DIGITAL TOOLS AND SOLUTIONS FOR TEEN MENTAL HEALTH

ONE MIND PsyberGuide

Connected Learning Lab

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Executive Summary

Imagine a world where any teen who experiences a mental health challenge could receive high-quality, youth-centric care at the push of a button. This may sound impossible, but many teens are already going online to seek mental health support in the form of various digital tools and solutions. Currently, however, many of these tools are not high-quality and few are truly tailored to the needs and interests of teens or are created in ways that understand teens' development (i.e., social, cognitive, and biological development) in these formative years.

In this report, we discuss the need and opportunities for digital tools and solutions for teen mental health. We also provide product reviews of 19 products for teens ages 13-18 providing information such as target conditions, types of interventions, interoperability, research evidence, platform, payment model, and privacy considerations. We also present some insights from interviews with teens as well as product developers and professionals.

The goal of this report is to empower teens, parents/caregivers, and professionals to make informed decisions in this space. We also hope to help interested parties - developers, purchasers, policymakers, and others - understand this space better to lead to efforts to protect and serve teens. Meeting teens where they are at while expanding availability of effective resources will require creating new tools and solutions beyond traditional care. Technology can help support this need, but technologies need to be engaging, safe, and effective.

Acknowledgements

We appreciate the interest and support that made this report possible. This includes collaboration with the Connected Learning Lab at the University of California, Irvine and many conversations with Mimi Ito, Candice Odgers, Katie Salen, and Remy Cross. Various stakeholders provided feedback on our initial list of products and provided connections and introductions to developers and other stakeholders as appropriate.

Thank you to the teens, providers, and developers who participated in our interviews. When teens were willing to share their names, they are used in combination with their quotes including Victoria, Emily, and Ria.

We would also like to thank One Mind for their continued and visionary support of One Mind PsyberGuide and specific contributions in the production of the guide and to the High Lantern Group for design and production.

BACKGROUND

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Background Summary and Report Overview

"It's ok not to be ok"

By age **11**, a majority (53%) of kids have their own smartphone.

By age **18**, it's nearly all (91%)[1].

As a result teens are spending more time in digital spaces - social media, online games, digital communication - and these technologies are increasingly shaping young people's lives.

So, what if we could provide mental health support to teens through this medium?

All of us experience feelings of sadness, stress, anxiety, or loneliness at some point in our lives. These feelings are especially common during adolescence, a time of significant growth and change. While these feelings are a normal part of growing up, for some they can reach levels where they make day-to-day life difficult to manage.

- Over **2.3 million teens** in the United States cope with severe major depression.
- In 2021, just under **14%** of teens aged **12-17** reported experiencing at least one **major depressive episode (MDE)** in the past year.[2]
- Nearly **1 in 3** teens aged **13** to **18** experience an anxiety disorder.[3]
- Mental health challenges are seen at higher rates among teens of color, teens from low-income households, and teens who have disabilities.[3]

Unfortunately, support is not always available for those who need it.
Almost half of teens living with mental health conditions in the United States go without any treatment. When people do seek treatment, they have to navigate various barriers presented by the fragmented and costly system of care in the U.S., barriers like lack of providers and lack of access to high-quality care.[4]

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Only 63% of counties in the U.S. have a mental health service that provides outpatient treatment for children and adolescents. Fewer than half of U.S. counties have a mental health service with any special programs for teens with serious and persistent mental health challenges.[5] Mental health providers for teens are hard to come by - child psychiatrists, child psychologists, or other mental health providers with competence in treating teens are even more scarce than availability of providers overall.

Given the lack of available resources, technology is providing a new way to support teen mental health. While not a substitute for professional care, digital tools can be useful to contribute to a continuum of care, and may be helpful when used:

- **For prevention and early intervention, by providing resources for teens with low-intensity needs.**
- **To help teens on waitlists gain knowledge and skills as they wait for care.**
- **As an adjunct to care, to enhance efficiency and impact.**
- **To support teens who want to stay on top of their overall wellness.**
- **To support teens after they complete treatment to reinforce and maintain gains.**

Technology affords opportunities to help teens, monitor their progress, and start conversations about mental health, all from the comfort of their own smartphone.

Digital tools may be used in different contexts, for different people, depending on their needs and stage of treatment. We broadly group digital tools into three categories:

Self-Help Tools
Can be used on their own, or as an on-ramp or follow-up to treatment.

Therapy Adjuncts
To supplement skills and strategies learned in therapy. May be used with professional guidance.

Virtual Care Platforms
A technology platform to connect with a care professional.
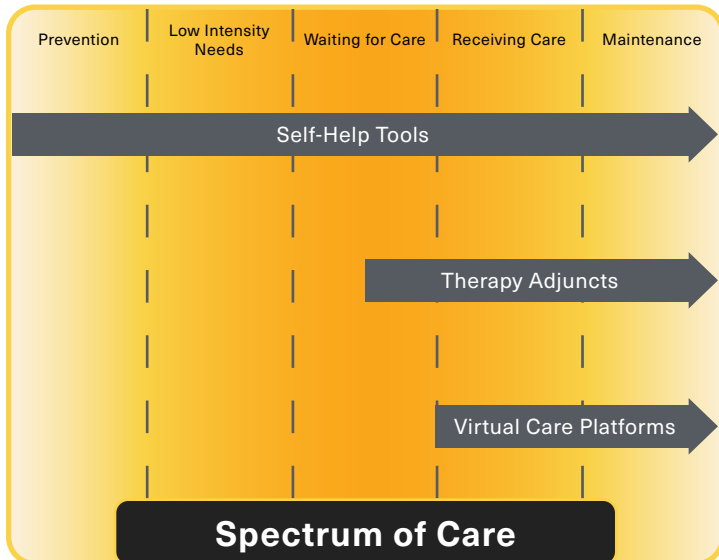
Mental health care spans prevention to maintenance. Where we are on this spectrum of care can change regularly, moving back and forth between different stages. Different digital tools and solutions may be more useful at different parts of this spectrum. Some types of tools might span the entire spectrum of care, like self-help tools, whereas other tools, like therapy adjuncts, might be appropriate for specific areas of the spectrum of care.

Background on Mental Health Apps

"There's an app for that?"

It is estimated that almost 20,000 apps for mental health are available on the app stores today. This includes a multitude of different types of apps — mindfulness apps, cognitive-behavioral therapy apps, symptom tracking apps - and different ways to interact like games and chatbots.

Below, we highlight just four different types of mental health apps and what they do. More examples of these types of apps can be seen in our tables of product reviews on pages 26-29.
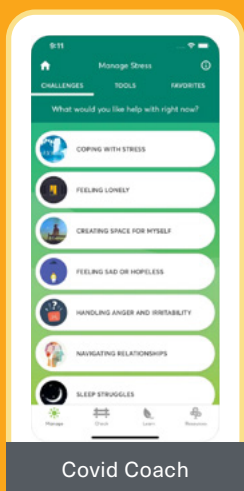
App Type:
Psychoeducation

Psychoeducation apps provide systematic, structured, and didactic content to teach people about various mental health challenges, their causes, and treatments. Psychoeducation apps might present this content in different ways including lessons, articles, videos, or audio tracks.

Who might this be a fit for?

People who want to learn more about mental health, including common mental health challenges and treatment types, and skills and activities that may be helpful. These apps can be a good first step in someone's help seeking, as they provide a broad range of information and can help direct people to more specific resources and care.


Covid Coach

App Type:
Symptom Tracking

Symptom-tracking apps allow consumers to track or monitor some aspect, or multiple aspects, of their experiences with a mental health challenge. These apps often provide summaries, charts, or other ways to reflect on this tracked information to provide insights or knowledge.

Who might this be a fit for?

People who want to track how they are feeling each day and look back at their mood over time. These apps can also help people identify what context cues might trigger a certain mood. By tracking mood each day, users don't need to remember how they felt last week or last month, they have the data in front of them. This can be a helpful tool if discussing wellbeing with a friend, family member, or professional.

Daylio
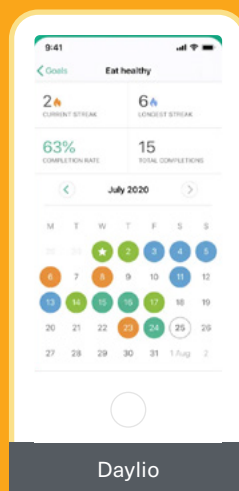
App Type:

Chatbots

Chatbot apps are designed to simulate conversation with another human. These apps often allow users to interact with a computer program in natural language or using a series of prompts.

Who might this be a fit for?

