


Canadian perspectives of digital mental health supports: Findings from a national survey conducted during the COVID-19 pandemic

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Nelson Shen^{1,2} , Iman Kassam¹ , Sheng Chen^{1,2}, Clement Ma^{1,3},
Wei Wang^{1,4}, Navi Boparai¹, Damian Jankowicz¹ and Gillian Strudwick^{1,2}

Abstract

Objectives: The impact of the COVID-19 pandemic on population mental health has highlighted the potential for digital mental health to support the needs of those requiring care. This study sought to understand the digital mental health experiences and priorities of Canadians affected by mental health conditions (i.e. seekers, patients, and care partners).

Methods: A national cross-sectional electronic survey of Canadians was administered through a market research firm's survey panel. Seekers, patients, and care partners were asked about their digital mental health experiences (e.g. uptake, barriers to access) and priorities. Survey responses were summarized using descriptive statistics.

Results: Overall, 1003 participants completed the survey. 70.2% of participants routinely use digital mental health supports to support themselves or those they care for; however, only 28.6% of participants are satisfied with the available digital mental health supports. Most participants (73.3%) have encountered some barriers when accessing digital mental health supports. Awareness of digital mental health supports was a top barrier identified by participants. The top digital mental health priorities consisted of digital mental health curation, navigation, and a digital mental health passport.

Conclusions: Most participants use digital mental health supports for themselves or others, however, many are unaware of digital mental health supports available. Efforts to improve navigating access to digital and in-person mental health services are seen as a top priority, highlighting the need to enable seekers, patients, and care partners to find the appropriate support and make decisions on how to best improve their mental health.

Keywords

Digital health, psychology, mental health, eMental health, telepsychiatry, population health, COVID-19 pandemic, public health, Canada, digital interventions, health services research

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Introduction

One-fifth of Canadians experience mental illness in any given year and just one-third seek or receive the mental health services they need, leaving many Canadians with unmet needs.^{1–3} Prior to the COVID-19 pandemic, the Canadian mental healthcare system was struggling to meet the growing need for mental healthcare services.⁴ Limited financial resources, mental health professional shortages, lack of access to care, and social health inequities have resulted in a fragmented mental health system

¹Campbell Family Mental Health Research Institute, Centre for Addiction and Mental Health, Toronto, ON, Canada

²Institute for Health Policy, Management and Evaluation, University of Toronto, Toronto, ON, Canada

³Division of Biostatistics, Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada

⁴College of Public Health, University of South Florida, Tampa, FL, USA

Corresponding author:

Nelson Shen, Centre for Addiction and Mental Health, 60 White Squirrel Way, Toronto, ON M1J6 1H4, Canada.
Email: Nelson.Shen@camh.ca



ill-equipped to support the growing Canadian population.^{5–7} The COVID-19 pandemic has exacerbated the growing disparity between need and access to mental healthcare.^{8,9}

The unpredictability and uncertainty of the prolonged COVID-19 pandemic response have further accelerated the decline in the mental health of Canadians, resulting in an echo pandemic of mental health issues.^{10,11} A 2021 Canadian survey found that greater than one-fifth of respondents reported experiencing moderate to severe anxiety and felt depressed during the pandemic.¹² These results highlight the acute need for solutions that expand provision and access to cost-efficient and sustainable care.^{5,13} The Mental Health Commission of Canada (MHCC) identified that digital mental health supports (i.e. tools, services, and interventions) can help bridge this gap.¹³

Digital mental health is an umbrella term, which encompasses services or supports that are accessed digitally with the aim to prevent or treat mental health conditions.¹⁴ These services or supports may involve the use of information technology/electronic communication tools, services, and processes to deliver mental healthcare services or to facilitate better mental health care.¹³ Digital mental health can potentially transform how individuals seek and access care services by building capacity through innovations such as video or phone-enabled visits with clinicians (i.e. virtual care), online courses, coached therapy, and mobile app-based self-help therapies and tools.^{15,16} Despite its potential, the use of these digital mental health supports may pose further challenges and inequities for those most in need of care.^{4,11,15,17} Identified challenges include limited access to technology, reliable internet, or a private space; costs associated with digital services use; lack of digital and health literacies; or technologies lacking accessibilities and accommodations to support use.^{4,18–20} Some individuals may have a general aversion to using digital tools altogether.^{20,21} It is essential that these individual experiences and preferences are understood to realize the transformative potential of digital mental health.

There is growing recognition in the implementation sciences community that patient and family engagement is critical to the success of health service programs and digital health implementations.^{22–25} To support the ongoing engagement and adoption of digital mental health through the pandemic and beyond, a pan-Canadian survey was conducted to understand the digital mental health experiences of Canadians affected by mental health conditions. These individuals include those already receiving care (i.e. patients); those that support people with mental health conditions (i.e. care partners); and those who have a perceived need to seek mental healthcare but have yet to do so (i.e. seekers). Engaging these potential digital mental health users to understand their experiences and perspectives ensures that current and future digital mental health initiatives will align with their needs.^{25,26} To this end, this study explored the digital mental health

experiences and priorities of Canadians affected by mental health conditions.

Methods

This study is a part of a larger initiative aimed at engaging patients and clinicians to inform the digital mental health strategy at the Centre for Addiction and Mental Health (CAMH)—Canada’s largest academic health sciences center for mental health. In this exploratory study, a cross-sectional survey was conducted to ask patients, care partners, and seekers about their: (1) current use of digital mental health supports; (2) experiences with digital mental health supports; (3) barriers to accessing digital mental health supports; and (4) priority areas for digital mental health initiatives.

