

CANMAT 2023 UPDATE:
CLINICAL GUIDELINES FOR
THE MANAGEMENT OF MDD IN ADULTS

QUESTION 4:

What is the Role of
Digital Health
Interventions (DHIs)?



What are DHIs?

Use of various technologies for screening, monitoring, treatment, and preventing recurrence



Computers,
smartphones,
tablets



Wearable
activity trackers



Digital
phenotyping



Text or SMS
messaging



Virtual
care

For this guideline, DHI denotes internet programs or mobile apps that deliver depression treatment

Potential utility of DHIs in MDD



Self-management: tools that draw on evidence-based psychotherapies (e.g., CBT, behavioural activation, mindfulness)



Supplement clinical care: specifically designed to address MDD



Substitute for in-person care: to identify pharmacokinetic reasons for poor response or adverse effects



Indirectly benefit MDD: target nonspecific depression/anxiety symptoms, stress, or burnout



Best for mild to moderate MDD: severe depressive symptoms (e.g., poor motivation, cognitive dysfunction) may interfere with ability to use DHI



Clinical use of DHIs in depression management



Benefits

- Real-time feedback
- Customization (e.g., youth, comorbidities, postpartum users, ethnocultural groups)
- Support more engaged and accessible mental health care

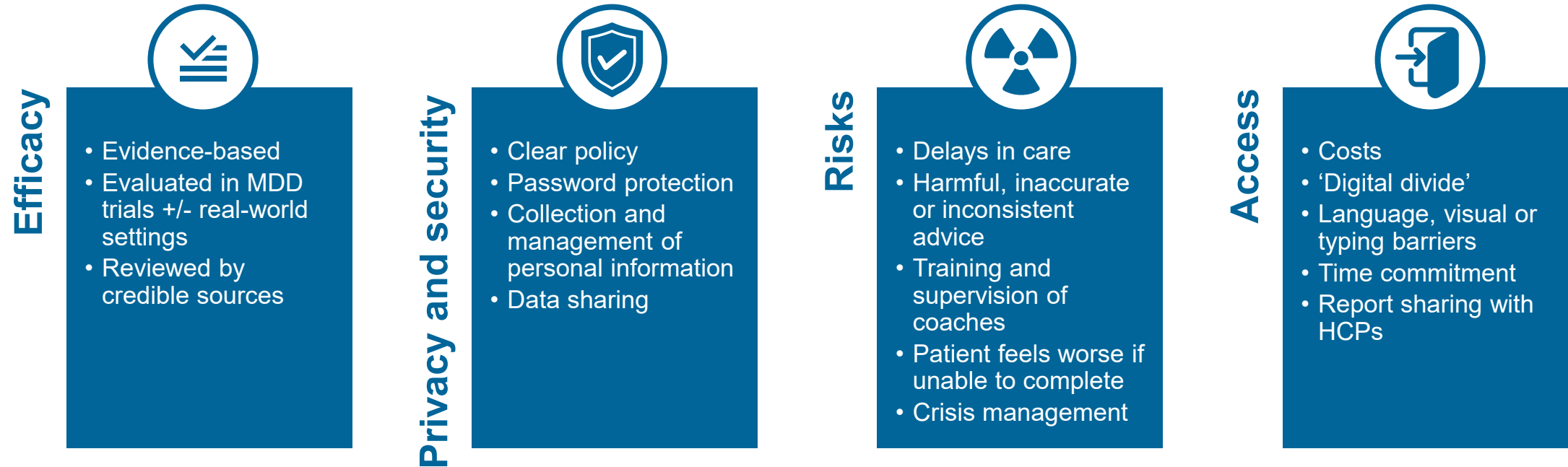


Limitations

- Lack of rigorous evaluation
- Privacy and security
- User engagement decreases over time
- Access (i.e., low digital literacy, digital inequity)
- Training in digital literacy for HCPs

Without guidance from HCPs, patients may self-select potentially inappropriate or unsafe DHIs

Considerations for evaluating DHIs





Tools are available to evaluate DHIs (e.g., Mindtools.io, M-Health Index and Navigation Database [MIND])

Types of DHIs






Unguided (i.e., self-directed)

- User engages independently
- No help or contact with others
- Limited evidence of efficacy
- Not routinely recommended as monotherapy, except in mild MDD when other resources not available 
- Helpful if HCP actively encourages use of program
- AI-enabled self-directed DHIs provide interactive feedback, but insufficient evidence to recommend 



Guided (i.e., supported by an individual)

- Help +/- feedback +/- motivation from a therapist, coach or peer supporter
- Real-time or asynchronous
- Medium to large effect size (iCBT) 
 - Recommended as a 1st-line monotherapy for mild MDD 
 - Recommended as a 1st-line adjunctive treatment for moderate MDD 
- Mixed evidence for iBA
- Insufficient evidence for other guided DHIs

