

POTENTIAL IMPACTS OF COVID-19 ON CHILD AND YOUTH MENTAL HEALTH

Considerations for service planning during
and post-pandemic



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The Ontario Centre of Excellence for Child and Youth Mental Health (the Centre) and Children's Mental Health Ontario (CMHO) have partnered to share existing evidence about the impacts of pandemics on child and youth mental health to help Ontario's service providing agencies better understand emerging needs and plan for service delivery post-pandemic. We have compiled:

- a summary of relevant findings from the peer-reviewed and gray literature on the potential impacts of pandemics on child and youth mental health;
- considerations for service capacity planning post-pandemic;
- information about a current research study aimed to identify child and youth mental health experiences and needs as a result of the COVID-19 pandemic; and
- information about a current evaluation study aimed to understand agencies' rapid transition to delivery of virtual mental health services in light of COVID-19, in effort to help plan for and improve virtual care through and post-pandemic.

The contents of this document were gathered through a rapid, non-systematic scan of the evidence with an intent to support Ontario's child and youth mental health service providers in a timely fashion. This information reflects information available at the time of writing. As new knowledge emerges, this document may evolve.

Background

The COVID-19 global pandemic has resulted in a rapid change to how community mental health services and supports are delivered. In addition to impacting the way services are delivered (with many providers shifting from in-person to virtual care), we have also heard anecdotally that the pandemic has impacted who is accessing services and the range and severity of presenting concerns.

Ontario's service providing agencies have asked **how can we prepare now to ensure we have the capacity to meet the volume and types of emerging child and youth mental health needs both through and post-pandemic?**

Hard data about the current impact of COVID-19 on service use and child and youth mental health needs - and projected impact post-pandemic - is forthcoming. Health service researchers across the globe are mobilizing to gather information to support system and service planning. Research ethics boards and peer reviewed journals have fast-tracked processes to both encourage and expedite the collection and mobilization of relevant evidence to inform decision-making.

In the meantime, it may be useful to look at existing literature about the mental health impacts of prior pandemics (e.g. SARS, H1N1, Ebola, HIV), natural disasters (e.g. hurricanes, tsunamis), and conflicts that have significantly disrupted communities' ways of life and threatened access to community supports and health services, as this can offer high level guidance to inform early planning efforts.

It is important to note that a) evidence specific to the psychological impacts of pandemics is limited, (Morganstein et al., 2017), b) evidence specific to children and youth is sparse; and c) while proxies may provide us clues as to the potential volume, severity, type and duration of mental health needs service providers may be facing, we are experiencing a wholly unprecedented situation (the first global pandemic with physical distancing measures of this scale in the past 100 years) and real-time data will be our best guide.

We should be cautious in drawing generalizations from research related to previous pandemics or emerging research on the impacts of COVID-19 on adult mental health. However, we can look to existing and emerging literature for considerations on **why** the pandemic is expected to affect child and youth mental health (potential sources of distress), **how** it may affect child and youth mental health (presenting issues and concerns) and **who** may be at higher risk (vulnerable populations) of experiencing adverse mental health consequences as a result of COVID-19.

Why the COVID-19 pandemic may impact mental health: Sources of distress

In their recent outline of mental health research priorities related to COVID-19 pandemic, Holmes et al. (2020) assert that it is already clear that direct and indirect social and psychological impacts of COVID-19 are pervasive and may have lasting effects on community mental health.

This sentiment has been echoed in a recent United Nations (UN) policy brief (2020, May 13), which declares an urgent need for all nations to prioritize strategies to address mental health issues as part of their response to and recovery from the COVID-19 pandemic, noting “the mental health and wellbeing of whole societies have been severely impacted” (p. 2).

The **unprecedented nature of this pandemic** and its cascading social and economic effects on our communities makes it difficult to accurately forecast mental health impacts. There is increasing recognition in the mental health research community (e.g., Brooks et al., 2020; Duon & Zhu, 2020; Gunnell et al., 2020; Holmes et al., 2020; Kousoulis et al., 2020; Vigo et al., 2020; Yao et al., 2020) that while we may not be able to predict the precise nature of these impacts, there will indeed be adverse – possibly sustained - impacts. Vigo et al. (2020) explains:

The COVID-19 pandemic represents a shock to humanity’s fabric that is unprecedented in recent times and which may have deep and lasting consequences in our collective mental health and well-being. This shock is composed of the rapid dissemination of a mostly benign but sometimes lethal virus, the global scaleup of unprecedented physical distancing measures resulting in the shutdown of large fractions of the world’s economy, and the unpreparedness of most Governments. (p. 4)

Emerging evidence associated with the novel coronavirus pandemic along with knowledge about previous infectious disease outbreaks (e.g., Arim et al., 2020; Brooks et al., 2020; Holmes et al., 2020; Huremović, 2019; Kaddatz, 2020; Morganstein, 2017; Taylor et al., 2020; United Nations, 2020, May 13; Vigo et al., 2020) point to a number of interrelated sources of distress that children and youth may experience directly or indirectly (as a result of family experiences). These include, but are not limited to:

- Stress associated with fear that family members, friends or acquaintances or they themselves will become ill/infected by the novel coronavirus
- Adverse **social and economic impacts** of physical distancing, quarantine and isolation:
 - Loneliness; grief and bereavement complicated by physical distancing measures
 - Stigmatization – particularly for individuals infected with the virus or believed to have encountered the virus, including health care and other essential services workers
 - Financial insecurity (e.g., because of unemployment) and challenges in accessing basic needs (as a result of financial insecurity or supply limitations)

- Tensions in relationships and domestic violence related to household confinement
- Access to health, community and social supports and services – e.g., many children access supports through schools, which have now been closed in order to contain the disease
- Stress associated with **uncertainty** around the duration of the pandemic, vulnerability to infection, physical distancing measures, and longer-term impacts of the social and economic upheaval both locally and globally
- Stress resulting from **intensified media coverage** (risk-elevating messages can amplify anxiety; social media can be a source of misinformation)
- Potential **neurological effects** of the novel coronavirus itself

The most pervasive impact of this pandemic (experienced across the general population) may be related to the isolation and uncertainty that stem from physical distancing measures being implemented across the globe to slow the spread of COVID-19. According to a recent review of mental health responses to infectious outbreaks, Huremović (2019) emphasizes the importance of intervening early to address the isolation and uncertainty that can contribute to a range of psychological challenges (including post-traumatic stress disorder, anxiety, depression and substance use).

