CADTH Evidence Driven.

EVIDENCE HIGHLIGHTS | Highlighting the Evidence

Internet-Delivered Cognitive Behavioural Therapy for Major Depression and Anxiety Disorders

Key Messages

- It is recommended that guided Internet-delivered cognitive behavioural therapy (iCBT) be offered to adults with mild-to-moderate major depression and/or anxiety disorders.
- The guidance of a therapist during iCBT may allow for the intervention to be tailored to reflect a patient's individual priorities and needs, and to facilitate adherence to, and success with, treatment.
- It may be necessary to offer a variety of program options to ensure people who are referred to receive iCBT are able to find programs that are culturally and contextually appropriate and meet their individual needs.
- iCBT may offer a viable service option for people with mild-to-moderate major depression and/or anxiety disorders who have limited access to face-to-face therapy (due to barriers of access or due to personal choice).
- Integration of iCBT into clinical care will facilitate further monitoring and evaluation of iCBT-related outcomes.

INCLUDED IN **THIS SUMMARY**

- A brief background on cognitive behavioural therapy (CBT) in the treatment of major depression and anxiety disorders.
- A brief description of iCBT, the current status of its use in Canada, and its role in the treatment of major depression and anxiety disorders.
- Evidence highlights from the clinical, economic, patients' perspectives, ethical, and implementation analyses of the CADTH and Health Quality Ontario (HQO) assessments.

This summary is based on a Health Technology Assessment conducted by CADTH and HQO and recommendations developed by the Health Technology Expert Review Panel, an advisory body to CADTH, and the Ontario Health Technology Advisory Committee, an advisory body to HQO.[1]

CBT in the Treatment of Major Depression and Anxiety Disorders

For individuals with depression or anxiety disorders, CBT is an effective psychological treatment and the most commonly used form of psychotherapy. CBT aims to provide patients with the coping strategies and skills to change dysfunctional thoughts, behaviours, beliefs, and attitudes. The treatment is usually delivered in a series of face-to-face sessions (time-limited) between a trained clinician (therapist) and their client who work together to identify and change unhelpful patterns of thinking and behaviour. Some of the techniques used in CBT may include graded exposure, relaxation training, challenging negative automatic thoughts, activity scheduling, and social skills training.

Using Technology to Access CBT Outside of a Therapist's Office: iCBT

Internet-delivered CBT (iCBT) is an available option for individuals seeking treatment for depression or anxiety disorders but who are not able to access face-to-face treatment for various reasons (e.g., high cost of treatment, long wait times, poor access to treatment in rural or remote areas, lack of trained physicians, and perceived stigma or privacy concerns).

iCBT involves the delivery of CBT through an online platform and requires the use of a computer, smartphone, or tablet with an Internet connection. iCBT programs typically include a series of structured modules with clearly defined goals. Readings, activities, and messaging (using text, audio, and/or video files) may be part of the program. Access options, program structure, level of support, and cost may vary between available programs.

Because it can be delivered remotely, iCBT may offer ways for some patients to overcome barriers to accessing timely and effective therapy.

Guided iCBT

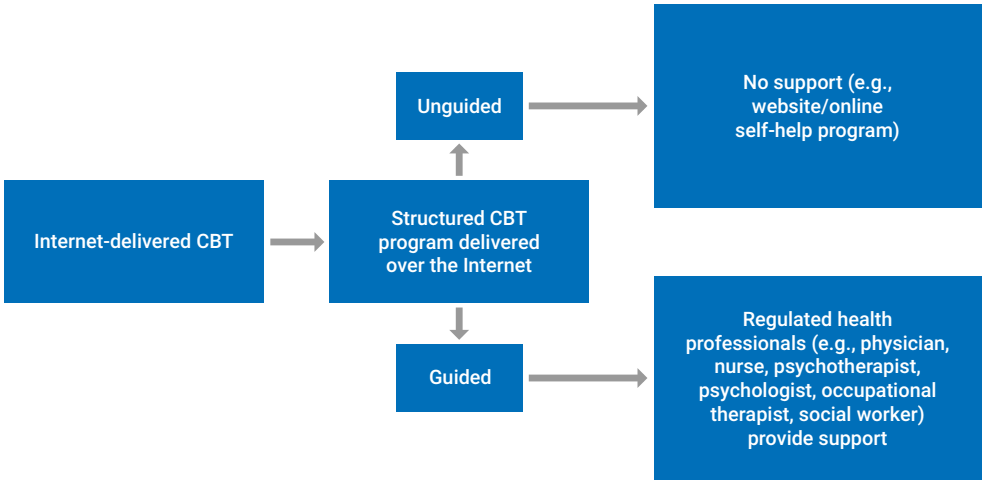
In guided iCBT, the program includes communication, guidance, and support by a regulated health care professional[a] or a coach during treatment.

