

This engaging book helps clinical teams use artificial intelligence (AI) safely and effectively to streamline their work, offering more time for patient care. It provides practitioners without any technical background the right knowledge to navigate AI today and be ready for the AI of tomorrow.

—**John Torous, MD**, Associate Professor of Psychiatry, Harvard Medical School, Boston, MA, United States

This guide is an exceptional resource for practitioners, researchers, and behavioral health care administrators alike. Whether you're an artificial intelligence (AI) novice or AI enthusiast, you'll find Luxton's clear writing and concrete examples to be accessible, informative, and practical.

—**Dror Ben-Zeev, PhD**, Professor of Psychiatry and Behavioral Sciences
Director, University of Washington's Behavioral Research in Technology and Engineering (BRiTE) Center, Seattle, WA, United States

Dr. Luxton connects us with practical ways artificial intelligence can assist, augment, and—on rare occasions—automate our work. We learn about the technology concepts, applications to clinical care, and safe, ethical, and legal practices. It promotes personalized care with culturally informed and equitable approaches. This is a must-read as part of education for trainees and professional development for those in practice—a trustworthy, transparent, and authoritative guide.

—**R. Donald M. Hilty, MD**, Professor at the UC Davis School of Medicine, Sacramento, CA, United States

Luxton cuts through artificial intelligence hype to deliver what practitioners actually need—a clear-eyed framework for integrating machine intelligence into behavioral health without losing sight of human dignity or clinical wisdom.

—**Nell Watson, PhD**, AI ethics expert; author of *Taming the Machine: Ethically Harness the Power of AI* and coauthor of *Safer Agent AI: Principles and Responsible Practices*; President, European Responsible Artificial Intelligence Office (EURAIO), Leuven, Belgium

Luxton provides relevant, timely, and in-depth coverage of artificial intelligence in behavioral health care settings with the clinician in mind. The applications are practical, insightful, and easy to understand, even for readers with little or no background in technology. The text is useful and approachable, particularly for what at times can feel like a challenging topic. This is a must-read for clinicians and clinicians-in-training as we continue to practice in a technologically advancing culture.

—**Jeremiah L. Peck, PhD**, Chair, Graduate School of Counseling, George Fox University, Portland, OR, United States

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INTRODUCTION

Are You Ready for the AI Transformation?

We have entered the transformative “Age of AI.” The application of *artificial intelligence* (AI), defined here as technology designed to do tasks considered to require human intelligence, is becoming the new cornerstone of health care and behavioral health practice. Virtual therapists, trainers, and coaches that augment care and sometimes replace human professionals in some tasks are commercially available. AI-enabled mobile devices, such as smartphones, are on hand for symptom monitoring, management, and treatment. Clinicians may also use AI-enabled tools to help detect and diagnose psychiatric illnesses, predict health outcomes, and improve clinical documentation and practice workflow. Recent developments in commercially available generative AI (e.g., OpenAI’s ChatGPT) that are capable of humanlike content generation and interaction are now creating all new capabilities that will disrupt behavioral health practice as we know it.

Many behavioral health professionals already use AI-enabled tools, such as the latest intelligent mobile health apps or dictation software, and are excited to embrace the latest technological developments. Others may be curious about the scope of AI capabilities but do not know how or when

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to integrate AI into their practice. Some professionals may be skeptical or fearful of AI and have concerns about how AI may affect their professional work and the clients they serve. For example, practitioners may be worried that AI will eliminate their jobs, create legal risks, or harm clients. They may question the accuracy and reliability of AI tools and express concern about how potential errors could affect their practice and client outcomes. Practitioners may also be concerned about client safety and some risks from overdependence on new technologies. This skepticism may further reduce the appeal of adopting new technologies, resulting in lost opportunities to enhance their practice.

