

Can Robots Improve the Mental Health of the Workforce?

by | **Eric Parmenter, CEBS**, and **Mark Attridge, Ph.D.**



From traditional EAPs to bots that use artificial intelligence, the range of options to address worker mental health challenges has grown. What should employers and plan sponsors consider when deciding which tools to use and promote?

benefits
MAGAZINE

Reproduced with permission from *Benefits Magazine*, Volume 58, No. 5, May 2021, pages 38-45, published by the International Foundation of Employee Benefit Plans (www.ifebp.org), Brookfield, Wis. All rights reserved. Statements or opinions expressed in this article are those of the author and do not necessarily represent the views or positions of the International Foundation, its officers, directors or staff. No further transmission or electronic distribution of this material is permitted.



The Growing Need for Mental Health Support of the Workforce

The global COVID-19 pandemic has had a profound impact on mental health, with 40% of Americans experiencing significant emotional upheaval, including anxiety, depression, trauma-related symptoms, increased use of substances and even suicidal ideation (11% reported seriously considering suicide) in 2020. This was a substantially higher percentage than in 2019.¹

Stress and mental health issues are deeply disruptive for the individuals experiencing them as well as for their friends and family. Employers are concerned about employees both from a personal perspective and from a cost and productivity standpoint. In fact, 53% of employers expressed concerns with the mental health of their people in July 2020, up from 32% in March 2020.²

Employers have a range of behavioral health benefits and tools to choose from to address the rising tide of mental health challenges. This article will explore the types of benefits available and offer considerations for employers and benefit plan sponsors.

From EAPs to Robots—The Range of Behavioral Health Benefits

The range of behavioral health benefits now available can be categorized as follows and is displayed in the figure:

- Employee assistance programs (EAPs)
- Behavioral health benefits through networks of providers
- Telebehavioral health
- Self-service digital programs
- Artificial intelligence (AI) digital intervention “robots.”

EAPs

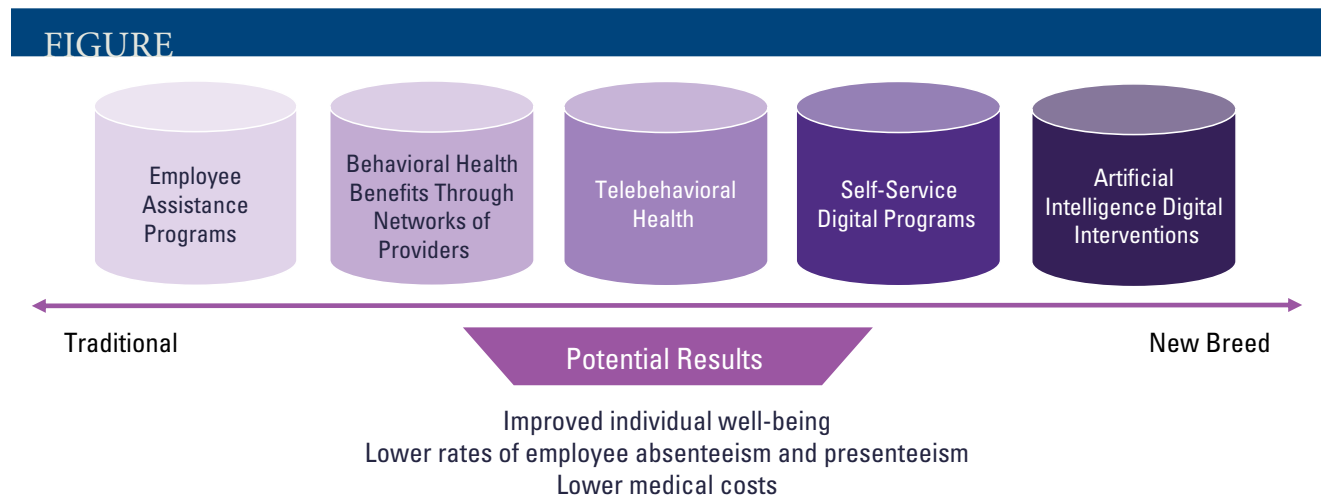
The first EAPs were internal programs that were offered on site at workplaces and run by employers. Over the years, most EAPs have become external, and there are now more than 800 external EAP vendors worldwide.³ Some employers combine both approaches in what are called hybrid EAP models, which have a small internal full-time EAP staff and support from an external EAP vendor.⁴

