

## Appendix A: List of Reviewed Frameworks

PsyberGuide(1)(2), Mobile App Rating Scale (MARS)(3), AppScript Score(4), MindTech toolkit(5), NHS Digital Development Lab(6), Digital Assessment Questionnaire(7), PAS 277:2015(8), Cambridge Health Alliance(9), mHIMSS (10), NICE Behavior Change Guidance(11), AMA Principles for Safe Apps(12), Mindtools.io, ORCHA(13), Xcertia (14)(15), Guidelines for Mental Health App Evaluation Framework(16), mHealth Quality Label(17), Medical App Evaluation(18), Mobile Health Evaluation Framework(19), APPLICATIONS scoring system(20), Evaluating Sickle Cell Mobile App(21), mHealth App Evaluation for HIV(22), mHealth App Evaluation for HIV (23), mHealth App Evaluation for Pain Management(24), Evaluation of Mobile Clinical Applications(25), Quality of Experience (QoE) Survey(26), Concussion App Evaluation, Apps for Pain Management(27), Evaluation Tool for Healthcare Smartphone Applications(28), IMS: Patient Apps for Improved Healthcare(29), Mobile Apps for Asthma(30), Assessing Mobile Health App Quality(31), Certification Program for App Quality and Safety(32), Apps and Eating Disorders(33), Evidence-based Mobile Medical Applications in Diabetes(34), Diabetes Self-Management Applications(35), Framework for Evaluating Mobile Applications for Cardiac Rehabilitation(36), PIS: graphical classification tool for mHealth apps(37), Usability Evaluation of Mobile Applications for Diabetics(38), DiaDigital Apps(39), Applications of Mobile-Health in Iranian Health System(40), A Health Technology Assessment Module for Evaluating Mobile Medical Applications(41), Transparency4Trust(42), Graded Review of Dermatology Apps(43), What Makes a Good Health App?(44), Development a Guide for Mobile Health-Related Apps (45), Assessment Framework for COVID-19 Apps (46), Assessment of the Transparency and Reliability of Health Information Dissemination(47), Medical Mobile App Classification(48), Framework for Digital Support for the Autism Community (49), mHealth App Trustworthiness Checklist(50), THESIS(51), Framework for Evaluating Quality of mHealth Apps for Adolescent Users(52), ABACUS(53), Alberta Rating Index(54), Evaluation Framework for Digital Health Interventions(55), Mobile Applications Recommendations(56), Assessment Framework for Quality of Asthma Smartphone Applications (57), Global Digital Health Scorecard(58), NASS(59), Australian NSQDMH(60), Express Scripts Digital Health Formulary (61), Medical App Checker (62), Modernizing and Designing Evaluation Frameworks (63), Enlight (64), Improving the Quality of Apps for Patient Use(65), Assessment Framework for e-Mental Health in Canada(66), A Decision-Making Checklist to Support Technology Selection(67), Canadian Mental Health Commission (68), Trust4App(69), Evaluation Criteria (70), IDEAS(71)

## Appendix B: Question-by-Question Analysis of MIND

Question	Frameworks with representative question
<b>App Origin</b>	26
Does it come from the government?	6
Does it come from a for-profit company or developer?	4

Does it come from a non-profit company?	3
Does it come from a trusted healthcare company?	6
Does it come from an academic institution?	3
<b>App Functionality</b>	<b>42</b>
Does it work on Apple(iOS)?	9
What is the Apple version?	0
What is the oldest iOS version supported?	0
What was the Apple release date?	1
When was the last Apple (IOS) update?	7
Has the apple version been updated in the last 180 days?	9
Number of reviews on Apple store?	9
Rating (number of stars) on Apple store?	9
App size on iOS?	2
Does it work on Android?	9
What is the Android version?	0
What is the oldest Android version supported?	0
What was the Google play store release date?	1
When was the last Android update?	7
Has the android version been updated in the last 180 days?	9
Number of reviews on google play store?	9
Rating (number of stars) on google play store?	9
App size on android?	2
Does the app work offline?	7
Does it have at least one accessibility feature (like adjust text size, text to voice, or colorblind color scheme adjuster)?	11
Does it have a web version?	5
Does it work with Spanish?	0
Does it work with a language other than English or Spanish?	5
Is the app totally free?	8
What is the cost up front?	16
Are there in-app purchases?	6
Is it a subscription (recurrent/monthly/annual)?	3
<b>Inputs &amp; Outputs</b>	<b>17</b>
Input: surveys?	2

Input: Diary?	1
Input: Geolocation?	0
Input: contact list?	0
Input: Camera?	0
Input: Microphone?	0
Input: step count?	0
Input: external devices (e.g. a wearable sending direct data)?	4
Input: social network?	1
Output: notifications?	6
Output: psychoeducational references/information?	0
Output: social network?	1
Output: reminders?	3
Output: graphs of data?	3
Output: summary of data (in text or numbers)?	3
Output: link to formal care/coaching?	2
<b>Privacy &amp; Security</b>	<b>43</b>
Is there a privacy policy?	20
Does the app declare data use and purpose?	18
Does the app report security measures in place?	25
Is PHI shared?	9
Is de-identified data shared?	5
Is anonymized/aggregate data shared?	5
Can you opt out of data collection?	4
Can you delete your data?	3
Is the user data stored only on the device?	5
Is the user data stored on a server?	9
Does the app have a crisis management feature?	4
Does the app claim it meets HIPAA (or analogous national standard for patient/PHI privacy protection)	10
Reading level of the privacy policy (what grade reading level)?	4
Does the app use 3rd party vendors (i.e. google analytics, etc)?	4
<b>Evidence &amp; Clinical Foundation</b>	<b>57</b>
Is the app content well-written, correct, and relevant?	25
Does the app appear to do what it claims to do?	18

Is the app patient facing?	28
How many feasibility/usability studies?	14
What is the highest feasibility impact factor?	1
How many evidence/efficacy studies?	27
What is the highest efficacy impact factor?	4
Can the app cause harm?	7
Does the app provide any warning for use?	11
<b>Features &amp; Engagement Style</b>	<b>29</b>
Features: mood tracking?	4
Features: medication tracking?	2
Features: sleep tracking?	1
Features: physical exercise tracking?	1
Features: psychoeducation?	3
Features: journaling?	0
Features: picture gallery/hope board?	0
Features: mindfulness?	1
Features: deep breathing?	0
Features: iCBT or sleep therapy?	1
Features: CBT?	0
Features: ACT?	0
Features: DBT?	0
Features: peer support?	1
Features: connection to coach/therapist?	1
Features: biodata?	2
Features: goal setting/habits?	3
Features: physical health exercises?	2
Features: Chatbot interaction (like with virtual character)?	0
Features: Biofeedback with sense data (eeg, HRV, skin conductance, etc)?	2
Engagement style: user generated data?	4
Engagement style: chat/message based?	1
Engagement style: is it a screener/assessment?	3
Engagement style: real time response?	3
Engagement style: Asynchronous response?	0

Engagement style: gamification (points, badges)?	7
Engagement style: videos?	2
Engagement style: audio/music/scripts?	2
Engagement style: AI support?	0
Engagement style: peer support?	6
Engagement style: network support?	5
Engagement style: Collaborative with provider/other?	8
<b>App Use</b>	8
Is it a self-help/self-management tool?	6
Is it a reference app?	1
Is it intended for hybrid use with a clinician in conjunction with treatment plan?	3
<b>Interoperability &amp; Data Sharing</b>	23
Do you own your data?	8
Can you email or export your data?	10
Can you send your data to a medical record?	5

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