:**
 - It is recommended at this time that the use of hall passes or other items that are frequently touched but not necessarily required be suspended.
 - Consider teaching students how to clean and disinfect their area.
- In stall touch free mechanics where possible (i.e., touch free soap, toilets, etc.)
- No communal food (i.e. buffet style). **If possible**, have students bring their own lunch.
- Lunch or food programs should only provide bagged, prepackaged or single serve foods and ensure distancing is able to be maintained while accessing lunch programs.
 - Proper food safety should always be followed.
 - If possible continue to enforce directional flow so that students are entering in the lunch room one way and exiting through another to avoid overlap.
 - Students should be encouraged to not linger and only half the present student body should be accessing these spaces at any time.
- No physical greetings or handshakes

- Ensure that hand washing facilities are always properly stocked with soap and paper towel, and that tissue, hand sanitizer (at least 60% alcohol based), cleaning supplies and waste receptacles are made available and maintained in an enhanced capacity.
- Teach, supervise and enforce strong [healthy respiratory practices](#) and [handwashing](#)
- Institute a no sharing policy. This includes items such as food, water bottles, toys, sports equipment, instruments, etc.
 - ❖ **Mitigation options:**
 - If items must be shared ensure they are thoroughly [cleaned and disinfected](#).
 - All toys and learning supports should be easy to clean and disinfect. There should be an increased cleaning schedule applied to these items. Hard to clean items would include fabric based toys such as stuff animals or blankets if they cannot be laundered between uses.

Personal Protective Equipment (PPE) Recommendations*:

- Consider using NMMs or face coverings children/youth when physical distancing is not possible (i.e., traveling on school bus or one on one teaching). Use of NMMs or face coverings is not recommended for children in daycare settings or for children <2 years of age.
- Teachers and other school staff should follow their employer’s policy on PPE use based on WSCC guidance and risk assessment
- Students should wear face coverings while on the bus and numbers of students on the bus should be limited to maintain distance, if possible.
- If regular NMM or PPE is required, students and staff should receive training and reinforcement on how to properly put on and remove PPE.

* In young children in particular, masks can be irritating and may lead to increased touching of the face and eyes

Tools and protocol needed to be in place

- WSCC workplace risk assessment
- WSCC field level risk assessment
- WSCC webinar
- Disinfectant user guide
- Enhanced cleaning checklist
- Defined exclusion criteria for the following:
 - When children/staff are high risk
 - When children/staff should be sent home
 - When parents cannot send kids

Follow the guidance for workplaces

<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/guidance-schools-childcare-programs.html>

<https://www.hss.gov.nt.ca/sites/hss/files/resources/advisory-nwt-workplaces-offices-businesses.pdf>

<https://www.hss.gov.nt.ca/en/services/coronavirus-disease-covid-19/information-employers-and-businesses>

<https://www.hss.gov.nt.ca/sites/hss/files/resources/learn-home-make-cloth-face-mask.pdf>

<https://www.hss.gov.nt.ca/sites/hss/files/resources/how-use-bleach-disinfectant.pdf>

<https://www.hss.gov.nt.ca/sites/hss/files/resources/covid-19-disinfection-homes-camps-running-water.pdf>

<https://www.hss.gov.nt.ca/sites/hss/files/resources/cleaning-disinfecting-closed-work-camps.pdf>

<https://www.wscn.ca/health-safety/covid-19>

<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/risk-informed-decision-making-workplaces-businesses-covid-19-pandemic.html>

Appendix I

Table 1: Age distribution among COVID 19 cases in Canada less than 20 years of age (N=938)

Age group (years)	Frequency		Rate per 100,000
	n	%	
younger than 1	42	4.5	11.4
1-4	109	11.6	7.1
5-9	152	16.2	7.5
10-14	215	22.9	11.2
15-19	420	44.8	20.7
Total	938	100	11.9

From Paquette, Bell, Roy, Whitmore, Currie et al. (2020)⁵