Some EAPs are bundled with health or disability products and offered for “free.” These EAPs are limited in scope and not actually free but rather have

EAP services packaged with other high-margin products to enhance their attractiveness—albeit with the consequence of very low usage levels (about one-third of directly purchased EAPs).⁵ Other EAPs are robust, standalone, full-service programs with higher use that include other service components such as face-to-face counseling visits, telebehavioral health, on-site services and digital programs. A distinguishing aspect of full-service EAPs is the dual focus on managing behavioral health risks of a business at both the individual employee level and the organizational level, with more integrated models that feature on-site training, consultations with managers, crisis response and regular meetings with human resources (HR).⁶

Traditional Behavioral Health

Traditional behavioral health benefits typically include coverage for diagnosed mental health conditions through managed care networks of psychologists, social workers, psychiatrists, inpatient mental health care, and substance abuse treatment and rehabilitation. These benefits are usually covered with employee/employer cost



sharing that is the same or richer than that of medical benefits.

Telebehavioral Health

Telebehavioral health offers live synchronous video counseling sessions with licensed therapists. Some services are offered through standalone platforms like TalkSpace, BetterHelp, Lyra and InkBlot, while others offer both medical and behavioral health visits. These providers include Teladoc, MDLive and AmericanWell in the U.S.⁷ and Akira and Maple in Canada.⁸ Still others are provided by health care systems like Cleveland Clinic in both the U.S. and Canada.

Some platforms use algorithms to match patients with caregivers based on geography, area of focus and preferences. While telebehavioral health promises to improve access for some individuals, wait times and access problems may exist, often due to licensure rules that prohibit clinicians from delivering care to a patient in a state in which that clinician is not licensed. Some of these rules have been temporarily relaxed or suspended during the COVID-19 pandemic but may eventually resume as barriers unless legislation is changed.

Self-Service Apps and Digital Programs

There are now many technology-based resources that do not involve employee interaction with a licensed counselor at all.⁹ Digital programs are software programs, provided through web portals and smartphone apps, that allow users to work at their own pace through activities such as meditation, stress reduction or skills building, or to communicate asynchronously with

takeaways

- In addition to traditional employee assistance programs (EAPs) and behavioral health benefits offered through a health plan, mental health treatment options that employers may consider providing include telebehavioral health services, self-service digital programs and artificial intelligence (AI) digital intervention “robots.”
- Telebehavioral health offers live synchronous telephone or video counseling sessions with licensed therapists. Some services are offered through standalone, secure platforms on websites or smartphones, while others offer virtual medical and behavioral health visits.
- Digital programs are software programs through web portals and smartphone apps that allow users to work at their own pace without a counselor through activities such as meditation, stress reduction or skills building. Some of these programs also include the option to communicate asynchronously with human coaches.
- AI bots use computer algorithms or software programs that guide users through pre-programmed patterns of questions with branching logic that take a user down different decision trees based on their answers. Some therapists also encourage their clients to use AI tools to augment care plans.
- When deciding which services to offer, employers should consider which solutions are better at certain areas of risk management for employee behavioral health issues, provide risk-screening tools, are most effective clinically and can reach the largest number of people at risk.

coaches. Examples include apps such as Happify, Calm, Headspace, MoodTools and many others.¹⁰

Most apps are designed for single issues with focused brief engagement with the user. Online programs are more extensive in offering access for multiple issues and a deeper range of support engagement. These digital tools, which allow people to complete journeys, games or exercises on their own time through a web portal or app, are growing in popularity. These programs are immediately available, free or low-cost, and are often based on sound psychological principles like cognitive behavioral therapy (CBT).