Unguided iCBT

In unguided iCBT, individuals work through the CBT program modules on their own.

[a] Regulated health professionals may include psychologists, psychotherapists, nurses, physicians, social workers, or occupational therapists.

Figure 1: iCBT Modalities



The issue: Providers of iCBT are not required to obtain regulatory approval from Health Canada and a variety of iCBT programs are currently available in Canada. However, the effectiveness of iCBT is not well established, it is not currently funded in a systematic way in Canada and concrete frameworks for its implementation and integration in clinical practice have not yet been established. Understanding whether and how iCBT works, and for whom and in what circumstances, is important for clinicians and health care facilities looking to offer iCBT to people suffering from major depression or anxiety disorders as well as for decision-makers who need to clarify current policy around the appropriate use of iCBT in this context.

The policy question: Should Internet-delivered CBT be offered to people with major depression or anxiety disorders?

About This Health Technology Assessment (HTA):

CADTH, in collaboration with HQO, completed a review of available evidence on the use of iCBT in individuals with mild and moderate major depression and anxiety disorders. Collaboratively, both organizations contributed to an HTA that involved analyses of the evidence on clinical effectiveness, economic aspects, patient perspectives and experiences, ethics, and implementation issues in order to inform policy decisions relevant to the use of iCBT for individuals with these mental health disorders.[2]

What does the evidence say?

Bottom Line

iCBT appears to be more effective than the waiting-list control (receiving iCBT at a later date) for reducing symptoms of mild-to-moderate major depression and select anxiety disorders, and for improving quality of life. There was increased certainty in the evidence for guided iCBT compared with unguided iCBT (small number of studies).

Clinical Findings

Compared with waiting list: Guided iCBT is effective and may improve symptoms for mild-to-moderate major depression and social phobia (moderate quality evidence) and generalized anxiety disorder and panic disorder (low-quality evidence).

Compared with usual care (combination of usual care, waiting list, and information control): iCBT may improve symptom severity in patients with major depression, social anxiety disorder, generalized anxiety disorder, and panic disorder. iCBT may also improve quality of life for people with generalized anxiety disorder or panic disorder (low to moderate quality evidence).

In combination with usual care: iCBT may reduce symptom severity and improve quality of life compared with usual care alone for patients with major depression or anxiety disorders (evidence of limited quality).

Compared with face-to-face CBT: There is insufficient evidence to assess whether iCBT is more effective than individual or group face-to-face CBT. Limited evidence suggests that iCBT and face-to-face CBT do not differ for the reduction of symptom severity in people with anxiety disorders (panic disorder [very low-quality evidence] or social phobia [low-quality evidence]).

Safety of iCBT: Information regarding the safety of iCBT was not assessed in the reviewed clinical literature.

Guided versus unguided iCBT: Most of the included studies (11 out of 13 studies) reported no clear difference between guided and unguided iCBT for the treatment of symptom severity in patients with anxiety, depression, or anxiety and depression. Two studies reported that guided iCBT may improve symptom severity compared with unguided iCBT in patients with depression or anxiety disorders, and one study reported lower attrition rates in the guided iCBT group compared with unguided iCBT.

What types of evidence did we review?

