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TRUST AND USER ENGAGEMENT AS CORNERSTONES OF AI-DRIVEN MENTAL HEALTH CARE: AN INTEGRATIVE LITERATURE REVIEW

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ABSTRACT

Artificial intelligence (AI) has emerged as a pivotal force reshaping digital mental health care, offering personalized, accessible, and stigma-free platforms that have the potential to transform traditional therapeutic services. This review critically analyzes the role of trust, user experience, and privacy in shaping patient engagement and long-term adherence within AI-enhanced platforms, including digital personal assistants (PDAs) and chatbots. An integrative approach was used to synthesize recent literature (2024–2025) across disciplines, focusing on trust and user engagement, stigma reduction, accessibility, clinical efficacy, and ethical and privacy considerations. Findings reveal that trust — fostered by seamless interfaces, credible AI interventions, and robust privacy safeguards — operate as a central determinant of patient acceptance and ongoing use. Studies underscore the role of AI platforms in reducing stigma, expanding access for underserved communities, and delivering personalized, patient-centered interventions. Advances in natural language processing (NLP) and fine-tuned large language models (LLMs) have further enhanced patient–assistant interactions, supporting crisis intervention and resilience-building across diverse clinical settings. Despite these advances, systemic limitations remain, including methodological constraints, long-term efficacy gaps, digital literacy barriers, and rural access inequities. To optimize clinical outcomes and patient trust, future efforts must focus on aligning AI platforms with clinical standards, evolving privacy regulations (e.g., GDPR), and culturally inclusive design practices. In doing so, AI-enhanced platforms can evolve from supplemental aids into trusted, integral elements of patient-centered mental health care.

KEYWORDS: digital mental health, artificial intelligence, trust, patient engagement, clinical implementation, privacy, equity

INTRODUCTION

T The rising demand for accessible, stigma-free mental health services has positioned artificial intelligence (AI) platforms at the center of a paradigm shift in mental health care. AI-enhanced digital platforms — including digital personal assistants (PDAs) and chatbots — have evolved from experimental interventions into vital clinical and social tools, reshaping how mental health services are delivered, experienced, and evaluated (Bailoni & Dragoni, 2025). By providing personalized, responsive, and accessible support, these platforms have

the potential to bridge long-standing gaps in access, reduce stigma, and foster long-term patient engagement.

Recent advances in natural language processing (NLP) and fine-tuned large language models (LLMs) have significantly strengthened the ability of AI platforms to comprehend patient narratives, assess emotional context, and deliver tailored interventions (Yu & McGuinness, 2024). Yet, their efficacy depends upon patient trust, seamless user experience (UX), robust privacy and data safeguards, and alignment with clinical standards and ethical best practices (Maduku et al., 2024). Patients are more likely to adopt and adhere to AI-enhanced platforms when trust is established through credible, empathic interfaces and strong privacy guarantees, making trust a pivotal determinant of long-term patient engagement.

Moreover, the literature highlights systemic barriers — such as digital literacy, rural access constraints, and limited consideration for culturally diverse patient populations — that impede the equitable deployment and uptake of AI platforms (Jardine et al., 2024). These gaps underscore the urgency for inclusive design, staff training, and culturally adaptable AI platforms that can support diverse patient needs across varied clinical and social settings.

This review critically analyzes the role of trust and user engagement in AI-enhanced digital mental health platforms, explores their benefits and limitations, and evaluates their clinical and policy implications. By synthesizing the latest evidence from 2024–2025, this review aims to illuminate best practices, identify critical gaps, and provide actionable recommendations for researchers, clinicians, and policymakers seeking to optimize AI platforms as integral, trusted elements of patient-centered mental health care.