To stay relevant and thrive, behavioral health providers should embrace the AI revolution with informed curiosity and a commitment to developing relevant skills rather than express fear or alarm. The behavioral health practitioner of today and the future must know what AI tools are available, what technologies are emerging, and how it will benefit their practice. They must become proficient in using these tools and understand how to incorporate them into current practice processes. Practitioners also need to know about the risks of using these technologies and how to manage the risks. For instance, mistakes resulting in privacy violations and errors brought on by an excessive dependence on AI in place of a professional's judgment and adherence to existing ethical and legal standards may endanger clients' safety, create legal risks for the practitioner, and harm public trust. Practitioners must understand the value and limitations of AI tools, whether considering using them, having already integrated them, or preparing for future adoption.

BENEFITS OF AI FOR BEHAVIORAL HEALTH PRACTICE

For AI technologies to be successfully adopted in behavioral health, both practitioners and clients must perceive clear benefits and value from their use. The following highlights some of the most significant advantages of AI.

Superior Capabilities

What makes AI a valuable tool in behavioral health practice, and how does it benefit practitioners and their clients? For starters, AI outperforms humans in processing large amounts of data from multiple sources (e.g., clinical records, client histories, real-time monitoring devices). AI can detect patterns and correlations that clinicians may overlook or cannot detect, providing

insights into a client's functioning, diagnosis, and prognosis. For example, AI-enabled mobile device apps and onboard sensors can monitor sleep patterns, physical activity, and self-reported mood states in between sessions to infer changes in cognitive and emotional states, personalize therapeutic content, and deliver relevant insights to clinicians to support informed treatment decisions. The potential for preemptive action by AI-enabled software is a significant benefit because it can identify people who are at risk of developing or worsening mental health problems and recommend preventive measures. When monitoring clients with a history of suicidal ideation, for instance, AI might detect risk signs that clinicians might overlook or simply cannot monitor on a continual basis. By automatically alerting clinicians to elevated risk levels, they can intervene before a crisis occurs.

AI also can outperform humans in terms of reliability and consistency. Intelligent machines, such as conversational agents (chatbots), are not susceptible to fatigue, burnout, and cognitive errors that can impair human practitioners' performance (Luxton, 2016). This advantage means these systems can potentially be more accurate and effective at delivering treatments and supporting client adherence to treatment protocols. As we will see throughout this guidebook, however, machines can also be biased (e.g., algorithmic bias) and unreliable, and they can suffer from the "garbage-in, garbage-out" problem, implying that they are only as good as what they have learned from available data.

Customization and Precision

Practitioners can also use AI to tailor treatments and services to each client's needs and preferences, improving treatment adherence and health outcomes. For example, therapeutic conversational agents can use therapeutic approaches while consistently adapting to an individual client's needs. When a client undergoing treatment for depression expresses feelings of discouragement or a lack of progress, a conversational agent can respond with empathetic support and suggest adjustments to behavioral activation strategies to better align with the client's current needs. AI systems can combine client preferences with data from electronic health records (EHRs) and other sources, such as mobile apps, wearables, and biofeedback devices.

The latest generation of AI conversational agents powered by large language models (LLMs) can learn knowledge and skills from a variety of evidence-based approaches, allowing them to provide the best evidence-based therapy or combine different approaches based on a client's diagnostic profile, preferences, or treatment progress. Intelligent machines may also

detect and adapt to a client's cultural characteristics, such as race, ethnicity, or socioeconomic status. A virtual human psychotherapist, for example, could adapt its mannerisms (e.g., eye contact), speech dialect, colloquialisms, and other characteristics to match a specific cultural group, fostering rapport with a client and improving overall communication skills (Luxton, 2016).

User Preference and Access to Services

People seeking behavioral health services may prefer the convenience of virtual care providers and believe those providers are free of personal biases, thus allowing an individual to feel more relaxed discussing sensitive issues without feeling rushed or judged (Laranjo et al., 2018; Luxton, 2014b). This feature is helpful for clients who are hesitant to disclose personal information to therapists, counselors, and other professionals. People seeking behavioral health services and practitioners may benefit from the conveniences of AI-enabled technologies. With their 24-hour access to services, intelligent mobile health apps are an excellent example of widely adopted technology that offers such conveniences.

