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Internet-Delivered Cognitive Behavioural Therapy for Post-Traumatic Stress Disorder: Recommendations

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Abbreviations

CBT	cognitive behavioural therapy
HTA	Health Technology Assessment
HTERP	Health Technology Expert Review Panel
iCBT	internet-delivered cognitive behavioural therapy
ICER	incremental cost-effectiveness ratio
i-non-CBT	internet-based non-cognitive behavioural therapy
PTSD	post-traumatic stress disorder
QALY	quality-adjusted life-year

Summary of Recommendation

These recommendations were developed by the CADTH Health Technology Expert Review Panel (HTERP) and aim to address the following decision problems:

- Should internet-delivered cognitive behavioural therapy (iCBT) be used to treat individuals with post-traumatic stress disorder (PTSD)?
- If so, what factors and considerations should guide the implementation of internet-delivered cognitive behavioural therapy in the treatment of individuals with PTSD?

The recommendations were generated following HTERP deliberations based on evidence reviewed in a CADTH Health Technology Assessment (HTA) report.¹ The HTA included a review of the clinical effectiveness and safety, cost-effectiveness, patients' and caregivers' perspectives and experiences, ethical issues, and implementation considerations related to the use of iCBT for the treatment of PTSD.

The target population for these recommendations is individuals with PTSD. The target users of these recommendations are Canadian health care decision-makers, those in provincial and territorial ministries of health, and mental health researchers.

1. HTERP suggests that there is a potential role for iCBT in the treatment of adults with PTSD; however, HTERP considers that, at present, the relevant evidence is insufficient and of low quality. Better-quality evidence is required to inform future implementation and policy decisions for the use of iCBT in the treatment of adults with PTSD. Future studies should report:
 - standardized outcomes stratified by patient characteristics
 - short- and long-term evaluation of clinical effectiveness, safety, and cost-effectiveness.
2. Regarding the possible implementation of iCBT for the treatment of PTSD, HTERP recommends:
 - initial diagnostic assessment and referral to establish patient suitability with regards to the appropriateness of the iCBT intervention, including safety and access considerations
 - that the iCBT be therapist-guided
 - the use of iCBT as one component of a stepped care model or in conjunction with other therapies, as appropriate
 - ensuring the appropriateness of programs based on symptom severity, culture, context, and the type of trauma
 - ensuring that personal health information is appropriately safeguarded and securely managed, in accordance with the privacy regulations in the jurisdiction where the care is being provided.

Technology

Cognitive behavioural therapy (CBT) is one of the most frequently used psychotherapies for treating PTSD and its effectiveness is supported by a large body of evidence.²⁻⁵ CBT combines the principles of cognitive and behavioural therapies; the aim of CBT is to provide

individuals with coping strategies and mechanisms to solve current problems and to change dysfunctional thoughts, behaviours, beliefs, and attitudes.⁶ CBT for PTSD consists of psychoeducation on common reactions to trauma, anxiety management strategies (e.g., breathing relaxation techniques), controlled confrontation (exposure) with trauma-associated memories, and cognitive restructuring of maladaptive cognitions, such as perceiving the world as dangerous.^{7,8}

CBT is traditionally delivered through face-to-face sessions between the individual and a therapist. However, access to traditional CBT can be impeded by a number of factors such as financial costs and the ability to pay, perceived stigma, potentially scarce geographic availability (e.g., in rural or remote areas), and long wait times.⁹⁻¹³ iCBT, which involves the delivery of CBT through an online platform with or without the support of a therapist (or other practitioner),⁸ is increasingly being considered or implemented as a way to improve access to treatment and services for mental health conditions, including PTSD.¹⁴⁻¹⁶ It is viewed as an alternative that may help address the financial, geographical, social, and other barriers associated with the traditional model of delivery of psychotherapeutic care. However, a number of issues related to iCBT, such as limited or no therapist support or the varying quality of existing programs, have led to questions about its use for the treatment of PTSD.

Overall, there is a need for evidence to guide policy and the appropriate use of iCBT in the context of caring for patients with PTSD in Canada.

Methods

CADTH conducted an HTA on the clinical effectiveness and safety, cost-effectiveness, patients' and caregivers' perspectives and experiences, ethical issues, and implementation considerations related to the use of iCBT for the treatment of PTSD. HTERP developed recommendations on the aforementioned decision problems based on the evidence presented in the HTA report.¹ HTERP members reviewed the evidence, discussed all elements of the HTERP deliberative framework,¹⁷ considered stakeholder feedback, and developed recommendations through discussion, deliberation, and consensus. Details of the HTERP deliberative process are available on the [CADTH website](#).¹⁸

Detailed Recommendation

The objective of these recommendations is to provide advice for Canadian health care decision-makers and mental health researchers about the use and study of iCBT in the context of caring for patients with PTSD.