People who want to talk through how they are feeling, explore what contributes to their feelings of stress, anxiety, or low mood, and learn coping strategies and skills that can help.
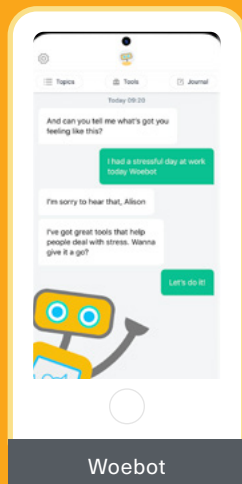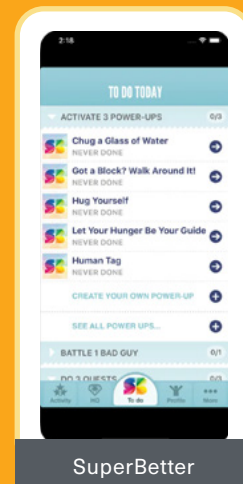

Woebot

App Type:

Games

Game apps use game mechanics like points, levels, missions, achievements, and progress to create various interactive experiences. Through gameplay the app aims to promote a user's mental health.

Who might this be a fit for?

People who want to learn coping skills through fun activities like games.

SuperBetter

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With so many apps to choose from, one resource that can help is **One Mind PsyberGuide**.

Website: https://onemindpsyberguide.org/   **App Guide:** https://onemindpsyberguide.org/apps/

Do mental health technologies work?

Overall, scientific evidence suggests that using apps by themselves can help but apps are most impactful when used along with human support. However, less research has been conducted with teens to understand how useful these tools and solutions might be for them. The strongest evidence supports the effectiveness of delivering Cognitive-Behavioral Therapy (CBT) skills through a digital medium to address depression and anxiety. [6] Again, the most effective and used interventions were those that included human support — for example provided by a professional, peer, or parent.

Evidence supporting the clinical effectiveness of digital tools for teen mental health has lagged behind the adult literature. Studies of teens usually have small samples and methodological weaknesses that limit their conclusions. So, while clinical evidence supports the promise of mental health technologies for teens, given the current gaps in the evidence, many digital tools are not evidence-based or evidence-informed.

Teen interest in digital tools for mental health

Teens are already using a range of digital resources for support with their mental health, and this has increased since the beginning of the Covid-19 pandemic. A 2021 Coping With Covid Report [7] from Hopelab, Common Sense Media, and California Health Care Foundation explored how 14- to 22-year-olds in the United States interact with mental health supports online. Findings showed that nearly 7 out of 10 teens have used a health-related mobile app related to health. These include apps for sleep, menstruation, and meditation. People with depression are even more likely to use a digital tool for support; three out of four teens with depression have used a mobile app related to health, connected with an online provider, or looked to connect with people online who have similar concerns.

In our own work, we have gathered feedback from teens on mental health apps: what they like, what they don't like, and what they want from these apps. Among a number of themes that we identified, teens told us that they want the following things from mental health technologies:

Community Building
Using technology to connect with other people, especially teens and those like them, and support one another in a "safe space".

Youth-Centric Technologies
Apps that are directly relevant to the specific challenges teens face (for example leaving middle school, graduating high school, challenges with peers, teachers, or parents) as opposed to more general apps which can be used by anyone.

Simple, Easy to use Products
Simple layouts, aesthetics and functionality. Teens don't want too many features, and prefer content that is easy to navigate.

Customizable & Interactive Tools
Apps that allow teens to change the look and feel, tailor content to their individual needs, and offer tools and resources that are interactive.

Teen Interviews

What do teens think about apps and technologies for mental health?

We talked with a number of teens about their experiences with technologies for mental health and wellness. They shared with us what they want from these technologies and what they have liked about technologies they have used. Four major themes that emerged from these conversations were:

1. **Teens can find a safe space for mental health support through technology.**
2. **Teens want simple, easy-to-use, and intuitive tools and solutions.**
3. **Teens want reputable content and resources.**
4. **Teens want tools that are transparent around costs and benefits.**

A safe space for mental health

Teens shared that their experiences of using mental health and wellness apps have been mostly positive, and that they appreciate that these tools can provide a safe space for them to find support without judgment. Having a safe, consistent, and reliable space where they can talk openly about their experiences and concerns, "in their own words", is important for positive mental health.

Victoria said:

"It's something that's not judgmental. It's like you're talking to a person...you're kind of able to just vent... To talk about what's going on for you."

Teens also shared that features which help block out other distractions (such as notifications from other apps) make the space feel focused, relaxing, and meaningful.

Emily shared that:

"It also pauses your music, and a lot of the time I was listening to very fast music, and then (the app) would pause it, and I'd be like okay yeah let's focus on this and I will kind of block out other distractions..."

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Teens told us that they want apps with simple, intuitive features and clean interfaces. They wanted apps that are easy to learn to use and don't require a lot of "set up".

Ria shared:

"I like the user interface… when you're starting to form the habit of using (an app) every day, having a really easy to use interface makes you want to do it more."

Teens liked features that reminded and encouraged them to use the app, such as progress trackers, notifications, reminders, and daily task lists.

Ria said:

"…Another thing that I thought was really cool was that in the daily checklist of stuff… it won't let you do tomorrow, and for me when I see a to do list I'm like okay I gotta do all this stuff… it kind of helped a lot to space it out."

Overall, teens expressed preferences for "bite-sized" content and features that are quick to engage with and not time-intensive.

"I think my favorite thing about [the app] was that the exercises are very, very short and small. So, you know when you hop on your phone you want convenience and ease, [this app], I think, really understood that."

Emily said:

"I really appreciate the convenience…I can just whip it out whenever, and I can just scroll through for maybe five minutes and then I can go through a quick guided exercise that just takes 30 seconds… even if it's so quick, it's still a refreshing few minutes that I got to spend, just not really thinking about anything else, and just trying to be deliberate with my thoughts instead."

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Reputable information and resources

Teens shared that they value information that is credible and research-based.

Ria explained that:

"When people Google stuff, I think especially around mental health... there's a lot of misinformation, or information that's based on one person's experience, or one person's opinion, that might not be supported by actual medical research. I think a filter that goes through them and highlights the ones that might be more reputable would be good, so young people can look at resources that might be more reputable."

They expressed an enthusiasm for tools that could signpost them to local resources in their area via location services or provide quick access to resources like crisis support.

"I would also link resources to access help. If I could design an app where it looked at your GPS location and give you a database of nearby resources, I would love that."

Transparency around costs and benefits

Teens also raised several concerns about digital tools for mental health. They preferred free apps, but raised ethical concerns about "freemium" models, which are apps that start with free content or a free trial but require payment for additional content. They felt that this makes mental health support inaccessible for some and "freemium" apps were seen as less desirable overall.

Victoria said:

"I understand that many people do have to make a living off of these apps... but having people pay for mental health is not necessarily a good thing, especially when they are in need of it. I think mental health is something so serious and if somebody is really feeling low, they're not going to be like, let me go get my credit card and type it in, so I can pay. I think it would make me feel a bit disappointed."

Emily said:

"If you have to upgrade to premium, how early on does an app suggest that. I think if it's too early on, it kind of turns me off and I'll be like, okay it's not exactly focused on me."

"The app is free on the app store, but when you download it, it says start your free trial, so I feel like more transparency with a paywall would have been nicer. I definitely formed a lot of hesitation when I downloaded it, I went in thinking I could trust this app and then after I saw that I backed away a bit."

Concerns around transparency also extended beyond cost to the goals of the apps. One teen noted that their main frustrations with apps were when they made vague, lofty claims about what the app would accomplish and had non-specific marketing. Others shared that the apps claimed to have certain features that either weren't present in the app.

"If rather than talking about massively improving your well being, it was more small scale. If the marketing was more like hey, after a stressful day of work, and you don't know how to unwind, (this app) is there for you... Something that I think is more within its capacity to help rather than just of vague, fake marketing like 'boost your mental health', 'improve your overall well being', 'find your happiness', because they're very big claims."

Background Summary and Report Overview

Teens are enthusiastic adopters of technology and are interested in using technology for mental health support. Digital tools and solutions can help address gaps in mental health care and increasing access to mental health services and supports for teens. The multitude of products and lack of guidance as to which products are high quality and how to select and use products has limited their overall impact. Furthermore, understanding the current state of the field can help guide efforts to improve support for teens. In this guide we:

- **Provide detailed reviews of a selected subset of 19 digital tools or solutions for teen mental health.**

- **Share insights from interviews with teens, professionals, and developers regarding digital tools and solutions.**

- **Provide practical resources to support teens, parents/caregivers, and providers in selecting and using digital tools and solutions that best meet the specific needs of a ten or are best suited for a specific situation/context.**

- **Highlight lessons learned and future directions to guide those interested in further developing this space.**

HIGHLIGHTED DIGITAL TOOLS FOR TEENS

Methodology for Product Reviews

Choosing technologies to include

We started with a broad search for digital tools designed to support teens and help them manage their mental health and wellness. We searched the app stores and research papers and spoke with Subject Matter Experts.

This resulted in a list of about 200 products.

We then narrowed this list down to include only relevant products. We removed any products that did not support our target age group (13-18 year olds) and we also removed any products that were no longer accessible. We included products that had broad reach either through their type of support, business model, or availability. We discussed our preliminary list with Subject Matter Experts and used the expertise of our own team to finalize the list of apps for inclusion.

This resulted in a list of 19 products.

Reviewing technologies

We contacted the development teams for all 19 products and invited them to complete a survey about their product. The survey included questions about the support available in the product, the target conditions, the business model, interoperability, privacy, cost, and research. A total of 13 development teams (of 19 contacted) completed the survey.

