POSITION PAPER

The negative impact of the COVID-19 pandemic on the mental health of children and youth

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INTRODUCTION

The COVID-19 pandemic is an unprecedented mental health crisis. During this pandemic, Canadians have struggled with fears about their health, the well-being of their loved ones and their finances. In a survey from 2020, 50% of surveyed Canadians claimed that their mental health worsened since the start of the pandemic (1). Similarly, the anxiety and isolation caused by the COVID-19 pandemic have negatively impacted the mental health of children and adolescents across Canada.

Some experts believe that the negative impact of COVID-19 on children was so pronounced that it should be considered an adverse childhood experience (ACE) (2–4). A large Canadian cohort study showed that 67-70% of children and youth (ages 6 to 18) have experienced deterioration in at least one aspect of their mental health over the pandemic (5). Additionally, the COVID-19 pandemic has exacerbated the frequency and effect of pre-existing ACEs on children and youth due to social isolation and increased interaction with elements that contribute to their stress and trauma (6).

The effects of widespread lockdowns are not as straightforward as decreasing social interactions and increasing physical inactivity. These restrictions also predispose at-risk youth to family violence, nonaccidental trauma and mental illness (7). Being indoors and attending school virtually has its own host of negative consequences. A cohort study showed that higher levels of screen time (laptops, phones and tablets) in Canadian children and youth were associated with poor mental health during the pandemic (8). The amalgamation of fears regarding health and the well-being of family and friends are also stressors that have been identified in the literature (9). Furthermore, experts note that children often face unique challenges due to their limited understanding of the pandemic and restrictions. Even the process of quarantining can lead to chronic stress and negative impacts on psychosocial well-being that lasts up to months post-quarantine. More holistically, some researchers have described the pandemic as "an acute case of cumulative risk" as children are being exposed to multiple risk factors at once (e.g. marital conflict, social isolation, parental job loss) (10). It is clear that the impact of the pandemic on the mental health of children and youth is acute and multifaceted.

According to Children's Mental Health Ontario, one out of three parents in Ontario have had their child miss school due to anxiety and one out of four parents missed work to care for a child with anxiety (11). Their Kids Can't Wait campaign recommends that "Ontario's next government must move quickly and make significant investments and remove the systemic barriers that prevent children from getting the mental health support when and where they need it." As the pandemic continues, the mental health of children and youth is an ongoing key issue within the Canadian healthcare system, and one that requires

significant advocacy and action to prevent a future health crisis. Prevention of ACEs has proven to be a protective measure against many future negative health impacts. According to the Centers for Disease Control and Prevention, preventing ACEs proactively can potentially reduce depression (by 44%), smoking (by 33%), heavy drinking (24%), COPD (by 27%) and unemployment (by 15%) (12). In fact, there is a dose-dependent relationship between the number of ACEs and negative health outcomes, including mortality (13).

It is imperative for us as medical students, to identify the pertinent areas of improvement and to advocate for the children and youth. Physicians should incorporate their understanding that the pandemic has been a traumatic experience for youth into their model of care and take a proactive approach to prevent adverse mental health outcomes (14). Resource allocation and mental health strategies need to address the increasingly vast and diverse mental health needs of children and youth.

PRINCIPLES

The Ontario Medical Students Association makes the recommendations using the following guiding principles:

1. Children and youth deserve universal and timely access to support and services that ensure their mental wellbeing.
2. Physicians should receive adequate infrastructure and training in delivering virtual care to children and youth.
3. A multidisciplinary approach is crucial in providing adequate psychosocial support to children and youth.
4. A comprehensive mental health strategy should address the varied mental health needs of this population while improving access to services.