How the COVID-19 pandemic may impact mental health: Presenting issues and concerns

We do not yet have evidence to accurately predict the type, severity, prevalence or duration of mental health challenges that are likely to impact Ontario's children and youth both through and post-pandemic. It has, however, been generally recognized in the research literature that there will be widespread psychological impacts and they may be long-lasting. For example, the United Nations (2020, May 13) has projected that the "vast majority" (p. 3) of mental health needs will remain unaddressed, despite innovations implemented by communities and providers to bolster access to psychological and social supports (e.g. via virtual platforms) during the pandemic. As well, in their recent review of existing evidence on the community mental health consequences of pandemics, Vigo et al. (2020) highlight the need to minimize the "predictably adverse impacts of COVID-19 on mental health and wellbeing" (p. 5) when engaging in policy and service planning related to COVID-19 in Canada.

Mental health impacts of previous pandemics and disasters on children and youth

In a recent rapid review of the psychological impacts of quarantine, social distancing and self-isolation in response to a pandemic (Brooks et al., 2020), findings from 24 studies showed **negative psychological effects on children and youth** (e.g. post-traumatic stress symptoms, confusion and anger). Some studies suggested long-lasting effects (e.g., months to years post-pandemic). Common stressors included longer duration of quarantine, fears of infection, frustration, boredom, inadequate supplies, insufficient information, financial loss in the family and stigma.

Sprang & Silman (2013) investigated the psychological impacts of H1N1 and SARS on 398 parents and children in Canada, Mexico and the US, and have suggested that quarantine and isolation can be traumatizing to both children and parents. In particular:

- Symptoms of post-traumatic stress disorder (PTSD) in children who had been quarantined were four times higher than for children who had not been quarantined, and the criteria for PTSD were met in 30 percent of isolated or quarantined children.
- Twenty-eight percent of parents quarantined met the criteria for a PTSD diagnosis (compared to seven percent of parents who were not quarantined).
- Importantly, there was a significant relationship between PTSD symptoms of parents and children in the same family. Of parents meeting PTSD cut-off levels, 85.7 percent had children who met clinical cut-off scores for PTSD. Of parents who did not meet criteria for PTSD diagnosis, only 14.3 percent had children with PTSD symptoms.
- Use of mental health services also differed between families who experienced quarantine or isolation in response to H1N1 or SARS and those who did not. Of those families who were isolated or quarantined (one-quarter of the sample), 33.4 percent

reported that their children started using mental health services for experiences associated with the pandemic either during or after the pandemic. Notably, only 6.2 percent of these children were diagnosed with PTSD. Common diagnoses or presenting issues of children who received services were acute stress disorder (16.7 percent), adjustment disorder (16.7 percent) and grief (16.7 percent).

SARS

Severe Acute Respiratory Syndrome (SARS) was the first global epidemic of the 21st century, with the first reported case in Guangdong, China in November 2002 and spreading to 29 countries, including Canada and the US (Morganstein et al., 2017). WHO announced the epidemic was resolved in China in May 2004.

The experience of an infectious disease outbreak, even among those that did not contract the illness, can have long-lasting psychological effects on a community (Morganstein et al., 2017). In one study, approximately **40 percent of an affected Hong Kong community** surveyed after the SARS outbreak reported **increased family and work stress during the outbreak**, with **16 percent showing signs of traumatic stress** and larger proportions of the population feeling helpless and apprehensive (McAlonan et al., 2005).

Another study found after the resolution of the outbreak, **9.2 percent of those in a highly impacted community experienced increased levels of pessimism about life** and high school seniors were among those most affected (Peng et al., 2010).

H1N1 influenza virus

A new strain of the H1N1 virus spread internationally from Veracruz, Mexico and was declared a pandemic by WHO from June 2009 to late 2010 (Morganstein et al., 2017).

A study of **university students** in China (Gu et al., 2015) found that **10.7 percent** of those surveyed shortly after the declaration of the end of the pandemic felt **panic, depression or emotional disturbance** as a result of H1N1.

In their systematic review of 70 studies that investigated perceptions and behavioural responses of the general public to the 2009 H1N1 pandemic, Bults et al. (2015) found, in most countries, **perceptions of vulnerability increased over time**, while **self-efficacy decreased**.

Interestingly, **perceived severity, anxiety and vaccination intentions also decreased over time**. The authors of the review attributed waning levels of perceived severity and anxiety over time to the more **intense media attention in earlier phases** of the pandemic, highlighting the important role that mass and social media may play in public perceptions and responses.

Disasters

Meta-analyses on the influence of exposure to a natural disaster, violence or traumatic experience on youth mental health have shown that these events are related to **increased risk for posttraumatic stress symptoms, other internalizing symptoms, and externalizing symptoms for youth and young adults** (Furr et al., 2010; Rubens et al., 2018).