Most digital tools are intended for unsupervised use by people with pre-clinical or moderate levels of behavioral health disorders. They may be helpful at managing low levels of stress and by providing useful tips, but their benefits are limited for complex or severe issues.

Clinicians may recommend apps and digital programs to their clients who could benefit from specific skill-building tasks and habit formation between treatment visits.

Artificial Intelligence

AI is referred to as *robots* or *bots* in this article as metaphors for systems that use computer algorithms that either support therapists in guiding direct patient care or software programs that guide users through questions with branching logic that take a user down different decision trees based on their answers.¹¹ In one example of the latter, a tool featuring a “chatbot” uses questions and language exchanges to coach people through tough times to build resilience through a series of live text message conversations—similar to texting with a friend or coach.¹²

Other solutions combine services such as asynchronous coaching, digital

TABLE

Comparison of Behavioral Health Benefit Models

Feature of Service	Outpatient Benefits for Mental Health and Substance Abuse	Traditional Model: Employee Assistance Programs		New-Breed Model: Technology-delivered mental health providers	
		“Free” EAP Vendor	Full-Service EAP Vendor or Hybrid*	Live Counselor or Coach	Robot Machine Tools
Promotion of mental health	No	Varies	Yes	Yes	Yes
Risk screening assessment tools	Yes	Varies	Yes	Yes	Yes
Educational resources via website	No	Varies	Yes	Yes	Varies
Full-time counselors on staff	Yes	Varies	Yes	Varies	No
Part-time counselors in affiliate network	No	Yes	Yes	Varies	No
Face-to-face counseling in local office	Yes	Yes	Yes	No	No
Face-to-face counseling at worksite	No	No	Yes* or if requested	No	No
Counseling via telephone	Varies	Yes	Yes	Yes	Yes
Counseling via internet video	Varies	Varies	Yes	Yes	Yes
Counseling via email	Varies	Varies	Most	Most	Most
Counseling via text	Varies	Varies	Most	Most	Most
Robot “counseling” iCBT programs	No	No	No	No	Yes
Robot “counseling” apps	No	No	No	No	Yes
Workplace crisis event response	No	Varies	Yes	No	No
Workplace training for employees and HR	No	No	Yes	No	No
Workplace manager consultations	No	No	Yes	No	No
Workplace advice for HR on behavioral health risk management best practices	No	No	Yes	No	No
Strengths	Treating serious disorders, providing long-term care	Low-cost; often the same providers as other EAP networks	High-quality, workplace focused	Promotion of mental health and risk screening, similar quality	24/7 access, privacy, self-paced
Weaknesses	Long wait times, require patient copays, stigma	Minimal promotion, very low use	Stigma, privacy concerns	Lack appeal and focus on workplace	High dropout rates, inflexible, clinical limits

*In a hybrid model, the employer has both an internal full-time EAP staff and an external vendor affiliate counselor network.

programs and telebehavioral health. It is beyond the scope of this narrative to compare and contrast the features and capabilities of the hundreds of AI behavioral health solutions now flooding the market. In addition, the market changes frequently, and the lines are blurred between categories and services.

There is a growing body of research on the potential of AI bots to reduce diagnosis errors, process large amounts of data and drive conversations. AI-powered internet CBT (iCBT), self-help and conversational agents suggest that effective treatment can be delivered without a human clinician under certain circumstances. Studies are emerging that show that AI-powered iCBT kinds of self-directed support tools can reduce symptoms of common mental health problems such as anxiety, depression, social phobias and insomnia—but only under certain conditions, such as when the programs are engaged as intended and by users with greater than mild levels of clinical severity.¹³

Comparing Behavioral Health Benefit Models

Given the effectiveness of traditional and new models and the relatively low cost, can new models improve the uptake and adherence of behavioral health benefits? Low utilization has been a challenge for EAPs and behavioral health benefits. Roughly 5% of employees use an EAP each year, and another 10% use outpatient behavioral health benefits, compared with the 25% or more of all employees at risk. Reasons for the low use of some EAPs include stigma, the disconnection of mental health and medical care, inability to find appropriate care, limited ac-