Data collection

The online survey was administered by a data collection and research firm (Delvinia) between 23rd February to 1st March 2021—approximately one-year after many Canadian provinces declared a state of emergency (7th March to 17th March 2020), requiring restrictions on non-essential activities and public gatherings.²⁷ Individuals were recruited from Delvinia’s web panel and earned points to loyalty programs for participating. Email invitations were sent to potential participants and electronic-informed consent was obtained prior to starting the survey. This study was approved by the CAMH Research Ethics Board (2020-153).

Quota sampling was completed based on age, geographic region, and sex such that the sample was proportional to the English-speaking population of Canadian provinces. Eligible participants were required to be: 18 years of age or older, a Canadian resident, and able to read and write in English or French. Eligible participants were included if they self-identified as a person affected by mental health conditions (i.e. “seeker,” “patient,” or “care partner”) through a screening question in the survey.

Survey

The survey was developed in consultation with the CAMH’s Patient and Family Experience Team and Digital Health Steering Committee. Feedback was used to add survey response options and improve plain language. A pre-field-testing phase was completed to improve survey structure, clarity, and web administration. A soft launch with 50 participants was completed to ensure there were no issues with the data or survey instrument and to confirm survey incidence and completion time.²⁸ No issues were identified and the participants were included in the sample. The full survey can be found in Supplemental Appendix 1.

Overall, the survey consisted of 38 discrete choice questions and included 10 open-text questions to allow participants to elaborate on certain responses. The survey collected data on *participant characteristics* (i.e. demographics and mental healthcare experiences) For *digital mental health uses*, participants were presented a matrix question asking them to report the frequency of use of different types of digital mental health supports in the past year (i.e. *Frequency—I did not use, used it once, used it before but stopped, less than once a month, 1–2 times per month, 3–4 times per month, weekly, daily*). The types of supports presented in the question were based on the MHCC E-Mental Health typology.¹³

For *digital mental health experiences*, participants were asked about their satisfaction with available digital mental health supports (i.e. *satisfied, unsatisfied, unsure, I prefer not to use digital mental health supports*) and how they discover and select digital mental health supports to use. For *digital mental health barriers*, participants were asked about access to the internet, internet-enabled devices, and a private space. They were also asked to select all that applied from a list of barriers adapted from Roberts and Hernandez 5As typology of technology access (i.e. *availability, affordability, awareness, ability, agency*).²⁰

For *digital mental health priorities*, participants were provided a list of 13 digital mental health uses and asked to rank order their top-5 digital priorities to improve their mental healthcare and experiences for themselves or someone they support (*digital mental health curation tool, digital mental health tool hub, artificial intelligence/machine learning, chatbot, interactive voice response, virtual care, integrated care pathway, collaboration tools, social media, digital mental health records passport, consent management for research, mental healthcare system navigation tool, secure messaging*).

Data analysis

Survey responses were summarized using descriptive statistics (e.g. frequencies, proportions, means, and standard deviations) across all respondents and stratified by respondent type (seeker, patient, and care partner). Results related to digital mental health use included routine users (i.e. if answered “*less than once a month*” or more to any of the types) average number of supports used (i.e. based on the number of reported types of support used), and types of supports used (i.e. binary, yes or no for each type). Weighted averages were calculated for forced ranking questions, where the highest rank was assigned the most points and the lowest rank was assigned the least points (i.e. for top-5, first place was assigned 5 points and last place was assigned 1 point; unranked items were assigned 0 points). All statistical analyses were performed using SAS Enterprise Guide 7.1 (SAS Institute Inc., Cary, NC, USA).

Open-text responses underwent a content analysis,^{29,30} where two reviewers (IK, NS) independently inductively coded each response using Microsoft Excel. Each subject within a response was treated as a unit of meaning and then coded. The codes were discussed, consolidated, and grouped into categories. Discrepancies and disagreements were resolved through discussion. Frequency categories were tabulated and are reported here.

Results

Participant characteristics

A total of 14,242 Canadians were sent email invitations; 3665 (25.7%) responded to the email invitation. Of the respondents, 1229 (33.5%) participants were eligible for this study, identifying as a person affected by a mental health condition. After removal of survey incompletes (206) and data quality ($n=20$), 1003 (completion rate = 81.6%) participants completed the survey and were included in the analytic cohort. Of the completed surveys, 80.6% ($n=808$) were completed in English. Recruitment details can be found in Figure 1.

Participants consisted of 410 (40.9%) seekers, 271 (27.0%) patients, and 322 (32.1%) care partners. Participants were most commonly between the ages of 35 and 54 (37.1%, $n=372$), from central Canada (62.5%, $n=627$), resided in an urban region (47.7%, $n=478$), self-identified as white (72.9%, $n=731$), and had a post-secondary education or higher (86.6%, $n=869$).

Approximately half of the participants (51.2%, $n=514$) had two years or less of lived experience, with the majority being seekers (56.4%, $n=290$). Patients and care partners had more years of experience, with 40.2% ($n=109$) and 55.3% ($n=178$) reporting 5 or more years of lived experience. Many patients (83.7%, $n=227$) and care partners (68.3%, $n=220$) reported being involved or very involved in their care in partnership with their healthcare provider. Approximately one-fifth (21.7%, $n=89$) of seekers have not spoken to anyone about their mental health. Further details on participant characteristics are presented in Table 1.