1. HTERP suggests that there is a potential role for iCBT in the treatment of adults with PTSD; however, HTERP considers that, at present, the relevant evidence is insufficient and of low quality. Better-quality evidence is required to inform future implementation and policy decisions for the use of iCBT in the treatment of adults with PTSD. Future studies should report:
 - standardized outcomes stratified by patient characteristics
 - short- and long-term evaluation of clinical effectiveness, safety, and cost-effectiveness.

2. Regarding the possible implementation of iCBT for the treatment of PTSD, HTERP recommends:
- initial diagnostic assessment and referral to establish patient suitability with regards to the appropriateness of the iCBT intervention, including safety and access considerations
 - the iCBT be therapist-guided
 - the use of iCBT as one component of a stepped care model or in conjunction with other therapies as appropriate
 - ensuring the appropriateness of programs based on symptom severity, culture, context, and the type of trauma
 - ensuring that personal health information is appropriately safeguarded and securely managed, in accordance with the privacy regulations of the jurisdiction where the care is being provided.

Rationale

- There was insufficient evidence on the clinical effectiveness and safety of iCBT in the treatment of PTSD. A statistically significant improvement in severity of PTSD symptoms with iCBT treatment compared with wait list was reported in the HTA; however, this was not found to be a clinically meaningful difference.¹ Considering these findings and the current challenges related to the availability of and access to face-to-face treatment, iCBT should continue to be explored as an option for enhancing access to psychotherapeutic care for PTSD.
- There were limitations regarding the certainty and quality of the available evidence as most of the evidence was of very low or low quality, as per the GRADE (Grading of Recommendations Assessment, Development and Evaluation) criteria (e.g., high risk of bias, substantial clinical and statistical heterogeneity, no studies conducted in the Canadian setting).¹ The safety of iCBT was not explored in the majority of the clinical studies.¹ In addition, most of the studies included a small number of patients and were conducted over a short period of time.¹ Given these evidence gaps, there is a need for additional higher-quality research to be conducted to provide more clarity on the role of iCBT in the treatment of PTSD in the short and long term.
- The appropriateness of iCBT for an individual presenting with PTSD may be contingent on the severity and form of PTSD, the type of trauma underlying the diagnosis, the patient's goals, and presence of comorbidities.¹ Furthermore, some patients may lack digital literacy and reliable internet service, which may limit the suitability of internet-based interventions for those individuals.¹ A front-end assessment of potential patients and a referral process built into iCBT programs for PTSD would help to ensure that the intervention is offered to individuals for whom it is appropriate.
- Patients have a range of views regarding what is acceptable in the treatment of PTSD.¹ In this context, a tailored approach in terms of content and ongoing support and monitoring may be needed to reflect patients' needs and goals. Therapist support may help guide appropriate tailoring and ensure the intervention's "fit."
- Access to mental health care is an area of unmet need. In the economic analysis, iCBT was found to be likely cost-effective in the treatment of PTSD when compared with no treatment or with internet-based non-CBT (i-non-CBT) therapies at a willingness-to-pay threshold of \$50,000 per quality-adjusted life year (QALY). Specifically, iCBT would be

cost saving compared with no treatment (i.e., less costly and more effective) in patients with PTSD under a lifetime time horizon.¹ However, given the previously noted issues with the clinical evidence, the quality of the clinical data informing the economic model was low. The uncertainty with the clinical evidence should be considered when interpreting the economic analysis.

Considerations

As HTERP worked through the deliberative framework, the following considerations were put forth as part of its discussion.