AI-powered tools also promise to increase access to mental health services, particularly in underserved areas and populations. The increased accessibility and affordability of AI-powered virtual care initiatives break down cost barriers, allowing for more consistent and long-term engagement in therapeutic interventions. Furthermore, when traditional services are not easily accessible or able to meet an urgent demand—like during a pandemic or following a natural disaster—the ability to deploy AI solutions on a large scale can fill gaps and meet needs (Luxton & Watson, 2023a).

Improved Screening, Assessment, and Diagnostics

AI significantly advances client screening, assessment, and diagnostics, increasing treatment personalization and improving health outcomes. For example, AI enhances psychological assessment and precision in identifying and diagnosing psychiatric disorders, predicting health trajectories, and customizing treatment plans (Hilty et al., 2024). AI can also personalize therapeutic and pharmacological strategies to match each client's unique health profiles and preferences. Conversational agents can be designed to conduct screening and assessments, aiding in clinical intakes and triage and providing recommendations to providers.

AI also enables advanced capabilities for health-related monitoring and self-care. Data can be collected and processed between care sessions, and

intelligent monitoring can alert providers of worsening symptoms or an impending crisis that requires intervention. For instance, an individual managing anxiety could leverage a wearable device to monitor stress levels in real time, receiving AI-generated recommendations and perhaps empathetic encouragement from a virtual human conversational agent, which would provide immediate relief strategies tailored to that individual's historical data and preferences.

Improvement in Mental Health Through Research and Evaluation

AI significantly advances our understanding of mental health conditions, the brain, and the social-behavioral contexts that influence behavioral health and the well-being of people. AI can identify complex patterns; offer valuable insights into the complex interplay of genetic, neurological, and environmental factors; and elucidate the etiology of various mental health conditions. Moreover, AI's ability to process and interpret data at a scale far beyond human capacity enables the development of more effective treatments and interventions. This capability results in personalized therapeutic approaches and the discovery and refinement of pharmaceutical therapies. Additionally, beyond individual care, monitoring data collected from numerous technology users, such as those using mobile health apps, and analyzed with AI informs mental health research. This capability provides insights that contribute to a deeper understanding of mental health issues, refine treatment methods, and identify risk factors that aid in prevention.

Efficiency and Economic Benefits

Integrating AI into behavioral health practices offers notable economic benefits and practice efficiencies. AI's potential to streamline the administrative facets of behavioral health practices, including scheduling and record-keeping, allows practitioners to allocate more of their time and resources toward client-centric care. For example, virtual human conversational agents can conduct patient intakes and triage or assist with patient scheduling and inquiries. AI integration also complements the widely used stepped-care approach in health care, allowing for less intensive care at first and gradually increasing intensity as necessary. For example, conversational agents on mobile devices can perform assessments, deliver coaching, and facilitate self-help services, all of which reduce overall health care expenses (Luxton & Hudlicka, 2021).

AI is also helping to address the growing demand for mental health services and the global shortage of behavioral health providers (Luxton, 2020a).

Low-income countries are estimated to have as few as two mental health workers per 100,000 people compared with more than 70 in high-income countries. This shortage of health care providers results in significant service gaps, contributing to unmet health care needs and increased disease burden in underserved areas (World Health Organization, 2018). Using virtual care providers in the form of conversational agents and other self-care tools can potentially address this gap (Luxton, 2014a, 2014b; Luxton & Hudlicka, 2021).

Using AI technology to help provide care could result in significant long-term cost savings from untreated behavioral and mental health conditions and increased productivity from a healthier population (Luxton, 2014a). Some estimates have suggested the global cost of mental illness will exceed \$6 trillion by 2030 (The Lancet Global Health, 2020). Mental health costs are the single largest source of the health-related global economic burden, surpassing those of cancer, cardiovascular disease, chronic respiratory disease, and diabetes (Trautmann et al., 2016). AI tools' increased reach, cost-effectiveness, and scalability have great potential to reduce this economic burden while improving the health of individuals, organizations, and communities.

AI creates new capabilities to improve health outcomes for practitioners, clients, and society. These advantages can be realized when AI is used responsibly, balancing ethics, safety, and legal requirements. Awareness of these benefits should excite practitioners and inspire them to further their understanding of AI's capabilities, how to integrate these technologies into services effectively, and how to remain competent as technology evolves.