Assessment of the clinical effectiveness of iCBT was based on a review of seven systematic reviews of randomized controlled trials published since 2000 (conducted by HQO)[3] and an assessment of nine randomized controlled trials published after the systematic reviews (conducted by CADTH)[4]. CADTH also reviewed evidence (summary of abstracts) relevant to the clinical effectiveness of guided versus unguided iCBT for patients with depression or anxiety disorders.[5]

The reviewed iCBT interventions appeared to be quite heterogeneous in program content and it is unclear which features may be most beneficial to patients (e.g., number of modules, duration of program, frequency and type of support).

Bottom Line

Guided iCBT, when compared with alternatives (usual care, face-to-face CBT, and unguided iCBT) for the short-term management of mild-to-moderate major depression or anxiety disorders, may be a cost-effective strategy if one's willingness-to-pay threshold is between $41,250 and $108,443 per QALY gained for mild-to-moderate major depression and $91,213 and $120,050 for anxiety disorders.

Economic Considerations

Cost considerations for iCBT may include: initial assessment costs (for referral to program by the person's primary care provider); salaries for regulated non-physician therapists (guided iCBT); maintenance; IT support; and licensing specific to the delivery of iCBT through an online portal. Alternatively, per-patient, subscription-based iCBT programs may also be available.

The economic evaluation determined that the cost-effectiveness of treatment strategies (i.e., guided iCBT, unguided iCBT, group CBT and usual care [defined as any treatment prescribed by a general practitioner]), during a one-year time horizon, was dependent on the clinical condition:

- The incremental cost-utility ratio (ICUR) for guided iCBT compared with usual care was under $50,000 per quality-adjusted life-year (QALY) gained **in patients with mild-to-moderate major depression.**
- The ICUR for guided iCBT compared with usual care was higher but under $100,000 per QALY gained **in patients with anxiety disorders.**
- Unguided iCBT was found to be dominated by usual care for both conditions (i.e., cost more and resulted in fewer QALYs than usual care).

The model assumed patients would have full access to the psychotherapies, and the potential cost-effectiveness of these interventions under situations of capacity constraints is unknown. The economic analysis did not assess the cost-effectiveness of any specific iCBT programs; model inputs relating to treatment efficacy were based on the clinical review, and costs for iCBT programs were based on plausible but hypothetical assumptions using clinical expert feedback and data identified in the literature. Additionally, the economic conclusions are based on a one-year time horizon; the lifetime cost-effectiveness of iCBT remains uncertain.

Methods to conduct the economic evaluation:

HQO constructed a one-year decision tree to compare the cost-effectiveness of guided and unguided iCBT with face-to-face CBT and with usual care from an Ontario Ministry of Health perspective.[3] They also conducted a five-year budget impact analysis. The primary outcome was cost per QALY in 2018 Canadian dollars. CADTH adapted the economic model developed by HQO to reflect a pan-Canadian context based on additional clinical expert validation and to include additional results from two CADTH rapid reviews.

Bottom Line

Given the variation of experiences and preferences of iCBT for program users, a tailored approach in terms of content, level of support, and monitoring may be considered to reflect a patient's individual learning style, priorities and needs. Such tailoring may be better supported through the involvement of a therapist, as in guided iCBT.

Patients' Perspectives and Experiences

- Patients are generally accepting of iCBT and most people express that, despite some perceived limitations, iCBT provides greater control and flexibility over the time, pace, and location of therapy. However, variable perspectives and experiences with iCBT are reported.
- Patients noted that iCBT provides an option for psychological therapy and improves access for people who could not otherwise seek therapy because of cost (e.g., therapy session, cost of travel to/from therapist's office), time (e.g., for those with busy schedules who would find it difficult to arrange travel time to and from appointments), or the nature of their health condition (e.g., symptoms may prevent them from leaving home). iCBT may be preferred compared with in-person CBT by some people who may want to pursue therapy from home, those who value privacy and anonymity offered by iCBT, and those who are comfortable adhering to a more structured course of therapy.
- Patients generally valued therapist support (through guided iCBT); however, many patients endorsed a blended approach with varying levels of therapist support as it was perceived to provide the opportunity for greater tailoring and individual support. Some patients valued the ability to freely navigate iCBT at their own pace without therapist support.

