

ENVIRONMENTAL SCAN

Internet-Delivered Cognitive Behavioural Therapy for Major Depressive Disorder and Anxiety Disorders: An Environmental Scan

Service Line: Environmental Scan
Issue Number: 78
Publication Date: September 2018
Report Length: 27 Pages

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Cite As: *Internet-Delivered Cognitive Behavioural Therapy for Major Depressive Disorder and Anxiety Disorders*. Ottawa: CADTH; 2018. (Environmental scan; no. 78).

Acknowledgments: Production of this report was made possible by financial contributions from Health Canada and the governments of Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Nunavut, Prince Edward Island, Saskatchewan, and Yukon.

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Funding: CADTH receives funding from Canada's federal, provincial, and territorial governments, with the exception of Quebec.

Context

Depression and anxiety disorders are prevalent mental health conditions associated with decreased quality of life, and increased mortality and economic burden on both individuals and health care systems.¹⁻⁴ Major depressive disorder (MDD), which is characterized by persistent low mood across most situations for at least two weeks, is projected to be the leading cause of disease burden in high-income countries by the year 2030.^{5,6} Anxiety disorders, including generalized anxiety disorder, panic disorder, agoraphobia, social anxiety disorder, and specific phobias are estimated to have a lifetime prevalence of 28.8%.⁷ Fortunately, patients suffering from these conditions have several treatment options to help manage their symptoms, including pharmacotherapy, psychotherapy, or a combination of both.

Cognitive behavioural therapy (CBT) is an effective type of psychotherapy for the management of a wide range of mental health conditions, including depression and anxiety disorders, with a majority of patients showing clinically significant improvements following treatment.^{8,9} Traditionally offered in the format of face-to-face sessions, CBT combines the principles of cognitive and behavioural therapies to provide patients with the coping strategies and mechanisms to solve current problems and to change dysfunctional thoughts, behaviours, beliefs, and attitudes.¹⁰ Some of the techniques utilized in CBT include graded exposure, relaxation training, challenging negative automatic thoughts, activity scheduling, social skills training, and behavioural experiments.^{10,11} In order for CBT to be successfully delivered, patients and providers must overcome challenges such as perceived stigma, high cost, poor access to treatment in rural areas, long wait times, privacy issues (e.g., sharing of personal information with clinicians or with other patients in group CBT programs), and lack of trained clinicians.¹² Internet-delivered CBT (iCBT), has been proposed as an alternative option to overcome some of these barriers.⁸

iCBT programs are typically comprised of a series of self-contained modules based on the principles of CBT and can be accessed using a computer or mobile device.¹³ The level of therapist support, duration of the therapies, overall structure and cost varies depending on the characteristics of the individual program. While iCBT may potentially offer solutions to some of the challenges associated with traditional face-to-face CBT, the effective implementation of iCBT programs requires individuals to overcome a number of other barriers, including privacy issues (e.g., concerns of secured Internet connections, online sharing of personal information, or use of shared computers to access treatment), change in the clinical culture, lack of trained providers, financial considerations, negative perceptions of clinical effectiveness of this type of treatment, lack of information, and issues with communication technology.¹⁴

In light of these issues, the purpose of this Environmental Scan is to identify existing or developing iCBT programs for treating patients with MDD and anxiety disorders, to describe the relevant facilitators and barriers to implementation of these programs, and to explore the range of strategies that have been used to establish iCBT programs across Canadian jurisdictions.

Objectives

The objective of this Environmental Scan is to identify and summarize information regarding the current practice and the implementation of internet-delivered cognitive behaviour therapy programs for major depressive disorder and anxiety disorders in Canada. The following questions are addressed:

1. What are the existing or developing internet-delivered cognitive behaviour therapy programs for major depressive disorder and anxiety disorders across Canada?
2. What are the facilitators and barriers to the implementation of internet-delivered cognitive behaviour therapy for major depressive disorder and anxiety disorders across Canada?
3. What strategies (including quality improvement frameworks) have been used to facilitate the implementation of internet-delivered cognitive behaviour therapy in Canada?

Information retrieved and summarized in this Environment Scan will be used to inform the Health Quality Ontario (HQO) and CADTH collaborative project entitled "Internet-Delivered Cognitive Behavioural Therapy for Major Depressive Disorder and Anxiety Disorders: A Health Technology Assessment" as well the accompanying Optimal Use recommendations.

Methods

Approach

To understand implementation issues associated with the use of iCBT in Canada, the Internet-Delivered Cognitive Behavioural Therapy for Major Depressive Disorder and Anxiety Disorders Survey (Appendix 1) was developed and distributed to stakeholders involved in the delivery or development of iCBT programs.

For the purposes of this Environmental Scan, iCBT is defined as any internet-delivered intervention encompassing the principles of CBT. Anxiety disorders refer to those listed in the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition* (DSM-5), including generalized anxiety disorder, panic disorder, social anxiety disorder, agoraphobia, and specific phobias.¹⁵

Data Collection

A 25-question survey was developed and revised following review and pilot testing by three content experts. The questionnaire was distributed to stakeholder contacts by email on July 6, 2018, and administered using the Hosted in Canada Surveys online platform. The survey included questions that required dichotomous (e.g., Yes/No), nominal (e.g., list of options), and free-text responses. Stakeholder contacts were identified by CADTH staff, through professional and clinical networks, or by referral through other survey respondents. The goal of stakeholder recruitment was to obtain a sample that was representative of all Canadian provinces and territories, and to include responses from a wide range of allied health professionals. These included family physicians, psychologists, psychiatrists, nurses, social workers, other mental health professionals, information management professionals,

online CBT platform developers, employee assistance program providers, administrators of health care facilities, and policy-makers.

The findings presented in this Environmental Scan are informed by responses to the Internet-Delivered Cognitive Behavioural Therapy for Major Depressive Disorder and Anxiety Disorders Survey (Appendix 1), gathered between July 6 and July 27, 2018. The original cut-off date for survey responses was July 20, 2018; however, the deadline was extended until July 27, 2018, in order to accommodate respondents who required additional time. A response was considered partially completed if one or more questions were not filled out by the respondent. In cases where an individual submitted multiple responses, only the most recent response was considered for analysis. If a respondent indicated their facility or jurisdiction was outside of Canada their responses were excluded from analysis. All respondents gave explicit written permission to use the provided information for the purpose of this report.