- Accessing face-to-face treatment for PTSD is often difficult due to barriers such as limited availability, cost, patient symptoms, stigma, and geographic distance between patients and practitioners. Although there was some evidence that iCBT may be more effective than wait list for the treatment of adults with PTSD, these findings were highly uncertain due to the very low quality of the available literature. However, providing iCBT as an option to people in need of care for PTSD may be a better alternative than letting them go without treatment, in addition to being autonomy enhancing. Given the range of barriers to accessing or engaging in care, HTERP considers that iCBT may be a viable option for some patients with PTSD.
- iCBT represents one potential option among the different interventions that are available for providing care to individuals with PTSD. As such, it may be appropriate to integrate iCBT within a broader stepped care model that includes a process to ensure that patients are referred to the appropriate intervention, or mix of interventions, based on their needs and goals. Adding iCBT to the continuum of care for PTSD could help enhance flexibility in treatment approaches and ensure that patients receive more timely and responsive care. Depending on the patient's needs and suitability, iCBT may have a role as first-line therapy, as adjunct to other therapies, or as maintenance therapy following another type of treatment.
- Safety of the patient and others should be a key consideration in decisions on whether and how to provide iCBT to an individual with PTSD. HTERP considers that safety concerns may be managed through the assurance of an upfront assessment and referral process, guidelines and transparency (in terms of therapist qualifications), and a rigorous informed consent and intake process.
- There are currently no standards that guide the provision of iCBT, which results in a range of programs that vary widely in terms of content, quality, and adherence to the principles of CBT. While little is currently known about the features of an iCBT program that promote successful outcomes, it should be expected that iCBT programs offered under the current lack of standards will differ in their ability and effectiveness in caring for individuals with PTSD. As iCBT programs are developed, it may help to have outcome measurements built into them to facilitate the evaluation of individual programs and provide data for general research on iCBT.
- Given that patients have a range of views regarding what is acceptable in the treatment of PTSD, tailoring treatments to individual patient needs and goals was emphasized throughout the literature, in addition to a desire, for most patients, to develop and maintain a strong therapeutic relationship.¹ As such, HTERP considers that therapist support, like that found in many guided iCBT programs, may help promote the therapeutic relationship, help guide appropriate tailoring of the intervention to patient needs and goals, and help realize the principles of trauma-informed care.

- ICBT may offer an option to improve access to mental health services; however, the “digital divide” in Canada is a consideration that will need attention in the implementation of this therapy. The reach and suitability of iCBT as a treatment option for mental health conditions is dependent on computer access, digital literacy, and access to reliable internet service, which some patients will not have. Inequities in access may not be reduced without recognition that alternative options to iCBT will be required for addressing the needs of patients who are affected by the digital divide. iCBT may be a treatment option as it will offer some patients the potential to benefit while not introducing further harm to others.

Evidence

Clinical Evidence

The clinical evidence was assessed in an update of a Cochrane systematic review and meta-analysis on the effectiveness of iCBT for the treatment of PTSD. The update consisted of reporting on the methods of the Cochrane review, performing literature search updates to capture any new relevant evidence, summarizing the findings of the Cochrane review, planning to reanalyze meta-analytic results with data from any relevant studies identified in the search updates, and conducting a quality assessment of the Cochrane review and of newly included literature. The research question was:

- What is the clinical effectiveness and safety of iCBT for the treatment of patients, aged 16 years or older, with a primary diagnosis of PTSD?

Literature search updates yielded no additional relevant publications for inclusion; therefore, the updated systematic review and meta-analysis were comprised of 10 randomized controlled trials identified within the Cochrane review (eight studies compared iCBT with wait list; two studies compared iCBT with i-non-CBT interventions). Primary studies were conducted in Australia, Iraq, Sweden, the UK, and the US (six studies). A total of 720 participants were included in the 10 primary studies, with individual studies recruiting between 34 and 159 participants. The proportion of female participants in the studies ranged from 18.75% to 100%. The mean time since primary traumatic event (index trauma) in the patient populations of the included studies ranged from 2.72 years to 9.88 years, although the time since index trauma was not reported in eight of the primary studies. The quality of the evidence ranged from very low to low across outcomes and comparisons.

Overall, the identified literature suggested that iCBT may be more effective than wait list for adult patients with PTSD. The results of the meta-analysis indicated that treatment with iCBT was effective in comparison with wait list with respect to severity of PTSD symptoms, depressive symptoms, anxiety symptoms, and quality of life. However, the magnitude of the benefit to PTSD symptoms may not translate into clinically meaningful change according to minimal clinically important difference values from the literature. There were no statistically significant differences between treatment with iCBT and i-non-CBT interventions with respect to severity of PTSD symptoms. Evidence regarding the safety of iCBT was unavailable from the majority of the included primary studies. Low-quality evidence suggested that participants treated with iCBT were at an increased risk of dropout versus those on wait list.