Additional iCBT considerations for patients include: Need for peer support and follow-up after completing therapy; and the design, layout, and structure of the iCBT program as well as the usability and interactivity of the online platform are essential to keep patients engaged.

What types of evidence did we review?

HQO conducted interviews with 17 people from across Ontario with lived experience of depression or anxiety, and one family member. Fourteen of these individuals had experience with iCBT and three were interested in iCBT. CADTH reviewed literature (24 studies) reflecting direct experiences and perceptions of individuals who engaged in iCBT (substantial variability across studies; overall, included studies were of moderate quality).

Bottom Line

The online mode of delivery of iCBT introduces multiple risks and concerns about data security, privacy, confidentiality, and the ability to establish an effective therapeutic alliance between therapist and client.

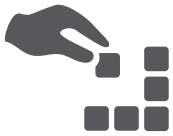
To alleviate these concerns, transparency in communicating related risks and mechanisms to anticipate and mitigate relevant risks must be in place.

Ethical Considerations

- iCBT may enhance access to mental health services for some by eliminating certain barriers (e.g., geography, cost, availability, and stigma). However, it may also produce or exacerbate inequities or access for others (e.g., individuals with low computer literacy, no access to a computer or the Internet, low socioeconomic status).
- There is variation in the funding policies for iCBT across the provinces in Canada. Some patients have access to iCBT free of charge (under research conditions), while others must pay out of pocket. Public coverage may enable some vulnerable individuals to access the therapy's benefits.
- Standardization of iCBT structure and content may work to ensure all clients receive the same standard of care. However, standardized iCBT applications may also be unable to address important client characteristics (e.g., language, culture, religious beliefs, sex, and gender), which may be particularly important in the diverse Canadian context.
- iCBT provides a non-traditional therapist–client interaction and it may be challenging for providers to establish a trusting alliance with their clients. It is unclear whether such therapies can convey features like empathy, emotional responsiveness, and other interpersonal collaborative features of human-delivered therapy that are crucial for establishing and maintaining a therapeutic alliance.
- The capacity of therapists to adequately screen, identify, and manage client distress and risk (to themselves or others) may be attenuated in the context of iCBT due to distance, anonymity, or asynchronous monitoring. Mechanisms to anticipate and mitigate such risks must be ensured.
- Given the online mode of delivery of iCBT, multiple risks to data security exist. There is a need to ensure that iCBT applications have adequate measures in place to protect the privacy and confidentiality of clients. There is also a need for iCBT applications and providers to be transparent regarding the limits to data security confidentiality and expected collection, sharing, and use of client information.
- iCBT may limit a practitioner's ability to ensure that informed consent processes meet the linguistic, cultural, and literacy needs of their clients and to provide opportunities for clients to ask questions or raise concerns.
- iCBT should be delivered by trained and qualified mental health practitioners. However, given its relative novelty, limited training programs, lack of consistency and regulatory oversight, and concerns exist regarding practitioners' competence in using iCBT. Training for traditional face-to-face interactions are not automatically transferable to the digital environment.

What types of evidence did we review?

A review and analysis of literature identifying ethical considerations in the use of Internet-delivered therapies was performed. The analysis was informed by a review of 57 identified reports.



Bottom Line

Barriers to implementing iCBT range from a lack of national regulatory and funding frameworks to specific gaps in the structure of iCBT programs.

Engaging multiple stakeholders (e.g., patients, practitioners, developers, administrators, and policy-makers) in the development of strategies and standards for integrating iCBT into clinical care pathways may provide opportunities for mitigating identified barriers and facilitating the implementation of and access to iCBT in Canada.

Implementation Issues

A variety of iCBT programs are available in Canada, each with unique requirements for access, cost, treatment modules, practitioner support, time, and clinical practice integration. While there is growing interest in iCBT across jurisdictions, concrete frameworks (including policies) for its implementation have not yet been established in Canada and funding structures vary across the country. Due to legal and liability issues, some programs are available only within one specific province.