Descriptive Analysis and Synthesis

The INTEGRATE-HTA¹⁶ Context and Implementation of Complex Interventions (CICI) framework was used to guide the identification of themes related to enablers and barriers associated with the implementation of iCBT in the Canadian setting as reported by the survey respondents. This framework helps examine the influence of two interacting dimensions, context and implementation, on the intervention uptake, reach, effectiveness, generalizability, and applicability.¹⁶ The dimension of context within the framework is considered to be a set of characteristics or circumstances that interact, influence, modify, facilitate, or constrain the intervention and its implementation. The implementation dimension is considered to be an actively planned and deliberately initiated effort with the intention to bring a given object into policy and/or practice.

Using this framework, the seven domains of context, which are geographical, setting, socio-economic, socio-cultural, political, legal, and epidemiological, were used to guide the categorization of information on enablers and challenges of the use of iCBT in Canadian jurisdictions. The four domains of implementation (i.e., provider, organization and structure, funding, and policy) as well as the additional domain of 'intervention' were used to further guide the categorization of identified strategies, barriers, or supports as they relate to the implementation of iCBT across the various levels of health care service delivery.

Findings

Survey

At least 104 contacts received the survey directly from CADTH. However, due to the nature of survey distribution, which also included referrals, word of mouth, and our targeted efforts, the exact number of stakeholders receiving the survey may not be quantifiable. Following the removal of duplicates (three respondents submitted two surveys each, only the most recent response was considered for the analysis) and responses from those outside of Canada (one response), a total of 24 survey responses were retrieved. These included 16 complete responses and eight partial responses. Respondents were from the following provinces: Alberta (one response), British Columbia (two responses), Manitoba (three responses), New Brunswick (one response), Newfoundland and Labrador (two responses), Nova Scotia (four

responses), Ontario (seven responses), Prince Edward Island (one response), Quebec (one response), and Saskatchewan (two responses). A list of participating organizations is presented in Appendix 2 (Table A1), along with additional background characteristics of survey respondents (Table A2). Only feedback from respondents who gave consent to use their survey information for the purpose of this report was included (consent was provided by all 24 respondents).

The findings of this report are presented by research question.

1. What Are the Existing or Developing iCBT Programs for MDD and Anxiety Disorders Across Canada?

Sixteen survey respondents from various Canadian provinces (Alberta, Manitoba, Newfoundland and Labrador, Nova Scotia, Ontario, Quebec, and Saskatchewan) provided information on the iCBT programs available in their respective facility or jurisdiction (survey question #3). No responses were received from individuals in British Columbia, New Brunswick, Prince Edward Island, Northwest Territories, Nunavut, or Yukon. In addition, respondents were asked to provide information on iCBT programs offered in other health facilities or jurisdictions that they were aware of (survey question #23). A summary of the existing iCBT programs for MDD and anxiety disorders available in Canada as identified in the survey responses are presented in Table 1.

Table 1: iCBT Programs for MDD and Anxiety Disorders Available in Canada

Program Name	Provincial and Territorial Availability	Program Website
BEACON	Across Canada	www.mindbeacon.com
Big White Wall	Across Canada	www.bigwhitewall.ca
BREATHE	Across Canada	www.thebreathestudy.com
eGuru	Across Canada	www.eguru4life.com
Finding Wellness	Manitoba	www.findingwellness.ca
Health EnSuite	Across Canada	www.healthensuite.com/
Kelty's Key	Across Canada	www.keltyskey.com
Morneau Shepell's iCBT program	Across Canada	www.morneaushepell.com/ca-en/internet-based-cognitive-behaviour-therapy-icbt
Scarborough Hospital's iCBT program	Ontario	www.tsh.to/areas-of-care/mental-health/adult-outpatient-program/
Strongest Families	Across Canada	www.StrongestFamilies.com
Therapist Assistance Online	Newfoundland and Labrador	www.mun.ca/counselling/home/tao.php
Thinkladder	Across Canada	www.thinkladder.com
Tranquility Online	Across Canada	www.tranquilityonline.co
Wellbeing Course - Online Therapy Unit	Saskatchewan	www.onlinetherapyuser.ca
WellTrack	Across Canada	www.welltrack.com

Notes: Provincial availability was determined by the information available on the program's website.

These results indicate that iCBT is currently available in all 13 Canadian provinces and territories. Eleven of the identified programs were available throughout Canada, while four programs appeared to be available only within specific provinces. It should be noted that while all 15 of the programs identified by respondents are internet-delivered and based on the principles of CBT, the characteristics of the individual programs vary. For example, the Online Therapy Unit offers a Wellbeing Course for patients with depression or anxiety that provides patients with therapist assistance through a secure message system in addition to the iCBT material. Other programs (e.g., Tranquility Online) offer alternative levels of “coach” support and multiple options for patients to work through their CBT material, including one-on-one coaching, webcast group sessions, and a self-help approach. The financial cost of these programs will also vary depending on their individual characteristics.

In order to help understand the contexts under which these iCBT programs are offered in Canada, survey respondents were asked for what purposes iCBT is currently being used in their practice, facility, or jurisdiction (survey question #6). These results are presented in Table 2.

Table 2: Use of iCBT Programs for MDD and Anxiety Disorders in Canada

Purpose	Number of Responses (% of Total) ^a (24 Total Responses)
For patients who are interested (through self-referral)	15 (62.5%)
As a complement to standard care	10 (41.7%)
For patients who have been referred by a clinician	9 (37.5%)
As a stand-alone treatment	8 (33.3%)
Offered to the general population as a preventive strategy	6 (25.0%)
Other:	
Through benefits provided by insurers and employers	1 (4.2%)
For patients who are referred by a disability case manager	1 (4.2%)
iCBT is not currently offered	6 (25.0%)

Notes: Respondents were able to select multiple answers as iCBT could be available for many of the above purposes.

^a These percentages may not be applicable to a wider population of health care professionals.

Respondents indicated that iCBT is most commonly offered to patients who are interested, through self-referral (n = 15, 62.5%). iCBT is also offered as a complement to standard care (n = 10, 41.7%), for patients who have been referred by a clinician (n = 9, 37.5%), as a stand-alone treatment (n = 8, 33.3%), and as a preventive strategy offered to the general population (n = 6, 25.0%). Six respondents (25%) indicated they were unable to provide an answer for this question as their facility or jurisdiction does not currently offer iCBT to patients directly.