AI LIMITATIONS

Despite the technological capabilities and optimism surrounding AI's potential to improve outcomes and streamline behavioral health care, several key limitations temper its successful adoption and integration. Here, I outline some of the central challenges, which I explore in greater detail throughout this guidebook, along with practical strategies for addressing them.

The potential for inaccurate diagnoses or clinically relevant errors caused by algorithmic bias in AI systems is a limitation associated with AI tools. Although AI systems can sometimes outperform human decision making, they remain susceptible to error, particularly when trained on biased, incomplete, or nonrepresentative data sets (Gianfrancesco et al., 2018). The garbage-in, garbage-out problem is a real issue that can lead to unreliable clinical recommendations or other information that could harm clients and

expose providers to legal liabilities. Such concerns directly influence the acceptance and utility of AI in behavioral health and underscore the need for responsible development and deployment emphasizing fairness, rigorous testing and evaluation, well-defined policies, and appropriate human oversight.

Limitations to adopting AI technologies in clinical settings include institutional barriers and practitioner apprehension. Clinicians may be hesitant to implement AI tools because of limited familiarity with the technology or doubts about its reliability, clinical validity, or safety (S. Kelly et al., 2023). Additionally, the introduction of AI into health care and social services settings can raise concerns among staff about changes to workflows, the need for retraining, and the potential for job displacement, all of which may hinder acceptance and integration. I address best practices for addressing this limitation in Chapter 2.

Technical barriers are another limiting factor. Inadequate integration with existing infrastructure, such as electronic health records (EHRs) and established clinical workflows, can reduce the usability and effectiveness of AI applications. Compounding these challenges is the absence or insufficiency of comprehensive legal and regulatory frameworks, which can hinder AI's widespread adoption and safe deployment in health care settings (Hassan et al., 2024). The recent proliferation of commercially available generative AI tools is a great example. Although these technologies offer incredible capabilities, sectors like business, government, education, and health care have had to adapt to this emerging technology. In doing so, they must confront a range of risks and limitations, including concerns related to privacy, data security, and the reliability and accuracy of AI-generated outputs.

Another limitation is the lack of comprehensive outcome studies that allow generalizability of effectiveness outcomes and the economic value of AI tools. Hendrix et al. (2022) noted that most observational studies assessing AI in general health care focus primarily on clinical validity measures, such as diagnostic sensitivity and specificity. However, estimating real-world outcomes based on these metrics requires incorporating additional assumptions that are often overlooked in current research, particularly behavior in response to new technology (e.g., acceptance, uptake) and the generalizability of the intervention. Also, tools considered cutting edge just 5 years ago may already be outdated because of ongoing advancements in AI capabilities. As a result, although addressing these research gaps is essential for understanding the full effects and value of AI in clinical practice, the evidence base for the current state-of-the-art technologies is still emerging and continues to evolve.

Given the rapid pace of AI innovation in behavioral health, the capabilities, limitations, and levels of autonomy of these tools are continuously evolving along with the expectations placed on those who use them. Although AI can outperform humans in specific tasks and may, in some cases, fully assume roles traditionally carried out by people, many functions remain best performed by humans. The perspective taken throughout this guidebook is that AI should be viewed primarily as a tool—one that supports and enhances the work of behavioral health professionals rather than replaces them. This collaborative approach has been referred to as *centaur AI*, a term originating from chess grandmaster Garry Kasparov following his historic defeat by IBM's supercomputer Deep Blue. The concept is inspired by the mythological centaur, a creature that combines human and animal traits. In this model, AI and humans work together, each contributing their unique strengths while offsetting their respective limitations (Saghafian & Idan, 2024).

AIMS OF THE GUIDEBOOK

This guidebook is designed for behavioral health professionals across diverse practice areas and settings, including individual and family therapy, substance use counseling and treatment, social services, forensic psychology, psychiatry, and neuropsychology, that aim to enhance their practice by integrating AI. It is also valuable for other medical professionals involved in counseling, mental health screening, and rehabilitation as well as educators and trainers in behavioral health care. Additionally, it serves behavioral health practitioners in nonclinical roles, such as administration, consulting, and research.