RECOMMENDATIONS

The Ontario Medical Students Association recommends the following:

1. **Increasing access to mental health resources through school programs and peer support initiatives.**

   1.1 Establishing a school-based educational program to improve mental health literacy and destigmatize help-seeking behaviour throughout Ontario by September 2023

Literature shows that in Ontario, 12000 children and youth were waiting from months up to 2.5 years to access mental health services (15). This poses a barrier for individuals wishing to access these essential services. When services are available to youth and children through schools and primary care providers, these populations might avoid seeking these services due to stigma. In children and youth, stigma related to mental health and help-seeking behaviour has been well documented in the literature (16–18). This stigma can cause these vulnerable populations from seeking appropriate mental health services despite their availability. In a Canadian randomized controlled trial, Milin et al. found that high school students who underwent mental health literacy training exhibited both significantly lower levels of stigma and higher levels of mental health knowledge post-intervention (19). Developing and funding mental health literacy programs could prove crucial in increasing access and use of mental healthcare in this population. Furthermore, a systematic review published in the Journal of Health Literacy concluded that school-based educational programs significantly improved mental health literacy in each of the six studies included despite variability in program structure (20). This intervention can be developed locally or provincially with the goal of boosting mental health literacy, use of mental health services and reducing the overall stigma surrounding mental health. An undertaking such as this would require concerted effort and coordination from policymakers, school administrators, mental health professionals and curriculum developers. This recommendation aims to improve the Government of Ontario's plan for student mental health by

suggesting a more comprehensive provincial mental health literacy strategy (21). While this plan aims to educate students on vaping, cannabis use and driving under influence, it provides inadequate oversight for a province-wide mental health literacy program.

1.2 Expanding the school-based mental health programs and peer support initiatives by increasing provincial funding by 40% by September 2024

Approximately half of all lifetime mental disorders originate from childhood and adolescence making this period of life a critical target for mental health programs (22–24). Particularly within the context of the COVID-19 pandemic, which places further risks to worsening mental health of youth, expanding mental health interventions for these age groups is a promising area of investment to mitigate the adverse effects of the pandemic on their mental wellbeing. The School-Based Mental Health and Substance Abuse Consortium conducted a comprehensive review of the effectiveness of mental health programs in 177 school boards and 643 schools (primarily from Ontario, Alberta, British Columbia and Manitoba). Their report concluded that school-based programs are effective in preventing depressed mood, anxiety and externalizing behaviours (25). Furthermore, the authors concluded that school-based behavioural and cognitive-behavioural programs are more effective at treating depressed mood and anxiety problems than general counselling (26). Lastly, The Consortium concluded that there is a need for organizational support, systematic professional training for teachers, students and parents, and an increased reliance on community partnerships. Despite the effectiveness of these programs, it is important to recognize that concerted effort is needed by various stakeholders to implement these evidence-based initiatives. To address this issue, a provincial mental health strategy that provides resources, and oversight while addressing the shortcomings of school-based programs is crucial. It is well noted in the literature that without appropriate resource allocation and oversight, these programs, though beneficial in improving mental wellbeing and academic success, do not succeed on a large scale (27). Therefore, this recommendation urges the Government of Ontario and the Ministry of Education to develop and adequately fund a comprehensive school-based mental health program.

Peer support involves individuals providing informal support to their peers with whom they share a common experience. Adolescents in different settings (school, extracurricular clubs) can be trained by mental health professionals in providing peer support and in making appropriate referrals to counselling services as needed. Existing training programs developed by organizations such as Peer Support Canada and the Canadian Mental Health Association can be utilized on a provincial basis. By creating these community-based resources, access to timely support for individuals in need can be significantly increased (28). Through these organizations and training workshops, youth can formally acquire the skills they need to provide peer support and thus, increasing access to support in the community. According to an economic analysis conducted by the American Academy of Family Physicians Foundation, peer support is a moderately cost-effective intervention in various settings, including community and mental health settings (29). In children and youth, specialized peer support programs have shown beneficial effects on sociability and overall mental wellbeing (30–32). Hence, increased availability and use of peer support in Ontario can play a key role in increasing access to timely community-based support in a cost-effective manner. Since peer support is a cost-effective option, resources can be allocated to expand this program and evaluate its role in addressing the mental health crisis in Ontario (21).