2. What Are the Facilitators and Barriers to the Implementation of iCBT for MDD and Anxiety Disorders Across Canada?

Facilitators

Sixteen survey respondents from various Canadian provinces (Alberta, Manitoba, Newfoundland and Labrador, Nova Scotia, Ontario, Quebec, and Saskatchewan) provided

information on what they considered to be the most important facilitators to the implementation of iCBT for MDD and anxiety disorders across Canada. These results are presented in Table 3.

Table 3: Facilitators to the Implementation of iCBT for MDD and Anxiety Disorders in Canada

Survey Question	Response	Number of Responses (% of Total) ^a
What policies have facilitated or would facilitate the implementation of iCBT in your facility or jurisdiction? (16 total responses; multiple answers were accepted)	Policies driven by government interest	10 (62.5%)
	Funding and reimbursement policies	8 (50.0%)
	Policies driven by public interest	3 (18.8%)
	Do not know	3 (18.8%)
	Other	2 (12.5%)
What patient-related factors have facilitated or would facilitate the implementation of iCBT in your facility or jurisdiction? (16 total responses; multiple answers were accepted)	Convenience	15 (93.8%)
	Clinical effectiveness	14 (87.5%)
	Other financial benefits ^b	13 (81.3%)
	Satisfaction with care	13 (81.3%)
	Recommended by a health care provider	13 (81.3%)
	Access	12 (75.0%)
	Preference (over face-to-face CBT)	11 (68.8%)
	Absence of feasible alternatives	11 (68.8%)
	Involves greater self-management	10 (62.5%)
	Insurance coverage and reimbursement	9 (56.3%)
	Privacy (compared with face-to-face CBT)	8 (50.0%)
	Option for choice of language of instruction	7 (43.8%)
	Curiosity	5 (31.3%)
	Do not know	1 (6.3%)
Other	2 (12.5%)	
What clinician-related factors have facilitated or would facilitate the implementation of iCBT in your facility or jurisdiction? (16 total responses; multiple answers were accepted)	Therapy fits into patient's routine schedule	15 (93.8%)
	Efficiency in clinical practice	14 (87.5%)
	Reaching patients that otherwise would be unreachable	14 (87.5%)
	Training, knowledge, or experience with iCBT	12 (75.0%)
	Preference for this treatment option over other forms of therapy	10 (62.5%)
	Financial benefits	9 (56.3%)
	Desire to improve skills	8 (50.0%)
	Job opportunity	5 (31.3%)
	Do not know	1 (6.3%)
	Other	2 (12.5%)
What organizational factors have facilitated or would facilitate the implementation of iCBT in your facility or jurisdiction? (16 total responses; multiple answers were accepted)	Improvement in patients' experiences	14 (87.5%)
	Allows more efficient use of resources	13 (81.3%)
	Improvement in clinicians' experiences	12 (75.0%)
	Reaching more patients or serving a broader population	12 (75.0%)
	Commitment to improving services	12 (75.0%)
	Easier option to track outcomes	12 (75.0%)
	Within mandate or policy	11 (68.8%)
	Financial benefit	10 (62.5%)
	Interest of funders in technology-based solutions	10 (62.5%)
	Do not know	1 (6.3%)
	Other	1 (6.3%)

Survey Question	Response	Number of Responses (% of Total) ^a
Do you have additional comments about factors that facilitated or would facilitate the implementation of iCBT? (16 total responses)	Yes	11 (68.8%)
	No	5 (31.3%)

^a These percentages may not be applicable to a wider population of health care professionals.

^b Included transportation cost savings, not missing work, etc.

Several additional enablers and facilitators of iCBT were identified by survey respondents. For patients, factors such as having improved user interface and chat bot navigation, confidentiality, lack of a wait list, and the data richness of iCBT were mentioned as potentially facilitating the implementation of iCBT. From the perspective of clinicians, factors such as convenience to therapists working remotely, better assessment and triage capabilities, development of clinical workflow plans, ongoing symptom monitoring and reduction measurement, and the ability to take into account comorbidities to coordinate care were brought up as facilitators for iCBT implementation. Finally, from the perspective of organizations, improving provider fidelity to iCBT, a better understanding of the return on investment to organizations, guaranteed longer-term funding, integrating transitions to and from community care, using multidisciplinary teams in the implementation of iCBT, strong leadership, and developing economic models that support the use of iCBT were mentioned as additional organizational factors that could facilitate the implementation of iCBT.

Barriers

Sixteen survey respondents from various Canadian provinces (Alberta, Manitoba, Newfoundland and Labrador, Nova Scotia, Ontario, Quebec, and Saskatchewan) provided information on what they considered to be the most important barriers to the implementation of iCBT for MDD and anxiety disorders across Canada. These results are presented in Table 4.

Table 4: Barriers to the Implementation of iCBT for MDD and Anxiety Disorders in Canada

Survey Question	Response	Number of Responses (% of Total) ^a
What policies have you or your organization identified as barriers to implementing iCBT? (16 total responses; multiple answers were accepted)	Funding and reimbursement policies	7 (43.8%)
	Policies driven by government interest	6 (37.5%)
	Policies driven by public interest	2 (12.5%)
	Do not know	5 (31.3%)
	Other	3 (18.8%)
What patient-related factors have you or your organization identified as barriers to implementing iCBT? (16 total responses; multiple answers were accepted)	Lack of knowledge about iCBT	13 (81.3%)
	Preference for in-person or other treatment options	10 (62.5%)
	Negative perceptions about effectiveness	9 (56.3%)
	Financial issues	8 (50.0%)
	Higher severity and complexity of diagnosis	8 (50.0%)
	Difficulty using the program due to limited literacy skills	7 (43.8%)
	Lack of available devices or adequate connection to the Internet	7 (43.8%)
	Computer anxiety	6 (37.5%)
	Unfamiliar with technology	5 (31.3%)
	Difficulty using the program due to language of instruction	5 (31.3%)
Lack of privacy	4 (25.0%)	

Survey Question	Response	Number of Responses (% of Total) ^a
	Do not know	1 (6.3%)
	Other	1 (6.3%)
What clinician-related factors have you or your organization identified as barriers to implementing iCBT? (16 total responses; multiple answers were accepted)	Preference for in-person treatment or other treatment options	11 (68.8%)
	Lack of education and training on CBT	10 (62.5%)
	Lack of training on iCBT and delivering services via distance	10 (62.5%)
	Financial losses	7 (43.8%)
	Professional liability	6 (37.5%)
	Lack of available devices or adequate connection to the Internet	3 (18.8%)
	Difficulty using the program due to limited computer skills	3 (18.8%)
	Do not know	2 (12.5%)
	Other	3 (18.8%)
What organizational factors have you or your organization identified as barriers to implementing iCBT? (16 total responses; multiple answers were accepted)	Organizational culture	8 (50.0%)
	Legal issues/liability	7 (43.8%)
	Resources ^b	6 (37.5%)
	Not within mandate or lack of relevant policies and procedures	4 (25.0%)
	Do not know	2 (12.5%)
	Other	1 (6.3%)
Are you aware of other challenges to the implementation of iCBT? (16 total responses)	Yes	5 (31.3%)
	No	11 (68.8%)

^a These percentages may not be applicable to a wider population of health care professionals.