Behavioral Economics and Mental Health

Behavioral economics, which leverages cognitive biases and heuristics as decision-support tools, can be used to improve the uptake and adherence for individuals who are exploring care options.*

One large Canadian employer used behavioral economics to improve the use of its employee assistance program (EAP) through the design of its health fair. Before the pandemic, it was common for employers to offer an annual health fair where all of the vendor partners came on site, set up tables, met employees, answered questions, and gave away trinkets and brochures. This employer noticed that employees avoided the EAP table, likely because of the stigma associated with mental health. The following year, the employer set up the EAP table as the registration table, and each employee was required to start there, check in and pick up the information before proceeding to the other tables (default bias). By designing the health fair this way, subsequent usage of the EAP increased and, at last check, was over 30%.

Digital tools also may use behavioral economics. For instance, an app that records commitments between a patient and therapist and reminds the patient weekly of those commitments will nudge the patient to stay on track with agreed-upon steps (commitment bias). The same app can provide higher rewards for high-value actions than for lower value actions, such as more points that can be spent in a marketplace for healthy products (framing bias). Also, sweepstakes entries drive higher participation into activities than do direct rewards (prospect theory).**

*R. H. Thaler and C. R. Sunstein, (2009). *Nudge: Improving Decisions About Health, Wealth, and Happiness* (Revised and expanded). Penguin Books.

**A. C. Wilson, (2020). "Behavioral Economics In Context: Applications for Development, Inequality & Discrimination, Finance and Environment." An ECI Teaching Module on Social and Economic Issues, Economics in Context Initiative, Global Development Policy Center, Boston University, www.bu.edu/eci/files/2020/05/Behavioral-Economics_final.pdf.

cess and (false) beliefs that treatment is ineffective.

The effectiveness of care through EAPs and workplace mental health is firmly established,¹⁴ but more research is needed on the new breed of behavioral health benefits. The total budget for EAPs at most employers represents less than 1% of total health care costs. The cost of EAPs is quite low, often less than \$2 per employee per month for comprehensive services. The new-breed solutions are relatively low cost as well, particularly when compared with the extremely high cost of medical and pharmacy care. One of the disadvantages is that many users of online

tools and smartphone apps drop out very early in the program after trying these tools.¹⁵

See the table on page 42 for a review of the key features and major strengths and weaknesses of five models now available: (1) outpatient benefits for mental health and substance abuse, (2) so-called "free" EAPs, (3) traditional full-service EAPs, (4) counseling services provided digitally and (5) robot-type services.

Considering the strengths and weaknesses of each kind of resource, it may make sense to feature the machine-based digital kinds of resources for general mental health promotion

and to conduct risk screening for mental health issues since these services effectively use email and text messages to reach the one-third to one-half of employees who will typically try these new tools. But employers may not want to rely on them for clinical treatment since most users tend to drop out early after trying self-directed digital tools. The robot tools could then make referrals or direct transfers for those at risk (or early dropouts) to resources that feature live counselors (whether from an online-only provider or from traditional EAPs that offer both online and in-person access to licensed counselors). The role of outpatient benefits providers is best for employees with more severe clinical issues that may require psychiatric medications and for those who need longer term care or more specialized substance abuse treatment. The sidebar on page 43 describes behavioral economic approaches that may be used to increase uptake and adherence to behavioral health benefits.