Digital mental health use

Overall, 70.2% ($n=705$) of participants reported routine use of one or more digital mental health support(s) in the past year. Seekers less frequently reported routine use (62.4%, $n=256$) than patients (79.3%, $n=241$) and care partners (75.5%, $n=243$). Care partners (4.3 (SD 2.9)) and patients (4.1 (SD 2.5)) routinely used more supports on average than seekers (3.8 (SD 2.9)). The most common digital mental health supports routinely used across the three groups were: information searches

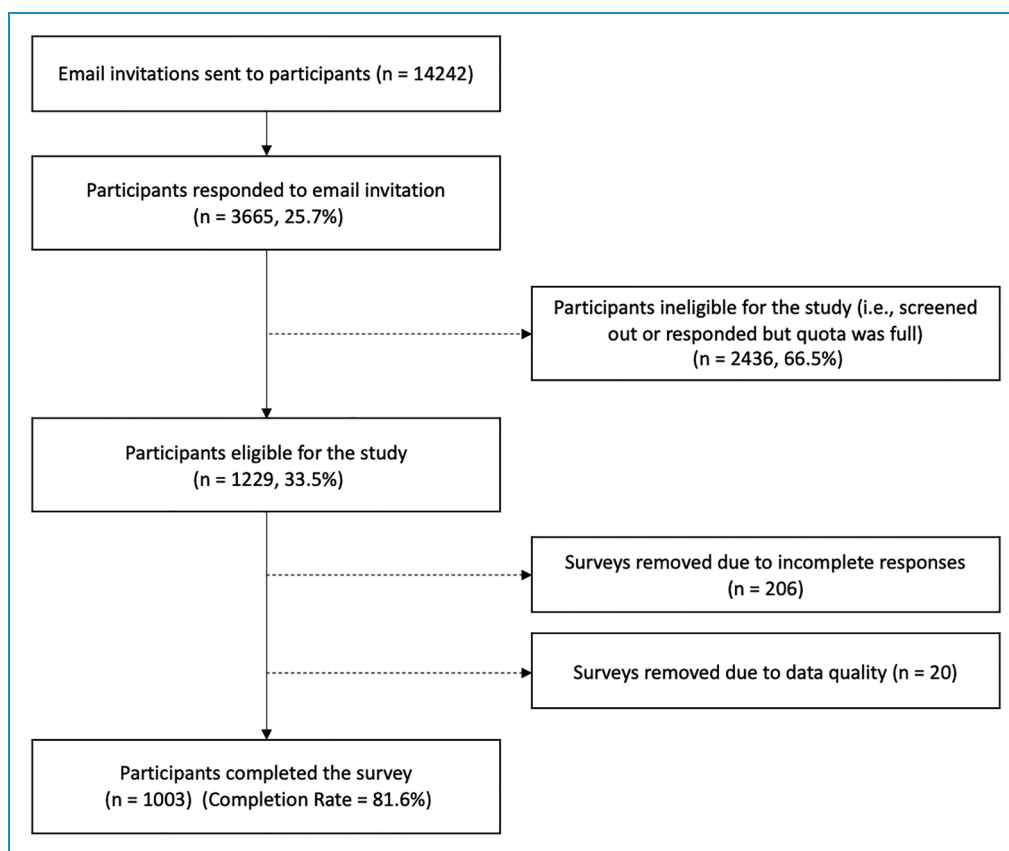


Figure 1. Survey response flow chart.

(52.2%, $n = 524$), mental wellness (38.7%, $n = 388$), and virtual care (33.9%, $n = 340$) (Table 2). Less than one-quarter of participants across user groups accessed their health records (range = 18.5–22.1%).

Digital mental health experiences

A minority of participants were satisfied with the current digital mental health supports available (28.6%, $n = 287$). Proportionally more patients (40.2%, $n = 109$) and care partners (32.6%, $n = 105$) expressed satisfaction than seekers (17.8%, $n = 73$). Some participants were not satisfied (11.7%, $n = 117$) or were unsure (36.1%, $n = 362$). Participants commonly used the internet to discover new supports (52.2%, $n = 524$). Approximately one-quarter to one-third of participants relied on healthcare providers (34.4%, $n = 345$), friends (25.3%, $n = 254$), and social media (23.6%, $n = 237$) to discover new supports. The top five characteristics that supported a participant's decision to test out new digital supports were affordability (2.2, (SD 1.9)), trustworthiness (2.1 (SD 1.9)), healthcare provider recommendation (1.9 (SD 1.9)), content-relevance (1.7 (SD 1.8)), and evidence-based (1.5 (SD 1.8)). Digital mental health use and experiences are summarized in Table 2.

Barriers limiting access to digital mental health supports

Nearly all (99.7%, $n = 1000$) participants had household internet access (i.e. home internet) (74.7%, $n = 749$) or mobile data (28.0%, $n = 281$). Most participants had access to a smartphone (82.7%, $n = 829$) or laptop (73.2%, $n = 734$) for personal use. Almost all participants had access to a private space to use the internet (98.5%, $n = 988$); however, 27.5% ($n = 276$) could only access a private space sometimes (Table 3).