^b Included patient or clinician time, funding, Internet devices (e.g., computer, smartphone), personnel, and Internet connectivity.

Several additional barriers to the implementation of iCBT that were not included in the survey were identified by respondents. For example, one respondent indicated that there can be provincial policies in place that restrict clinicians to provide iCBT within their home province. Insufficient access to structured psychotherapy for patients, funders focused on traditional care, lack of accurate costing assessments, failure of previous high volume but low efficacy iCBT programs, procurement policies that pose a challenge for startups to access funding, lack of coverage under Medicare and most private insurance programs, and the complex landscape that involves multiple decision-makers were also mentioned as potential factors hindering the implementation of iCBT.

Implementation Considerations

The various factors (i.e., enablers and barriers) that influence implementation of iCBT as identified by the survey respondents were further sorted into categories based on the 13 domains identified by the INTEGRATE-HTA CICI framework (the context dimension has seven domains while the implementation dimension has six).¹⁶

Domains of Context

Geography and Setting

The INTEGRATE-HTA domain of *geography* refers to the broader physical environment, landscapes and resources, available at a given location. Issues of geography can refer to infrastructure (e.g., transportation), access to health care, and geographical isolation.¹⁶

The *setting* domain encompasses the immediate physical and organizational environment in

which an intervention is delivered. Issues of setting can refer to region, country, urban or rural setting, or type of facility.¹⁶

The geographic diversity of Canada often poses a challenge for facilitating equitable access to health care across the country. However, given that iCBT can be offered remotely to patients in any location with an Internet connection, this was viewed as a facilitating factor by a large number of survey respondents. Indeed, survey respondents cited increased patient access (n = 12, 75.0%), and the ability to reach patients and populations that would otherwise be unreachable with face-to-face therapies from the perspective of the clinician (n = 14, 87.5%) and the organization (n = 12, 75.0%) as facilitators to the implementation of iCBT. Of the 24 survey responses received, 21 respondents or 87.5% indicated that they currently provide treatment to individuals living in rural areas and 13 respondents or 54.2% to individuals living in remote locations (Appendix 2, Table A2 for these results).

Socio-Cultural and Socio-Economic

The *socio-cultural* domain consists of explicit and implicit behaviour patterns that are a product of the conditions in which people are born, grow, live, work, as well as their age.¹⁶ The social roles a human being takes on as a family member, community member, or citizen and the relationships inherent to these roles are included.¹⁶ Knowledge, beliefs, conceptions, customs, and any other capabilities and habits acquired by a group are embraced by this domain.¹⁶ The *socio-economic* domain comprises the social and economic resources of a community and the access of a population to these resources.¹⁶

Several factors identified by survey respondents can be categorized into these two domains. Patient preference for iCBT (n = 11, 68.8%) and privacy over traditional face-to-face therapy (n = 8, 50.0%) were identified as facilitators to this intervention. In addition, patient satisfaction with care (n = 13, 81.3%), a greater role in self-management (n = 10, 62.5%), the option for choice of language of instruction (e.g., some programs are offered in both French and English; n = 7, 43.8%), and patient curiosity (n = 5, 31.3%) were listed as facilitators by respondents. These factors are each influenced by the socio-cultural characteristics of the patient.

There were also several barriers pertaining to the socio-cultural factors acknowledged by respondents. These were a lack of patient knowledge about iCBT (n = 13, 81.3%), patient preference for in-person or other treatment options (n = 10, 62.5%), patients with negative perceptions about effectiveness (n = 9, 56.3%), limitations in the language of instruction (n = 5, 31.3%), and a lack of privacy (n = 4, 25.0%).

As for economic-related factors, survey respondents identified insurance coverage and reimbursement (n = 9, 56.3%) and other financial benefits (n = 13, 81.3%), including transportation cost savings and not missing work, as potential facilitators to the implementation of iCBT. Financial issues associated with iCBT were identified as a barrier to implementation by eight of the 16 complete responses (50%). Additional factors relating to the financial costs associated with iCBT will be discussed under the funding domain within the implementation dimension.

Legal

The *legal* domain is concerned with the rules and regulations that have been established to protect a population's rights and societal interests.¹⁶ Seven respondents (43.8%) indicated that there were some legal or professional liability issues that may act as a barrier to the

implementation of iCBT. One respondent recognized that their institution was constrained to primarily serve patients within their home province due to legal restrictions of offering cross-provincial services. No additional information on the legal issues affecting the implementation of iCBT was provided by the survey respondents.

Political and Epidemiological

The survey responses did not provide any information related to these INTEGRATE-HTA domains.

Domains of Implementation

Provider

This implementation domain focuses on the characteristics of the individuals adopting and delivering the intervention. It includes their personal attributes, knowledge, skills, emotions, motivations, intentions, and goals.¹⁶ The survey responses pointed toward two key areas when considering the role of providers with respect to implementation: training and clinical practice considerations.

As for the factors relating to provider training, current knowledge or experience with iCBT (n = 12, 75.0%), the desire to improve clinician skills (n = 8, 50.0%), and the potential for future job opportunities (n = 5, 31.3%) were identified as potential facilitators. Lack of education and training on CBT (n = 10, 62.5%) or on iCBT and delivering services via distance (n = 10, 62.5%) were identified as barriers to the implementation of iCBT.