Economic Evidence

A decision-analytic model was constructed to examine the lifetime clinical outcomes and costs associated with treatments of PTSD in patients 16 years of age or older from a provincial ministry of health perspective. The following question was addressed:

- What is the cost-effectiveness of iCBT compared with face-to-face CBT, alternative psychotherapy intervention(s), treatment as usual, and no treatment in patients 16 years of age or older with a primary diagnosis of PTSD?

The Markov model included health states relevant to the natural history of PTSD and the long-term effects of treatment. Health states consisted of remission, active PTSD with or without comorbidities (i.e., depression or substance abuse), and death. Patients modelled were those who had not recovered within three months post trauma and were seeking therapy. All patients started in the model with active PTSD and could experience remission; those in remission could then experience a relapse to active PTSD. The CADTH clinical review informed the clinical efficacy of iCBT compared with no additional treatment (i.e., usual care, wait list, or delayed treatment control group), as well as a separate comparison with i-non-CBT; with treatment effects applied in the first year only. The primary outcome was the cost per QALY gained in 2019 Canadian dollars.

Costs of iCBT included those related to an initial assessment (for referral to the program); salaries for regulated non-physician therapists (for guided iCBT only); and maintenance, IT support, and licensing specific to the delivery of iCBT through a central online portal. CADTH's reference case compared iCBT with no additional treatment (i.e., wait list, usual care, or delayed treatment control group). Additional scenario analyses were conducted comparing iCBT with i-non-CBT, as well as varying the efficacy and costs related to iCBT. Given that there were no studies identified in the clinical review that compared iCBT with the other comparators of interest (e.g., face-to-face CBT), these were excluded from the analysis.

The economic evaluation required several key assumptions that are important to consider when interpreting the results. These included: first, there would be no barriers to treatment access; second, differences in PTSD symptom score changes, as identified in the clinical review, would correspond to equivalent changes in remission from PTSD; and, third, the active PTSD health state included all patients with a PTSD diagnosis as further categorization by PTSD severity was not possible due to a lack of data and the lack of an accepted PTSD severity classification system.

iCBT was found to be dominant compared with no additional treatment (i.e., fewer costs and higher QALYs). The results were primarily driven by the cost of treatment and the extrapolation of the clinical impact of iCBT over a lifetime. The model was found to be robust across most sensitivity and scenario analyses. In comparison with i-non-CBT, the incremental cost-effectiveness ratio for iCBT was \$8,624 per QALY gained.

Perspectives and Experiences Evidence

The perspectives and experiences evidence was addressed in rapid qualitative evidence synthesis and best-fit framework analysis of primary qualitative studies describing the perspectives and experiences of psychotherapy for people living with a diagnosis of PTSD, and those of their families and care providers. Patient engagement with five people living with PTSD occurred throughout protocol development and the early stages of evidence synthesis as a way of gaining insight into what it might be like to live with PTSD and engage in subsequent treatment (e.g., iCBTs) for PTSD. Due to the large body of eligible literature, concepts that arose during these conversations also assisted with sampling decisions. The following question was addressed:

- How do patients, their families, and their health care providers experience engaging with treatments for PTSD?

Results from the analysis generally pivoted around the concept of relationality and demonstrated how experiences living with, coming to know, and engaging in treatment for PTSD were described as neither isolated nor stable events in the lived worlds of PTSD. Strong therapeutic relationships and the freedom to play a collaborative role in one's treatment decisions were indicated as helpful to fostering a sense of achievability and providing a comfortable space to work through therapy. The opportunity to draw on the experiences of peers engaged in similar treatment protocols or to invite loved ones to contribute to treatment plans could have similar effects. While it is possible that individuals interested in engaging with iCBTs for PTSD might place less of an emphasis on these sorts of external relationships, it seems important to provide the space within iCBT protocols for them to flourish were that desired.

When considering the role an individual might play in their own therapy, terms like *readiness* and *motivation* were used to describe the self-work involved in preparing for and successfully completing psychotherapies for PTSD. As this frequently involves elements of re-exposure to traumatic thoughts or spaces, readiness often implied a pairing of emotional management skills and safe coping mechanisms with a strong desire to change. Ensuring that iCBTs help to develop these skills and mechanisms prior to exposure elements (if included in the program) would likely be beneficial to the overall treatment plan.

