

The impact of COVID-19 on the learning and achievement of vulnerable Canadian children and youth

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Abstract

Many children and youth in Canada are identified as vulnerable due to educational, environmental, and social factors. They are more likely to be negatively affected by events that cause significant upheaval in daily life. The changes imposed by COVID-19, such as physical distancing, school closures, and reductions in community-based services all have the potential to weaken the systems of support necessary for these children to learn and develop. Existing inequities in educational outcomes experienced by vulnerable children prior to the pandemic have been greatly exacerbated as cracks in our support structures are revealed. Many children and youth have experienced disengagement, chronic attendance problems, declines in academic achievement, and decreased credit attainment during the pandemic, with the impact far deeper for those already at-risk. This chapter examines what is known to date regarding the impact of COVID-19 on vulnerable children and youth and provides recommendations to guide postpandemic planning. Vulnerable children, youth, and their families require access to reliable high-speed internet, effective and inclusive learning spaces, and a range of coordinated social services. All stakeholders need to develop and fund initiatives that address these critical areas to ensure that educational opportunities for all children and youth can be realized.

Key words: COVID-19, vulnerable populations, children and youth, disabilities, schools, equity, learning loss

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Introduction

The COVID-19 pandemic is a shared global experience, inescapable on every continent and affecting all members of society. However, its impact, both in terms of the actual illness and public health measures put in place to curb its spread, has affected individuals, groups, and communities to varying degrees ([Bascaramurty and Alphonso 2020](#); [Choi et al. 2020](#); [Craig et al. 2021](#)). “As with most systemic challenges, those who are most impacted by crises are those who are already the most vulnerable” ([Wilke et al. 2020](#), p. 2). Children and youth positioned as vulnerable are likely to be particularly affected by global events that cause significant upheaval in daily life. The changes imposed by COVID-19, such as physical distancing, self-isolation, school closures, and in some cases, termination of community-based services, all have the potential to weaken the systems of support necessary for

children to develop and flourish (Clinton 2020). In this chapter, we examine what is known to date regarding the impact of COVID-19 on vulnerable children and youth. Given the recency of the pandemic, we draw on empirical research where possible, while considering reports from media, government, and school-related associations as complementary sources of insight. We conclude with recommendations that emerge from our examination to guide those engaged in developing supportive postpandemic plans for vulnerable children and youth.

Vulnerability defined

We conceptualize vulnerability as existing in the interactions between the circumstances, resources, and capacities of a child and their family and environment. Vulnerable children are influenced by detrimental social, economic, and (or) educational factors (Eloff et al. 2007). They have an increased likelihood of being harmed or experiencing more severe harm than other children (Schweiger 2019). The COVID-specific literature typically defines vulnerability through environmental and social indicators such as economic hardship, housing stress, and lack of access to materials and infrastructures (Herrenkohl et al. 2021; Drane et al. 2020; Masters et al. 2020). Often contrasted with resilience (Boyce and Kobor 2015), vulnerability places children at risk for difficulties in withstanding significant change or disruption, such as altered social networks, reduced educational support, or increased family stress (Prime et al. 2020).

Child adjustment is reciprocally related to the experiences and challenges of parents and other family members. Disruptions to family health and well-being, such as history of trauma, special needs, chronic health conditions, and family relational dysfunction, can sometimes place children in situations of vulnerability, especially when necessary supports and resources are not in place (Wilke et al. 2020). According to Prime et al. (2020) "... links between hardship, caregiver well-being, family well-being, and children's adjustment are not unidirectional; rather, the links operate within a mutually reinforcing system, whereby stress and disruptiveness in one domain begets the same in another" (p. 632). Adverse effects of the pandemic on parents and families can impact children through multiple mechanisms (McGrath et al. 2020). Children in care or families at risk of separation may need additional attention and support through the COVID-19 pandemic (Wilke et al. 2020).