2. Reducing wait times by 50% for versatile services such as cognitive behavioural therapy and improving resource allocation for mental health services by 2025 (33)

2.1 Increasing funding for versatile services such as cognitive behavioural therapy

The aforementioned report from Children's Mental Health Ontario (CMHO) has found that the wait time for children and adolescents to receive treatment for mental health conditions has steadily increased to up to 2.5 years, with waitlists for these same services having tripled over the pandemic due to social isolation and many other downstream, long-term repercussions of generalized anxiety, which place increased

pressure on already-limited mental health services (34,35). At the same time, the number of children and youth needing mental health treatment has also sharply escalated from 2017, exacerbating a pre-existing lack of resources (35). Some explanations for these long wait times include the publicly-funded nature of mental health services, coupled with the deeply consequential influence of geographical location, socioeconomic status and the type of treatment that is necessary. For example, cognitive behavioural therapy (CBT) has been proven to be sufficiently effective for conditions that have been exacerbated by the pandemic, such as depression and anxiety disorders (36). However, CBT is often a time-consuming and lengthy process over which the youth experience significant progress and improvement in functioning and quality of life (37). As such, although it is effective, this increased time-to-effect notably increases the wait times for CBT. Additionally, these programs are disproportionately distributed as children and adolescents living in remote and rural communities often do not have access to these treatments despite having a higher need (38). This report reviews some strategies to curtail this disparity and tackle the ever-increasing wait times.

One such approach is the development of specialized walk-in or rapid access clinics catering specifically towards children and youth (39). These clinics can ensure that high-risk patients can receive prompt treatment in a streamlined manner as evidence suggests that early interventions are often vital for preventing adverse long-term outcomes (40–42). Additionally, psychiatrists, psychologists, mental health social workers and therapists are all trained professionals who routinely provide CBT for patients. However, psychiatrists are the only professionals that have prescriptive authority and specialize in the medical management of psychiatric conditions (43). As such, considering the scope of practice of clinicians is important when restructuring resource allocation. For example, psychiatrists can refer patients who need CBT to allied health professionals, reducing both the wait times for CBT and medical management. Appropriate referral can lead to earlier access to treatment for those who need it, improving overall outcomes of the intervention. Evidence suggests that public education campaigns have been shown to be effective for health promotion (44). Lastly, this strategy could also be supplemented by provincial regulatory bodies developing a needs-based, unified triage system for the administration of CBT as some patients have more urgent needs. This system could help reduce the disparity in access to care for vulnerable populations such as those who live in remote or rural communities (45).

2.2 Coordinating electronic medical records between patients and healthcare providers to reduce wait times

Another approach to reducing wait times would be to harness mobile devices in the context of health information. Evidence has suggested that coordinating electronic medical records between patients and providers can improve access to care for those who are unable to attend in-person clinic visits due to immune compromise, lack of transportation, physical disability, etc (46). Additionally, in emergency departments, psychiatric patients wait longer than patients with non-psychiatric complaints (47). Berk-Clark et al. described a new strategy to help reduce wait times in the emergency department (ED) where the center used a coordinated, bidirectional relationship between medical sites and treatment facilities to match patients to appropriate resources based on needs (48). Their study involved providers using a group texting protocols to accomplish well-coordinated care for children and adolescents. The study found that the group texting application has a strong potential to ameliorate wait times for pediatric mental health services (48). Hence, adopting this strategy could be beneficial for Ontario systems to effectively reduce wait times which would be especially important during a pandemic where mental health services resources are already exceedingly limited, particularly for children and youth.

3. **Expanding virtual mental health services by 40% by 2024 can improve access to care for vulnerable populations, enhance adherence to appointments and promote early interventions that may mitigate future adverse health outcomes.**

3.1 Expanding virtual mental health services to improve access to care and provide crucial early interventions

With the onslaught of the pandemic, ensuring the rigidity of the infrastructure of virtual healthcare is becoming increasingly crucial. As aforementioned, virtual healthcare can serve to bridge gaps in healthcare access for those living in remote regions, those who lack transportation and those who may not be able to attend clinics (physical disability, mental health reasons, immune compromise, etc.) (49,50). Therefore, expanding telemedicine and virtual care is a key component of ensuring that children and youth have access to vital mental health services during times of duress. Over the course of the pandemic, many mental health services including individual and group psychotherapy, counseling, recreational therapies (art, yoga, meditation, etc.) have seamlessly transitioned to a virtual space, showcasing that they are well-suited for a virtual delivery (51). However, there are still barriers to accessing these services such as access to the internet with reliable connections (if video conferencing) and availability in these virtual programs.