Whaley et al. (2017) describe a range of **diagnostic outcomes** children may experience after a disaster such as a pandemic. These disorders (classified in the DSM-V as psychiatric disorders

resulting from exposure to a traumatic or stressful event) include PTSD, reactive attachment disorder, disinhibited social engagement disorder, adjustment disorders and acute stress disorder. The DSM-V includes developmental subtype of PTSD for children under six years of age and describes developmental manifestations of PTSD for children older than six years (e.g. expression of intrusive memories through repetitive play, frightening dreams) (Whaley et al., 2017).

PTSD has received the most attention in empirical studies of children's experience with disasters. **Rates of PTSD (and duration of symptoms) in children who have experienced disasters vary widely (Whaley et al., 2017), from 5 to 95 percent** (Gabbay, Oatis, Silva, & Hirsch, 2004). Further examples include:

- Following the 2001 attacks at the World Trade Centre in New York, 18 percent (approximately 260,000) children living in the affected community demonstrated severe or very severe (and 66 percent demonstrated moderate) posttraumatic stress reactions four months after the attacks (based on parent reports) (Fairbrother et al., 2003).
- Close to 30 percent of children in the communities affected by Hurricane Andrew in Florida in 1992 exhibited severe PTSD symptoms three months after the event. Rates dropped to 18 percent after seven months and 13 percent at 10 months after the hurricane (La Greca et al., 1996).
- Six weeks after surviving a tsunami in Thailand in 2007, around 57 percent of children exhibited PTSD. Seven percent of children still exhibited symptoms two years later (Pivasil et al., 2007).

Whaley and colleagues noted as many **as 70 to 90 percent of children with PTSD have one psychiatric comorbidity** (Scheeringa, 2015) and cited evidence (e.g., Kar, 2009; Stoddard, 2014) linking disaster exposure with conditions such as:

- separation anxiety disorder,
- generalized anxiety disorder,
- major depressive disorder,
- other mood disorders,
- attention deficit hyperactivity disorder,
- learning disorders,
- disruptive behavior disorders,
- psychotic disorders,
- somatic symptoms and related disorders and
- substance use disorders.

Grief reactions (emotional, physiological, cognitive and behavioural) can be anticipated – and are normative responses - in children and youth who have been exposed to a disaster or

pandemic (Whaley et al., 2017). Outside of a disaster or pandemic, the death of a parent, family member or friend outside of a disaster or pandemic can be experienced as a “profound crisis” in children. Losses resulting from or complicated by a disaster or pandemic can result in complicated grief and bereavement processes. The impacts of a pandemic or disaster on a young person’s environment and experiences surrounding the loss may increase their risk of psychopathology – e.g. intensity and content of media coverage, disruption to stability in the home and community (loss of family income, home, school, religious or spiritual institutions) (Dyregrov et al., 2015).

Mental health impacts of the COVID-19 pandemic on children and youth

Canadian data

More than 4,600 Canadians (across 10 provinces; aged 15 years and older) responded to an online survey between March 29 and April 3, 2020 (Statistics Canada, 2020) aimed at gathering data about the impact of the pandemic on various aspects of people’s health. Results were compared to those from the 2018 Canadian Community Health Survey (CCHS) and suggest that Canadians’ overall mental health has decreased during the COVID-19 pandemic (Findlay & Arim, 2020).

Women and young Canadians’ self-perceived mental health has been impacted significantly. All age groups (except those aged 65 and older) were less likely to report excellent or very good mental health during COVID-19. However, the difference between self-rated mental health in 2018 and 2020 was greatest for young adults (aged 15-24 years); 42 percent of young adults reported excellent or very good mental health during the pandemic compared to 62 percent in 2018.

In subsequent analyses of responses from young people aged 15 to 30 years old (approximately 22 percent of the total sample of 4,600 Canadians), results show what might be driving this decline in self-perceived mental health:

- Youth are currently less concerned about their own health than that of others (Arim, et al., 2020). Whereas 21 percent of young people are very or extremely concerned about their own health, about 87 percent are very or extremely concerned about the impact of COVID-19 on the health of vulnerable people, and 86 percent are very or extremely concerned that COVID-19 would overload the health care system.
- Around 36 percent are very or extremely concerned about family stress from confinement, and about 34 percent are very or extremely concerned about maintaining social ties.
- Twenty percent of Canadians aged 15–49 are drinking more alcohol at home during the COVID-19 pandemic than they were before it began (Statistics Canada, 2020). While this finding is not limited to young adults, a recent survey by Nanos Research (2020) (commissioned by the Canadian Centre on Substance Use and Addiction) found that 21 percent of adults aged 18–34 years (and 25 percent of those aged 35–54 years) have started drinking more at home since the start of the COVID-19 crisis.

- Statistics Canada (2020) has also reported healthy activities young people have been engaging in throughout the pandemic, which could act as *protective factors*. For example, many young people (aged 15 to 30 years old) surveyed reported positive health behaviours: about 90 percent communicate with friends and family, just over 66 percent exercise indoors and 62 percent exercise outdoors. Youth who identified as female were more likely than those who identified as male to communicate with their friends and family (97 vs. 90 percent) and to exercise indoors (73 vs. 59 percent) (Arim, et al., 2020).