Offering a Mixed Model

A mixed model that includes several components—from proven full-service EAPs that integrate with behavioral health networks for continuity of care to digital programs that leverage AI and telebehavioral health—may offer the greatest opportunity to drive success.¹⁶

This mixed model can offer a tailored approach to employees based on their needs and engagement preferences. Not all employees have access to devices, and some prefer a telephonic or face-to-face approach. Through multiple entry points, a mixed model can help to close the gap between those who need mental health support and those who receive such support by providing more ways to

connect individuals to effective resources with less stigma and lower wait times based on sound scientific approaches. Many national EAPs offer elements of such mixed models. As described in a recent article in *Harvard Business Review*, leading employers are also changing their work cultures to reduce the stigma associated with mental health and addiction and talking more openly about these issues among leadership and employees in general.¹⁷

The need to wait a long time to get an appointment with a qualified psychologist, psychiatrist or social worker may be drastically reduced or, in some cases, eliminated by virtual care options. This can effectively address the issue of limited access to care. As online tools are free to the user, they can reduce out-of-pocket costs for individuals when they replace outpatient treatment visits. Furthermore, disconnected mental health and medical care can be better coordinated through newer benefit platforms that connect all resources into one system—supported by clinicians and customer care representatives—and that offer to reduce costs and improve well-being for individuals.

While robots are not sufficient by themselves, they indeed are demonstrating value and, as AI matures, bots promise to play a greater role as a component of a broader and deeper mixed workplace behavioral health model. A robust mixed model that includes components of traditional and new-breed resources, reduces stigma and personalizes the mental health journey for individuals demonstrates value by increasing well-being.

Some benefit platforms integrate these benefits into a single place supported by high-touch concierge service and clinical support. With this approach,

learn more

Education

Workforce Mental Health 2021 Virtual Conference, August 17-18

Visit www.ifebp.org/virtual for more information.

Mental Health at Work: Today's Lessons for Tomorrow's Workforce

On-Demand Webcast

Visit www.ifebp.org/webcasts for more details.

employers can choose from various vendors over time. Some employees want to chat, others want a counselor and others want self-serve programs. Having a variety of platforms enables employees to get support in a personalized and non-threatening way through the option that makes the most sense for them.

With the recent COVID-19-inspired growth in providers of internet-based counseling and robot-based mental health support services, employers are cautioned to remember the importance of also providing resources to support managers, work teams, crisis events and other workplace-focused services. These kinds of organizational-level supports can be obtained from most traditional EAPs (especially the internal staff model EAPs) while most technology-based providers focus on supporting the individual rather than the workplace.

Conclusion

In addition to improving well-being and job performance, employers may also see lower direct and indirect benefit costs by investing in mental health. But, more importantly, a thoughtful employer mental health strategy can reduce pain and suffering and make a real difference in employee well-being. 🎯