Telemedicine and virtual care have been shown to enhance adherence to appointments due to their accessibility (namely lacking the need for transportation, extended waiting periods in waiting rooms, lowering unnecessary exposure to hospitals/clinics) (52,53). Increased appointment adherence has also been associated with increased treatment adherence, rendering the overall policy much more impactful (53). Moreover, the importance of early interventions, especially in the pediatric and adolescent populations, cannot be overstated. Whilst delayed procedures themselves are associated with accelerated disease progression and mortality, children and adolescents who do not receive timely mental health interventions will likely experience systemic adverse outcomes such as cardiac and gastrointestinal symptoms (54–59). Additionally, it is imperative to not miss the window for early intervention. In fact, one of the most effective programs for children and youth such as the Stop Now And Plan (SNAP) program, developed by the Child Development Institute in Toronto has a waitlist of almost 2 years, despite the program itself recognizing that it is designed and optimized for children under 12 (54).

3.2 Promoting the use of existing virtual infrastructure for providing mental health services

Of note, practitioners who have transitioned into providing virtual services for their more vulnerable patients should continue to be financially supported (34,60). This is imperative to preserve the existing virtual mental health services and to encourage new practitioners to offer virtual care. The financial support could also serve to provide technical training for the virtual platforms as many practitioners may not be familiar with them and may not know how to ensure that privacy and patient safety are appropriately maintained (60). On top of following privacy guidelines, virtual infrastructure, including scheduling software/websites, video conferencing and media sharing applications, must be user-friendly. The appropriateness of virtual care must also be considered as sometimes, in-person visits may be necessary for the management of complex mental health conditions. However, as the vast majority of mental health services can be delivered virtually, it is key to provide this opportunity to the patients who need it the most (61). Another outreach approach that is successful in some vulnerable populations such as homeless individuals is a mobile health clinic (62). These can be used to help triage patients and refer them to the practitioner that is most well-suited to manage their particular situation. This approach can also be delivered in a virtual fashion as various practitioners can be broadcasted on virtual platforms to mobile health clinics (63).

REFERENCES

1. Worry, Gratitude & Boredom: As COVID-19 affects mental, financial health, who fares better; who is worse? [Internet]. Angus Reid Institute. 2020 [cited 2022 May 14]. Available from: https://angusreid.org/covid19-mental-health/

2. Srivastav A, Richard CL, McRell AS, Strompolis M. The Unintended Consequence of Novel Coronavirus (COVID-19) Pandemic on Racial Inequities Associated With Adverse Childhood Experiences (ACEs): Findings From a Population-Based Study. Front Public Health [Internet]. 2021 [cited 2022 May 14];9. Available from: https://www.frontiersin.org/article/10.3389/fpubh.2021.701887

3. Sanders LM. Is COVID-19 an adverse childhood experience (ACE): Implications for screening for primary care. J Pediatr. 2020 Jul;222:4–6.

4. McManus MA, Ball E. COVID-19 should be considered an Adverse Childhood Experience (ACE). J Community Saf Well-Being. 2020 Nov 10;5(4):164–7.

5. Cost KT, Crosbie J, Anagnostou E, Birken CS, Charach A, Monga S, et al. Mostly worse, occasionally better: impact of COVID-19 pandemic on the mental health of Canadian children and adolescents. Eur Child Adolesc Psychiatry. 2022 Apr;31(4):671–84.

6. Bryant DJ, Oo M, Damian AJ. The rise of adverse childhood experiences during the COVID-19 pandemic. Psychol Trauma Theory Res Pract Policy. 2020 Aug;12(S1):S193–4.

7. Chanchlani N, Buchanan F, Gill PJ. Addressing the indirect effects of COVID-19 on the health of children and young people. Can Med Assoc J. 2020 Aug 10;192(32):E921–7.

8. Li X, Vanderloo LM, Keown-Stoneman CDG, Cost KT, Charach A, Maguire JL, et al. Screen Use and Mental Health Symptoms in Canadian Children and Youth During the COVID-19 Pandemic. JAMA Netw Open. 2021 Dec 28;4(12):e2140875.

9. Imran N, Zeshan M, Pervaiz Z. Mental health considerations for children & adolescents in COVID-19 Pandemic. Pak J Med Sci. 2020 May;36(COVID19-S4):S67–72.