Chronic exposure to racism and marginalization often intersects with and exacerbates inequities in social and health-related experiences for families (Raising Canada Report 2020; Cohen and Bosk 2020; James 2020; Prime et al. 2020). According to Canadian scholar Carl James (2020), "the pandemic has not only added to the social and educational inequities among young people, it has exacerbated the racial injustice with which racialized and Indigenous youth must contend" (2020, p. 1). Racist incidents against Asian-appearing individuals have increased during the pandemic, spurred by stigma related to the virus's origins in the Wuhan province of China (Heidinger and Cotter 2021; Kong et al. 2021). Preliminary indications suggest that COVID-19 has deepened the negative impact of pre-existing vulnerabilities and disparities and further contributed to disenfranchisement and marginalization (Raising Canada Report 2020).

Alongside the socially and economically driven definitions of vulnerability lie the educational ones (e.g., Willms 2018). Given the school interruptions and closures associated with the pandemic, children who were already behind their peers academically and (or) who require special services and supports to succeed academically are likely to be particularly affected (Clinton 2020; Masters et al. 2020). There is also a compound effect of academic and social vulnerability in that social disadvantage is over-represented among those deemed educationally vulnerable, a pattern termed the "continuous cycle of disadvantage" (Masters et al. 2020, p. 1). For these children, reduced access to the human and material educational resources negatively impacts learning.

Other authors in the Royal Society of Canada COVID-19 series specifically address the mental health dimension of the COVID-19 pandemic (Vaillancourt et al. 2021). Although inextricably linked with mental health, the focus of this chapter is on the academic and learning-related outcomes and approaches for those most vulnerable to the effects of the pandemic and associated restrictions.

Impact of COVID-19 on learning and achievement

Global organizations such as UNICEF and UNESCO have raised concerns throughout the pandemic about its negative impact on child education due to school closures estimated to affect 1.5 billion students worldwide (Gustafsson 2021; UNESCO 2021). They claim that the health crisis is quickly becoming a child rights crisis as access to quality education is hindered or simply unavailable to many children worldwide. Article 28 of the United Nations *Convention on the Rights of the Child* (1989), on which Canada is a signatory, recognizes the right of children to education. Recent COVID-19 literature highlights concern regarding increased absenteeism, poor literacy and math outcomes, and the potential for long-term educational disengagement, drop-out, and lifelong reductions to educational and vocational attainment for students living and learning in vulnerable circumstances (Andrabi et al. 2020; Bao et al. 2020; Frenette et al. 2020; Maldonado and De Witte 2020; Engzell et al. 2021; Sabates et al. 2021).

A number of studies examining the impact of COVID-19 on academic achievement have been conducted in the United States (Dorn et al. 2020; Kuhfeld et al. 2020), Belgium (Maldonado and de Witte 2020), the Netherlands (Engzell et al. 2021; Meeter 2021), and Germany (Depping et al. 2021; Schult et al. 2021). Most of these studies compared student performance on standardized measures prior to and following the spring 2020 school lockdown and found small, significant declines, with a few studies showing greater inequity for students of colour, those with a migration background, or from families with fewer years of formal education. Canadian data are limited at this time to analyses based on historical comparisons. These reveal mixed findings, including higher teacher-assigned grades, increased secondary failure rates, and lower than expected scores on report cards and standardized literacy tests (e.g., Star Reading, Developmental Reading Assessment) for young children in Alberta and Ontario (e.g., Cook 2020; Davies and Aurini 2021; Nerestant 2021; TDSB 2021).

COVID-19 and learning loss

In considering the emerging findings on the impact of COVID-19 on academic achievement, it is important to remain cautious about an overemphasis on learning loss. Discussions about learning loss have permeated news media, policy briefs, opinion pieces, and research (Dorn et al. 2020; Ewing 2020; Engzell et al. 2021). Learning loss is typically defined as the discrepancy between the assessed academic skills and knowledge of students and grade-level curricular expectations and (or) gaps between the academic performance of some groups of students compared to others (Dorn et al. 2020; Pier et al. 2021).