The Centre for Addictions and Mental Health (CAMH) conducted a survey of 622 young people (aged 14 to 27 years) between April 10 and 24, 2020 to better understand how the COVID-19 pandemic had affected their mental health. The findings are currently under peer review and have not been published but an overview of results was shared in a recent Toronto Star article (Cribb, 2020). Study lead, Dr. Joanna Henderson reported that the findings reveal statistically significant deterioration of mental health from pre-pandemic times to the point of data collection. In particular:

- Roughly half of the sample indicated they had previously sought out mental health services while the other half had not. Both groups reported experiencing mental health challenges (including depression and anxiety) during the pandemic, but rates were higher for those with existing mental health challenges. Sixty-eight percent of those who had previously sought mental health supports cited mental health challenges during the pandemic compared to 40 percent of those who had not previously sought support.
- Eighteen percent of all respondents reported thinking about suicide in the month before completing the survey (in the earlier stages of the pandemic). This was more pronounced amongst those who had previously sought mental health supports; 30 percent of those who had previously sought support for mental health issues cited suicidal thoughts compared to eight percent of those who had not previously sought support.
- Half of respondents with pre-existing mental health challenges reported challenges or disruptions in their access to mental health services and supports during the pandemic.

International data

Orgilés et al. (2020) recently estimated that quarantine measures in response to the COVID-19 pandemic have affected more than 860 million children and adolescents worldwide. Orgilés and colleagues surveyed 1,143 parents of children 3 to 18 years old in Spain and Italy about the effects of quarantine on their children and themselves. Parents reported increased family tensions during quarantine, and higher levels of stress and emotional problems in their children. Just over **85 percent of parents reported changes in their children's behaviours and emotional state as a result of quarantine**, including:

- difficulty concentrating (76.6 percent)
- irritability (39 percent)
- nervousness (38 percent)

- feelings of loneliness (31.3 percent)
- uneasiness (30.4 percent)
- worries (30.1 percent)

A recent study on impact of COVID-19 on **college student anxiety** in China (Cao et al., 2020) reported that about one-quarter of a large sample of undergraduates have experienced anxiety as a result of the current pandemic. The study involved a sample of 7,143 undergraduate students in Hubei Province. Students completed the 7-item Generalized Anxiety Disorder Scale (GAD-7), (a commonly used and well-validated anxiety assessment tool). Authors found that:

- About three-quarters of the sample showed no symptoms of **anxiety**; 21.3 percent demonstrated mild, 2.7 percent moderate, and 0.9 percent severe levels of anxiety.
- Protective factors included living in urban areas (versus rural), living with parents, income stability, and social support.
- Having a **family member or acquaintance infected** with COVID-19 increased the **risk** of experiencing anxiety.

Resilience and positive outcomes

While most of the existing and emerging literature related to the mental health impacts of pandemics has focused on risks and adverse effects, some researchers (e.g., Fegert et al., 2020; Morganstein, 2017) have highlighted evidence of resilience, post-traumatic growth and unexpected positive outcomes resulting from the disruption of pre-existing problematic systems and behaviours.

Findings from the literature on previous pandemics

In a recent narrative review of pandemic impacts on child and youth mental health, Fegert et al. (2020) argued the reduction in personal and business appointments resulting from physical distancing requirements can result in a more relaxed family lifestyle, allowing members more time to spend together, increasing social support and strengthening resilience. For some children and youth who had experienced school-related stressors, home-schooling may offer some relief. Finally, mastering the challenges of the pandemic can promote a sense of personal growth and development. Of course, the opportunity to experience and stress-related growth and other benefits may be unequal. Young people and families who are already vulnerable, marginalized, or experiencing mental health challenges may be less likely to experience these positive outcomes. Community actions organized to meet formal and informal support needs (e.g., sewing cloth masks for essential workers, donating food and supplies to vulnerable community members, and other volunteer activities) can help to decrease helplessness and build optimism (Morganstein et al., 2017). In later phases or recovery of a pandemic, actions that promote a sense of normalcy, like re-establishing – or establishing new – routines, engaging in familiar rituals and activities helps to foster resiliency.

While historically, pandemic and disaster recovery efforts have focused on restoring communities to pre-crisis conditions, contemporary planners recommend a “building back

better” approach that acknowledges existence of a “new normal” and empowers communities to rebuild stronger, smarter and safer systems (Morganstein et al., 2017).

Emerging findings from the COVID-19 pandemic

The recent survey of young people (aged 14 to 27 years) conducted by the Centre for Addictions and Mental Health (CAMH) found nearly half of young people with existing mental health challenges and 40 percent of those who had not previously sought mental health treatment reported experiencing improved self-reflection and self-care throughout the pandemic (Cribb, 2020). Young people cited benefits such as spending more time with family, less stress from work and school, and more time to engage in hobbies and relaxation. Reported substance use also declined. Given 40 to 60 percent of respondents reported experiencing mental health challenges during the pandemic, this suggests the pandemic impacts may not be exclusively negative or positive, but both.

The Association for Canadian Studies (2020) in partnership with Experiences Canada and the Vanier Institute of the Family, asked 1,191 young people aged 12 to 17 years about their experiences, attitudes and behaviours during the COVID-19 pandemic. The survey was completed between April 29 and May 5, 2020. The results show that youth have experienced mixed emotions throughout the pandemic. While many have reported feeling sad, a large majority also reported feelings of happiness throughout the pandemic. For example:

- Youth identified as female were more likely than youth identified as male to report feeling sad often or sometimes since the outbreak (72 percent compared to 55 percent). The older group of respondents (aged 15 to 17 years), showed higher levels of pandemic-related sadness with 72 percent reporting sadness often or sometimes compared to 59 percent of 12- to 14-year olds.
- Almost 90 percent of 12- to 14-year-olds and 84 percent for 15- to 17-year-olds reported being happy often or sometimes.
- Eighty-three percent of youth aged 12-14 years and 75 percent of youth aged 15-17 years reported having more meaningful conversations throughout the pandemic.