With regard to the clinical practice considerations, increased efficiency in clinical practice (n = 14, 87.5%), a preference for iCBT compared with other forms of therapy (n = 10, 62.5%), potential financial benefits (n = 9, 56.3%), and the ability to better monitor patient symptoms were identified by respondents as potential facilitating factors. The barriers recognized by respondents included a preference for face-to-face treatment (n = 11, 68.8%), higher severity and complexity of the patient's diagnosis which may make patients ineligible for iCBT treatment (n = 8, 50.0%), and potential financial losses (n = 7, 43.8%).

Organization and Structure

This domain considers organizational policies, guidelines and practices as well as culture and climate that reside within an organization and on different levels such as the organization as a whole, units, and teams through which an intervention is delivered. Therefore, constructs such as team dynamics, leadership, supervision, and guidance are also considered.¹⁶

The survey results highlighted several key organizational factors involved in the implementation of iCBT. iCBT was considered to be related to a more efficient use of resources (n = 13, 81.3%), improvements in both patient (n = 14, 87.5%) and clinician (n = 12, 75.0%) experiences, easier tracking of outcomes relating to the effectiveness of the program (n = 12, 75.0%), and financial benefit to the organization (n = 10, 62.5%). One respondent also indicated that strong leadership within an organization is important for the successful development of iCBT programs. Organizational culture that supports traditional face-to-face CBT compared with iCBT (n = 8, 50.0%) and a lack of resources (n = 6, 37.5%), including patient or clinician time, funding, Internet devices (e.g., computer, smartphone), personnel, and Internet connectivity were identified as barriers to the implementation of iCBT from the perspective of the organization.

Intervention

The *intervention* domain was added to capture aspects or design features of the iCBT intervention that affects implementation, but do not fit well under the other domains within the INTEGRATE-HTA framework.

The identified facilitators include the convenience iCBT can provide to patients (n = 15, 93.8%), the ability of iCBT to fit into a patient's routine schedule (n = 15, 93.8%), and the clinical effectiveness of iCBT (n = 14, 87.5%). A number of barriers to the implementation of iCBT were also identified which fall into the *intervention* domain. These were difficulty using the program due to limited literacy or computer skills by either the patient (n = 7, 43.8%) or the clinician (n = 3, 18.8%), lack of available computer devices or adequate connection to the Internet (n = 7, 43.8%), and patient computer-related anxiety (n = 6, 37.5%) or unfamiliarity with technology (n = 5, 31.3%).

Funding

The domain of *funding* relates to short-term or longer-term funding mechanisms by governmental, non-governmental, private sector, and philanthropic organizations used to implement an intervention.¹⁶

Funding and reimbursement policies were mentioned as both a facilitator (n = 8, 50.0%) and a barrier (n = 7, 43.8%) to the implementation of iCBT by survey respondents. Ten respondents (62.5%) indicated that the interest of funders in technology-based solutions would help with facilitation. Several survey respondents also indicated that funding from provincial governments, research grants, and guaranteed longer-term funding sources could provide a huge benefit to the implementation of iCBT. However, respondents also indicated that a lack of coverage for iCBT under Medicare and most private insurers as well as funders was too focused on traditional care and hinder the implementation of iCBT.

Policy

According to INTEGRATE-HTA, the *policy* domain comprises policy measures and processes of government, public, private, or other organizations directly concerning or indirectly influencing the implementation of an intervention.¹⁶

Respondents indicated that both policies driven by government interest (n = 10, 62.5%) and policies driven by public interest (n = 3, 18.8%) may help facilitate the implementation of iCBT programs. The policies specifically mentioned by respondents as potentially facilitating iCBT included the Medical Care Plan in Newfoundland and Labrador, the Ontario Health Insurance Plan (OHIP), funding through Local Health Integration Networks or Veterans Affairs Canada, or other government funding or reimbursement policies.

Policies driven by government interest (n = 6, 37.5%) and policies driven by public interest (n = 2, 12.5%) were also identified as potentially acting as a barrier to the implementation of iCBT by some respondents. Most of the comments submitted by respondents regarding these policies highlighted the challenges associated with securing funding for research purposes or for individuals seeking help due to policies that struggle to keep pace in the digital age. No additional information or the names of specific policies that could potentially act as a barrier to the implementation of iCBT was provided in the survey responses.

3. What Strategies (Including Quality Improvement Frameworks) Have Been Used to Facilitate the Implementation of iCBT in Canada?

In addition to relevant implementation issues, survey respondents were also asked to provide information on implementation plans or strategies that have been used to facilitate the availability and uptake of iCBT, as well as whether their facility or jurisdiction utilizes a form of quality improvement framework to monitor the success and performance of their iCBT program (survey questions #19 and #20). These results are displayed in Table 5.

Table 5: Strategies Used to Establish iCBT Programs for MDD and Anxiety Disorders in Canada

Survey Question	Response	Number of Responses (% of Total) ^a
After the development of an iCBT program, are there specific implementation plans or strategies in place to facilitate its availability and uptake? (16 total responses)	Yes	12 (75.0%)
	No	4 (25.0%)
Do you utilize a form of quality improvement framework to monitor the success and performance of your iCBT program? (16 total responses)	Yes	13 (81.3%)
	No	3 (18.8%)

^a These percentages may not be applicable to a wider population of health care professionals.

Twelve of 16 survey respondents (75.0%) indicated that there were specific implementation plans or strategies in place to facilitate the availability and uptake of iCBT programs following their development. Of these respondents, five highlighted the importance of engaging and collaborating with all stakeholders involved in the delivery of iCBT, including patients, providers and clinicians, insurance companies, regional health authorities, and provincial governments to help with the promotion and dissemination of information pertaining to iCBT and to ensure clinicians receive the training required to provide iCBT. In addition, four respondents stressed that specific efforts must be made to incorporate iCBT into current practice, which can require a change in culture for some health care organizations. Two respondents cited the importance of using a stepped care approach when initially integrating iCBT into clinical practice. This approach allows patients and clinicians to experiment with multiple methods of delivering CBT to determine which works best for their specific circumstances. Finally, three respondents stated that while they are in the process of developing specific implementation plans (as they recognize their importance), they did not have any specific details to share.

Thirteen of 16 survey respondents (81.3%) suggested that they utilize some form of a quality improvement framework to monitor the success and performance of iCBT programs in their facility or jurisdiction. No additional information on the results of these quality improvement frameworks or how they may have been used to modify iCBT programs was collected.