Throughout this guidebook, I mostly use the terms *practitioners* or *professionals* to encompass providers of behavioral health services across all disciplines. *Behavioral health services* refer to professional activities, such as direct clinical care, counseling, psychological assessment, and coaching. Although terms like *clients*, *patients*, or *health care consumers* may vary by discipline and context, I have opted to primarily use *clients* as a general term for individuals seeking behavioral health services. These choices promote brevity, inclusivity, and consistency throughout the guidebook.

With this guidebook, I aim to demystify AI and demonstrate practical applications in clinical settings and applications. I adopt a competency-based approach to identifying the essential knowledge and skills practitioners need to incorporate and use AI successfully.

Competencies for using AI tools often overlap with those required for other technologies in behavioral health while also encompassing AI-specific

nuances. For instance, proficiency with mobile apps or telehealth platforms involves understanding critical aspects, such as data protection, client safety, and appropriateness, alongside the ability to navigate the AI components embedded within these tools. The integration of AI into health care also has the potential to reshape the client–provider relationship. AI can sometimes substitute for practitioners, offering insights or recommendations in place of direct professional input. Additionally, clients’ interactions with AI tools, such as virtual coaches, can create a unique dynamic, producing a separate relationship between the client and the technology.

Despite AI’s growing utility and capability, core professional competencies in behavioral health—such as conducting psychological assessments, delivering evidence-based therapies, and practicing cultural responsiveness—remain essential. To effectively integrate AI into practice, practitioners must develop AI-specific competencies and understand how AI affects all aspects of their work, ensuring that they use the technology responsibly and effectively.

The following are the primary AI-specific competency topic areas that I aim to highlight throughout the guidebook:

- knowledge of AI core concepts and themes
- appropriate selection and application of AI technologies
- ethics specific to AI technologies
- safety
- current legal requirements
- cultural issues and fairness, such as technology access risk and bias reduction

My approach to navigating the complexities and nuances of AI is to walk readers through the essential technical elements and practical issues in an easily understandable and straightforward manner. I intend to give readers a solid understanding of AI’s potential rewards and risks, including ethical considerations, safety concerns, and inherent constraints.

Furthermore, this guidebook aims to dismantle prevalent myths and apprehensions that practitioners might harbor regarding AI. For instance, I address whether AI will supplant health care practitioners and whether professionals’ and their clients’ traditional, face-to-face care will go by the wayside. I also examine whether reliance on AI technologies exposes practitioners to increased liability should the systems falter and whether future liability could arise for practitioners who avoid AI in decision-making processes. This comprehensive guidebook aims to enlighten and empower practitioners by answering these key questions and facilitating the acquisition of competencies and nuanced knowledge necessary for incorporating AI into practice.

The following chapters are organized by common behavioral health and psychological practice themes, focusing on areas in which practitioners can effectively integrate AI-enabled technologies. Each chapter is supported by recent and relevant scientific evidence on the effectiveness and utility of AI applications in behavioral health, and each acknowledges existing knowledge gaps and limitations of AI applications in this field. A comprehensive review of the effectiveness of any specific technology or application, however, is not feasible given the practical focus and broad scope of this book. I have prioritized citing recent scoping, qualitative, and meta-analytic reviews, and I encourage readers to consult these sources and individual studies cited within them for more in-depth, nuanced insights before adopting any technological solution. I also provide practical examples of AI's real-world applications for tasks and goals that behavioral health practitioners are familiar with. Risks, necessary safety precautions, and ethical considerations are highlighted throughout this guidebook.

HOW TO USE THIS GUIDEBOOK

I encourage readers to read this book from beginning to end. However, practitioners may use the book as a reference for specific topic areas covered in each chapter.