Mental health impacts of the COVID-19 pandemic on parents and caregivers of children and youth

A series of surveys conducted by Vanier Institute of the Family (March 10 through April 26, 2020) gathered data from approximately 1,500 Canadians (with a booster sample of nearly 500 immigrants) aged 18 years and older on family experiences related to the COVID-19 pandemic. Using 2016 Canadian census data, results were weighted according to gender, age, mother tongue, region, education level and presence of children in the household in order to ensure a representative sample of the population (Badets, 2020; Kaddatz, 2020). Key findings include:

- Almost 30 percent of adults living with children were **very afraid that someone in their immediate family would contract COVID-19**, compared with 22 percent of people not living with children (Badets, 2020).

- Two-thirds of parents shared **concerns about their children's education** and reported they would not be comfortable with children returning to school prior to September (e.g., prefer not to have children participate in schooling over July and/or August to catch up for missed time).
- Parents also indicated they would **not be comfortable using public transit**, even once pandemic restrictions are relaxed. Adults living with children were more likely (39 percent) than people without children (27 percent to prefer continued work from home arrangements, commuting for work only when necessary).

Separate analyses of related data from Vanier Institute of the Family focused on the **financial impacts of the pandemic** on family wellbeing (Kaddatz, 2020), and found that:

- Families with children and youth at home reported a **negative impact on their income** more frequently than adults without children and youth living in the home (54 percent and 41 percent respectively).
- Nearly 30 percent of families with children under the age of 18 living at home said the COVID-19 pandemic has **challenged their ability to pay rent or their mortgage**, compared with 20 percent of adults without children in the home. Those with **young children** (under age 12), were slightly more likely to report this difficulty (29 percent).
- These impacts were **amplified for recent immigrants** (compared to earlier arrivals and Canadian-born respondents) **and younger parents** (adults under the age of 45).
- Adults who reported the pandemic posed a “major threat” to their financial stability commonly reported “very often” or “often” **feeling anxious or nervous** (58 percent), feeling **sad** (56 percent) or having **difficulty sleeping** (44 percent) since the beginning of the pandemic (Kaddatz, 2020). Notably, parents and caregivers with children at home were the most likely to report increased anxiety and sleep disruption.
- In addition to financial concerns, **parents and caregivers of teenagers** reported feeling **anxious or sad “very often” or “often” more frequently than parents of younger children**, which may reflect their concerns about their teens’ home-schooling requirements, losing jobs or work experience and an uncertain futures around post-secondary education (Kaddatz, 2020).

Mental health impacts of the COVID-19 pandemic on the general population (including young adults)

Canadian data

Analyses from the full sample (n~4,600) of data collected in Statistics Canada’s (2020) survey on the impacts of COVID-19 (gathered March 29-April 3, 2020; reported above with a focus on young adult perspectives), reveal common **sources of concern and anxiety** experienced by Canadians:

- One-third of respondents indicated they were very or extremely concerned about family stress resulting from confinement and physical distancing measures.

- Ten percent of women and 6 percent of men were very or extremely concerned about the possibility of violence in the home.
- Forty percent of Canadians reported they were very or extremely concerned about the possibility of civil disorder erupting as a result of the pandemic.

Findings from a recent survey of 1,526 Canadians 18 years of age and older conducted in early May 2020 by a group of researchers from the Association for Canadian Studies, the Douglas Foundation and Leger examined depressive symptoms during the COVID-19 pandemic (using an 8-item adapted version of the Patient Health Questionnaire [PHQ-8]). The findings (Schmitz, 2020) revealed that Canadians have experienced moderate to severe depression at an alarming rate since the beginning of the pandemic. As well:

- Twenty-three percent of Canadians had PHQ-8 scores indicating moderate to severe depression. For comparison, the lead researchers cited only 6.8 percent of the population were found to experience moderate to severe depressive symptoms in the 2015-2016 Canadian Community Health Survey.
- Residents of **Ontario** (25 percent) and British Columbia (25 percent) were the **most likely to experience moderate-severe levels depression** during the pandemic compared to other provinces.
- **Forty-two percent of young adults aged 18 to 24 years** experienced **moderate to severe depressive symptoms** and were the age group with the highest levels of both moderate-severe and mild (34 percent) depression. This age group also scored the highest levels of moderate to severe and mild depression in the 2015-2016 Canadian Community Health Survey, but rates were much lower (11.3 percent and 19.9 percent, respectively).

Taylor et al. (2020) have cautioned that although limited empirical attention has focused on the psychological impacts of pandemics, evidence from previous pandemics (particularly SARS), suggests that when COVID-19 passes, “significant mental health needs will emerge in the public” (p. 6), including anxiety, depression and traumatic reactions. Drawing on emerging findings on the psychological impacts of COVID-19 and related evidence from previous pandemics, Taylor and colleagues (2020) recently published the 36-item COVID Stress Scales, a promising (and validated) tool to identify and better understand the mental health service needs of people experiencing COVID-19-related stress and anxiety.

The scales assess the following COVID-related stress and anxiety symptoms: **(1) danger and contamination fears, (2) fears about economic consequences, (3) xenophobia, (4) compulsive checking and reassurance seeking, and (5) traumatic stress symptoms about COVID-19.**

In addition to validating the new scales, the study provided a description of their representative sample’s current levels of anxiety and depression. Using the PHQ-4 scale to assess anxiety and depression, **28 percent of their sample had elevated anxiety and 22 percent experienced clinically significant depressive symptoms.** More specifically (using cut-offs reported by Kroenke et al., 2009), 54 percent experienced symptoms in the “normal” range, 23 percent

experienced mild symptoms, 13 percent experienced moderate symptoms, and 10 percent experienced severe symptoms.