Limitations

This Environmental Scan aims to present an overview of examples and current information regarding the implementation of iCBT programs for MDD and anxiety disorders across Canada. The findings are not based on a systematic review of the topic; rather, they are based on the results of a survey distributed to stakeholders.

Despite reaching out to at least 104 individuals and organizations, 24 responses (23.1%, 24 out of 104) were included in the final analysis. While there was some form of representation from Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario, Prince Edward Island, and Saskatchewan, we did not receive survey responses from any of the Canadian territories (Nunavut, Northwest Territories, and Yukon). All respondents were only able to speak on behalf of their own practice or organization, rather than on behalf their jurisdiction's health care system as a whole. In addition, their responses may have been influenced by their unique experiences and perspectives and may not be representative of the views of all stakeholders across Canadian jurisdictions. This report is also a snapshot of the current use of iCBT programs in Canada. The field of mental health care is constantly evolving and new programs and policies are regularly being developed and implemented.

While we were able to identify and describe 15 existing or developing iCBT programs for MDD and anxiety disorders across Canada, this list was informed solely by the responses received from the survey and should not be considered exhaustive. Additionally, this list did not include any programs that were developed to specifically treat adolescent or pediatric populations (i.e., patients younger than 16).

This report provides a brief overview of some of the issues related to the implementation of iCBT programs in health care facilities in Canada.

Conclusion

This Environmental Scan sought to provide information on existing or developing iCBT programs for MDD and anxiety disorders across Canada, raise awareness of key considerations for the implementation of these programs, and to explore the range of strategies that have been used to establish iCBT programs across Canadian jurisdictions. The information summarized in this report will be used to inform the HQO and CADTH collaborative project entitled "Internet-Delivered Cognitive Behavioural Therapy for Major Depressive Disorder and Anxiety Disorders: A Health Technology Assessment" as well the accompanying Optimal Use recommendations.

According to the results of our survey, there are at least 15 iCBT programs currently available for MDD or anxiety disorders in various jurisdictions of Canada. Although the individual characteristics of these programs (e.g., cost, level of therapist support, number of modules, length of time required to complete) may vary, they are all internet-delivered and based on the principles of CBT.

A large number of patient-related, clinician-related, organization-related, or policy-related factors acting as facilitators or barriers to the implementation of iCBT were identified by

survey respondents. These issues were broadly categorized and described under categories based on the domains identified by the INTEGRATE-HTA CICI framework.¹⁶

Funding is a major determinant of iCBT availability. Survey respondents highlighted that while some provincial or research funding has enabled the use of iCBT for some individuals, a large number of patients do not have access to iCBT due to issues such as lack of coverage under Medicare and most private insurers. The establishment of new policies or avenues of funding to increase access to iCBT is seen as one way to remove some of the barriers to implementation. Additionally, the importance of engaging and collaborating with all stakeholders involved in the delivery of iCBT to help with the promotion and dissemination of information pertaining to these programs was emphasized by survey respondents.

Several factors were identified as potentially acting as both a facilitator and a barrier to the implementation of iCBT. Examples of this include language of instruction and privacy, where iCBT may have a positive or negative effect (e.g., while online delivery of CBT may solve some privacy issues, such as sharing personal information with other patients in a group CBT setting, it may also create new challenges, such as concerns of whether information transferred over the Internet is fully secure). Factors related to implementation of iCBT were dependent on individual context, setting, and preferences of the patients and providers involved in the delivery of the treatment.

As noted in the limitations, the conclusions made by this report are limited to data drawn from a survey distributed to stakeholders involved in the delivery or development of iCBT programs for MDD and anxiety disorders across Canada.

Further work that evaluates the implementation issues that potentially arise when iCBT is utilized for other indications, such as post-traumatic stress disorder, addiction disorders, insomnia, chronic pain, or other mental health conditions, may provide additional insight into the complexities of the intervention. Alternative approaches to information gathering as well as opportunities for broader engagement and enhanced communication and collaboration among relevant stakeholders involved in the delivery of iCBT may provide guidance for future research and understanding of this area.

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Appendix 1: Survey

CADTH Evidence
Driven.

ACMTS Preuves
à l'appui.

**Internet-Delivered Cognitive Behavioural
Therapy for Major Depressive Disorder
and Anxiety Disorders**

SURVEY

Background

Cognitive behavioural therapy (CBT) is the most commonly utilized form of psychotherapy for the treatment of patients with depression or anxiety.¹ Internet-delivered cognitive behavioural therapy (iCBT) involves the delivery of CBT through an online platform with or without the support of a therapist.² Essentially, iCBT has shown promise in the treatment of patients with depression and anxiety, potentially offering ways for patients to overcome some of the barriers associated with face-to-face CBT.³ The literature suggests that there are a number of factors that may affect the accessibility, adherence, adoption, attrition, feasibility, maintenance, reach, retention, sustainability, uptake, and usability of iCBT programs. To this end, CADTH is conducting an Environmental Scan to better understand the breadth of iCBT programs offered across Canada and to identify facilitators and barriers to iCBT implementation across Canada.

The objectives of this Environmental Scan are:

- to identify existing or developing iCBT programs for major depressive disorder and anxiety disorders across Canada
- to identify facilitators and barriers to the implementation of iCBT for major depressive disorder and anxiety disorders across Canada.

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To Guide Your Feedback

Your feedback from this questionnaire will help us understand the facilitators and barriers to offering iCBT to people with major depressive disorder or anxiety disorders across Canada.

There are 17 questions in this survey and it will take approximately 30 minutes to complete. Please respond only to the questions relevant to your experience. If you have any other questions or comments about this survey, please contact Eftyhia Helis at efthyhia@cadth.ca.

A. General Information

We are interested in understanding the context of the use of and implementation for Internet-delivered cognitive behavioural therapy (iCBT) for major depressive disorder and anxiety disorders. Please answer the following questions as they apply to your role, knowledge, and experience. Ignore any questions that do not apply to you.