Two team members reviewed each of the 19 products on our list to determine criteria, which included the following (more information on some of these criteria below):

Platform availability	Intervention types
Cost and business model	Connections (e.g. to peers, providers, parents & guardians)
Target audience	Privacy
Target conditions	Research

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Reviewers accessed each product and used it long enough to understand all of the features, explored the product website, and researched the product online. When surveys were completed by developers, they also used this information to inform the review, verifying the information provided.

Another team member, with expertise in digital mental health, evaluated each product review. Where the two reviewers differed in their answer, we conducted additional research and discussed areas of disagreement with the reviewers to reach a final consensus. When reviews were complete, each of the 19 product reviews was then sent to the development team, and they were invited to provide feedback or clarifications.

Using the product review table

The product review tables on page 26-29 is designed to provide a starting point as you explore technologies to support teen mental health. It is not intended to be an exhaustive list of products, but a selection of available tools intended to provide a range of the tools available. Reviews were finalized in March 2022 and are accurate as of this date. As technologies change and update often, it is possible that products have changed since the time of publishing.

Explanation of different conditions & interventions

Below is a brief summary of each of the target conditions and interventions referred to in the review table. Mental health is complex, and this guide is not intended to fully explain each of these conditions or treatments. If you want to learn more, some great resources are available at https://www.mhanational.org/MentalHealthInfo.[8]

Note that where we have indicated that a product supports a particular condition or includes an intervention, this is based on the app's claims and goals as stated by the development team.
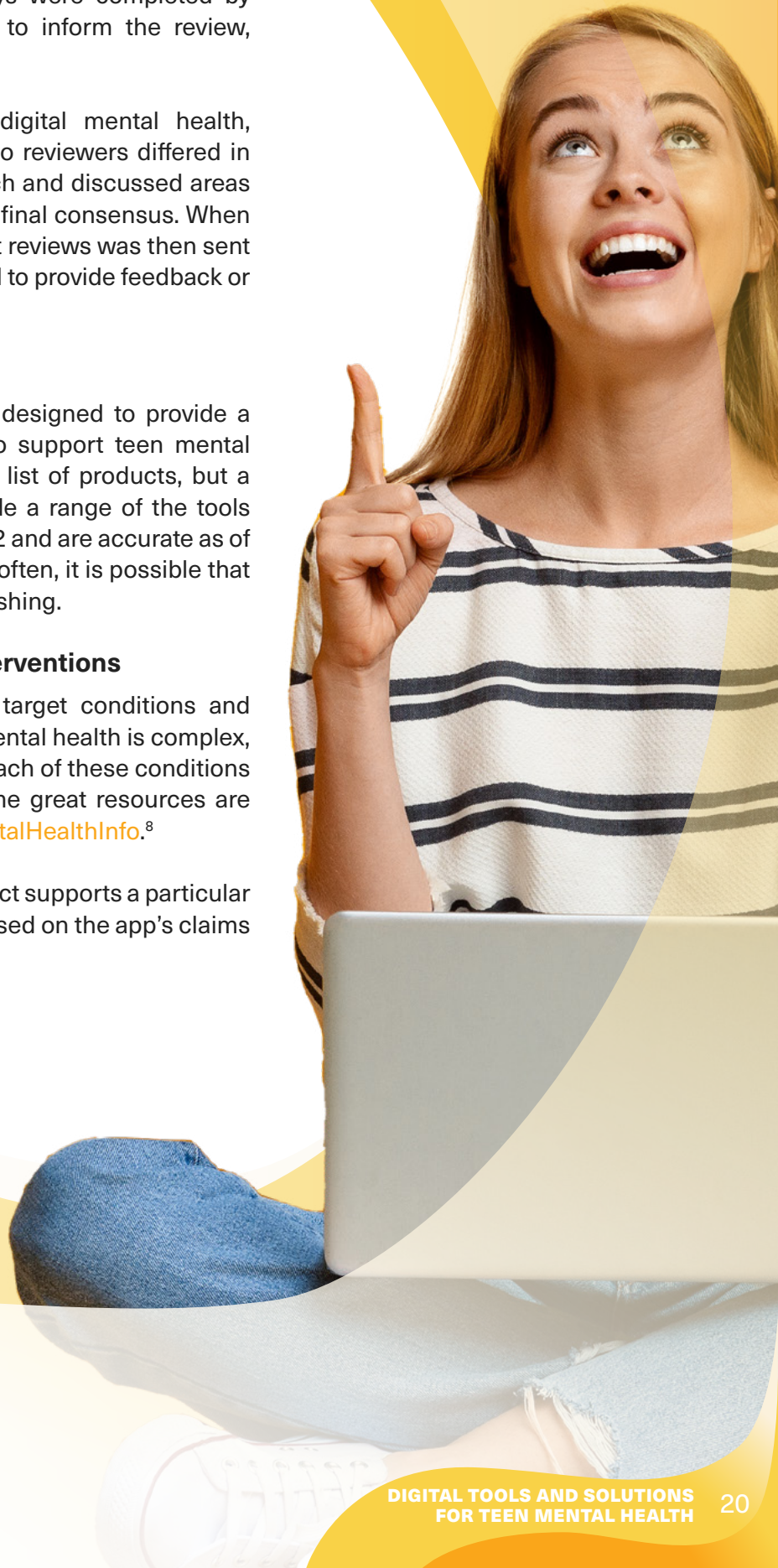
Target Conditions

Stress

Everyone experiences stress, but when stress is frequent and intense, it can strain your body and make it difficult to function. Stress often shows itself in physical signs in your body, such as headaches, tiredness, nausea, or trouble sleeping. Developing a personalized approach to reducing stress can help you manage your overall mental health and improve your quality of life.[9]

Anxiety

At many times throughout our lives, we can feel worried, uneasy or distressed about life events, such as before a big exam or job interview. Anxiety is the presence of these feelings of worry, unease or distress without an obvious cause. Nearly 1 in 3 teens aged 13 to 18 experience an anxiety disorder.[10] Common treatments for anxiety are psychological counseling and therapies such as CBT, which help many people better deal with their anxiety.

Depression

Sadness is a normal part of life, and everyone feels down or blue sometimes. Depression is more than just feeling sad or going through a rough patch. It is when someone feels really low over an extended period of time, and this disrupts their ability to enjoy life. Over 2.3 million teens in the United States cope with severe major depression.[11] Fortunately, with early detection, diagnosis and a combination of treatment plans, many people can and do get better.

Sleep

We all know what sleep is... but why does it matter? Sleep and mental health are actually closely linked. If you don't get enough sleep, it can impact your mental health. Additionally, if you're already experiencing a mental health problem, you may be having difficulty sleeping.

General Well-Being

Technologies may target more general mental wellness or well-being outside of, or in addition to, focusing on a particular condition. This means that they provide skills and information to help you stay on top of your overall mental health. Even if you don't have a mental health problem, it's important for all of us to do things to care for our mental health just as we do with physical health.

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Grief

The loss of a loved one can cause a major emotional crisis. When we are experiencing grief, we may feel a wide range of emotions which may include shock, anger, despair, and more. All of these feelings are a healthy and normal part of the grieving process.

Self Harm

Self harm means hurting yourself intentionally. For some people, Self harm (also called self injury), is a way to cope with intense emotions or distress. It is often seen in teens, though it can happen at any age.[12] Self-harm isn't the same as suicidal ideation or intent, though these can co-occur.

ADHD

Attention-deficit/hyperactivity disorder (ADHD), is a neuropsychological condition characterized by symptoms of inattention, hyperactivity, impulsivity, and dysregulation. Though it is commonly identified in children and teens, it can impact individuals across the age spectrum.

Intervention types

Psychoeducation

Psychoeducation refers to providing education or information about mental health conditions. This usually includes facts about symptoms, causes, and treatments. The more you understand about your mental health, the better equipped you are to cope with it or to find the support you need.

Symptom Tracking

Symptom trackers are designed to help you track how you are feeling, as well as the life events that may impact how you're feeling, on an ongoing basis. You may want to keep track of your symptoms, medications you're taking, activities you do, and emotional or environmental triggers. This way, you can look back over time and identify patterns in your symptoms or behavior and start to identify things that may have a positive or negative impact.

Chatbots

Chatbots are software programs that are designed to engage in conversation with us. These programs use artificial intelligence to provide real-time chats that mimic conversations with a real person. Importantly, these chatbots should not pretend to be human, and people should be aware that they are speaking with a bot rather than a real person.

Dialectical Behavior Therapy (DBT)

Dialectical Behavior Therapy, or DBT, is a way to help people understand, experience, and cope with their painful thoughts and feelings. It is an adaptation of CBT (below) that supports people who are experiencing very intense emotions.

Cognitive Behavioral Therapy (CBT)

Cognitive Behavioral Therapy, or CBT, is a common type of therapy for a range of mental health problems, such as anxiety and depression. CBT helps you relearn how to think about certain situations, and in turn to adapt how you behave.