Learning loss discussions are often limited in four respects. First, they suggest that children have not been learning when their schools were closed or while engaged in remote learning. In other words, learning is equated solely with academic achievement, and the skills and comprehension that children may have developed (e.g., land-based learnings) are not valued nor, by extension, measured (Deslandes-Martineau et al. 2020; Rodriguez 2021). Second, learning loss is most often defined through narrow definitions of achievement, primarily basic literacy and numeracy (e.g., Vegas 2021). The full sense of learning, including motivation, engagement, and inclusion, and the broad curricular goals of schools, is greatly reduced (Zhao 2021). Conquently, responses to presumed learning loss often include large-scale standardized testing to assess and rationalize remediation of these narrow skills. This approach often perpetuates the cycle of inequity and poor

performance for students who are disengaged from schools or who do not reflect majority linguistic or cultural profiles (Campbell et al. 2018; Hargreaves 2020). Third, learning loss discussions often depict the impact of inconsistent schooling as applying equally to all students when, in fact, the negative influence is differentially experienced by those most vulnerable (Bailey et al. 2021; di Pietro et al. 2020). And fourth, the notion that learning is lost suggests that it is unlikely to be recouped. However, most skills, competencies, and knowledge related to reading and mathematics, the arts, history, and social studies can be engaged with successfully at any point in an individuals' lifespan, albeit potentially requiring greater intensity and personalization of instruction and practice (Thompson and Steinbeis 2020; Woodard and Pollak 2020). The special education and intervention literature would dispute the notion that achievement is forever compromised if skills are not taught and learned at a fixed point in time (Marita and Hord 2017; Lovett et al. 2020; Vaillancourt et al. 2020). School curricula and standardized tests that determine the grade at which a concept or skill is introduced and evaluated are determined by the system in which students learn rather than being developmentally mandated. Some authors have suggested using the terms COVID "slide", "slow down", "learning disruption", or "unfinished" learning to better reflect the effects of the pandemic on student progress (Gordon et al. 2020; Martin 2020; Rodriguez 2021). What determines whether learning or academic achievement is lost is determined by how well vulnerable students are supported and resourced during and following the pandemic.

Impact of COVID-19 on children and youth with special education needs

Children with special education needs (SEN) comprise 10%–20% of total student enrollment, as many as 1 million children in Canada (Whitley 2020). Many of these children have pre-existing neurological or neurodevelopmental disabilities known to impact cognitive and academic functioning, such as Attention Deficit Hyperactivity Disorder (ADHD), learning disabilities (e.g., Dyslexia, Dyscalculia), Autism Spectrum Disorder (ASD), intellectual disability, or traumatic brain injury, to name a few. These students required a range of inclusive and special education services before the pandemic. Most require differentiated instruction and accommodations to be able to flourish academically. Many rely on established routines and relationships as well as professional and informal support (Toseeb et al. 2020). Some with more complex needs require a broad network of services from community organizations, health care providers, and school staff, many of which have been reduced due to pandemic restrictions (Fontanesi et al. 2020). We have adopted the term "special education needs" to reflect the heterogeneous and diverse group of children and youth who require supports of some kind to be able to learn and engage with peers in schools. As such the term suggests a deficit lens, where some students require something "special", beyond or apart from the norm; the term also situates the need within the child rather than within the environment (see Connor 2020 and Parekh and Brown 2020 for a fuller discussion). We acknowledge these tensions and the limitations of the term. Where possible, we use the original language of the source material we draw on here.

Emerging literature documents the impacts of COVID-19 on children with SEN, generally from the perspective of parents and caregivers. A qualitative study by Neece et al. (2020) in the United States examined the perspectives of 77 parents of children with intellectual and developmental disabilities. The sample was primarily Latinx, and approximately half of the children had been diagnosed with ASD. Approximately one-third of the sample reported decreases in services as a significant challenge during the pandemic. The majority of parents were primarily concerned with the obligation to stay at home to care for their child. Lack of educational and developmental progress was a potential impact noted by about 16% of parents. Other studies provide emerging evidence that the pandemic has worsened symptoms of the disorders themselves and associated comorbidities (Masi et al. 2021), such as increased conduct problems in children with ADHD and reduced prosocial behaviour in those with

ASD (Nonweiler et al. 2020). Concerns have also been raised that online schooling and management of video-conferencing platforms may not be appropriate for children with pre-existing attentional or perceptual impairments (Aishworiya and Kang 2021).