Approximately three-quarters of participants experienced some barriers when accessing digital mental health supports (73.3%, $n = 735$). Proportionally more patients (35.1%, $n = 95$) and care partners (30.7%, $n = 99$) reported experiencing no barriers, when compared to seekers (18.0%, $n = 74$). Privacy and security concerns (33.0%, $n = 331$) and a lack of awareness of digital mental health supports (32.6%, $n = 327$) were the most common barriers experienced across the three groups. Lack of awareness was the top barrier for patients (29.2%, $n = 79$) and care partners (31.4%, $n = 101$). One-fifth of participants reported they generally prefer not to use technology to support their mental healthcare (21.2%, $n = 213$). Reasons for this preference and other barriers (2.9%, $n = 29$) identified in the free text are summarized in Table 4.

Table 1. Respondent characteristics by care status, $n = 1003$. Results reported as $(n (\%))$.

Variable	Overall ($n = 1003$)	Seeker ($n = 410$)	Patient ($n = 271$)	Care partner ($n = 322$)
Region				
Atlantic	68 (6.8)	24 (5.9)	14 (5.2)	30 (9.3)
Central	627 (62.5)	254 (62.0)	172 (63.5)	201 (62.4)
West	308 (30.7)	132 (32.2)	85 (31.4)	91 (28.3)
Age				
19–34	269 (26.8)	140 (34.1)	74 (27.3)	55 (17.1)
35–54	372 (37.1)	155 (37.8)	113 (41.7)	104 (32.3)
55+	362 (36.1)	115 (28.0)	84 (31.0)	163 (50.6)
Gender ^a				
Female	509 (50.7)	191 (46.6)	163 (60.1)	155 (48.1)
Male	488 (48.7)	217 (52.9)	104 (38.4)	167 (51.9)
Ethnicity				
White	731 (72.9)	261 (63.7)	219 (80.8)	251 (78.0)
Other ^b	247 (24.6)	137 (33.4)	49 (18.1)	61 (18.9)
Education				
High school not completed	19 (1.9)	6 (1.5)	6 (2.2)	7 (2.2)
High school	107 (10.7)	49 (12.0)	29 (10.7)	29 (9.0)
Post-secondary	869 (86.6)	351 (35.0)	235 (23.4)	283 (28.2)
Household income				
<\$79,999 (CAD)	421 (42.0)	199 (48.5)	124 (45.8)	98 (30.4)
>\$80,000 (CAD)	449 (44.8)	165 (40.2)	115 (42.4)	169 (52.5)
Residential area				
Urban	478 (47.7)	208 (50.7)	126 (46.5)	144 (44.7)
Sub-urban	394 (39.3)	163 (39.8)	100 (36.9)	131 (40.7)
Rural	131 (13.1)	39 (9.5)	45 (16.6)	47 (14.6)
Years of lived experience ^c				
Less than a year	258 (25.7)	152 (37.1)	68 (25.1)	38 (11.8)
1–2 years	256 (25.5)	138 (33.7)	53 (19.6)	65 (20.2)

(continued)

Table 1. Continued.

Variable	Overall (n=1003)	Seeker (n=410)	Patient (n=271)	Care partner (n=322)
3–4 years	133 (13.3)	51 (12.4)	41 (15.1)	41 (12.7)
5+ years	356 (35.5)	69 (16.8)	109 (40.2)	178 (55.3)
Involvement in care				
Very involved	-	-	121 (44.6)	97 (30.1)
Involved	-	-	106 (39.1)	123 (38.2)
Slightly involved	-	-	28 (10.3)	92 (28.6)
Not involved	-	89 (21.7) ^d	10 (3.7)	8 (2.5)

Notes: Not all variables will add up to 100%, prefer not to answer was included as an option.

^aGender: Other (6(0.6)).

^bEthnicities: “Other” were each less than 10% overall—(Asian East (70 (7.0)), Asian South (45 (4.5)), Asian South East (22 (2.2)), black (30 (3.0)), indigenous (19 (1.9)), Latin American (14 (1.4)), Middle Eastern (15 (1.5)), mixed heritage (13 (1.3)), other (19 (1.9)), not sure (3 (0.3)), prefer not to answer (22 (2.2)).

^cYears of lived experience refers to the number of years the individual has been affected by a mental health condition (i.e. seeker, patient, or care partner).

^d“Have not spoken to anyone about my mental health.”

CAD: canadian dollars.

Digital mental health priorities

Based on weighted average rankings, where a higher average indicates greater priority, curation tools (1.8, SD = 1.9), navigation tools (1.6, SD = 1.8), a digital mental health passport (1.5, SD = 1.8), and secure messaging (1.5, SD = 1.8) were rated as the top priorities in all three groups; however, the priority level varied by group. A digital mental health library was ranked among the top five for seekers and care partners, but not for patients. The priority rankings can be found in Figure 2.