Taylor et al. (2020) noted these findings are consistent with reported responses to trauma from events such as earthquakes, fires, floods and are consistent with distress levels reported in general population in China in response to COVID-19 (e.g., Qui et al., 2020). Taylor et al. (2020) asserted that while the findings show “most people are resilient to stress, a significant minority are prone to experience stress related psychopathology” (p. 3).

International data

Two surveys (The Academy of Medical Sciences, 2020) conducted in late March in the UK asked people with lived experience with mental health issues, their supporters, service providers and the general population to identify their priority mental health concerns related to the COVID-19 pandemic. Over 3,000 respondents identified the following as their primary concerns (for themselves, family, friends and healthcare workers):

- anxiety, isolation and loneliness,
- becoming mentally unwell as a result of the pandemic,
- challenges accessing mental health services, and
- impacts to family (how to best support family members who contract COVID-19; impacts of school closures on child development) and relationships (increased household tensions, relationship breakdown, domestic abuse).

Drawing on findings from the recent population surveys conducted in the UK (The Academy of Medical Sciences, 2020), Holmes et al. (2020) highlighted increased **social isolation and loneliness** resulting from the pandemic as key priorities for surveillance and early intervention as a result of their strong **association with anxiety, depression, self-harm and suicide**.

A recent report from the United Nations (2020, May 13) reports “**higher-than-usual levels**” (p. 7) of **depression and anxiety symptoms** have been recorded in countries across the globe. Evidence from national surveys from the People’s Republic of China, Iran and the United States of America was shared revealing **high prevalence of distress** in those populations associated with the COVID-19 pandemic - **35 percent in China** (Qiu et al, 2020), **45 percent in the USA** (Panchal et al., 2020) and **60 percent in Iran** (Jahanshahi et al, 2020).

Whose mental health may be most impacted by the COVID-19 pandemic: Vulnerable populations

The recent and existing literature around pandemics has identified children and youth as being particularly vulnerable to the mental health impacts of infectious outbreaks and associated disease containment measures (Holmes et al., 2020; Sprang & Silman, 2013; Vigo et al., 2020; Whaley, Cohen, & Cozza, 2017). More specifically:

- A recent report from Statistics Canada noted **youth are at higher risk of experiencing poor mental health** (compared to other age groups) during the COVID-19 pandemic (Findlay & Arim, 2020).
- Findings from a survey completed in the UK in late March 2020 with youth who had a history of mental health challenges revealed almost **one-third of young people agreed that pandemic had made their existing mental health issues much worse** (Young Minds, 2020).
- The United Nations (2020, May 13) recently cautioned that **young people are at elevated risk for mental health challenges throughout the pandemic**. Many mental health conditions develop during adolescence. Young people's emotional difficulties may be exacerbated by social isolation, family stress, increased risk or exposure to abuse, disrupted education, uncertainty about employment and economic prospects and their future, in general. These cumulative stressors are being experienced at an important point in young people's emotional development, and as such, the United Nations (2020, May 13) has called for system planners and decision makers to respond with mental health interventions tailored to young people's unique needs during this crisis.

Evidence about children and youth's vulnerabilities from previous pandemics and disasters

Whaley et al. (2017) reported that while children and youth have demonstrated heightened resilience to the effects of pandemics and disasters when compared to adults, **young people of all ages possess cognitive and psychological developmental characteristics that make them more vulnerable to the immediate and long-term impacts of crises**.

Specifically, children's limited understanding of dangers, how to remain safe or when/how to access help and limited problem-solving skills can make them vulnerable to increased stress, fear, anxiety, academic challenges, contact with dangerous situations or materials during or in the aftermath of a disaster (Whaley et al., 2017). Psychologically, children's limited coping and emotion regulation skills place them at elevated risk of increased symptoms of posttraumatic stress, depression, anxiety and behavioural problems during or in the aftermath of a disaster (Whaley et al., 2017). Infants are impacted by their caregivers' responses and can experience significant distress when these are insufficient or problematic. Because of their limited capacity to understand the crisis and their developing emotion regulation and coping skills, toddlers, preschoolers and some school-aged children are at risk of experiencing heightened levels of

distress, fear and anxiety, and can be challenged to learn due to feelings of distraction, distress, anxiety and/or depression (Whaley et al., 2017).

Drawing on evidence of children's outcomes following different types of disasters and conflicts (Hameil et al., 2013; Shaw et al., 2007; Trickey et al., 2012), Whaley et al. (2017) identified key factors (associated with the event/disaster, child, family, community/society) that increase a child's risk of experiencing adverse psychological outcomes. We have adapted the work of Whaley et al. (2017, p. 219) and summarized factors potentially relevant to the COVID-19 pandemic in Table 1. These risk factors have not been validated in relation to the COVID-19 pandemic or previous pandemics but have been drawn from existing literature on various types of disasters and traumatic events.



Table 1: Risk factors that may influence children’s psychological during or following a disaster.