Endnotes

1. See <https://alert.psychnews.org/2020/10/americans-report-increasing-rates-of.html>.
2. See www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/.
3. M. Attridge (October 2013). "The Business Value of Employee Assistance. A Review of the Art and Science of ROI." Keynote address at the annual conference of the Employee Assistance Professionals Association, Phoenix, Arizona. See <http://hdl.handle.net/10713/8380>.
4. J. J. Frey, J. Pompe, D. Sharar, R. Imboden and L. Bloom (2018). "Experiences of internal and hybrid employee assistance program managers: Factors associated with successful, at-risk, and eliminated programs." *Journal of Workplace Behavioral Health*, 33(1), 1–23, <https://doi.org/10.1080/15555240.2017.1416293>.
5. M. Attridge, T. Cahill, S. Granberry and P. Herlihy (2013). "The National Behavioral Consortium Industry Profile of External EAP Vendors." *Journal of Workplace Behavioral Health*, 28(4), 251–324, <https://doi.org/10.1080/15555240.2013.845050>.
6. V. Azzone, B. McCann, E.L. Merrick, D. Hiatt, D. Hodgkin and C. Horgan (2009). "Workplace Stress, Organizational Factors and EAP Utilization." *Journal of Workplace Behavioral Health*, 24(3), 344–356, <https://doi.org/10.1080/15555240903188380>.
7. B. Japsen, (June 30, 2016). "Telemedicine Companies See Mental Health as Next Frontier." *Forbes*, www.forbes.com/sites/brucejapsen/2016/06/30/telemedicine-companies-see-mental-health-as-next-frontier/?sh=5df5d5f52226.
8. B. Owens, (2018). "Telemedicine on the rise but lagging in Canada." *CMAJ*, 190, e1149–50, www.cmaj.ca/content/cmaj/190/38/E1149.full.pdf.
9. L. Bickman, (2020). "Improving Mental Health Services: A 50-Year Journey from Randomized Experiments to Artificial Intelligence and Precision Mental Health." *Administration and Policy in Mental Health and Mental Health Services Research*, 47(5), 795–843. <https://doi.org/10.1007/s10488-020-01065-8>.
10. J. Truschel and J. Tzeses, (February 4, 2021). "Top Mental Health Apps: An Effective Alternative for When You Can't Afford Therapy?" psycm.net, www.psycm.net/25-best-mental-health-apps.
11. Y. Cheng and H. Jiang, (2020). "AI-powered mental health chatbots: Examining users' motivations, active communicative action and engagement after mass-shooting disasters." *Journal of Contingencies and Crisis Management*, 28(3), 339–354, <https://doi.org/10.1111/1468-5973.12319>.
12. See <https://www.x2ai.com>.
13. M. D. Attridge, R. C. Morfitt, D. J. Roseborough and E. R. Jones, (2020). "Internet-Based Cognitive-Behavioral Therapy for College Students with Anxiety, Depression, Social Anxiety, or Insomnia: Four Single-Group Longitudinal Studies of Archival Commercial Data and Replication of Employee User Study." *JMIR Formative Research*, 4(7), e17712, <https://doi.org/10.2196/17712>.
14. M. Attridge, (April 2019). "Do EAPs Work?" Presented at Spring Think Tank meeting of the Health Enhancement Research Organization (HERO), San Antonio, Texas, <http://hdl.handle.net/10713/8869>.
15. E. Karyotaki, A. Kleiboer, F. Smit, D. T. Turner, A. M. Pastor, G. Andersson, . . . P. Cuijpers, (2015). "Predictors of treatment dropout in self-guided web-based interventions for depression: An 'individual patient data' meta-analysis." *Psychological Medicine*, 45(13), 2717–2726, <https://doi.org/10.1017/S0033291715000665>.
16. J. Pfeffer and L. Williams, (December 8, 2020). "Mental health in the workplace: The coming revolution." *McKinsey Quarterly*, www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/mental-health-in-the-workplace-the-coming-revolution#.
17. M. Aarons-Mele, (November 1, 2018). "We need to talk more about mental health at work." *Harvard Business Review*, <https://hbr.org/2018/11/we-need-to-talk-more-about-mental-health-at-work>.

bios



Eric Parmenter, CEBS, ISCEBS-Fellow, CLU, ChFC, LUTCF, RHU, REBC, is vice president of Health Advisory at League, a benefit platform company in Canada and the United States. He has more than 30 years of experience in employee benefits as a leader and advisor to employers and health systems. Parmenter is the author of the book *STOP: 21 STOPS to Reduce Stress and Enhance Joy*. He holds a B.A. degree in psychology from the University of Illinois and an M.B.A. degree from the University of Chicago Booth School of Business. Parmenter is a Ph.D. student in business psychology at the Chicago School of Professional Psychology. He is also an adjunct professor of business in the Master of Health program at Lipscomb University, Nashville, Tennessee.



Mark Attridge, Ph.D., is president of Attridge Consulting, Inc., an applied research and business advisory firm based in Minneapolis, Minnesota with more than 70 clients in the United States, Canada and other countries. He has more than 25 years of experience in workplace health and employee assistance program (EAP) services. Attridge's prior positions included being a national director at Watson Wyatt Worldwide and principal and manager of the research department for over ten years at Optum, a division of UnitedHealth Group. He is the author of more than 40 peer-reviewed scientific papers and book chapters and hundreds of trade articles and conference presentations. He earned a Ph.D. in psychology from the University of Minnesota, an M.A. degree in Communication from the University of Wisconsin-Milwaukee and a B.A. in communication and psychology from the University of Minnesota-Duluth.