The free-text responses (n=1003) generated 1012 units of analysis. Of these, 359 units (35.5%) were relevant and suggested the following priority areas: health information or peer-support (22.8%, n=82), secure messaging/virtual care (15.8%, n=57); equity/resources to support access (10.3%, n=37); monitoring conditions (9.2%, n=33); care coordination (5.3%, n=19); improving trust (4.2%, n=15); digital passport (3.6%, n=13); improved user experiences (3.3%, n=12); wellness (3.1%, n=11); integration with human care (3.6%, n=13); self-diagnosis tools (1.9%, n=7), personalized care programs (1.9%, n=7), awareness and curation tools (1.9%, n=7); therapy (2.8%, n=3), public engagement (2.8%, n=3), biometrics (0.3%, n=1), and clinician training (0.3%, n=1). Thirty-one participants (8.6%) suggested tools to support specific mental health conditions. There were 653 non-relevant responses (e.g. do not know (31.1%, n=315), nothing to add (25.6%, n=259), out of scope (7.8%, n=79)). Twenty-three participants used the space to advocate for greater access to mental healthcare.

Discussion

Digital mental health supports are commonly used to support Canadians affected by mental health conditions, as 70% of study participants reported using some form of digital mental health support for themselves or others. Health information searches, wellness, virtual care, and care coordination were the most common uses by participants, more so among patients and care partners than seekers. Despite the routine use, only 28% of participants reported being satisfied with the current offerings, while 36% reported being unsure. An explanation for why many are unsure may be attributed to the lack of awareness of digital mental health supports—a top barrier encountered by the participants and a reason for preferring not to use digital mental health supports. Unawareness is not exclusive to mental health as 23% of Canadians do not have enough information about the digital health services available to them.²¹ This deficiency suggests that improving public awareness of digital mental health supports should be a strategic focus.

Awareness also factored into the digital mental health priorities, as tools to help navigate the digital and in-person mental health environments were important to participants. Digital mental health curation tools and libraries were identified as top priorities. These supports would help individuals navigate the growing expanse of information and menu of digital mental health supports, especially given the largely unregulated digital health environment.³¹ Although participants used trustworthiness, healthcare provider endorsements, evidence-based, and affordability as heuristics in assessing the quality of support to use, there

Table 2. Digital mental health (DMH) use and experiences. Reported as (n (%)) unless indicated.

Variable	Overall (n = 1003)	Seeker (n = 410)	Patient (n = 271)	Care partner (n = 322)
DMH users	705 (70.2)	256 (62.4)	241 (79.3)	243 (75.5)
DMH supports routinely used ^a				
0	290 (28.9)	154 (37.6)	57 (21.0)	79 (24.5)
1–2	280 (27.9)	71 (17.3)	28 (10.3)	38 (11.8)
3–5	180 (18.7)	52 (12.7)	43 (15.9)	48 (14.9)
5+	245 (24.4)	79 (19.2)	74 (27.3)	92 (28.6)
Average DMH supports used ^b	4.0 (2.8)	3.8 (2.9)	4.1 (2.5)	4.3 (2.9)
Types of DMH used				
Health information search	524 (52.2)	187 (45.6)	145 (53.5)	192 (59.6)
Wellness	388 (38.7)	129 (31.5)	114 (42.1)	145 (45.0)
Virtual care	340 (33.9)	89 (21.7)	140 (51.7)	111 (34.5)
Care coordination	335 (33.4)	83 (20.2)	125 (46.1)	127 (39.4)
Activity/symptom tracking	235 (23.4)	83 (20.2)	62 (22.9)	90 (28.0)
Self-diagnosis	225 (22.4)	90 (22.0)	52 (19.2)	83 (25.8)
Online peer-support	213 (21.2)	83 (20.2)	54 (19.9)	76 (23.6)
Access records	197 (19.6)	76 (18.5)	60 (22.1)	61 (18.9)
Digital therapeutics	194 (19.3)	63 (15.4)	52 (19.2)	79 (24.5)
Mental health skills course	173 (17.2)	62 (15.1)	49 (18.1)	62 (19.3)
Satisfaction with DMH				
Yes	287 (28.6)	73 (17.8)	109 (40.2)	105 (32.6)
No	117 (11.7)	57 (13.9)	28 (10.3)	32 (9.9)
Unsure	362 (36.1)	178 (43.4)	71 (26.2)	113 (35.1)
I don't use	237 (23.6)	102 (24.9)	63 (23.2)	72 (22.4)
Discovery of DMH supports				
Internet	524 (52.2)	261 (63.7)	141 (52)	192 (59.6)
Healthcare provider	345 (34.4)	90 (22)	121 (44.6)	134 (41.6)
Friends	254 (25.3)	107 (26.1)	53 (19.6)	94 (29.2)
Social media	237 (23.6)	103 (25.1)	70 (25.8)	64 (19.9)

(continued)

Table 2. Continued.

Variable	Overall (n = 1003)	Seeker (n = 410)	Patient (n = 271)	Care partner (n = 322)
TV	109 (10.9)	43 (10.5)	22 (8.1)	44 (13.7)
Print	83 (8.3)	34 (8.3)	16 (5.9)	33 (10.2)
Other	65 (6.5)	23 (5.6)	26 (9.6)	16 (5.0)
Use heuristics ^c				
Free or affordable	2.2 (1.9)	2.4 (1.9)	2.1 (1.9)	2.1 (1.9)
Trustworthy source	2.1 (1.9)	2.1 (1.9)	2.1 (1.9)	2.1 (1.8)
HCP ^d recommended	1.9 (1.9)	1.5 (1.8)	2.2 (2.0)	2.1 (1.9)
Content relevance	1.7 (1.8)	1.7 (1.8)	2.0 (1.7)	1.5 (1.8)
Evidence-based	1.5 (1.8)	1.6 (1.8)	1.5 (1.8)	1.5 (1.7)
Perceived ease-of-use	1.5 (1.7)	1.5 (1.8)	1.3 (1.7)	1.7 (1.8)
Transparent privacy policy	1.3 (1.7)	1.3 (1.7)	1.3 (1.7)	1.3 (1.7)
Positive review	1.0 (1.6)	1.1 (1.7)	1.0 (1.6)	0.8 (1.4)
Accessibility considerations	0.9 (1.6)	0.8 (1.5)	0.8 (1.5)	1.0 (1.7)
Novelty	0.3 (1.0)	0.3 (0.9)	0.3 (0.9)	0.4 (1.2)
Appealing design/aesthetic	0.3 (1.0)	0.4 (1.1)	0.2 (0.8)	0.2 (0.9)