- **At an organizational level,** financial costs for establishing required infrastructure were identified as a main barrier to implementation.
- **Among practitioners,** lack of awareness or training in iCBT and discomfort and/or negative perceptions around this option were identified as barriers to the uptake of iCBT.
- **Among patients,** diversity in perceptions, expectations, experience, access or familiarity with information technology, and education levels influence uptake and implementation of iCBT.
    - **Reported barriers to iCBT for patients include:** Cost of therapy; need for a computer and Internet access; computer literacy; language of intervention (non-English speakers) and ability to understand complex written information; access for individuals with disabilities (e.g., visual impairment); and concerns of privacy and confidentiality when accessing iCBT in a public space on a shared computer.
    - **Limitations related to iCBT, as reported by patients, include:** Rigidity of the program structure, schedule, and content; lack of face-to-face interactions with a therapist; delays in client/therapist interactions; technical difficulties (related to the iCBT program platform, computer, or the Internet) and inability of an Internet protocol to treat severe depression and some types of anxiety disorders.

Strategies to address iCBT limitations and support uptake of iCBT

- The establishment of a national strategy (including regulatory and quality standards) and of long-term funding or coverage policies may facilitate implementation of and increase access to iCBT in Canada.
- The implementation of iCBT into existing clinical pathways (e.g., stepped care approach, offered as a short-term, alternate option or in combination with face-to-face therapy) and addressing patient eligibility and sociocultural factors may also be considered.

What types of evidence did we review?

The results are based on information from a survey of Canadian stakeholders (i.e., the CADTH Environmental Scan report titled *Internet-Delivered Cognitive Behavioural Therapy for Major Depressive Disorder and Anxiety Disorders*)[6] and a literature review of 29 studies.

CADTH

Questions or comments about CADTH or this tool?

Online:
cadth.ca

Email:
requests@cadth.ca

Twitter:
@CADTH_ACMTS

New at CADTH Newsletter:
cadth.ca/subscribe

References

1. Health Quality Ontario. Internet-delivered cognitive behavioural therapy for major depression and anxiety disorders: Health Quality Ontario recommendation. Toronto (ON): Queen's Printer for Ontario; 2019: https://www.hqontario.ca/Portals/0/documents/evidence/reports/recommendation-internet-delivered-cognitive-behavioural-therapy-en.pdf. Accessed 2019 Mar 14.

2. CADTH. Internet-delivered cognitive behavioural therapy for major depressive disorder and anxiety disorders: a health technology assessment. 2019; http://www.cadth.ca/icbt. Accessed 2019 Mar 14.

3. Internet-delivered cognitive behavioural therapy for major depression and anxiety disorders: a health technology assessment. *Ont Health Technol Assess Ser.* 2019 Feb;19(6):1-199. https://www.hqontario.ca/Portals/0/documents/evidence/reports/hta-internet-delivered-cognitive-behavioural-therapy.pdf. Accessed 2019 Mar 1.

4. Internet-delivered cognitive behavioural therapy for major depression and anxiety disorders: a review of clinical effectiveness. (*CADTH Rapid response report: summary with critical appraisal*). Ottawa (ON): CADTH; 2018: https://cadth.ca/internet-delivered-cognitive-behavioural-therapy-major-depression-and-anxiety-disorders-review. Accessed 2019 Jan 29.

5. Guided versus unguided Internet-delivered cognitive behavioural therapy for major depressive disorder and anxiety disorders: comparative clinical effectiveness. (*CADTH Rapid response report: summary of abstracts*). Ottawa (ON): CADTH; 2018: https://cadth.ca/guided-versus-unguided-internet-delivered-cognitive-behavioural-therapy-major-depressive-disorder. Accessed 2019 Jan 29.

6. Internet-delivered cognitive behavioural therapy for major depressive disorder and anxiety disorders: an environmental scan. (*CADTH Environmental scan no. 78*). Ottawa (ON): CADTH; 2018: https://cadth.ca/internet-delivered-cognitive-behavioural-therapy-major-depressive-disorder-and-anxiety-disorders-3. Accessed 2018 Nov 7.

ABOUT CADTH

CADTH is an independent, not-for-profit organization responsible for providing Canada's health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs and medical devices in our health care system.

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

Ce document est également disponible en français.

July 2019

CADTH Evidence Driven.

cadth.ca