Factors related to:			
Pandemic/event	Child	Family	Community/society
<ul style="list-style-type: none"> Higher intensity and longer duration of exposure Greater degree of involvement Greater perceived threat to safety of self or loved ones Witnessing gruesome scenes or unanswered distress cries Injury or illness as a result of the pandemic Someone known is injured or dies as a result of the pandemic Absence of caregivers and loved ones during/after the pandemic High degree of pandemic-related media exposure Frequent reminders of pandemic-related trauma 	<ul style="list-style-type: none"> Younger age Female gender Member of a marginalized group (e.g. minority race, ethnicity) Anxious disposition Poor self-esteem or sense of competency Low level of cognitive development Poor mental health functioning Previous history of trauma Ineffective emotion regulation skills Ineffective adaptive coping strategies Lack of social support Feelings of blame 	<ul style="list-style-type: none"> Lack of family knowledge and preparedness for the pandemic Poor caregiver physical and psychological functioning Inadequate parental coping strategies Parental overprotectiveness toward child Lack of parental availability to the child Reversed parent-child roles/ skewed boundaries Negative/distressed family atmosphere Low family socioeconomic status Lack of caregivers’ perceived and received social support 	<ul style="list-style-type: none"> Poor/lack of social support networks Low community social capital Low community socioeconomic status Inadequate community pandemic preparedness Poor community infrastructure, services and resources Unstable/fragile political structure and governance Lack of cultural and spiritual support

Adapted from Whaley et al., 2017 (p. 219) for relevance to the pandemic. NOTE: These risk factors have not been validated in relation to the COVID-19 pandemic or previous pandemics but have been drawn from existing literature on various types of disasters and traumatic events.



Sub-populations of children and youth vulnerable to the mental health impacts of the COVID-19 pandemic

Below we outline the evidence around sub-populations that have been associated a heightened risk of experiencing mental health consequences of the COVID-19 pandemic. While young people who are members of these groups are particularly vulnerable, so too are those who have close family members or caregivers who are members of these groups.

Children, youth or families/caregivers with pre-existing mental illness and substance use disorders

- People with pre-existing mental health or substance use issues, particularly those with more severe challenges, intensive in-person support needs, medical comorbidities, who are immunocompromised and those in congregate housing situations (e.g. live-in treatment facilities, shelters or group homes) are at elevated risk because of the potential disruption to their regular services/supports and higher levels of distress about their risks of contracting COVID-19 (Fegert et al., 2020; Holmes et al., 2020; United Nations, 2020, May 13; Vigo et al., 2020; Yao et al., 2020).
- A report from the United Nations (2020, April 15) has identified children with disabilities and those living in crowded congregate spaces as particularly vulnerable to adverse impacts of the COVID-19 pandemic.
- Brooks et al. (2020) report that psychiatric history is associated with psychological distress after any disaster-related trauma and note that those with pre-existing mental illness would require additional supports and services while quarantined during a pandemic.
- Physical distancing measures create barriers for people with severe substance use disorders requiring access to safe supplies and injection sites/supports. Reporters have linked COVID-19 to a recent increase in overdoses in Vancouver's Downtown East Side; the pandemic has exacerbated an existing public health crisis related to opioid overdose (Azpiri, 2020).

Children, youth or families/caregivers who are members of marginalized communities, including Indigenous populations, migrants and refugees, and individuals who are homeless or precariously housed

- Researchers have cautioned that members of some marginalized groups may not have living environments conducive to physical distancing or heightened hygiene guidelines. Marginalized and low-income youth and families may find it more difficult than others to access basic needs (as a result of finances, supply shortages, access to safe transportation) and are already vulnerable to stigmatization and discrimination (Fegert et al., 2020; Holmes et al., 2020; United Nations, 2020, May 13; Vigo et al., 2020).
- Children who live and work on the streets are at particularly vulnerable during the COVID-19 pandemic (United Nations, 2020, April 15).

- Indigenous communities may be at heightened risk as a result of marginalization but also given historical exposure to pandemics and associated intergenerational trauma (Vigo et al., 2020).

Children, youth or families/caregivers who have contracted the virus

- Holmes et al. (2020) note that many of the potential consequences of quarantine and physical distancing measures are also significant risk factors for mental health issues. Such consequences include “suicide and self-harm, alcohol and substance misuse, gambling, domestic and child abuse, and psychosocial risks (such as social disconnection, lack of meaning or anomie, entrapment, cyberbullying, feeling a burden, financial stress, bereavement, loss, unemployment, homelessness, and relationship breakdown)” (Holmes et al., 2020, p. 2).
- It has been reported that the 2003 SARS epidemic has been associated with sustained anxiety, depression and insomnia among patients who recovered after contracting the virus (Holmes et al., 2020; Tsang et al., 2004). Evidence from previous pandemics also suggests individuals who become ill during a pandemic may experience significant social isolation and discrimination as a result of the *stigma* associated with having contracted the virus (Morganstein et al., 2017). We can, therefore, expect to see similar trend in families directly affected by the novel coronavirus.

Youth or young people whose family/caregivers provide essential services during the pandemic

- In their review on the psychological impacts of quarantine, Brooks et al. (2020) reported a high prevalence of psychological distress in quarantined healthcare workers. Front-line health-care workers could be affected by fears of contamination, disruption of normal supportive structures, work stress, and retention issues (Holmes et al., 2020).
- The scale of the COVID-19 pandemic has resulted in the designation of several services (outside of healthcare) as essential in Ontario, such as grocery retailers, pharmacies, take-out restaurants, food and other delivery services. Much of the literature has focused on the impacts of pandemics on front-line healthcare workers; however, individuals employed in essential services may experience similar fears of contamination and stress as a result of their increased level of contact with the public.

Service planning in Ontario's child and youth mental health sector: New research

Agency leaders have raised concerns about how to estimate demand for services as physical distancing restrictions are relaxed and clinics and office spaces reopen. Research evidence to support these decisions is forthcoming (and is discussed in the next section). In the interim, clinicians may want to consider the following:

- a. There are children and youth who would have been referred to service during the pandemic but were not because of school and primary care closures. While we can estimate the number of referrals once schools/primary care resume based on incidence and typical referral patterns, **actual numbers are likely to be greater.**
- b. **There are children and youth who are currently receiving services who could be ready to be discharged from services.** An estimate could be calculated based on the evidence on the typical number of sessions for children and youth (e.g. 4-7).
- c. There are children and youth who decided to wait until services re-opened (declined virtual services) but who **may choose not to access services** (e.g. the reason for referral is no longer a concern or are faring better). Agencies may want to explore the evidence on the natural course of mental health needs without treatment (e.g. in single episode of depression, it's about 6 months).
- d. It is difficult at this point to propose estimates about whether we'll see a slow uptake or a surge in mental health need.