Notes: ^aRoutine use defined as used "less than once a month" or more.

^bPresented as Average (SD).

^cSelect top 5, presented as weighted average rank.

^dHCP = Healthcare provider.

is also skepticism about support offered in the marketplace. For instance, this study found the top reasons for preferring not to use digital supports included a fear that technology would replace the human touch and the notion that these supports are neither effective, useful, nor trustworthy. Privacy and security concerns were also identified as a top barrier for participants. There is a societal need to foster trust by modernizing privacy practices and improving transparency of how vendors market their products and handle patient data.^{31–34} Correspondingly, improving digital health literacy may help address these concerns and may empower potential users to make informed choices when determining the suitability of digital mental health supports in their care journey.³⁵ For these strategies to be meaningful, the issue of affordability for individuals wanting to use digital supports also needs to be addressed.^{15,36}

Secondly, digital mental health supports to help navigate the mental healthcare system were highly prioritized, especially by seekers and care partners. Navigating the

complexities of the mental healthcare system is burdensome and often individuals encounter poor integration of services across health sectors.^{37,38} Despite being a well-recognized need,³⁹ the lack of viable digital navigation tools remains a barrier to effectively and promptly linking seekers to appropriate services. This navigational need echoes similar calls for the health system to provide digital navigators to support individuals moving through the care continuum.^{5,40} Given the growing prevalence of depression and anxiety during the COVID-19 pandemic,^{7,12} tactics on how this population can be supported digitally should be a fundamental component in any digital mental health strategy.

Participants also prioritized access to and control of their health records (i.e. digital mental health passport) as less than one-fifth of participants had online access to their records. Patient access to their records is a longstanding issue in mental health settings.⁴¹ Having timely and consistent access to personal health information can empower individuals as custodians of their health information and facilitate enhanced care quality and outcomes.⁴² Enabling

Table 3. Barriers to limiting access to digital mental health supports (DMH). Reported as (n (%)).

Variable	Overall (n = 1003)	Seeker (n = 410)	Patient (n = 271)	Care partner (n = 322)
Internet access				
Home internet only	719 (71.7)	306 (74.6)	177 (65.3)	236 (73.3)
Home and mobile data	30 (3.0)	12 (2.9)	9 (3.3)	9 (2.8)
Mobile data only	251 (25.0)	90 (22.0)	85 (31.4)	76 (23.6)
No access	3 (0.3)	2 (0.5)	0 (0.0)	1 (0.3)
Device access				
Smartphone	829 (82.7)	344 (83.9)	229 (84.5)	256 (79.5)
Laptop	734 (73.2)	294 (71.7)	211 (77.9)	229 (71.1)
Tablet	496 (49.5)	187 (45.6)	123 (45.4)	186 (57.8)
Desktop	415 (41.4)	168 (41.0)	104 (38.4)	143 (44.4)
Media streaming device	146 (14.6)	59 (14.4)	36 (13.3)	51 (15.8)
Other	79 (7.9)	35 (8.5)	20 (7.4)	24 (7.5)
Access to private space				
All the time	712 (71.0)	277 (67.6)	211 (77.9)	224 (69.6)
Sometimes	276 (27.5)	125 (30.5)	57 (21.0)	94 (29.2)
Never	15 (1.5)	8 (2.0)	3 (1.1)	4 (1.2)
Barriers to accessing DMH				
Privacy/security concerns	331 (33.0)	169 (41.2)	63 (23.2)	99 (30.7)
Awareness of DMH	327 (32.6)	147 (35.9)	79 (29.2)	101 (31.4)
Cost of DMH services	221 (22.0)	117 (28.5)	52 (19.2)	52 (16.1)
Cost of equipment	161 (16.1)	76 (18.5)	42 (15.5)	43 (13.4)
Require support	88 (8.8)	43 (10.5)	13 (4.8)	32 (9.9)
Limited access to Internet	38 (3.8)	17 (4.1)	7 (2.6)	14 (4.3)
Limited access to devices	33 (3.3)	17 (4.1)	6 (2.2)	10 (3.1)
Prefer not to use	213 (21.2)	104 (25.4)	60 (22.1)	49 (15.2)
No barriers	268 (26.7)	74 (18.0)	95 (35.1)	99 (30.7)
Other	29 (2.9)	13 (3.2)	10 (3.7)	6 (1.9)

Table 4. Summary of free-text responses on other experienced barriers and preference to not use digital mental health (DMH) supports.