Learning during COVID-19—reducing barriers to access

Vulnerability in education is often a product of a lack of access to adequate resources such as reliable high-speed internet and sufficient internet-enabled devices, inclusive learning spaces and contexts, and therapeutic, social, and recreational services.

Vulnerability via digital access

During the pandemic, access to digital technologies has been a significant issue for many families. Inconsistent access to high-speed internet and sufficient digital devices is a barrier to participation in educational and service-related activities (e.g., therapies, recreational supports, respite) developed because of school closures. In a survey of almost 6000 families on Prince Edward Island, 29% were extremely or very concerned about internet service if home-based learning continued (PEI Department of Education and Lifelong Learning 2020). In Manitoba, the Winnipeg School District reported that 40% of students did not have a computer at home (Froese 2020). British Columbia school districts reported that up to 30% of families have no access to internet-enabled devices (BC Ministry of Education 2020). In recognition of the significant barrier posed by internet and device availability for vulnerable children, some governments and school boards equipped families with paid cell phones with data plans and loaned digital devices (e.g., Calgary Board of Education 2020; CBC News 2020; Samba 2020). Others funded and delivered internet-enabled smartphones to students without access (Modjeski 2020). Other schools provided school ground hotspots for students who could spend time close to the school or delivered digital and paper materials to families (e.g., Government of Northwest Territories 2020; McPhee 2021).

In 2016, the Canadian Radio-television and Telecommunication Commission (CRTC) (2016) declared that broadband internet was a vital basic service for all Canadians. However, data in 2019 revealed that 12.6% of Canadian households do not have broadband internet service and there are inequities in internet speed between rural and urban households (CRTC 2020). Even when available, high-speed and unlimited internet costs are prohibitive for many families; households in the lowest income quartile are significantly less likely to have home internet and have multiple internet-enabled devices than those in the highest quartile (Frenette et al. 2020). Federal, provincial, and territorial programs have been put in place to support some low-income families in accessing high-speed internet (Government of Canada 2019; Rogers 2021). In many rural areas of Canada, residents have described living in an “internet dead zone” or in areas where internet access is incredibly costly or unreliable, including some First Nations communities (Jabakhanji 2020; Human Rights Watch 2021). Indigenous communities and those in Northern regions are among those most disadvantaged by a lack of connectivity; as of 2018, over 50% of Nunavut households had download speeds of less than 5 Mbps. “Many residents still have trouble opening an email, let alone trying to use video-conferencing applications for personal, professional, or health reasons” (Internet Society 2019, p. 7).

The pandemic has revealed to schools and governments the needs and inequities related to technology access. This access allows children and their families to successfully navigate services, employment, education, learning, and social networks (Canadian School Boards Association and the Canadian Association of School System Administrators 2020). In some provinces and territories, parents had the choice of returning their children to school full time or continuing to receive blended or fully virtual services when schools opened again in the fall of 2020. However, many parents felt that they were forced to make difficult decisions based on their unique situations.

For example, options were limited for those who had to work outside the home to provide for their families, who lacked childcare, who lived in multi-generational households with high-risk elders, whose children were immunocompromised, or who were without the internet capacity to engage in virtual learning.

