

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

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.