1. In which province or territory do you primarily work? (Please select one.) (Multiple choice and free text)
 - Alberta
 - British Columbia
 - Manitoba
 - New Brunswick
 - Newfoundland and Labrador
 - Northwest Territories
 - Nova Scotia
 - Nunavut
 - Ontario
 - Prince Edward Island
 - Quebec
 - Saskatchewan
 - Yukon
 - Federal Health Program (such as, Indigenous Services Canada, Canadian Armed Forces, Correctional Service Canada, Veterans Affairs Canada)
 - Other (please specify): (free text)

2. What is your profession or role? (Please select all that apply.) (Multiple choice and free text)
 - Health care provider (e.g., nurse, therapist, physician; please specify): (free text)
 - Hospital or health facility administrator (e.g., director or manager)
 - Software or online platform developer
 - Technical services personnel (e.g., technician or information technologist)
 - Researcher
 - Policy-maker
 - Public funder (please specify): (free text)
 - Private insurance or Employee Assistance Program (EAP) representative (please specify): (free text)
 - Other (please specify): (free text)

3. Are you currently involved in the development or delivery of one or more iCBT programs?
 - Yes (please specify the program's name and, if possible, a brief description or URL to the website): (free text)
 - No

4. Are you currently involved in the funding or regulating of one or more iCBT programs?
 - Yes
 - No

5. Do you currently provide treatment to individuals living in one or more of these geographic settings? (Please select all that apply.) (Multiple choice and free text)
- Urban (i.e., a census metropolitan area [CMA] or census agglomeration [CA] of at least 10,000 residents)^a
 - Rural (i.e., an area or small town with a population of less than 10,000 residents not in any CMA or CA)^a
 - Remote^b
 - Other (please specify): (free text)

^a Hospital births in Canada: a focus on women living in rural and remote areas [Internet]. Ottawa: CIHI; 2013. Available from: https://secure.cihi.ca/free_products/Hospital%20Births%20in%20Canada.pdf

^b Please self-identify based on your local understanding of the criteria for remote. As an example, [Health Canada](#) defines various levels of remote, ranging from *remote isolated* = no scheduled flights or road access and minimal telephone or radio service, through to *non-isolated remote* = road access and less than 90 km away from physician services.

6. For what purposes is iCBT currently being utilized in your practice, facility, or jurisdiction? (Please select all that apply.) (Multiple choice and free text)
- For patients who are interested (through self-referral)
 - For patients who have been referred by a clinician
 - As a complement to standard care
 - As a stand-alone treatment
 - Offered to the general population as a preventive strategy
 - Other (please specify): (free text)

B. Implementation Considerations – Facilitators

7. What policies have facilitated or would facilitate the implementation of iCBT in your facility or jurisdiction? (Please select all that apply.) (Multiple choice and free text)
- Policies driven by government interest (please name and describe): (free text)
 - Policies driven by public interest (please name and describe): (free text)
 - Funding and reimbursement policies (please name and describe): (free text)
 - Do not know
 - Other (please specify): (free text)
8. What patient-related factors have facilitated or would facilitate the implementation of iCBT in your facility or jurisdiction? (Please select all that apply.) (Multiple choice and free text)
- Privacy (compared with face-to-face CBT)
 - Insurance coverage and reimbursement
 - Other financial benefits (e.g., transportation cost savings, not missing work)
 - Preference (over face-to-face CBT)
 - Clinical effectiveness
 - Satisfaction with care (including educational materials and follow-up support)
 - Recommended by a health care provider
 - Access (e.g., 24-hour availability of care; access from any place with Internet connectivity including rural or remote settings)
 - Convenience (e.g., does not require taking time off from work or school and can access outside regular or business hours)
 - Involves greater self-management
 - Option for choice of language of instruction
 - Absence of feasible alternatives (have not benefited from other types of services)
 - Curiosity

- Do not know
- Other (please specify): (free text)

9. What clinician-related factors have facilitated or would facilitate the implementation of iCBT in your facility or jurisdiction? (Please select all that apply.) (Multiple choice and free text)

- Efficiency in clinical practice (e.g., allows clinician to care for more patients)
- Financial benefits (e.g., additional income if reimbursed)
- Preference for this treatment option over other forms of therapy
- Reaching patients that otherwise would be unreachable
- Therapy fits into patient's routine schedule
- Job opportunity
- Desire to improve skills
- Training, knowledge, or experience with iCBT
- Do not know
- Other (please specify): (free text)

10. What organizational factors have facilitated or would facilitate the implementation of iCBT in your facility or jurisdiction? (Please select all that apply.) (Multiple choice and free text)

- Within mandate or policy
- Allows more efficient use of resources
- Improvement in patients' experiences
- Improvement in clinicians' experiences
- Financial benefit (e.g., return on investment if reimbursed)
- Reaching more patients or serving a broader population (including patients in rural or remote areas)
- Commitment to improving services
- Easier option to track outcomes
- Interest of funders in technology-based solutions
- Do not know
- Other (please specify): (free text)

11. Do you have additional comments about factors that facilitated or would facilitate the implementation of iCBT? (free text)

C. Implementation Considerations – Barriers

12. What policies have you or your organization identified as barriers to implementing iCBT? (Please select all that apply.) (Multiple choice and free text)

- Policies driven by government interest (please name and describe): (free text)
- Policies driven by public interest (please name and describe): (free text)
- Funding and reimbursement policies (please name and describe): (free text)
- Do not know
- Other (please specify): (free text)

13. What patient-related factors have you or your organization identified as barriers to implementing iCBT? (Please select all that apply.) (Multiple choice and other)
- Lack of privacy (e.g., when accessing iCBT programs at home or in a public place)
 - Preference for in-person or other treatment options
 - Negative perceptions about effectiveness
 - Financial issues (e.g., lack of coverage/reimbursement, cost of Internet access)
 - Lack of knowledge about iCBT
 - Unfamiliar with technology
 - Lack of available devices or adequate connection to the Internet
 - Computer anxiety
 - Difficulty understanding the program (because of limited reading and writing skills)
 - Difficulty understanding the program (limited availability in options for language instruction)
 - Higher severity and complexity of diagnosis
 - Do not know
 - Other (please specify): (free text)
14. What clinician-related factors have you or your organization identified as barriers to implementing iCBT? (Please select all that apply.) (Multiple choice and other)
- Professional liability
 - Preference for in-person treatment or other treatment options
 - Lack of education and training on CBT
 - Lack of education and training on iCBT and delivering services via distance (because of lack of time or other factors)
 - Financial losses (e.g., inadequate compensation)
 - Lack of available devices or adequate connection to the Internet
 - Difficulty using the program (because of limited computer skills)
 - Do not know
 - Other (please specify): (free text)
15. What organizational factors have you or your organization identified as barriers to implementing iCBT? (Please select all that apply.) (Multiple choice and other)
- Not within mandate or lack of relevant policies and procedures on how to deliver iCBT
 - Legal issues/Liability
 - Organizational culture
 - Resources (please indicate relevant examples; e.g., time, funds, devices, personnel, Internet connectivity): (free text)
 - Do not know
 - Other (please specify): (free text)
16. Are you aware of other challenges to the implementation of iCBT?
- Yes (please provide details): (free text)
 - No