Vulnerability via access to inclusive learning

Attendance at school

One of the most concerning ways that vulnerability has been documented during COVID-19 is through absence rates. Student absenteeism and disengagement during the pandemic, regardless of the modality of learning, have increased in many jurisdictions (Goldstein et al. 2020). The exact scale of the problem is, however, difficult to determine, in part because of challenges in defining and measuring attendance in virtual and hybrid settings. Is it logging on to a synchronous lesson? Interacting with a teacher? Completing an assignment asynchronously? (Jordan and Chang 2020; Kamenetz 2020; Attendance Works 2021). Physicians and mental health professionals underscore the importance of being physically present at school (UNESCO 2020; Sick Kids 2021). For some students, schools are the only place they feel safe and can engage in satisfying relationships with peers and adult educators. In many communities, schools are also a hub for food programs, child care, mental health services, disability supports, extracurricular activities, and even medical services (Dorn et al. 2020). School attendance supports child development through social, emotional, and academic development and acquiring critical thinking skills (Wang and Eccles 2012; Heyne et al. 2020). Chronic absence from school or attendance under significant distress can jeopardize skill development (Kearney and Graczyk 2014). The detrimental impact of reduced school attendance on developmental outcomes is well-documented and is exacerbated by the pandemic (Wong 2021).

A recent UNICEF informational campaign shows rows of empty desks with the caption “Absent: 168 million children” (UNICEF 2021). The accompanying press release states that “Each additional day without face-to-face schooling puts the most vulnerable children at risk of dropping out of school forever.” Students continue to be physically distanced from school due to closures or rotating cohort schedules. For those already on a path to long-term disengagement, the loss of connections and oversight facilitated by just being present in a school building widens the cracks, allowing them to fall through and be lost to the education system entirely (Baker 2000; Drane et al. 2020; Wong 2021). When students are absent from school, educators cannot fulfill their duty of care mandate to report troubling situations to child welfare agencies because cases of neglect or abuse are more difficult to identify. Authorities in Quebec noted a significant decrease in the number of reports made to child protective services in the spring of 2020 when schools were closed (Montréal West Island Integrated University Health and Social Services Centre 2020). For children and youth already vulnerable to myriad impacts of the pandemic, chronic or permanent absence from school prevents access to educational and vocational opportunities as well as mental and physical safety.

Engagement in remote learning options

For most children, the impact of the pandemic on learning and achievement depends in part on the quality of any remote or in-person offerings and the resources available in the home and community. Some Canadian provinces and territories offered in-school options for the young children of families who were essential workers or children with SEN in congregated or segregated classes (Government of Northwest Territories 2020; Government of Yukon 2020; Ryan 2020; Government of Manitoba 2021). Also, various distance and remote learning options have been provided across Canada while schools have been physically closed. These range from asynchronous delivery models, with physical materials delivered to students’ homes, as well as access to digital resources such as websites, applications, and broadcast options, to synchronous engagement of whole classes of students through virtual

platforms ([Connected North 2020](#); [Saltwire Network 2020](#)). Some territories highlight learning on the land as an important option for families during school closures, either as part of school-scheduled activities or as family-led time ([Government of Northwest Territories 2020](#); [Government of Yukon 2020](#)).

Researchers have not yet explored the advantages and limits of distance learning in meeting Canadian students' needs. As ministries and school boards developed remote learning models in the context of an emergency, research was not in place to compare, for example, the achievement or well-being of vulnerable children taking part in the various approaches. A qualitative study of typically developing children in Quebec gathered the perspectives of children age 5–14 years on school closures and a majority of these children raised issues regarding the limitations of virtual platforms for both academic learning and socializing ([Larivière-Bastien et al. 2021](#)). Many children and families identified as vulnerable are even less likely to have the social, linguistic, or cultural capital valued in formal educational settings ([Drane et al. 2020](#)), much of which is necessary to engage effectively with virtual learning. A small number of non-Canadian studies have shown the positive effects of virtual learning on academic achievement (e.g., [Clark et al. 2020](#); [Schult et al. 2021](#)). Some evidence suggests that among families who have the skills and resources to navigate virtual learning and in contexts of responsive, quality virtual learning offerings, academic gains can be made, and the impact of school closures can be mitigated (e.g., [Schult et al. 2021](#)). Other studies have found that racialized students, and those from lower socio-economic schools or communities, are more likely to be enrolled in virtual learning and thus assumed or found to be less likely to progress than their peers who receive in-person schooling ([Dorn et al. 2020](#); [Parolin and Lee 2021](#)). Inequities are thus reinforced and exacerbated for communities already experiencing disadvantage. It is important to consider this emerging research alongside the significant literature exploring effective approaches to distance and online learning over the past 15 years. For many teachers and schools, engaging with students remotely and teaching at a distance was utterly unanticipated. The learning curve demanded of them, alongside juggling their own family and personal challenges, has been extraordinary.