10. Wade M, Prime H, Browne DT. Why we need longitudinal mental health research with children and youth during (and after) the COVID-19 pandemic. Psychiatry Res. 2020 Aug;290:113143.

11. Kid's Can't Wait [Internet]. 2022 [cited 2022 May 14]. Available from: https://act.newmode.net/action/kids-cant-wait

12. vs-1105-aces-H.pdf [Internet]. [cited 2022 May 14]. Available from: https://www.cdc.gov/vitalsigns/aces/pdf/vs-1105-aces-H.pdf

13. Adverse Childhood Experiences (ACEs). Health Promot. :37.

14. Meherali S, Punjani N, Louie-Poon S, Abdul Rahim K, Das JK, Salam RA, et al. Mental Health of Children and Adolescents Amidst COVID-19 and Past Pandemics: A Rapid Systematic Review. Int J Environ Res Public Health. 2021 Mar 26;18(7):3432.

15. Moroz N, Moroz I, D'Angelo MS. Mental health services in Canada: Barriers and cost-effective solutions to increase access. Healthc Manage Forum. 2020 Nov 1;33(6):282–7.

16. Bowers H, Manion I, Papadopoulos D, Gauvreau E. Stigma in school-based mental health: perceptions of young people and service providers. Child Adolesc Ment Health. 2013;18(3):165–70.

17. Fante-Coleman T, Jackson-Best F. Barriers and Facilitators to Accessing Mental Healthcare in Canada for Black Youth: A Scoping Review. Adolesc Res Rev. 2020 Jun 1;5(2):115–36.

18. DeLuca JS. Conceptualizing Adolescent Mental Illness Stigma: Youth Stigma Development and Stigma Reduction Programs. Adolesc Res Rev. 2020 Jun 1;5(2):153–71.

19. Milin R, Kutcher S, Lewis SP, Walker S, Wei Y, Ferrill N, et al. Impact of a Mental Health Curriculum on Knowledge and Stigma Among High School Students: A Randomized Controlled Trial. J Am Acad Child Adolesc Psychiatry. 2016 May 1;55(5):383-391.e1.

20. Olyani S, Gholian Aval M, Tehrani H, Mahdiadeh M. School-Based Mental Health Literacy Educational Interventions in Adolescents: A Systematic Review. J Health Lit. 2021 Sep 1;6(2):69–77.

21. Ontario Expanding Access to Student Mental Health Supports [Internet]. news.ontario.ca. [cited 2022 May 14]. Available from: https://news.ontario.ca/en/release/1001924/ontario-expanding-access-to-student-mental-health-supports

22. Kessler RC, Amminger GP, Aguilar‑Gaxiola S, Alonso J, Lee S, Ustun TB. Age of onset of mental disorders: A review of recent literature. Curr Opin Psychiatry. 2007 Jul;20(4):359–64.

23. Solmi M, Radua J, Olivola M, Croce E, Soardo L, Salazar de Pablo G, et al. Age at onset of mental disorders worldwide: large-scale meta-analysis of 192 epidemiological studies. Mol Psychiatry. 2022 Jan;27(1):281–95.

24. Mental health, Mental illness and Addictions in youth: What do we know about racialised youth health. :12.

25. Manion I, Short KH, Ferguson B. A Snapshot of School-Based Mental Health and Substance Abuse in Canada: Where We Are and Where It Leads Us. Can J Sch Psychol. 2013 Mar 1;28(1):119–35.

26. ChildYouth_School_Based_Mental_Health_Canada_Final_Report_ENG_0.pdf [Internet]. [cited 2022 May 14]. Available from: https://www.mentalhealthcommission.ca/wp-content/uploads/drupal/ChildYouth_School_Based_Mental_Health_Canada_Final_Report_ENG_0.pdf

27. Santor DA, Bagnell AL. Maximizing the uptake and sustainability of school-based mental health programs: commercializing knowledge. Child Adolesc Psychiatr Clin N Am. 2012 Jan;21(1):81–92, ix.