A web-based cross-sectional survey study of Ontario's children, youth and their families' mental health and experiences during the COVID-19 pandemic

Together with the CHEO Research Institute, the Centre has launched a study to explore the impact of COVID-19 on Ontario's children, youth and families. The researchers want to know how young people and their families feel about the pandemic and the way the measures taken to slow the spread of the virus have impacted them, how they are coping, what types of mental health services or supports they are currently accessing and, importantly, which services or supports they would like to access in the future.

The study consists of two online surveys: a survey for young people 12-25 years old and a survey for parents or caregivers with children 4-25 years old.

The results of this study will be used to describe the mental health status and experiences of youth and young adults from their perspective, and from the perspective of their parent/caregiver, amidst the COVID-19 outbreak. The research group plans to use this information to forecast what changes in mental health services may be precipitated by the

outbreak and provide suggestions for how mental health service providers and agencies might prepare to respond to the needs of Ontarians.

The study is funded by the Centre. The principal investigators are the Centre's Dr. Mario Cappelli and Dr. Ashley Radomski.

Preliminary findings

The research group has submitted a manuscript for a peer-reviewed publication on select findings from the youth and young adult survey that was available from April 24 to May 8, 2020. Data from 1341 respondents were analyzed.

Main findings from the youth and young adults' survey:

- Most young people in our sample reported a deterioration in their mental health during the COVID-19 pandemic period, suggesting that there will be an increased demand for services in the coming months.
- Researchers identified risk factors of young people more likely to need services: those who are older, female, had less family income, live in a northern community, are currently employed, and are currently getting help for a mental health concern.
- **Over 90 percent** of the sample, including those who reported not having a mental health diagnosis or concern that they get help for, were **interested in future support or services**.
- Young people already getting help for a mental health concern or who reported worse mental health since COVID-19 indicated a greater preference for seeing a doctor or counsellor, virtually or in person.
- In contrast, young people who reported that their mental health was the same or better since COVID-19 preferred online self-help supports and information and wellness tools.
- Knowledge of these characteristics and preferences of young people can strategically inform mental health service planning so that services are commensurate with young people's needs.

Progress update of the parent and caregiver survey:

Survey responses have been collected from 740 parents or caregivers of a child that is 4-25 years old from across the province. A high-level summary of study findings will be made available to the Lead Agency Consortium as soon as possible.

Evaluating system transition to virtual care in response to covid-19: Implications for the child & youth mental health sector

In recent years, service providers in Ontario's child and youth mental health sector have been exploring how best to integrate virtual care options into service delivery as a complement to providing in-person supports. The emergence of the COVID-19 pandemic, however, has accelerated these efforts. To continue to meet the needs of children, youth and families, many service-providing agencies are rapidly moving to deliver care through telecommunication technologies.

Given these shifts, the Centre, in partnership with CMHO and sector partners, is launching an evaluation study to learn about both the process of implementing virtual care during the COVID-19 pandemic, as well as the impacts on clients and service providers. Understanding what has worked well, challenges and how these have been addressed will enable the sector, post-pandemic, to take planful and deliberate steps to adding virtual care options to their suite of mental health services for families.

We are using implementation science and quality improvement approaches to frame the areas that we will examine (e.g. organizational culture, change management, training strategies, clinical supervision, and monitoring of fidelity to evidence-based programs). We are engaging partners in the province (senior management from agencies, researchers, youth and families) to guide areas of focus and inform recommendations for longer-term system-wide implementation.

For this evaluation study, the focus will be on virtual care, referring to the delivery of synchronous mental health services (i.e. clients and clinicians are interacting at the same time) using telecommunication technologies involving both audio and video devices. Counseling or crisis interventions using only telephones, apps, and asynchronous online programs are excluded from this evaluation.

The study received ethics approval on June 11, 2020, with data collection set to begin immediately.

The study is funded by the Ontario Centre of Excellence for Child and Youth Mental Health (the Centre). The principal investigator is the Centre's Dr. Evangeline Danseco.

Additional resources on the psychological impacts of the COVID-19 pandemic

Canadian resources

Association for Canadian Studies

- Social impacts of COVID-19 on Canadian youth

Canadian Psychological Association COVID-19 fact sheets

- [Helping teens cope with the impacts of and restrictions related to COVID-19](#)
- [Psychological impacts of the coronavirus \(COVID-19\)](#)

Centre for Addictions and Mental Health (CAMH)

- [Youth mental health deteriorating under pandemic stresses, new CAMH study reveals](#)

Policy Wise for Children and Families

- [Mental health and psychosocial impacts of the COVID-19 pandemic](#)

Statistics Canada – new data on youth mental health and COVID-19

- Arim, R., Findlay, L., & Kohen, D. (2020). [The health and behavioural impacts of COVID-19 on youth: Results from the Canadian Perspectives Survey Series 1](#). Catalogue no. 45-28-0001. Ottawa, Ontario: Minister of Industry.
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Vanier Institute of the Family – new data on family wellbeing and COVID-19

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Open-source articles

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International resources

United Nations policy briefs

- United Nations: [Policy brief on the impact of COVID-19 on children](#) (April 15, 2020)
- United Nations: [Policy brief on COVID-19 and the need for action on mental health](#) (May 13, 2020)

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