Ethics Analysis

The ethics analysis began with a review of ethics, clinical, and public health literatures to identify existing ethical analyses of iCBT, and by conducting a novel ethical analysis based on the gaps identified in the ethics literature and consideration of results of concurrent reviews conducted as part of this HTA. The ethical issues identified, values described, and solutions proposed in the literature were evaluated using the methods of ethical (applied philosophical) analysis, which included applying standards of logical consistency and rigour in argumentation. The purpose was to identify and reflect upon key ethical issues that should be contemplated when considering the provision, development, and use of iCBT for PTSD in Canada.

The central themes identified in the literature were trauma-informed care, the therapeutic alliance, and trust; beneficence and the uncertainty of new treatment modalities; nonmaleficence, limitations to client safety, and the prevention of retraumatization; justice

and enhanced access; respect for autonomy and informed consent; privacy and confidentiality in the context of internet-delivered therapies; and professional and legal issues.

In addition to identifying ethical issues that can be expected to arise in the context of many, if not all, internet-delivered mental health therapies (e.g., limits to privacy and confidentiality, challenges to the informed consent process, and an assortment of professional and legal issues related to professional competence and liability), this report also identified and discussed several ethical issues specifically relevant to the provision, development, and use of iCBT for PTSD in Canada. These ethical issues include the extent to which trauma-informed care (and associated ethical commitments to prioritize client safety and prevent retraumatization) can be sufficiently realized in the context of iCBT, particularly where iCBT is not therapist-supported; the consideration and proper balancing of the justice-enhancing and justice-diminishing features of iCBT; and the prospect of a trusting alliance to be established in the context of iCBT such that iCBT providers are capable of effectively fulfilling their ethical obligations. Considered together, while iCBT has the capacity to enhance access to needed mental health services, the justice-enhancing features of iCBT may only be viewed as virtues where the prospect of increased access extends to those less privileged, and where the therapeutic environment does not entirely eliminate an alliance between practitioner and client.

Implementation Analysis

A qualitative descriptive study, which used a framework approach to analysis, was conducted to explore the implementation issues associated with the use of iCBT in the treatment of PTSD. In addition to engaging with literature that included things like guidelines for PTSD care and Canadian policy documents oriented around PTSD care, we spoke with 15 individuals representing 11 stakeholder groups representing various levels of decision-making and health care delivery in mental health. Stakeholders were engaged as a way of gaining a better understanding of the context and relevant issues of implementing iCBT for PTSD in Canada. The following question was addressed:

- What are issues relating to the acceptability, feasibility, and capacity for implementing iCBT for the treatment of PTSD at micro (i.e., individuals living with the diagnosis of PTSD and their health care providers), meso (e.g., health care organizations, community mental health agencies, educational institutions), and macro (i.e., provincial, territorial, and federal) levels?

For jurisdictions interested in implementing iCBTs as an option in PTSD care, our analysis identified six key points to consider.

- There may be a role for a regulatory framework or licensing body oversight in terms of what qualifies as an iCBT and how this is determined or evaluated. As such, a blanket recommendation or set of policies for iCBTs understood generally may not be appropriate.
- iCBT interventions will not be appropriate for everyone presenting with PTSD. Whom they are appropriate for will be dependent upon factors such as the severity and form of PTSD, the type of trauma underlying the diagnosis, the patient's goals, and the presence of comorbidities.

- Where iCBTs for PTSD could fit into a current care pathway depends largely on what gap iCBT is meant to fill in terms of mental health care. Stakeholders identified four potential places where they perceived iCBTs may be useful: prevention, assessment and triage, first-line therapy, and maintenance therapy. Of note, long wait lists were identified as tied to ineffective and inefficient triaging strategies. As many people living with PTSD in Canada undergo assessment through someone other than a specialist, upon referral to a specialist it is possible that some individuals are “lost” to treatment due, at least in part, to subsequent wait times. Providing access to iCBT programs with built-in assessment procedures was identified as a possible way to breaking up these wait lists as they can follow assessment with rapid triage to the iCBT program if appropriate for that individual.
- Which professionals are deemed appropriate to provide iCBTs is tied both to where it is proposed to fit in a care pathway and with what type of professionals (e.g., psychologists, social workers, trained paraprofessionals) payers are willing to engage.
- There is a need for more comparative research around the effectiveness of iCBTs in relation to active comparators like face-to-face CBTs.
- In order for iCBTs to be successfully implemented into care for PTSD, several structural concerns may need to be addressed. These concerns include those of the “digital divide” in Canada, wherein it is recognized that neither digital literacy nor access to online technologies are everywhere equal in Canada; IT control around data security (e.g., privacy and confidentiality); and funding or provision fragmentations inherent in Canada’s two-tiered mental health system.