Meditation

Practicing mindfulness aims to help you redirect your mind and attention away from the events of the past, or anxieties of the future. Mindfulness techniques are intended to help you learn to focus on the present moment, and in turn, get less carried away by thoughts, fears, or anxieties. Although often used interchangeably, meditation is not synonymous with mindfulness; meditation is the intentional practice of mindfulness.

Gratitude

Appreciating or recognizing positive things in our lives, big and small, can contribute to positive mental health and wellbeing. A common method or practicing gratitude is taking time out of each day to list things you are grateful for, and technologies can help remind us to do this.

A Note on Privacy Reviews

As shown in the product review table on page 29, we reviewed products and privacy policies to determine if identifiable information may be collected by the app (including name, email, address, etc.). Where identifiable information is collected, we also determine if users could request removal of their identifiable data (i.e., right to be forgotten).

When we began the review process, we also wanted to determine whether personal data collected is shared with third parties. This felt important to review because previous work has shown that not all health apps disclose to users when their data will be shared with third parties.[13] Additional rules around data security and privacy for minors also apply. The California Consumer Privacy Act (CCPA) provides a blueprint for sharing data with third parties for minors, and states that:

"Between 13 and 16 years of age, the consumer must affirmatively authorize the sale of their personal information. If the child is under the age of 13 years old, a parent or guardian must affirmatively authorize the sale of information."

However, in reviewing this, it was challenging to determine whether or not personal data may be shared with third parties. Below we highlight some of the ways in which privacy policies address third party data sharing.

"We may employ third party companies and individuals to facilitate our Service, to provide the Service on our behalf, to perform Service-related services and/or to assist us in analyzing how our Service is used. These third parties have access to your Personal Information only to perform specific tasks on our behalf and are obligated not to disclose or use your information for any other purpose."

"We do not sell, trade, or transfer information that can be used to identify to anyone other than our website and app hosting partners and other parties who assist us in operating our website and app, conducting our business or serving our users. We ensure that our partners keep this information confidential and secure."

"We will not disclose your identifying Personal Information, including identifiable health information, to any third party except as follows: (i) ... to an Institutional Client on whose behalf the information was collected. (ii) ... to third party contractors engaged to provide services on our behalf ("Contractors"), such as performing marketing, analyzing data and usage of the Service, operating the Service or providing support and maintenance services for the Service, or providing customer service. We enter into confidentiality agreements with all Contractors that require Contractors to use the Personal Information they receive only to perform services for us. (iii) [we] may otherwise disclose your Personal Information when we have your consent to share the information."

Highlighted Digital Tools for Teens

We reviewed over 200 digital tools and solutions to identify 19 products that are currently available and specifically targeted at teens (13-18 years of age). We then reviewed these products on various aspects to help provide consumers with details to make informed decisions and to characterize the current state of the field.

The tables on the next few pages summarize our product reviews organized around three questions that consumers might ask:

- **What kind of support does the product offer?**
- **How does the product work to address my mental health needs?**
- **How do I use the product?**

Each table contains information on all of the 19 products we identified and reviewed. You can compare products by look down each column, or pick a specific product and examine its characteristics by looking across each row.

This is not an exhaustive list of products, new products are being released. Instead, this list provides an overview of 19 products that were identified given their focus on our target age range, current availability to consumers, and input from experts in the field using technologies to help teens.

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What kind of support does the product offer?

We reviewed the different targets and areas that the product aims to address. This information can help determine whether the type of support of a given product matches the needs of a consumer.

	Attention-Deficit/ Hyperactivity Disorder	Anxiety	Depression	General Wellbeing	Grief	Self Harm	Sleep	Stress
Apart of Me				■	■			
Atlas Co				■			■	■
Brightline	■	■	■	■	■		■	■
Calm Harm						■		
Clear Fear		■						
Dreamy Kid	■	■	■	■	■		■	■
Finding Balance		■		■			■	■
K' Bro		■	■	■				■
Manatee	■	■	■	■				■
Mee Too	■	■	■	■	■	■	■	■
Mindful Gnats		■		■				■
MindRight				■				■
MYinnerME		■		■	■		■	■
Neolth	■	■	■	■	■	■	■	■
NotOK								
SparkRx			■					
Smiling Mind		■		■			■	■
SilverCloud		■	■	■	■		■	■
Vive Teens	■	■	■	■	■	■	■	■

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How does the product work to address my mental health needs?

We reviewed the different interventions that the product contains to address both how it provides the interventions (i.e., medium) and what clinical practices and techniques the app is based on or uses (i.e., practice). This information can help determine whether the interventions align with the type of help a consumer is looking for and whether it is provided in a way that is appealing.

	Intervention (Medium)				Intervention (Practice)			
	Chatbot	Games	Psychoeducation	Symptom Tracking	Cognitive Behavioral Therapy (CBT)	Dialectical Behavior Therapy (DBT)	Gratitude	Meditation
Apart of Me		●	●					
Atlas Co			●		●		●	●
Brightline			●	●	●	●		●
Calm Harm			●	●		●		●
Clear Fear			●	●	●			●
Dreamy Kid							●	●
Finding Balance				●				●
K' Bro		●	●	●			●	●
Manatee	●		●	●	●		●	●
Mee Too			●				●	
Mindful Gnats					●			●
MindRight			●		●			●
MYinnerME			●	●	●		●	●
Neolth			●	●	●			●
NotOK								
SparkRx			●	●	●		●	●
Smiling Mind			●					●
SilverCloud			●		●			●
Vive Teens	●	●	●	●	●		●	●

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How does the product work to address my mental health needs?

We reviewed the different individuals the product can connect a user to and characteristics of the research underlying the product. This information can help determine the amount of support offered both in terms of incorporating other people and incorporating evidence.

	Connections				Research		
	Healthcare Provider	Parents or Guardians	Peers	Provider or Coach	Direct Research Support*	Indirect Research Support	Research conducted with youth
Apart of Me					✓	✓	✓
Atlas Co			✓			✓	
Brightline	✓	✓		✓	✓	✓	
Calm Harm					✓	✓	✓
Clear Fear					✓	✓	✓
Dreamy Kid						✓	
Finding Balance						✓	
K' Bro	✓	✓	✓		✓	✓	✓
Manatee	✓	✓		✓		✓	
Mee Too			✓		✓	✓	✓
Mindful Gnats					✓	✓	✓
MindRight				✓		✓	
MYinnerME		✓				✓	
Neolth	✓		✓	✓	✓	✓	✓
NotOK			✓			✓	
SparkRx	✓				✓	✓	
Smiling Mind		✓			✓	✓	
SilverCloud	✓	✓	✓	✓	✓	✓	✓
Vive Teens			✓	✓		✓	

* At least one published, peer reviewed experimental study showing efficacy

Any published, peer-reviewed empirical work

Other formative evaluations or pilot studies

How do I use the product?

We reviewed issues around use of the product including who it is appropriate for (target ages), privacy, and how to get access to the product (platform and payment model). This information can help determine whether the product is appropriate for your use and how to get it.

	Target Ages (yrs.)	Platform					Payment Model*	Privacy	
		Android	iOS	Smartphone App	Text Messaging	Web Platform		Data may be collected	Data removed on request
Apart of Me	11 - 18	✓	✓	✓			B2C	✓	✓
Atlas Co	15 - 18	✓		✓			B2C	✓	✓
Brightline	1.5 - 18					✓	B2C & B2B	✓	✓
Calm Harm	13 - 25	✓	✓	✓			B2C		
Clear Fear	11 - 19	✓	✓	✓			B2C		
Dreamy Kid	3 - 17	✓	✓	✓		✓	B2C	✓	
Finding Balance	5 - 25		✓	✓			B2C	✓	
K' Bro	8 - 19	✓	✓	✓		✓	B2C & B2B	✓	✓
Manatee	7 - 18	✓	✓	✓		✓	B2C	✓	✓
Mee Too	11 - 25	✓	✓	✓			B2C	✓	✓
Mindful Gnats	7 - 15	✓	✓	✓		✓	B2C		
MindRight	13 - 25				✓		B2C & B2B	✓	✓
MYinnerME	8 - 16	✓	✓	✓			B2C		
Neolth	11 - 25	✓	✓	✓		✓	B2C & B2B	✓	✓
NotOK	All	✓	✓	✓	✓		B2C	✓	
SparkRx	13 - 22	✓	✓	✓			B2B	✓	✓
Smiling Mind	3 - 19+	✓	✓	✓		✓	B2C	✓	
SilverCloud	15 - 18	✓	✓	✓		✓	B2B	✓	✓
Vive Teens	12 - 18	✓	✓	✓			B2C	✓	✓