Chapter 1 presents the most important need-to-know definitions and essential concepts about AI and related technologies in the most basic, non-technical manner possible. This chapter establishes the technical knowledge foundation for the specific technologies and AI concepts that I present in subsequent chapters, including machine learning (ML), affective computing, neural networks, deep learning, intelligent virtual agents (IVAs), LLMs, and “human/professional in-the-loop.” I also provide some historical contexts of concepts and technologies.

In Chapter 2, I discuss the challenges and need-to-know recommendations for introducing and integrating AI tools in health care settings. This discussion includes advice on choosing developers and vendors, emphasizing aligning AI goals with the specific needs of practices and the overall organizational vision. I also discuss critical training and policy development considerations specific to different organizational contexts, such as small private practices, hospitals, and large health care systems in the United States and worldwide. The chapter discusses the potential challenges, risks, and benefits of AI integration and best practices for successful implementation.

The incorporation of AI into behavioral health practice also introduces complex ethical considerations. As we develop and implement these

advanced technologies, it is crucial to maintain the foundational elements of person-centered care. Chapter 3 presents common risks, ethical considerations, and safety issues associated with AI and related technologies and their application in behavioral health care. I intend to facilitate an essential understanding of the issues and lay the foundation for more specific discussions about practical application in the subsequent chapters. Topics covered include fairness (bias and equity), transparency, clients autonomy, privacy (as a fundamental human right), and more. Issues regarding the therapeutic relationship between clients and intelligent machines that replace or mediate the relationship with professionals are a focus. I also cover applicable ethics codes and guidelines that practitioners should know. Safety is also a subsection of emphasis, and I focus on harm prevention of AI technology users. The practical importance of safety protocols for autonomous and semi-autonomous systems is covered with the intent to set the foundation for more examples in subsequent chapters in which I discuss specific technologies and real-world applications (and risks and benefits). The informed consent process and disclosures of risks, benefits, and limitations are also covered.

Chapter 4 discusses how practitioners can use AI while providing direct individual, family, and group therapy care. I review the state-of-the-art virtual humans/chatbots for coaching, clinical care, and social support and how practitioners might integrate them into a workflow. AI applications in intelligent mobile devices (e.g., smartphones, tablets, smartwatches) in clinical care (not for self-care but with recognition of the overlap) are also covered. I introduce emerging generative AI and AI-enhanced virtual reality (VR) capabilities for serious games, exposure therapy, expressive therapies, and AI-facilitated personalized treatment plans. Although robots and robotics are not a focus in this guidebook, I address some applications, such as embodied IVAs in rehabilitative psychology and telepresence robots that help with consultations. I also address direct care-specific safety, ethical considerations, risks, and benefits of the aforementioned technologies, and I include a section that addresses billing when using AI-assisted technologies.

Practitioners must know about the emerging capabilities of AI in psychological assessment, testing, measurement, and diagnostics. In Chapter 5, practitioners will learn how AI-based psychological tests and assessments use advancements in sensor technology, multimodal data sources, ML software, and other capabilities to collect and analyze data while combining information from traditional sources, such as interviews, surveys, and questionnaires. AI has the potential to increase the validity and reliability of some types of assessments and diagnostics, and clinicians need to know what is available, what works, and what the limitations are. This chapter covers these

applications in detail and addresses the specific considerations when using AI-based or assisted assessment approaches.

Chapter 6 discusses AI applications in self-care and symptom monitoring and management, such as between sessions or after treatment ends. Tools for self-care that support well-being and monitor client progress can also help practitioners make better clinical decisions and enhance treatment results. Intelligent mobile apps, virtual coaches, and automatic and passive data collection are just a few examples of how AI greatly enhances self-care and monitoring capabilities, offering powerful tools for self-management. This chapter discusses the currently available AI technologies, how clients can benefit from them, and how professionals can incorporate them into their services.

Chapter 7 discusses how AI can help us with professional development, education, and the continuous improvement of clinical skills. I also focus on how professionals can use AI to help supervise and train others. For example, AI-enabled software can help clinicians practice being more effective at conducting clinical interviews and being more empathetic. This chapter also covers how AI can assist in developing training and skills enhancement and assess the effectiveness of training.