The most commonly noted concerns about virtual learning for students already vulnerable in educational settings are that the schedules, formats, and supports are not well-aligned with the needs of these students. In some instances, this is a quantity issue. Many students, particularly those in cohorted, intensive secondary courses, do not have sufficient opportunities to learn from and with others who can motivate participation, provide engaging learning opportunities, offer a range of explanations, answer questions, and model activities. Some secondary students have physically attended school every second day for the 2020–2021 school year, with far fewer direct instructional hours than before the pandemic ([Government of Manitoba 2020](#); [OCDSB 2020](#)). In other cases, the access barrier is one of quality—or a fit between the student's specific needs and the distance learning offerings. Guidance from provinces and school boards across Canada reflects an understanding of the need to be flexible in requiring certain types and amounts of participation via distance (e.g., [Ontario Ministry of Education 2020](#)). These documents also highlight the need to develop approaches to virtual learning that are based on culturally responsive pedagogy, universal design for learning, and a tiered approach to progressively intensive service provision that mirrors that of a physical school setting ([Edmonton Public School Board 2020](#); [Government of Manitoba 2020](#)).

With respect to the quality of at-home learning engaged in by families of children with SEN, the small literature base shows a trend of perceived insufficient or inappropriate offerings ([Garbe et al. 2020](#); [Greenway and Eaton-Thomas 2020](#); [Whitley et al. 2021](#)). In a survey completed by 238 parents of children with SEN in the United Kingdom ([Greenway and Eaton-Thomas 2020](#)), 68% reported receiving educational resources from their school, with just over half indicating that the resources were not appropriate for their child's needs, a finding echoed by [Garbe et al. \(2020\)](#) conducting

research in the United States. For some students, including those with ADHD, parents reported significant challenges for their child in engaging with virtual classes, particularly in terms of executive functioning, staying focused, and avoiding environmental distractions (Hai et al. 2021). Designing and implementing remote learning options in inclusive ways that reflect differentiation and alignment with the goals and supports required through students' individual education plans is a significant challenge for educators and school systems, particularly given the rapid changes that many have had to make in response to public safety measures.

The role of families in learning

Many of the approaches to at-home learning, particularly for young children or those with academic needs or disabilities, require the support of parents and other family members. Provincial and territorial government documents include mention of parents not being expected to take over the teaching while highlighting the importance of parent involvement and partnership (e.g., Nunavut Department of Education 2020). For many students, it is not realistic to expect parents and other home-based learning partners to provide individual support to motivate, engage, instruct, and monitor learning and school work. Students who are homeless or living in congregated settings, for example, lack the types of support that are necessary to participate fully in virtual learning. Children identified as English or French Language Learners may have families at home who are also new to the languages of instruction at school. Due to language barriers, these families may be unable to access the materials and communications sent home, much less be prepared to support their children in their learning (Breiseth 2020; Sugarman and Lazarin 2020).

Parent engagement and support for at-home learning and academic discussions with children has been found to mediate the relation between family vulnerability (e.g., socio-economic status) and student achievement (e.g., Altschul 2012; McNeal 2015). During periods of COVID-19 distance learning, many parents and teachers have been closer than ever before—at times with a full view of each other's homes and personal lives. For many children, particularly those who are young, who have a disability or who require support to remain motivated and engaged, distance learning cannot happen without the collaborative efforts of home and school. During periods of distance learning due to COVID-19, "Parents often bear much of the responsibility for the quality of the learning experience their child will have access to" (Bérubé et al. 2020 p. 7).