28. Peer Support Canada [Internet]. [cited 2022 May 14]. Available from: https://peersupportcanada.ca/

29. 150417-economic-analysis-in-peer-support.pdf [Internet]. [cited 2022 May 14]. Available from: http://peersforprogress.org/wp-content/uploads/2015/04/150417-economic-analysis-in-peer-support.pdf

30. Carter EW, Asmus J, Moss CK, Biggs EE, Bolt DM, Born TL, et al. Randomized Evaluation of Peer Support Arrangements to Support the Inclusion of High School Students With Severe Disabilities. Except Child. 2016 Jan 1;82(2):209–33.

31. Brock ME, Huber HB. Are Peer Support Arrangements an Evidence-Based Practice? A Systematic Review. J Spec Educ. 2017 Nov 1;51(3):150–63.

32. Saylor J, Lee S, Ness M, Ambrosino JM, Ike E, Ziegler M, et al. Positive Health Benefits of Peer Support and Connections for College Students With Type 1 Diabetes Mellitus. Diabetes Educ. 2018 Aug 1;44(4):340–7.

33. 28,000 Ontario Children and Youth Are Waiting for Community Mental Health Services - Children's Mental Health Ontario [Internet]. 2020 [cited 2022 May 14]. Available from: https://cmho.org/28000-ontario-children-and-youth-are-waiting-for-community-mental-health-services/, https://cmho.org/28000-ontario-children-and-youth-are-waiting-for-community-mental-health-services/

34. covid-and-mh-policy-paper-pdf.pdf [Internet]. [cited 2022 May 14]. Available from: https://www.camh.ca/-/media/files/pdfs---public-policy-submissions/covid-and-mh-policy-paper-pdf.pdf

35. Wait times for youth mental health services in Ontario at all-time high [Internet]. [cited 2022 May 14]. Available from: https://ontario.cmha.ca/news/wait-times-for-youth-mental-health-services-in-ontario-at-all-time-high/

36. Hofmann SG, Asnaani A, Vonk IJJ, Sawyer AT, Fang A. The Efficacy of Cognitive Behavioral Therapy: A Review of Meta-analyses. Cogn Ther Res. 2012 Oct 1;36(5):427–40.

37. David D, Cristea I, Hofmann SG. Why Cognitive Behavioral Therapy Is the Current Gold Standard of Psychotherapy. Front Psychiatry. 2018 Jan 29;9:4.

38. Rural_remote_mental_health_evidence_brief_eng.pdf [Internet]. [cited 2022 May 14]. Available from: https://www.mentalhealthcommission.ca/wp-content/uploads/drupal/2020-05/Rural_remote_mental_health_evidence_brief_eng.pdf

39. Neufeld J, Case R. Walk-In Telemental Health Clinics Improve Access and Efficiency: A 2-Year Follow-Up Analysis. Telemed J E Health. 2013 Dec;19(12):938–41.

40. MacDonald K, Fainman-Adelman N, Anderson KK, Iyer SN. Pathways to mental health services for young people: a systematic review. Soc Psychiatry Psychiatr Epidemiol. 2018;53(10):1005–38.

41. Garland AF, Haine-Schlagel R, Brookman-Frazee L, Baker-Ericzen M, Trask E, Fawley-King K. Improving Community-Based Mental Health Care for Children: Translating Knowledge into Action. Adm Policy Ment Health. 2013 Jan;40(1):6–22.

42. Kroll DS, Chakravartti A, Gasparrini K, Latham C, Davidson P, Byron-Burke M, et al. The walk-in clinic model improves access to psychiatry in primary care. J Psychosom Res. 2016 Oct;89:11–5.

43. Chand SP, Kuckel DP, Huecker MR. Cognitive Behavior Therapy. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 [cited 2022 May 14]. Available from: http://www.ncbi.nlm.nih.gov/books/NBK470241/

44. Wakefield MA, Loken B, Hornik RC. Use of mass media campaigns to change health behaviour. Lancet. 2010 Oct 9;376(9748):1261–71.

45. Ansell D, Crispo JAG, Simard B, Bjerre LM. Interventions to reduce wait times for primary care appointments: a systematic review. BMC Health Serv Res. 2017 Apr 20;17(1):295.

46. Ammon AA, Fath JJ, Brautigan M, Mehta R, Matthews J. Transferring patients to a pediatric trauma center: the transferring hospital's perspective. Pediatr Emerg Care. 2000 Oct;16(5):332–4.