Chapter 8 covers how AI can improve practice workflow efficiency by automating and assisting with various tasks, including handling client inquiries, intakes, appointment scheduling, billing process management, and chart noting. It also discusses how AI approaches can predict and manage clients flow, reduce no-shows, and improve the client's experience. Critical ethical and legal considerations include generative AI's potential risks and benefits for clinical documentation and psychological reports. I address the ethics and legal risk issues, such as the alluring use of generative AI to complete chart notes or psychological reports.

In Chapter 9, I discuss how AI can help advance behavioral health research and program evaluation. I intend for the information compiled here to help clinicians stay on the cutting edge of psychological science and information relevant to their area of professional practice regardless of their involvement in research or program evaluation activities. This chapter will also be helpful for research professionals who want to learn more about current practical capabilities, such as data collection and analytics, and potential areas for future research and development.

I conclude the guidebook with Chapter 10, which discusses upcoming technological advances and how they will continue transforming behavioral health care. This final chapter covers the future of generative AI and VR, artificial general intelligence, advanced health and medical data integration,

automated virtual care providers, and more. I also discuss emerging concerns, particularly the threat that AI may pose to the behavioral health workforce, as well as emerging effects on public health and other societal issues that behavioral health professionals are likely to be interested in. This chapter also emphasizes emerging (and highly needed) research areas and proposes opportunities for psychologists and other behavioral health professionals to be involved in this research as well as in regulatory oversight and advocacy.

LIMITATIONS OF THE GUIDEBOOK

A challenge for any book about cutting-edge technology, particularly AI, is the risk of rapid obsolescence. AI technology is advancing exponentially, and generative AI and other innovative technologies, such as mixed reality, have made significant progress in recent years and will continue to do so. Nonetheless, I emphasize commercially available, off-the-shelf technologies that professionals can use today rather than hypotheticals and possible future-state technologies. I provide technical descriptions so that people without a strong background in technology or who are new to AI will quickly understand the technology and grasp concepts. I hope that people familiar with AI's technical or philosophical aspects will appreciate the presentation of practical applications and perhaps learn about topics concerning AI that they have not considered before.

Another challenge for this book is the overlap of the technologies discussed across chapters. For example, mobile phones can be used as hosts for virtual human coaches, augmented reality applications, and data collection platforms (for assessment and monitoring). Also, professionals may use AI tools to provide direct treatment while the same technology may be used by clients independently of formal treatment. For example, Chapter 4 covers the use of virtual human care providers in direct clinical care. At the same time, Chapter 6 focuses on how people interested in self-care and managing mental health-related symptoms may access this same technology. As a result, some technological and practical overlap is required in this guidebook. Be that as it may, I have attempted to avoid redundancy in descriptions and instead have emphasized what is generalizable and unique to a particular technology or application. I also specifically discuss the AI components of these technologies and recommend other resources for further reading when applicable.

I address ethics, risks, and safety in each chapter of this guidebook. Professionals in various fields of work, such as technology design and development,

health care administration, and health care practice, may have differing perspectives and interests. I approach these topics from the perspective of behavioral health practitioners, focusing on familiar, contemporary concepts (e.g., autonomy, harm reduction, respect, fairness/equity) and also discuss the novel, emerging, and unknown risks that AI and associated technology may pose. This discussion may benefit professionals other than health care providers by providing essential insights into the unique and ever-changing ethical, legal, and safety considerations inherent in behavioral health care.

THE FUTURE AWAITS . . .

A rapid transformation of behavioral health practice is underway. Intelligent machines are undeniably changing the behavioral health landscape by providing once-only imagined capabilities. AI tools will supplement behavioral health professionals' expertise by providing advanced capabilities that increase the efficiency and effectiveness of treatments and services. Additionally, AI tools will empower patients and clients by giving them more individualized attention to their specific needs.

Today's behavioral health practitioners must understand AI's capabilities, risks, and benefits and how to integrate them while prioritizing their clients' best interests. An in-depth understanding of the risks and ethical issues involved and ongoing collaboration between professional domains are required for success. I hope this guidebook will help assist in this exciting transformation. I encourage you to send me feedback on this book and pertinent case examples from your experience.