Question (n)	Theme (n)	Example (n)
Other barriers experienced (29)	Perceived effectiveness (7)	<i>"Find that I do not get full use of online help"</i> [Participant 2163]
	Not ready (7)	Awareness (3)– <i>"Lack of awareness of existence of DMH tools"</i> [Participant 1574] Self-readiness (2)– <i>"Pas prête de gérer ma santé mentale (not ready to deal with my mental health)"</i> [Participant 1515] Not needed (2)– <i>"Ma mère ne recherche pas activement des services (My mother is not actively seeking services)"</i> [Participant 926]
	Privacy issues (7)	<i>"Anyone can screenshot a video call"</i> [Participant 496] No private space (2)– <i>"Concerns about privacy of online meetings with medical professionals from other people within the household"</i> [Participant 2646]
	Need resources (4)	<i>"Lack of resources for my mental health issues"</i> [Participant 2088]
	Time (3)	<i>"Available time"</i> [Participant 112]
Reasons for preferring not to use DMH supports (n = 223) ^a	Need human touch (83)	<i>"I prefer speaking to someone in person as opposed to electronic—each situation is unique and doesn't always fit into the digitals tools"</i> [Participant 633]
	Not trustworthy (59)	<i>"Not fully convinced of legitimacy of provider"</i> [Participant 607]
	Perceived usefulness (31)	<i>"Don't believe they are right for me or will help me or will teach me anything new."</i> [Participant 279]
	Questions about effectiveness (21)	<i>"Pas toujours fiable (not always reliable)"</i> [Participant 1787]
	Awareness (9)	<i>"Not sure which ones to use, there's millions"</i> [Participant 470]
	Screen time (8)	<i>"I don't need another excuse to be on my phone"</i> [Participant 1114]
	Digital literacy (7)	<i>"Not comfortable with technology"</i> [Participant 1889]
	Inconvenient (4)	<i>"Onerous and impersonal"</i> [Participant 1315]
	Other: "I don't know" (4); barriers to access (3); not primary user (2), apathy (1)	

Note: ^aSome respondents provided multiple reasons in free text.

patient access can also potentially address the problems that have either emerged or been exacerbated by the COVID-19 pandemic.⁴³ Secure messaging with healthcare providers is another longstanding issue that has only become recently addressed through the pandemic response.^{44,45} Although chatbots and interactive voice response technologies have great potential to meet patient information needs, they were ranked last in the priorities, possibly because they are "devoid" of the human element of care. The integration of these innovations into care was prioritized by patients, hence, delivering digital care through a blended care or

hybrid care approach may serve to mitigate distrust in and improve acceptance of digital mental health supports.⁴⁶

Strengths and limitations

This study explores the current digital mental health experiences and future digital mental health needs of Canadians affected by mental health conditions. As seen globally, there has been an increase in the use of digital mental health supports during COVID-19.⁴⁷ In a national survey of Americans, it was found that Americans who were