47. Nicks BA, Manthey DM. The Impact of Psychiatric Patient Boarding in Emergency Departments. Emerg Med Int. 2012 Jul 22;2012:e360308.

48. van den Berk-Clark C, Hughes R, Haywood S, Andrews B, Gordin P. Texting as a Means of Reducing Pediatric Adolescent Psychiatric Emergency Encounters Wait Times. Pediatr Emerg Care. 2018 Jul;34(7):524–9.

49. Bhatia RS, Chu C, Pang A, Tadrous M, Stamenova V, Cram P. Virtual care use before and during the COVID-19 pandemic: a repeated cross-sectional study. CMAJ Open. 2021 Jan;9(1):E107–14.

50. Chan-Nguyen S, Ritsma B, Nguyen L, Srivastava S, Shukla G, Appireddy R. Virtual Care Access and Health Equity during the COVID-19 Pandemic, a qualitative study of patients with chronic diseases from Canada. Digit Health. 2022 Feb 1;8:20552076221074490.

51. Roadmap to wellness: a plan to build Ontario's mental health and addictions system [Internet]. ontario.ca. [cited 2022 May 14]. Available from: http://www.ontario.ca/page/roadmap-wellness-plan-build-ontarios-mental-health-and-addictions-system

52. Jeganathan S, Prasannan L, Blitz MJ, Vohra N, Rochelson B, Meirowitz N. Adherence and acceptability of telehealth appointments for high-risk obstetrical patients during the coronavirus disease 2019 pandemic. Am J Obstet Gynecol MFM. 2020 Nov;2(4):100233.

53. Reay RE, Looi JC, Keightley P. Telehealth mental health services during COVID-19: summary of evidence and clinical practice. Australas Psychiatry. 2020 Oct;28(5):514–6.

54. CMHO-Report-WaitTimes-2020.pdf [Internet]. [cited 2022 May 14]. Available from: https://cmho.org/wp-content/uploads/CMHO-Report-WaitTimes-2020.pdf

55. Tam DY, Qiu F, Manoragavan R, Fremes SE, Hassan A, Ko DT, et al. The Impact of the COVID-19 Pandemic on Cardiac Procedure Wait List Mortality in Ontario, Canada. Can J Cardiol. 2021 Oct;37(10):1547–54.

56. Barua B. The Effect of Wait Times on Mortality in Canada. :78.

57. Gagliardi AR, Yip CYY, Irish J, Wright FC, Rubin B, Ross H, et al. The psychological burden of waiting for procedures and patient-centred strategies that could support the mental health of wait-listed patients and caregivers during the COVID-19 pandemic: A scoping review. Health Expect Int J Public Particip Health Care Health Policy. 2021 Jun;24(3):978–90.

58. van Beljouw IM, Verhaak PF, Cuijpers P, van Marwijk HW, Penninx BW. The course of untreated anxiety and depression, and determinants of poor one-year outcome: a one-year cohort study. BMC Psychiatry. 2010 Oct 20;10(1):86.

59. UNSDG | Policy Brief: COVID-19 and the Need for Action on Mental Health [Internet]. [cited 2022 May 14]. Available from: https://unsdg.un.org/resources/policy-brief-covid-19-and-need-action-mental-health, https://unsdg.un.org/resources/policy-brief-covid-19-and-need-action-mental-health

60. Gratzer D, Torous J, Lam RW, Patten SB, Kutcher S, Chan S, et al. Our Digital Moment: Innovations and Opportunities in Digital Mental Health Care. Can J Psychiatry. 2021 Jan 1;66(1):5–8.

61. Kozloff N, Mulsant BH, Stergiopoulos V, Voineskos AN. The COVID-19 Global Pandemic: Implications for People With Schizophrenia and Related Disorders. Schizophr Bull. 2020 Jul;46(4):752–7.

62. Whelan C, Chambers C, Chan M, Thomas S, Ramos G, Hwang SW. Why Do Homeless People Use a Mobile Health Unit in a Country With Universal Health Care? J Prim Care Community Health. 2010 Jul 1;1(2):78–82.

63. Crico C, Renzi C, Graf N, Buyx A, Kondylakis H, Koumakis L, et al. mHealth and telemedicine apps: in search of a common regulation. ecancermedicalscience. 2018 Jul 11;12:853.