Many families have been unable to manage the changing circumstances, stress levels, financial burden and, in some cases, trauma caused or worsened by the pandemic (John-Henderson and Ginty 2020; Gadermann et al. 2021). Families of vulnerable children may encounter challenges in their relationship with school staff. These challenges can be intergenerational, where the negative experiences students have with their own schooling can carry over into their interactions when supporting their children many years later (Crozier and Davies 2007; Gwernan-Jones et al. 2015). According to Scott and Louie (2020), "Unfortunately, evidence of the distrust of the school system is prevalent for Indigenous people. Parents may feel unwelcomed in the school environment due to the legacy of residential schools and experiences of racism in the education system. This is particularly true in rural contexts where parents are more likely to have attended the schools their children now attend; places where many Indigenous parents felt alienated and unwelcomed as students" (p. 119).

Parents of children with SEN have encountered challenges in meeting the needs of their children and obtaining sufficient support from teachers and schools (Asbury et al. 2020; Becker et al. 2020). Fontanesi et al. (2020) found that parents of children with disabilities perceived less social support and experienced higher levels of burnout compared to other families, and Masi et al. (2021) reported that among 302 caregivers of children with neurodevelopmental disabilities, 77% reported a negative impact of COVID-19 on child well-being with over half not satisfied with services received.

Relying on families as co-educators creates inequities among students in the same ways that it does when schools are open. Engaging families in distance learning is essential to many students' learning but needs to be considered in light of the range of support and capacities that exist in homes and communities.

Vulnerability via access to social and therapeutic services

Throughout the COVID-19 pandemic, the abrupt end or shift of service provision, including social, therapeutic, and recreational services, has been highlighted as a significant stressor for families and a barrier to access for children to safety, support, care, and development ([Raising Canada Report 2020](#); [Crawley et al. 2020](#); [Neece et al. 2020](#); [Wilke et al. 2020](#)). Social supports include child protection services, mental health and addictions supports, and nutrition and housing programs ([Herrenkohl et al. 2021](#); [Brown et al. 2020](#)). Global and national organizations have highlighted concerns about child protection and the increased risk of harm and neglect to children whose families are under financial, social, and mental stress and have fewer home-based support systems (e.g., [Raising Canada Report 2020](#); [Bérubé et al. 2020](#); [UNICEF 2020](#)).

Therapeutic services, such as those provided by allied health professionals including speech-language pathologists, behavioural therapists, physiotherapists, occupational therapists, social workers, psychologists, and neuropsychologists, may also be even more critical during the pandemic for children with pre-existing conditions. "Health care professionals are warning that children will be forced to wait months or even years to access care, which will affect their growth and development" ([Raising Canada 2020](#), p. 6). For many children, services were offered prior to the pandemic through schools and community-based organizations. The significant challenge of coordinating and offering cohesive, family-centred, appropriate, and timely services for children has been documented for decades prior to the pandemic ([Law et al. 2003](#); [Dewan and Cohen 2013](#); [Matthews et al. 2020](#)). Families who are not as well-resourced in terms of educational, financial, social, and cultural capital are less likely to be able to advocate for and secure sufficient services for their child(ren) and family ([Casagrande and Ingersoll 2017](#)). As with so many other areas, these challenges grew when schools closed and agencies shifted to new service delivery models. Even when schools re-opened, access to outside agencies and professionals has been reduced or prohibited due to continued pandemic-related public health restrictions.

Many examples of virtual approaches to social service delivery for children and families emerged during the pandemic, most related to supporting students with disabilities and their families and students with mental health needs (see [Vaillancourt et al. 2021](#)). Many school boards, community organizations, and hospitals arranged for secure virtual platforms to allow some students to access individual therapeutic services when needed (e.g., [CASLPO 2020](#); [Rocky View Schools 2021](#)). The small body of existing and emerging literature shows very mixed perceptions concerning parent satisfaction of teletherapies offered to vulnerable children during COVID-19 ([Battistin et al. 2021](#); [Masi et al. 2021](#)); studies conducted over the past decade have reported more positive experiences with some studies showing equal efficacy in outcomes for virtual or face-to-face (e.g., [Hao et al. 2021](#)). The element of choice is important to consider; during the pandemic, families were forced to access services and therapies virtually, on short notice and regardless of preferences. In the broader literature, some families prefer the convenience of virtual delivery and in rural populations, virtual offerings can increase equity and access to vital services ([Fairweather et al. 2016](#); [Barr et al. 2019](#); [Dadds et al. 2019](#)).