* **B2B**: Business-to-Business

B2C: Business-to-Consumer

Highlighted Digital Tools for Teens

Product	ADHD	Anxiety	Depression	Gen. Wellbeing	Grief	Self Harm	Sleep	Stress	Chatbot	Games	Psycho-ed.	Symptom Tracking	CBT	DBT	Gratitude	Meditation	Healthcare Provider	Parents/Guardians	Peers	Provider/Coach	Direct Research	Indirect Research	Research w/ youth	Target Ages (yrs.)	Android	iOS	Smartphone App	Text Messaging	Web Platform	Payment Model*	Data may be collected	Data removed on request
Apart of Me				●	●				●	●											●	●	●	11 - 18	●	●	●			B2C	●	●
Atlas Co				●			●	●			●		●		●	●			●			●		15 - 18		●				B2C	●	●
Brightline	●	●	●	●	●		●	●			●	●	●	●		●	●	●		●	●	●	●	1.5 - 18					●	B2C & B2B	●	●
Calm Harm						●					●	●		●		●					●	●	●	13 - 25	●	●	●			B2C		
Clear Fear		●									●	●	●			●					●	●	●	11 - 19	●	●	●			B2C		
Dreamy Kid	●	●	●	●	●		●	●							●	●						●		3 - 17	●	●			●	B2C		
Finding Balance		●		●			●	●				●				●						●		5 - 25	●	●				B2C	●	
K' Bro		●	●	●		●			●	●	●				●	●	●		●		●		●	8 - 19	●	●			●	B2C & B2B	●	●
Manatee	●	●	●	●				●	●		●	●			●	●				●		●		7 - 18	●	●	●			B2C	●	●
Mee Too	●	●	●	●	●	●	●	●			●					●			●		●	●		11 - 25	●	●	●			B2C	●	
Mindful Gnats		●		●				●					●			●					●	●	●	7 - 15	●	●			●	B2C		
MindRight				●				●			●					●				●		●		13 - 25				●		B2C & B2B	●	●
MYinnerME		●		●	●		●	●		●	●	●	●		●							●		8 - 16	●	●	●			B2C		
Neolth	●	●	●	●	●	●	●	●			●	●				●			●	●	●	●	●	11 - 25					●	B2C & B2B	●	●
NotOK																			●				●	All	●	●	●	●		B2C	●	
SparkRx			●								●		●		●	●					●			13 - 22						B2B	●	●
Smiling Mind		●		●			●	●			●					●		●			●			3 - 19+					●	B2C		
SilverCloud		●	●	●	●		●	●			●		●			●	●				●	●	●	15 - 18	●	●			●	B2B	●	
Vive Teens	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●			●	●		●		12 - 18	●	●	●			B2C		

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* At least one published, peer reviewed experimental study showing efficacy
Any published, peer-reviewed empirical work
Other formative evaluations or pilot studies

* B2B: Business-to-Business
B2C: Business-to-Consumer

RESOURCES FOR FAMILIES

Resources for Parents and Caregivers

FAQs about Mental Health Apps

Resources for Teens

Resources for Parents and Caregivers

How to choose a mental health app

If you haven't already, talk to your teen about how they see themselves. Be curious and open to learning how they identify themselves.

- This is a good place to also start thinking about the system surrounding your teen. Do they have steady access to technology? Do they have family members or friends that have a strong influence on them?

- **Check-In #1. Based on what you've learned thus far, what apps, if any, do you think are potential fits at this stage? Aim to list 5-7 apps. If you can't list 5-7 apps, list a broader category/-ies of apps that might be useful (e.g., apps geared for teens, apps geared for the LGBTQ+ community, apps geared for BIPOC communities, etc.)**

Learn about what they are struggling with.

- Think about your own framework and lens when it comes to mental health treatments. Do you use CBT? DBT? Are you looking to teach mindfulness or coping skills? Are you hoping to help them gain insight into their moods? These and similar questions can help guide you in a type of app.

- **Check-In #2. Based on what you've learned now, what apps are a good fit? If you still can't list 5-7 apps, list more specific categories of apps based on treatment or condition (e.g., CBT apps, DBT apps, mindfulness apps, etc.)**

How do they use technology in their life right now?

- Also, observe — how do you see them using technology in their life?
- What's been their past experience with using technology for health?
- Are they willing to pay for apps?
- **Check-In #3. Based on what you've learned at this point, start to whittle down the apps you identified before based on some other qualifiers. (e.g., Free apps, iOS apps, VR apps, apps that work offline, apps that are built into the phone, etc.)**

Any concerns they have for using technology?

- Also, do you have any concerns about using technology? What are your blindspots when it comes to technology? What resources do you have to turn to when it comes to technology and mental health? What are the privacy policies of apps when it comes to youth?
- **Check-In #4. Based on what you've gathered, choose 3-4 apps that you can introduce to the client. Encourage them to choose 1 or 2.**

Top 6 things to bear in mind when considering a mental health technology for a teen in your life

1. **Mental health and wellness technologies are not a replacement for professional help.** If a teen is struggling with their mental health, always seek advice from a professional. Apps can be a helpful add-on to treatment already being received and can also be a useful tool when waiting for an appointment. They can also be a great tool for teens looking to stay on top of their overall wellness and manage stress, anxiety, or mood. But technologies do not replace professional support.

2. **There is no "one size fits all" solution.** Everyone is different and our mental health journeys are all unique. Different tools will resonate with different teens. It may take some time and effort to find a tool that resonates with your teen.

3. **If a mental health and wellness app doesn't work for someone, that doesn't make them a failure.** Because different things will work for different people, they may need to try a couple of different tools out before finding one that works for them. That's ok! If your teen uses a tool and it doesn't resonate with them or work with them, that's not a failure.

That's learning. Similarly, if your teen uses an app and stops using it after a few weeks, that's ok too. This is a journey of discovery, and along the way the hope is that they will be picking up skills that may help them in future. It may be helpful to frame using an app as an "experiment", not a "prescription". Try out a few different apps, and maybe even build a set of apps to support mental health.

4. **Build using an app into your day-to-day routine.** Find ways that this new tool can slot into things your teen already does. Habit-stacking — attaching a new habit to an existing habit — can help make it sustainable for a teen with a busy schedule. For example, maybe your teen could use the app every time they brush their teeth or use it after lunch. Using an app for even a couple of minutes a day can be helpful. Leverage the technology to remind your teen to use the app — assist them in setting reminders and notifications to remember to use it each day.

5. **Taking care of ourselves shouldn't feel like homework.** When we "have" to do something, many of us can build up resistance or procrastination around these tasks. Try to find ways to make using an app feel like something your teen wants to do, for example by discussing what they enjoy about using the app, or how it makes them feel. Every teen is different, but it may be helpful to try to find a balance between encouraging your teen to use the app, but not checking in on their use so much that it feels like homework.

6. **Empower teens in their own decisions.** Involve teens in the decision to use an app or technology. Start with an open conversation about digital tools — What are their excitements or concerns about using technology? Have they ever used technology for mental health or wellness before, and if so, how did that go? Work together to explore a couple of different apps and see what they are most interested in and create an environment where they can decide what app they use and when. Encourage them to pick an app that supports their identity(-ies). Finding an app that they relate to and enjoy using can increase their "buy-in".

FAQs about Mental Health Apps

1. How do I know which mental health app to choose?

No one mental health app will work for everyone, so finding the right mental health app is about finding the right mental health app for you. A first step, however, might be identifying a few things that are most important to you.

- **How important are the aesthetics, like colors, images, and layouts?**
- **How important are the features - do you prefer a simple app that does a few things or an app that has a lot of features?**
- **How important is privacy and security? What data are you willing to allow a product to have access to?**
- **What does the app need to do to be helpful to you? How will you know it's working?**

After you think through these questions you might identify a few apps with our guide and explore them. You might also talk to a trusted person — like a friend, family member, or health provider. If you have a therapist, bringing up the idea of using an app in therapy can help get their take on how various tools can support the work you're already doing.

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It's also possible that your needs and preferences will change over time, so it might be useful to revisit these questions and various options over time. Mental health is a journey, so again, the right mental health app is the app that supports you on that journey.

2. How do I know if my data is safe and secure?

App privacy policies are an important place to look if you want to know what happens to your data. But often privacy policies can contain a lot of legal jargon and can be challenging to read. One way to help sift through this is by looking at app review databases like One Mind PsyberGuide, which offers a scoring and review of an app's privacy policy.

App stores are also beginning to offer breakdowns of an app's privacy policy.

- **If you use an iPhone or iPad...** click on the app you're looking to learn more about on the App Store to open the app's app page. Scroll down to the section titled "App Privacy". This section offers several categories of data collected by the app such as, "Data Used to Track You", "Data Linked to You", or "Data Not Linked To You".

- **If you use an Android phone...** click on the app you're looking to learn more about on the Play Store to open the app's app page. Scroll down to the section titled "Data Safety". If you click on this section, it offers additional details of how an app may use your data.

These breakdowns are typically self-reported by the developer, so it's still worth looking into the privacy policy further for additional peace of mind.

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3. How can I make sure I don't incur hidden costs with an app?

There are **four** basic ways to think of cost to you, the user, within apps.

Some apps are completely **free** to use, meaning they don't charge any money to use the app. These apps may present you with ads to cover the cost to build the app. Other apps may be used for research and include your data in a study. While these apps are free, just be sure to dig a little deeper into their privacy policies to understand how they might be using your data.