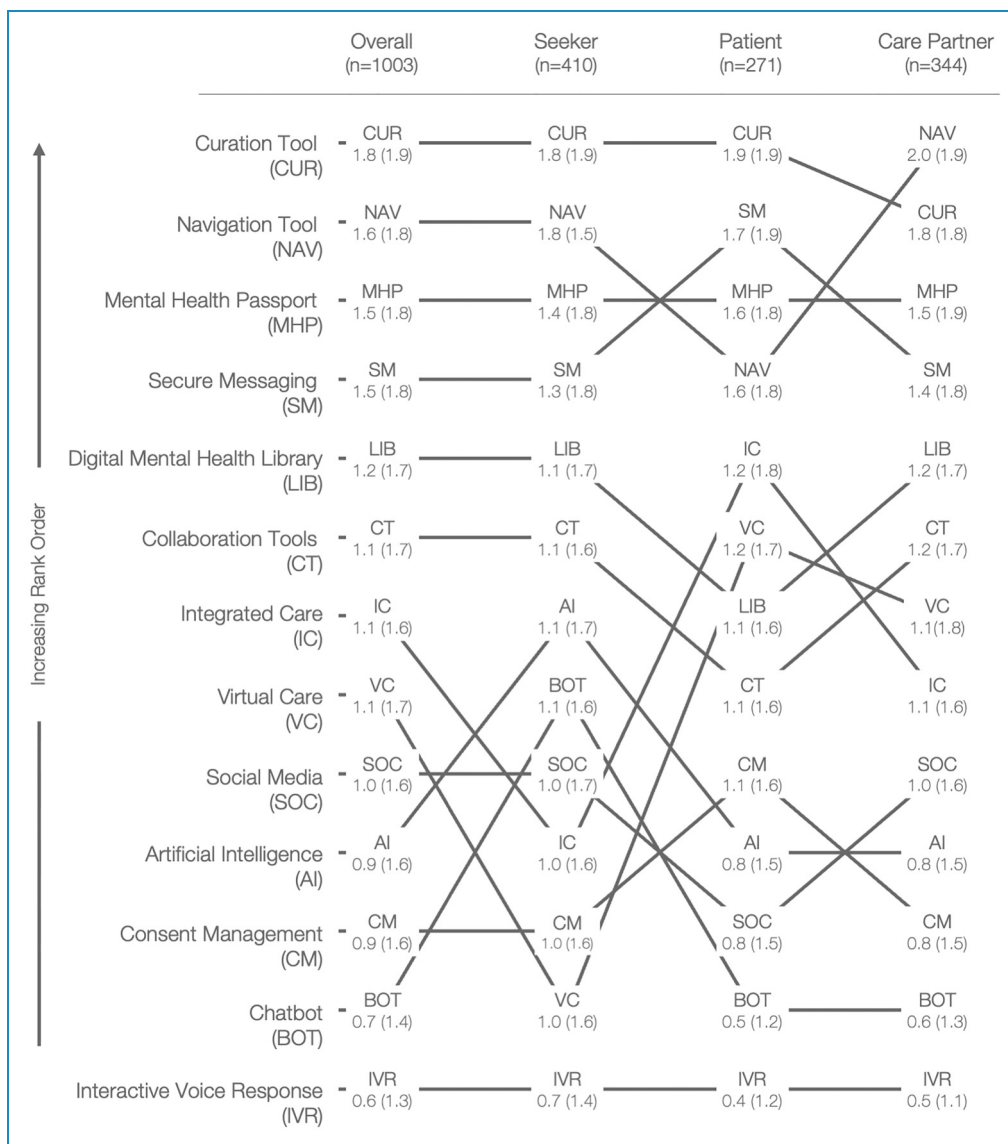


Figure 2. Digital mental health priorities for Canadians affected by mental health conditions. (Priorities ranked by weighted average score noted as average (SD), where each column indicates where the priority ranks relative to the other priorities. Trendlines indicate the relative ranking between the three groups.)

greatly impacted by COVID-19 were more likely to use digital mental health supports;⁴⁸ moreover, another survey found that there has been an increase in digital mental health use in Australia and New Zealand during the pandemic.⁴⁹ These trends highlight the existing and growing demand for digital mental health supports as the pandemic endures, further strengthening the value proposition of digital mental health.¹⁷ To better forecast needs, this study explored the current digital mental health experiences of those that may need support. Understanding these perspectives is critical in developing strategies, policies, and programs to effectively reach those seeking digital mental health support. Lastly, this study explored the potential unmet needs of digital mental health supports for seekers

—a segment of the population that may be an externality of the public health measures slowing the COVID-19 pandemic.^{50–53} By taking a prospective approach to this growing group, these findings provide insights for digital mental health initiatives and strategies to proactively anticipate future needs. To our knowledge, this is the first study to take this prospective approach and is a novel contribution to this growing field.

Although these findings provide a novel contribution, these findings are exploratory as there are acknowledged limitations inherent in web-panel studies. The use of a web panel limits the generalizability and representativeness since participants are not randomly selected. A quota sampling strategy was employed to approximate the populations of the Canadian

provinces as accurately as possible using age, geography, and sex. Quota sampling in web surveys have shown to be an effective strategy for valid data collection.⁵⁴ The strategy, however, excluded residents of the Canadian Territories which make up 0.32% of the Canadian population.⁵⁵ Furthermore, a significant proportion of the population in these arctic territories lack access to the internet due to the lack of broadband infrastructure.⁵⁶ Limitations to the sample representativeness include a skewing towards a higher income bracket and underrepresentation of racialized groups (e.g. Indigenous Peoples and Communities). The web-based administration also limits participation by those who do not have access or are not comfortable with using technology and the internet. While recent federal efforts have resulted in affordable broadband access to 94% of Canadians,^{57,58} which may reduce the potential bias of a web-based survey, other digital divide factors, such as a lack of digital literacy, may hinder participation and must be considered. Another source of bias is the low response rate; however, this rate is consistent with other web-panel studies^{57,59–64} and is expected for population surveys of this length administered on the web and without financial incentive.⁶⁵ Lastly, the cross-sectional design provides a snapshot of the experience and needs of the population, especially with the dynamic nature of jurisdictional pandemic responses and their impact on Canadians. This survey was conducted during a period of high COVID-19 case counts across the country and strict public health restrictions were implemented to reduce the spread. Given the different population needs of different jurisdictions and organizations, further research and patient engagement are required to deepen understanding of these digital mental health priorities and validate for specific contexts. These findings are one phase of a needs assessment of patients and families at the authors' home institution (CAMH), intended to inform future system design, capacity building, and expansion of digital mental health initiatives. Future engagement will include and target the perspectives of underrepresented communities to obtain a more fulsome understanding of the experiences and needs of current and future mental health system users.

Conclusions

Given the ubiquity of digital mental health use in this study, there is great potential for these supports to alleviate a resource-limited and overburdened mental healthcare system, while addressing the pressing digital mental health needs and priorities of Canadians. To realize this potential, jurisdictional health systems should utilize a systemic approach to plan and align their digital health strategies, policies, and innovations to benefit those in most need. Efforts must also be placed on understanding those who simply prefer not to use these digital supports for their mental health and the underlying reasons for their preferences. This understanding will inform solutions for this population and prevent the exacerbation of the divide in

accessing care, both digitally and in person. To avoid creating unintended barriers to access, it is imperative that mental health system users are engaged at the forefront of the conceptualization, design, development, and implementation of digital mental health strategies, policies, and innovations—especially at the appropriate level (i.e. federal, provincial, municipal, organizational). Through engagement and collaboration with seekers, patients, and care partners, developers of digital mental health tools may foster enhanced trust in their tools, producing tools that will meet the growing needs of the Canadian population.

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Guarantor: NS.

ORCID iDs: Nelson Shen  <https://orcid.org/0000-0003-1788-8176>

Iman Kassam  <https://orcid.org/0000-0001-9920-3243>

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