Limitations

The findings of the clinical review should be interpreted with caution due to the significant limitations of the included literature. These limitations include, but are not limited to, a high risk of bias in the primary studies, which reduced the certainty of the treatment effect size (particularly a risk of selection bias due to unclear methods of allocation concealment and a risk of performance bias due to the lack of blinding of study participants, personnel, and outcome assessors), high levels of clinical heterogeneity (e.g., level of therapist assistance, type of therapist assistance, participant characteristics, methods of participant recruitment, type of CBT, baseline symptom severity, trauma type and context, and type of device used to deliver iCBT), and imprecision in meta-analytic results due to small sample size. Additionally, no evidence that directly compared treatment with iCBT and face-to-face CBT or other psychotherapies was identified; therefore, the comparative clinical effectiveness of iCBT and face-to-face psychotherapies is unknown.

It was not possible to conduct analyses of iCBT compared with the current standard of care, including face-to-face CBTs, and, as a result, the cost-effectiveness of iCBT in comparison with other psychotherapy interventions in the care pathway remains uncertain. Additionally, a lack of subgroup data precluded any analysis of cost-effectiveness of iCBT in patients who experienced a single exposure to trauma versus repeat exposure, or those who have experienced interpersonal trauma versus non-interpersonal trauma. Data related to stepped care or the use of iCBT in sequence with other interventions were also not available. As a result, it is not possible to identify the optimal sequencing of iCBT, or the subgroups for which iCBT may be more or less cost-effective.

For the perspectives and experiences review, the included publications focused on providers' and patients' perspectives regarding decisions of whether or not to engage with various psychotherapies for PTSD, as well as experiences providing or undergoing these psychotherapies. While the original intent of the perspectives and experiences review was to examine those perspectives and experiences of engaging with iCBTs for PTSD, as no literature was returned that specifically focused on iCBTs, the focus was broadened to perspectives and experiences with any psychotherapy treatment for PTSD.

There is a paucity of literature that directly and explicitly engages in the normative or empirical analysis of the ethical issues that can be expected to arise in the context of internet-delivered CBT, let alone iCBT for PTSD. While some common ethical issues may be relevant to all internet-delivered therapies, the potentially unique ethical considerations that may arise in the development of iCBT for PTSD are largely unexamined or underexamined in the literature. Furthermore, the vast majority of the literature reviewed merely enumerated ethical issues associated internet-delivered therapies and failed to examine or provide substantive normative analyses of these issues. In response, efforts were made to synthesize and analyze these findings in order to examine their normative implications for the use of iCBT for PTSD. The ethical issues and considerations identified through this analysis predominantly reflect those that emerge in relation to iCBT providers and the delivery of iCBT, which reflects the focus of the published ethical literature, and, as such, the ethical issues and considerations from the perspectives of clients, app developers, organizations, funders, and health regulators were only variably considered. Efforts were made to illuminate the ways in which many of the ethical issues and considerations might impact or be viewed by different stakeholders; however, future research exploring the ethical dimensions of iCBT from other stakeholders' perspectives will be important.

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Appendix 1: Health Technology Review Panel Details

The Health Technology Expert Review Panel (HTERP) is an advisory body to CADTH and is convened to develop recommendations on non-drug health technologies to inform a range of stakeholders within the Canadian health care system. Further information regarding HTERP is available [here](#).

HTERP consists of seven core members appointed to serve for all topics under consideration during their term of office, and up to five expert members appointed to provide their expertise for a specific topic. For this project, two expert members with expertise in psychiatry and PTSD were appointed. The core members include health care practitioners and other individuals with expertise and experience in evidence-based medicine, critical appraisal, health technology assessment, bioethics, and health economics. One public member is also appointed to the core panel to represent the broader public interest.

Health Technology Expert Review Panel Core Members

Dr. Hilary Jaeger (Chair)

Dr. Sandor Demeter

Dr. Lawrence Mbugbaw

Dr. Jeremy Petch

Dr. Lynette Reid

Ms. Tonya Somerton

Dr. Jean-Eric Tarride

Expert Members

Dr. Alexandra Heber

Dr. Rima Styra

Conflict of Interest

HTERP core members' declarations are posted on the [CADTH website](#).

Dr. Rima Styra has received funding or honorariums from Edwards Lifesciences and Pfizer.
Dr. Alexandra Heber has no conflicts of interest to declare.

CADTH's [Conflict of Interest Guidelines](#) are posted on the CADTH website.