- **To know if an app is free...** if you visit the App Store on your iPhone or iPad, you'll see a button that says "GET" which downloads the app to your phone or tablet. Be sure to double check that there isn't text that says "In-app purchases" next to this button. For the Google Play Store on Android phones, you'll see text that says "Install" when downloading. Again, be sure to check that there isn't text that says "In-app purchases". More on this below.

  There are also paid apps that cost a specified amount of money before you download, which are referred to as paid apps. These apps charge you a one-time fee before you download the app.

- To know if an app is a paid app.. if you visit the App Store or Google Play store on your iPhone or Android phone, you'll see a button that states a price. When you click that button, you'll need to authorize a payment before the app downloads.

  Increasingly, there are apps that might be free or cost some money to download, and then charge for additional features you can unlock as you use the app. These charges can come in the form of one-time fees, or through monthly or yearly subscriptions. Payments are usually handled through the phone or tablet's app store, and thus can be managed through the phone or tablet. These are generally referred to as apps that have **in-app purchases**, or "freemium" or "paymium" apps.

- To know if an app has in-app purchases... if you visit the App Store on your iPhone or iPad, you'll see text that says "In-app purchases" next to the "GET" or purchase button when downloading an app. For the Google Play Store on Android phones, you'll see text that also says "In-app purchases" towards the top, right underneath the app's name.

  Other apps may be free to download, but may require you to sign up for accounts on their website, or obtain a code through an **employer** or **healthcare provider**. These apps may or may not charge additional fees after downloading, but will always require a special code to access its features.

Keep in mind that an app's business model may change at any time — so apps that were once free may start charging a subscription, for example, or may start charging fees to use certain features.

4. My teen uses their phone way too much. How do I stop it?

We think a helpful way to think about screen time is not **how much** someone is using their phone, but **for what purpose**. There are lots of meaningful activities you can engage in with your phone, for example watching videos to unwind after a stressful day, connecting with friends, or playing games as a distraction or reward for completing a task.

Try to understand what your teen enjoys doing on their phone and how it makes them feel. While to you, time spent looking at memes or watching TikToks may seem like idling away time, for your teen, that might be a much needed mood-booster or distraction.

Similarly, recognize that Gen Z are growing up in a time when technology is fully ingrained in their lives. Messaging friends on their phone is an important part of social connectedness, though it may be a newer medium of keeping in touch that some of us aren't used to.

Encourage your teen to reflect on their own use of technology. Try to create a space for exploration, where they can question which phone use makes them feel good, and which makes them feel not so good.

This is not to say that all screen time is good time. Also consider talking to teens about challenges they might have when using technology. Are there times when being on their phone makes them feel anxious or stressed? Is it getting in the way of things they need or want to get done?

Some questions to ask your teen might be:

- "I want to understand how using your phone makes you feel. What types of things do you do on your phone that make you feel better?"

- "What types of things do you do on your phone that make you feel more stressed or anxious?"

- "When you do [insert activity] on your phone, how do you usually feel afterwards?"

- "I understand that your phone is an important part of how you stay connected. I just want to make sure you're using it in a way that benefits you, and doesn't contribute to your stress. How would you feel about limiting the amount of time you spend on activities that don't make you feel good?"

- "What are your concerns or worries about trying to limit your phone use?"

5. Aren't phones ruining our kids? / Aren't smartphones causing mental health problems?

Technology, especially social media, tends to get a bad reputation for contributing to mental health challenges among youth. Social media has the potential to create feelings of insecurity, social comparisons, and FOMO (fear of missing out). But research shows that screen use, social media use, and use of technology, can also be helpful, and has been especially relevant during the pandemic.

A majority of 8- to 18-year olds say that they used digital media during the pandemic as a way to have fun, stay connected with friends or family, and boost their mood. Young people are far more likely to say that using social media makes them feel better rather than worse when they're depressed, stressed, or anxious.

The majority of teens believe that social media has a positive impact on their lives, and that it makes them feel included rather than excluded, and confident rather than insecure. With that said, over a quarter of teens do say that social media has a negative impact on their lives — so of course, some teens may be impacted negatively. The research does not support that smartphones and social media are causing mental health problems, but we should still ask: "How do we maximize the positive impact and mitigate the negative?"

6. How often do I need to use an app to get benefits?

Research has shown that even using an app for a couple of minutes each day can be helpful. More important than using the app for a long period in one sitting, is using the app regularly, even for short periods.

Some apps also have features that are more realized as a person uses the app. For example, some apps have mood tracking features which are meant to show trends and patterns in someone's mood, providing insight into why someone may experience changes in mood. Other apps might require someone to complete courses over a period of time, with specific content becoming available or unlocked as the person progresses.

The amount of time you spend on an app can also depend on the type of treatment the app is using, and what the app is aiming to treat. Some apps have courses which are meant to help address specific issues someone may be facing. Other apps like meditation apps might have exercises which are meant to provide help for more acute situations.

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Resources for teens
Discovering mental health apps, as a teen:

Technology isn't a one-size-fits-all solution. We suggest reframing the question from "What's the best product?" to "What are some reasonable products that could be useful for me?" We provide the following tips and tricks to help identify a "set" of 3-4 apps for you to choose from, for a specific need.

Meet Ted

Ted is a freshman in high school. Lately, he's been experiencing a hard time concentrating in class, and as a result his grades have slipped a bit. Ted has noticed that he sometimes will feel shortness of breath, racing thoughts, and a rapid heartbeat. This seems to happen randomly, but he especially notices it before he takes a test.

Phases

Narrow | Build Self-understanding
Here you want to help yourself understand what parts of your life you want to improve, and what typically works for you. It's cool if you don't know as much about different mental health diagnoses, or if you aren't a techie — just try to understand your experience.

> **Questions to ask yourself:**
> - What do I need help with? / What parts of my life would I need to improve?
> - My ideal mental health app would...
> - What apps do I already use? (List them out by what is used most frequently)
> - What mental health resources have I used before?
> - If I'm stuck, who can I trust for support?

Back to Ted:
For Ted, it's important to identify the symptoms he's feeling and what he really wants to improve in his life. For example, his difficulty concentrating, his shortness of breath, trembling, and his rapid heartbeats. If we ask Ted, he'll tell us that he loves his Kindle and YouTube apps the most, along with TikTok and his beloved Fortnite and Spotify apps. He says his ideal mental health app should be "fun", and sort of be like a mix of all of his favorite apps. Ted hasn't talked much about mental health before, but he shared that he came across some content on TikTok and YouTube which has helped him learn about mental health.

> **Helpful resources:**
> Learn more about mental health:
> - PsychHub informational videos | https://www.youtube.com/c/PsychHub
> - The Psych Show with Dr. Ali Mattu | https://www.youtube.com/c/ThePsychShow

Explore/Contextualize | Brainstorm keywords & do a search

At this point, you want to start to identify some keywords based on your process of self-understanding to help you do a search for some apps. For your search, you can use Google or any other search engine, or you can use a resource or database of mental health apps like One Mind PsyberGuide.

> **Questions to ask yourself:**
> - What are some keywords I can use in my search?
> - Where can I get more information?

Back to Ted:

Based on Ted's self-discovery exercise, he identifies that he really wants to work on his shortness of breath, trembling and rapid heartbeat. Ted does a quick search on Google to find out that these symptoms could be related to anxiety attacks. He also comes across a video on his social media that talks more about anxiety, which Ted identifies strongly with. Ted decides to do a search in the iOS App Store using the keywords "anxiety relief game" and finds a few that seem pretty good. He downloads the first 3 free apps, and gets ready to test them out. To understand the apps better, Ted goes to onemindpsyberguide.org...

> **Helpful resource:**
> Learn more about specific mental health apps:
> - https://onemindpsyberguide.org

Evaluate | Build a set of apps to try out

In this part of your app discovery journey, you'll be testing out the apps you downloaded earlier. You might prefer how some apps present particular features over others, and so you might want to consider having more than just one app.

> **Questions to ask yourself:**
> - Does this work for me?
> - Do I feel like I am improving?

Back to Ted:

After three weeks of testing out his three apps, Ted is starting to see one that isn't quite as helpful. He doesn't use it as much, citing it's just not "fun" enough, which doesn't resonate with him. He decides to move forward with the other two apps in his set. He really likes one particular exercise within one of the apps, the deep breathing exercise, and so he searches on the App Store again for deep breathing apps, and downloads a few of those for another round of testing.

RESOURCES FOR MENTAL HEALTH PROFESSIONALS

Introducing apps to teens, "The 5 D's"

Professional Interviews

Introducing apps to teens, **"The 5 D's"**

Discuss

Discuss with the teen what their current use of technology looks like

- What technologies do they like to use?
- What are their concerns about using technology?
- Have they ever used technology for mental health / wellness before? If so, how did that go?

Describe

Describe what mental health apps are

Describe the rationale for using mental health apps (and this specific app)

- What evidence suggests apps can help teens?
- Why/how do you think an app might help this client?