Studies suggest that **guided DHIs are more effective than self-directed DHIs** 

LoE, Level of Evidence



Level 1



Level 2



Level 3



Level 4

Examples of guided DHIs

| DHI | Comments |
|---|--|
| <p>Good days ahead*</p> <ul style="list-style-type: none"> • CBT therapist provides additional instruction outside the session | <ul style="list-style-type: none"> • Reduced the need for face-to-face CBT by half with equivalent clinical outcomes |
| <p>BounceBack</p> <ul style="list-style-type: none"> • Free online CBT (self-directed or lay coaching via telephone) | <ul style="list-style-type: none"> • Positive study in MDD • Available free in several Canadian provinces • Managed by CMHA |
| <p>Deprexis*#</p> <ul style="list-style-type: none"> • Online CBT with tailored guidance from AI conversational agent • BA and mindfulness techniques | <ul style="list-style-type: none"> • Structured 12-week program • Available in several languages and countries • Positive meta-analysis |
| <p>MoodBeacon</p> <ul style="list-style-type: none"> • Online guided CBT by trained therapists | <ul style="list-style-type: none"> • Reviewed and approved in Ontario in 2021 |
| <p>Pacifica/Sanvello*#</p> <ul style="list-style-type: none"> • Free mobile- and web-based apps for relief of stress, anxiety, and depression • In-app purchases available | <ul style="list-style-type: none"> • Blend of CBT, mindfulness and relaxation • For adults and adolescents • Peer discussion in chat groups • Positive RCT results |

*DHI has at least 1 positive RCT in patients with MDD; #not available in Canada.

AI, artificial intelligence; BA, behavioural activation; CMHA, Canadian Mental Health Association; CBT, cognitive behavioural therapy; MDD, major depressive disorder; RCT, randomized controlled trial.

Lam RW, Kennedy SH, Adams C, et al. Can J Psychiatry. 2024 Sep;69(9):641-87.

Examples of unguided (self-directed) DHIs

| DHI | Comments |
|--|---|
| <p>Catch It</p> <ul style="list-style-type: none"> • Free CBT-based mobile app • Uses thought records and reflection exercises to address anxiety and depressive symptoms | <ul style="list-style-type: none"> • Developed by academic institutions • Mood tracker and diary • Benefits shown in observational trial |
| <p>Headspace</p> <ul style="list-style-type: none"> • Mobile app with self-guided meditation and mindfulness, some CBT | <ul style="list-style-type: none"> • Designed for stress, anxiety and depressive symptoms • Extensively studied • Good outcomes in many conditions of mild severity, but not specifically in MDD |
| <p>MoodGYM*</p> <ul style="list-style-type: none"> • Internet-based CBT self-help program with structured modules | <ul style="list-style-type: none"> • Widely used platform • Developed by academic institution • Extensively studied • Good outcomes in mild depression |
| <p>MoodKit*#</p> <ul style="list-style-type: none"> • CBT-based toolkit app • Detailed instructions for thought records and BA | <ul style="list-style-type: none"> • Teaches multiple aspects of CBT • Well-integrated mood monitoring and journaling |
| <p>Spark Direct*#</p> <ul style="list-style-type: none"> • Mobile app providing core elements of CBT and BA • 5-week program | <ul style="list-style-type: none"> • Designed for youth depression • Interactive tasks and rewards • Positive findings in an RCT |

*DHI has at least 1 positive RCT in patients with MDD; #not available in Canada.

BA, behavioural activation; CBT, cognitive behavioural therapy; MDD, major depressive disorder; RCT, randomized controlled trial.

Lam RW, Kennedy SH, Adams C, et al. Can J Psychiatry. 2024 Sep;69(9):641-87.

Recommendations for DHIs

| Line of Treatment | DHI | Level of Evidence |
|-----------------------|---|-------------------|
| 1 st Line | Adjunctive use of guided iCBT DHIs for mild-moderate MDE | |
| | Guided iCBT DHIs for mild severity MDE | |
| 2 nd Line | Adjunctive use of self-directed DHIs for mild-moderate MDE, when supported with guidance by clinicians | |
| | Adjunctive use of guided iBA DHIs for mild-moderate MDE | |
| 3 rd Line | Self-directed DHIs for mild MDE when no other clinical interventions are available | |
| Insufficient evidence | Chatbots and conversational agents | n/a |

LoE, Level of Evidence Level 1 Level 2 Level 3 Level 4

DHI, digital health intervention; iCBT, internet cognitive behavioural therapy; iBA, internet behavioural activation; MDE, major depressive episode; n/a, not applicable.

Lam RW, Kennedy SH, Adams C, et al. Can J Psychiatry. 2024 Sep;69(9):641-87.