D. Additional Questions

17. Does your facility/jurisdiction offer iCBT for other indications?

- Yes (Please select all that apply.)
 - Major depressive disorder
 - Other depressive conditions
 - Generalized anxiety disorder
 - Specific phobias
 - Panic disorder
 - Social anxiety disorder
 - Post-traumatic stress disorder
 - Obsessive compulsive disorder
 - Schizophrenia
 - Psychosis
 - Addiction disorders
 - Smoking cessation
 - Eating disorders
 - Body dysmorphic disorder
 - Insomnia
 - Irritable bowel syndrome
 - Chronic pain
 - Other (please specify): (free text)
- No

18. Could the information you have provided in this survey apply to other indications?

- Yes (Please select all that apply.)
 - Major depressive disorder
 - Other depressive conditions
 - Generalized anxiety disorder
 - Specific phobias
 - Panic disorder
 - Social anxiety disorder
 - Post-traumatic stress disorder
 - Obsessive compulsive disorder
 - Schizophrenia
 - Psychosis
 - Addiction disorders
 - Smoking cessation
 - Eating disorders
 - Body dysmorphic disorder
 - Insomnia
 - Irritable bowel syndrome
 - Chronic pain
 - Other (please specify): (free text)
- No

19. After the development of an iCBT program, are there specific implementation plans or strategies in place to facilitate its availability and uptake?
- Yes (please specify): (free text)
 - No
20. Do you utilize a form of quality improvement framework to monitor the success and performance of your iCBT program?
- Yes
 - No
21. What role do you think the work of organizations such as CADTH (evidence-based research) could play in facilitating the implementation of iCBT programs? (free text)
22. Are you aware of research studies regarding iCBT implementation issues?
- Yes (please provide details such as titles, authors, and publication dates): (free text)
 - No
23. Are you aware of iCBT programs offered in other health facilities or jurisdictions for the treatment of major depression and anxiety disorders in Canada?
- Yes (please specify the names of the programs and, if possible, provide information on where we can retrieve details about the programs): (free text)
 - No

E. Permission to Contact

24. Would you be willing to be consulted further on this topic, either through a 15-minute phone conversation (between 9 a.m. and 5 p.m. local time) or by email?
- Yes (Please insert additional preferred phone number or contact email if different from the information previously given) (free text)
 - No
25. Can you suggest any other individuals who (or organizations that) would be willing to be consulted further on this topic, and/or complete this survey?
- Yes (Please insert name, title, agency, and contact email) (free text)
 - No

Appendix 2: Information on Survey Respondents

Table A1: List of Canadian Organizations That Provided Responses to the Survey

Province/Territory	Organizations Represented by Survey Respondents
Alberta	University of Alberta
British Columbia	Fraser Health Authority Northern Health
Manitoba	Winnipeg Regional Health Authority University of Manitoba (three respondents)
New Brunswick	Operational Stress Injury Clinic
Newfoundland and Labrador	Central Regional Health Authority Memorial University
Nova Scotia	Centre for Research in Family Health Dalhousie University (two respondents) Strongest Families Institute Tranquility Online
Ontario	BEACON (three respondents) CBT Associates (two respondents) Centre for Addiction and Mental Health University of Toronto
Prince Edward Island	Health PEI
Quebec	Veterans Affairs Canada
Saskatchewan	Ministry of Health – Government of Saskatchewan University of Regina
Federal Health Programs	Canadian Foundation for Healthcare Improvement Veterans Affairs Canada

Notes: There were a total of 24 Canadian respondents. Several respondents identified themselves as working for more than one organization.

Table A2: Characteristics of Survey Respondents

Survey Question	Response	Number of Responses (% of Total)
In which province or territory do you primarily work? (24 total responses)	Alberta	1 (4.2%)
	British Columbia	2 (8.3%)
	Manitoba	3 (12.5%)
	New Brunswick	1 (4.2%)
	Newfoundland and Labrador	2 (8.3%)
	Northwest Territories	0 (0%)
	Nova Scotia	4 (16.7%)
	Nunavut	0 (0%)
	Ontario	4 (16.7%)
	Prince Edward Island	1 (4.2%)
	Quebec	1 (4.2%)
	Saskatchewan	2 (8.3%)
	Yukon	0 (0%)
Federal Health Programs ^a	2 (8.3%)	
Other ^b	1 (4.2%)	
What is your profession or role? (24 total responses; multiple answers were accepted)	Health care provider ^c	16 (66.7%)
	Researcher	9 (37.5%)
	Hospital or health facility administrator	8 (33.3%)
	Software or online platform developer	3 (12.5%)
	Policy-maker	3 (12.5%)
	Technical services personnel	0 (0%)
	Public funder	0 (0%)
	Private insurance or EAP representative	0 (0%)
Other ^d	6 (25.0%)	
Are you currently involved in the development or delivery of one or more iCBT programs? (24 total responses)	Yes	16 (66.7%)
	No	8 (33.3%)
Are you currently involved in the funding or regulating of one or more iCBT programs? (24 total responses)	Yes	4 (16.7%)
	No	20 (83.3%)
Do you currently provide treatment to individuals living in one or more of these geographic settings? ^e (24 total responses; multiple answers were accepted)	Urban	21 (87.5%)
	Rural	21 (87.5%)
	Remote	13 (54.2%)

Abbreviations: EAP = employee assistance program.

^a Federal health programs include Indigenous Services Canada, Canadian Armed Forces, Correctional Service Canada, and Veterans Affairs Canada.

^b The respondent indicated they worked “Cross Canada.”

^c Health care providers included seven psychologists, two psychiatrists, two physicians, two nurses, one mental health clinician, and one occupational therapist.

^d Other professions included one senior executive, one chief executive officer, one mental health consultant, one psychology consultant, and one individual from a pan-Canadian health organization.

^e Urban: a census metropolitan area or census agglomeration of at least 10,000 residents. Rural: an area or small town with a population of less than 10,000 residents not in any census metropolitan area or census agglomeration). Remote: Self-identified based on the respondent’s local understanding of the criteria for remote.