Download

Download the app in session (Wi-fi needed)

Demo

Discuss the app's goals and purpose

Walk through app set up

Provide an overview of key features and use

Deliverables

Set expectations for use

- "Use X times per week"
- "The feature I want you to focus on most is X"
- "We will look at the app together next session"

Professional Interviews

We interviewed a number of mental health professionals about their experiences supporting teens through technology. They shared what they see as the opportunities and challenges of mental health technologies. Many of these professionals shared their experiences using technology to facilitate care, particularly during the Covid-19 pandemic. These professionals discussed their excitements and concerns. They also shared key messages they want teens and parents to know about the use of digital tools and solutions to support teens.

What about mental health technologies excites professionals?

Meeting teens where they are

Teens are digital natives and technology is a key part of their everyday lives. Professionals shared excitements about the opportunity to meet teens where they're at.

"I think one concern that we always heard was that they're always on their phone, they're always on the computer, so I think knowing and understanding that it is a platform that can be used for good."

Convenience

Professionals shared that the use of technology-mediated care, particularly during the pandemic, made receiving care more convenient for teens. Teens can do therapy from the comfort of their own home. This reduces barriers to making it to an in-person appointment such as transportation, time, cost, and scheduling.

"Although there's obviously some barriers, like Wi-fi issues and device issues, it did remove a lot of barriers for some of our families for whom even coming to in person appointments was a huge undertaking. We have some families that have five kids and they're taking public transportation to get to their appointment and they don't have childcare, so coming to sessions consistently was a huge huge challenge, because the bus would be late or you know, another kid would be late at school or whatever. Telehealth did remove a lot of those barriers."

It is convenient for the providers too. By making it easier for teens to track in the moment experiences, real-time data collection and data reporting tools can make it easier for providers to see what's going on in a teen's life.

Engagement

Providers were excited about new, innovative ways to increase teen engagement with care, with some providers sharing that teens appear more engaged during online sessions than they do in-person.

"I found meeting them via Zoom tends to be more effective than meeting them directly six feet away from me. I don't know if it's the teens are our individual population here. They seem to be a little bit more relaxed and engaged, I can throw things up on the screen, we can share them together. And it just seems to work better."

Technology allows providers to engage teens in fun, creative activities. Some practices may be easier to do in a digital format, such as exposure therapy or visualizations.

Providers shared that tools which are easy to use and interactive are more likely to be used by teens. When teens enjoy using the tools, providers see increased adherence and positive impacts.

"The interactive apps seem to be most beneficial, most helpful. The kind that walk you through, like step-by-step, like with the prompts as they go along, have been probably the most successful or the most consistently used with the students we've worked with."

What are professionals' concerns or challenges around the use of technology to support teen mental health?

Privacy and Security

Providers shared concerns around privacy, for both providers and patients. People feel vulnerable talking about mental health via video chat, and don't always have a private space to have these conversations. During the pandemic, things like "zoom-bombing" raised concerns about whether or not the tools are truly secure.

"I think from the patients and providers perspective, there was a little bit of that kind of technological concern in terms of privacy. When it comes to the mobility and convenience of being able to do therapy at your home, there is the concern of are you in a secure place to talk. There may be a feeling that you're putting yourself in a weird place with your parents, because you're talking about conflicts with them. So we literally have had patients and actually interestingly also clinicians who have had to do sessions in their closet because that's the only private place they have."

Access and Equity

Although many assume technology access is ubiquitous, this is not the case. A number of socio-economic factors influence access, particularly when the average price of a smartphone is now almost $500. Even when devices are available they may be shared among families or have expensive data plans. Many families still do not have high-speed broadband access. Some apps require payment, which prevents many people from accessing them. Clients may not have consistent access to Wi-fi or data which is needed to access many of these services. In addition, insurance coverage for telehealth services is not well-established and in many cases the cost of technology-mediated care is not covered.
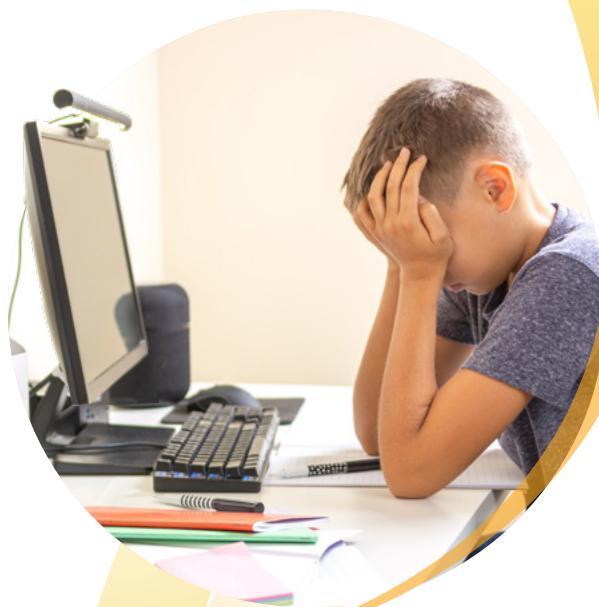
"There are assumptions about everybody having a phone, or everybody having enough data, or teenagers all having phones or data. I don't know if the tailoring to different family structures, environments, and experiences of systemic barriers is really there."

Professionals need to be upfront with clients around some of the challenges of using these tools, and have a plan prior to hitting those roadblocks.

"Initially it was pretty bumpy, and I think we just kind of learned to really have more upfront conversations with patients and families about, hey, these are the limitations. These are the things that we have noticed working with patients via Telehealth for the past two years now, so just a heads up you know if the call drops like I'm going to call you on your phone. Almost making a plan prior to hitting those roadblocks."

Cultural relevance

The lack of tools and content which is appropriately tailored for different languages and cultures was emphasized by a number of professionals. Professionals emphasized that those searching for mental health support are often already in a vulnerable place and it can be discouraging and undermining to their confidence if they are met with resources that do not reflect their background or culture.

"When it comes to mental health… you're already in a very vulnerable place right and when the app and information that is shown doesn't really hit the mark, or it sounds weird because you know the translation was a Google translate or whatever right, and it's a little bit of a turnoff. I think it also makes you lose confidence."

Knowing what product to choose

Finally, providers shared that with so many products available, it can be difficult for providers to choose one that is tailored to a person's specific need. Because products are not one-size-fits-all, it is difficult for providers to know the product well enough, and the evidence behind it, to be confident in recommending it.

What should people know about the use of technology to support teen mental health and wellness?

Three key points emerged that providers want people to be aware of when considering a digital mental health tool for teens.

1. These tools are not a replacement for professional help. They can and should be used to supplement care, rather than replace it.

2. For providers, it is important to be aware of the issues of access and equity, and not assume that every client will be able to access every tool. "I think just some of those considerations of diverse families and how even just like phone usage can vary across different families is probably important to just at least keep in the back of your mind".

3. Selecting an app may take some time and effort. Not every app will work for everyone. Additionally choosing an app is not a one-time thing. Apps change over time, which requires regularly updating apps, keeping up information, and maybe choosing a new app.
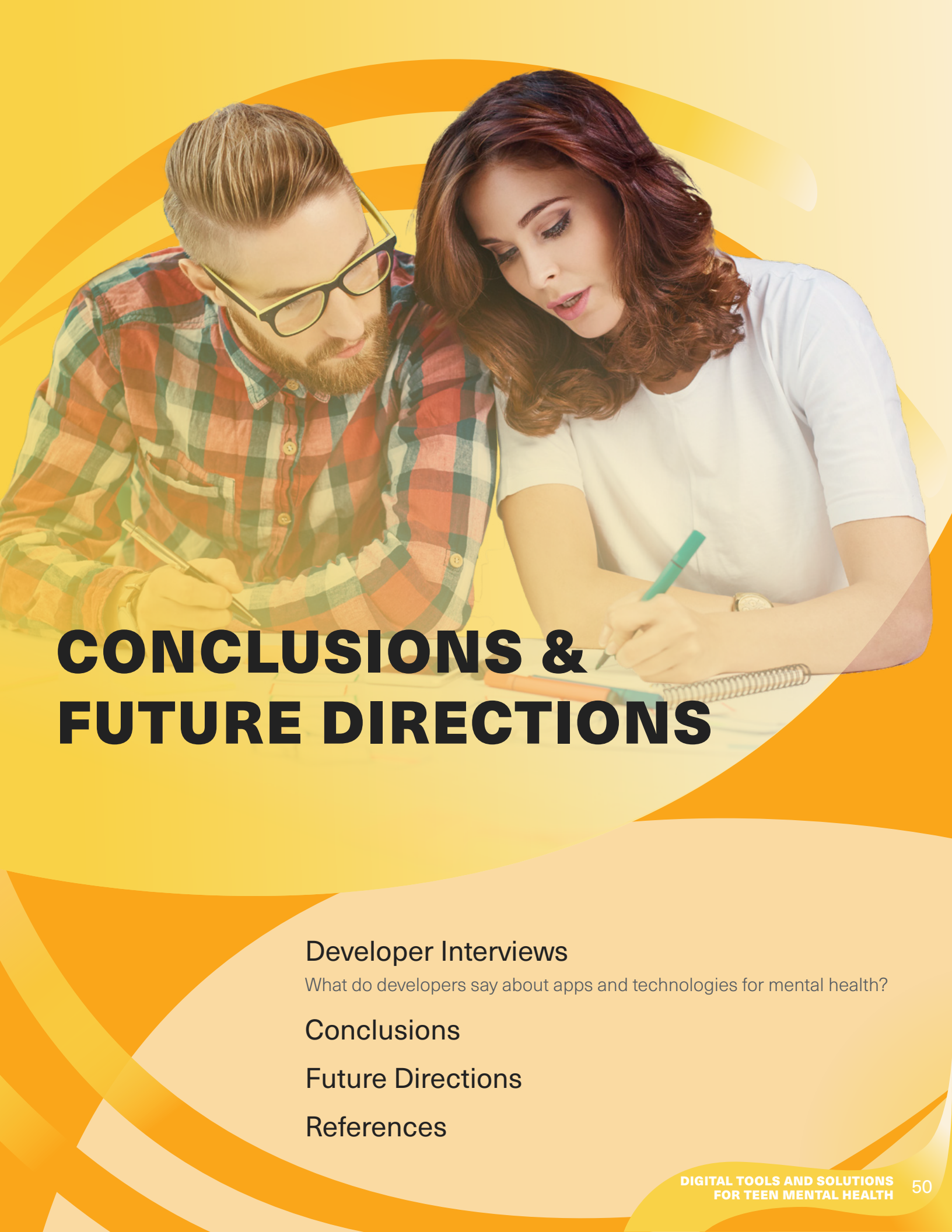
CONCLUSIONS & FUTURE DIRECTIONS