Discussion and recommendations

Our clearest sense of the impact of COVID-19 on vulnerable children comes from the decades of evidence that preceded the pandemic. We know that, in general, children who do not have access to

adequate support and resources are more likely to struggle when adversity is introduced. In the context of the COVID-19 pandemic, this adversity is caused by and includes physical distancing, school closures, distance learning, financial and social disadvantage, and cuts to many community-based services and supports. We also know that children are nested within families and communities and that stress on one part of these interconnected systems affects the others. Concerns about the long-term educational well-being of children post-COVID-19 include doubts that families, education systems, and communities can provide what is needed for children with unfinished or disrupted school learning. Given the persistence of inequitable school and community experiences and outcomes for many vulnerable groups, several recommendations should be considered in addressing vulnerability during the ongoing pandemic and afterwards:

1. Equip families and children with free, universal access to reliable high-speed internet and internet-enabled digital devices to sufficiently support educational and social connectivity.
2. Develop and fund processes to empower parents and families to support child learning at home as well as in collaboration with educators. Education authorities should fund positions such as cultural brokers or family allies or liaisons that may facilitate relationship-building, skill-building, and information sharing. An analysis of existing barriers, informed by parent voice, can inform effective approaches.
3. Identify, develop, and evaluate virtual learning practices for meeting the needs of diverse groups of children. Effective approaches can then be shared broadly across professional networks. Educators will require training and support to deliver virtual or blended learning both during and after the pandemic.
4. Develop and fund intervention programs for children and youth who have been negatively impacted by interrupted or unfinished schooling. Diagnostic and formative assessments can provide information necessary to guide planning. Small group offerings during the school day, individual virtual supports provided after school, summer camps with a combination of play, high-quality recreation and academics are just some of the options that might be considered in partnership with community organizations. Interventions and higher-tiered approaches should not detract from students' access to the full curriculum and inclusion in their grade-level classroom.
5. Develop and fund interventions to re-engage youth who have left school or have experienced chronic attendance issues during the pandemic. These may include outreach and mentorship programs, land-based programs, transitional programs with therapeutic and educational elements, or community-based programs staffed with qualified educators.
6. Prioritize coordinated access to services and supports for families during times of crisis. Education authorities and community agencies should revisit processes for referral and access to specialist services and implement inter-agency wraparound services for vulnerable students and their families.
7. Continue to offer virtual approaches to therapeutic service delivery as options for families. Many innovative approaches to virtual therapy and support were developed or enhanced during the pandemic by schools and community organizations. These should be studied and should remain as options for communities and families for whom virtual approaches are more accessible, desirable, efficient, and effective.
8. Work towards greater flexibility for schools and boards in curriculum delivery and assessment. This is essential during times of significant upheaval or disruption such as a pandemic but is also recommended for systems broadly. Flexibility might entail, for example, focusing on major themes within curriculum expectations alongside identification and a focus on essential learning outcomes, with more formative than summative assessments.
9. Conduct further research to understand experiences and learnings during the pandemic and both its immediate and long-term impact on children and families. This research should be

conducted across disciplines to recognize the sociological, psychological, and educational intersections and should include scholars bringing lenses of racial inequity and Indigenous ways of knowing. It should be designed and results should be interpreted with the voices of students, families, communities, educators, and leaders.

Author contributions

JW, MHB, and CB conceived and designed the study. JW, MHB, and CB performed the experiments/collected the data. JW, MHB, and CB analyzed and interpreted the data. JW, MHB, and CB contributed resources. JW, MHB, and CB drafted or revised the manuscript.

Competing interests

The authors declare no known conflicts of interest.

Data availability statement

All relevant data are within the paper.

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