Developer Interviews

What do developers say about apps and technologies for mental health?

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Developer Interviews

What do developers say about apps and technologies for mental health?

Developers of digital mental health tools for teens and young people shared their perspectives on technologies to support teen mental health. They emphasized the importance of involving teens at every stage of development, and shared some things that they thought teens should know about digital mental health tools.

How important is it to involve teens in the design of products, and how do you do that?

Involving teens in the development process is crucial, and must be done to ensure that products reflect teens including their language, interests, needs, and uses of technology. To begin with, teens should help developers validate the need for solutions - to confirm that the problem a product is aiming to solve is a problem teens actually face.

"When we see something that's not working or a crack in a system, we like to first validate that with our end users. Just because we think that this is a problem, doesn't mean that young people think that it's a problem. You might spend a bunch of money and time building something that isn't even going to solve a problem for you. So that's the first step. But then from there coming up with some ideas, co-designing with students, and letting them kill a lot of your ideas."

Development should cycle through phases of ideation generation, selection, testing, evaluation. This allows teens to provide feedback on big picture ideas as well as specific features and design choices.

"We saw that being so positive and the youth being such incredible consultants, in terms of being able to be open about giving their feedback, you know not sugarcoating anything, just saying really bluntly like, I wouldn't use that, or like, that doesn't speak to me."

Some things that developers should bear in mind when designing with teens include paying careful attention to language, so they don't bias answers or exclude a particular experience or population.

"It's very easy to accidentally bias questions towards a certain demographic, or a certain lived experience, because the researcher that is asking those questions doesn't realize it might be a really different way of expressing a lived experience for a young person of a different identity than them, or who has had a different lived experience. It comes down even to just like, how those interactions happen if you're not grounded in the understanding where that young person is coming from, it's really easy to accidentally mistranslate something, because you just don't know."

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Developers also need to consider how to compensate teens for their time, either through impact opportunities, financial incentives, or others. Developers need to appreciate that teens' experience and time is valuable and to acknowledge that through ensuring that teens get something out of contributing their experience and time.

What should teens know about technologies for mental health?

Teens should know that there is no one size fits all solution for mental health, and no digital tool is going to work for everyone. Some teens may benefit from psychoeducation or brief skill development, others will need to use a tool for a longer time to see benefit. Just because a tool doesn't lead to immediate benefits, does not mean that the tool will not work, or that a teen is beyond help. Instead it means a teen might need more time or a different approach. People should also know that apps are not a treatment in and of themselves, and guidance from a professional is always the first step when possible.

Developers also shared that they felt the field needs to do a better job of normalizing feelings of stress and anxiety during teenage years.

"As developers and thought leaders, we need to convey to youth that there's not going to be an app that's just going to fix everything and make you feel great in two minutes a day. It's still a process, still a journey. Youth are supposed to be anxious and depressed and figuring out their identities and all of those things — not to clinically significant levels that are impacting their day-to-day life, but that's what coming of age involves. It involves a lot of walking through ambiguity, so I think we have to do a better job conveying that message to set expectations."

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Conclusions

In the past few years, spurred on by a global pandemic, increased in mental health challenges for teens, and increased public awareness and dialogue around mental health, we have seen a growing need for accessibility and scalable solutions. At the same time technological innovations and increased funding in mental health technologies have increased the availability of digital tools and solutions for mental health. Although the early focus was on digital tools and solutions for adults, more interest and products are now geared towards teens. This guide aims to provide background and synthesize information about some of these tools to inform those looking to use these tools to support teens. We highlight a few key learnings here and provide our projections for future work.

Investment in digital tools and solutions for teen mental health is increasing

The last decade has seen a steady increase in the availability of and investment in digital tools and solutions for mental health and wellness. Funding in teen mental health startups in the first half of 2021 was 7.5 times greater than the funding allocated in the first half of 2020.

Notable funding include:

- **BeMe Health raised $7 m in seed funding**
- **Sprout Therapy raised $94m Series A funding**
- **Brightline raised $72m Series B funding**
- **Cortica raised $60m Series C funding**
- **Akili raised $100m Series D funding***

This increased investment in technologies for teen mental health is likely to lead to an explosion of innovative products to support teens in a way that is familiar, relevant, and tailored. This could provide support for teens which is much needed.

Digital tools may be part (but not all) of the solution

As we have outlined in this guide, technology is one tool to support for teen mental health. However, it should not be the only tool in the toolbox. We encourage readers to remember:

* Funding series relate to the stage of development a business is at. Seed funding is the earliest stage of the funding of a startup. Series A funds are typically a company's first round of significant **venture capital funding**, Series B is the second round of significant venture capital funding, and so on.

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DIGITAL TOOLS AND SOLUTIONS
FOR TEEN MENTAL HEALTH

1. **Technology is not a replacement for professional care.**
2. **There is no "one size fits all" solution for mental health. Different tools will resonate with different people. Inform yourself about multiple options and listen to teens with regards to what they like and do not like.**
3. **Consider how tools fit into the context of a teen's life and their current technology use.**
4. **Technology is here to stay. Let's find ways it can be used for good to support teens.**

Access to technology

When considering whether digital tools are a good fit for a teen, it is important to remember that access to technologies is not ubiquitous and not all teens may access technology the same way:

- **The context of daily life may look very different for different teens. Especially vulnerable teens who experience different risks and limited resources. Do not assume all teens have equal access or interest in technology.**
- **Even when teens access technology, different subgroups might use technologies differently.**
- **Many technologies are designed with dominant groups in mind, this is true even for digital tools and solutions for mental health.**
- **Logistical factors may include access to Wi-Fi, app cost, data usage, smartphone ownership and access.**
- **Different levels of supervision at home may result in lower engagement in self-guided apps.**

When we talk about "teens", we're not talking about a homogenous group

In particular, mental health challenges are seen at higher rates among:

- **Teens of color** [14, 15]
- **Teens from low-income households**
- **Teens who have disabilities** [16]

Future Directions

We imagine a future where mental health technologies are:

- **Integrated** - technologies are offered alongside other options for care and teens may easily switch back and forth between technologies and their other options. For example, a teen might download an app from the app store, use it for a few weeks and then easily transition to a face-to-face provider who can engage that teen in therapy. Another teen might start with virtual care visits but once they're feeling better be recommended an app that will help maintain their gains and allow them to practice skills on their own.

- **Reimbursed** - teens prefer digital solutions that are free, but the best digital tools and solutions require sufficient budgets to design, develop, and evaluate products that are engaging, safe, and effective. Digital tools and solutions that can be reimbursed through insurance or Medicaid and the Children's Health Insurance Program can help scale effective care to those most in need.

- **Youth-centric** - few products are designed specifically for teens, we even noted that many products intended for teens are evaluated with older populations. More products need to be designed for teens and with teens. Co-design is an effective way to create more youth-centric technologies.

- **Evidence-based, not just evidence-informed** - many products might rely on existing research evidence to support the effectiveness of their product. But it is not sufficient for a product to be informed by scientific studies, we need to ensure that products actually work to promote teen mental health while mitigating any potential harms. We need rigorous research studies of digital tools and solutions for youth mental health to ensure they are not just evidence-informed but actually evidence-based.

The future of mental health care is not digital mental health care, but it's a mental health care system that seamlessly and effectively integrates digital tools and solutions into a continuum of care. We owe the millions of teens who experience mental health challenges each year — depression, anxiety, suicidal ideation, substance use — effective and tailored solutions for their needs. We hope this guide will empower providers, parents/caregivers, and teens to use these tools more effectively and help imagine a world where teens have positive relationships with technology to support their mental health and wellbeing.

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