LITERATURE REVIEW OF AI-ENHANCED DIGITAL MENTAL HEALTH SERVICES

Table 1

Author(s)	Year	Focus Area	Methodology	Key Findings	Implication for Practice
Bailoni & Dragoni	2025	Trust & Engagement	Mixed-methods user studies	Trust is central for long-term AI adoption	Prioritize trust-focused design and privacy safeguards
Maduku et al.	2024	User Experience	UX trials and patient feedback	Seamless interfaces deepen patient engagement	Invest in user-centric, empathic design
Doe & Willson	2025	Stigma Reduction	Thematic narrative review	AI platforms reduce stigma and foster emotional disclosure	Use AI platforms for early intervention and stigma-free access
Song et al.	2024	Chatbots & Accessibility	Randomized trials	Chatbots expand access and reduce stigma	Integrate chatbots for low-barrier screening
Bhatt	2025	Personalization	Meta-analysis	AI delivers precision therapy based on patient profiles	Adopt AI for tailored, individualized interventions
Thirupathi et al.	2025	IoT & Continuous Monitoring	Trials with mobile and wearable platforms	Enables crisis prevention and ongoing	Integrate mobile platforms for

				patient monitoring	continuous patient support
Voneche Cardia et al.	2025	Trauma Recovery	Qualitative studies	AI platforms aid trauma recovery and resilience building	Leverage AI platforms for trauma-informed interventions
Jardine et al.	2024	Adoption Barriers	Systematic review	Digital literacy and equity issues hamper uptake	Invest in literacy, training, and access equity for underserved groups
Williams et al.	2024	Scalability	Mixed-methods case studies	Training and workflow optimization enable clinical integration	Develop staff training and workflow strategies for AI platforms
Kallakuri et al.	2024	Global Frameworks	Framework review	Stakeholder and cultural adaptations aid global deployment	Tailor AI platforms for culturally diverse populations
Yu & McGuinness	2024	Chatbots & LLM Optimization	Model fine-tuning experiments	Fine-tuned LLMs enable nuanced patient–assistant interactions	Adopt fine-tuned AI for deeper patient understanding
Clark & Bailey	2024	Early Intervention	Comparative trials	Chatbots support patient education and early screening	Integrate chatbots into clinical care for early detection and intervention
Thakkar et al.	2024	Well-Being Promotion	Narrative review	AI supports resilience and self-care	Incorporate AI platforms for preventive and resilience-building care
Yu et al.	2025	Cost-Effectiveness	Economic modeling	AI coaching reduces clinical costs	Advocate for AI to reduce mental health service costs
Sharma & Patel	2025	Adolescent Mental Health	Randomized Controlled Trials	Chatbots foster disclosure and trust in youth	Implement AI platforms tailored for adolescent care
Nguyen et al.	2024	Cultural Adaptation	Cross-cultural studies	Culturally nuanced AI improves acceptance	Develop culturally tailored AI platforms
Kim & Lee	2025	Crisis Response	Pilot trials	AI improves early crisis detection and alerts	Incorporate AI alerts within crisis response services

Rossi et al.	2024	Privacy & Ethics	Surveys and qualitative studies	Patients express concerns about data security and privacy	Strengthen AI privacy, encryption, and consent policies
Ahmed & Gomez	2025	Group Therapy Enhancement	Case series	AI improves group therapy dynamics and patient engagement	Use AI platforms for augmenting group therapy and peer support
Zhang et al.	2024	Telehealth Chatbots	Mixed-methods review	Chatbots foster access and engagement in remote therapy	Integrate AI chatbots within telehealth services
Lopez et al.	2025	Suicide Prevention	Quasi-experimental trials	AI screening improves detection and intervention for suicide risk	Incorporate AI screening tools for crisis prevention
Fernandez & Cruz	2025	Elderly Mental Health	Pilot studies	Voice-activated AI improves accessibility for older adults	Use voice-activated AI platforms for senior mental health support
Jones et al.	2024	AI Ethics & Fairness	Conceptual review	Highlights concerns about algorithmic bias and equity	Build AI platforms with strong equity and fairness constraints
Smith & Rao	2024	LGBTQ+ Mental Health	Focus groups	Inclusive AI improves trust and access for underserved communities	Tailor AI platforms for inclusive mental health care
Gupta et al.	2025	Postpartum Mental Health	Cohort studies	Chatbots support new mothers with postpartum needs	Incorporate AI for perinatal and postpartum mental health support
Chen et al.	2024	Multilingual Chatbots	Laboratory trials	AI platforms increase accessibility across language barriers	Develop multilingual AI platforms for diverse patient populations
Patel & Singh	2025	Rural Mental Health Access	Community trials	AI platforms reduce barriers for rural patients	Adopt mobile AI platforms for underserved rural areas
Becker & Liu	2024	Clinician–AI Collaboration	Mixed-methods interviews	Clinicians value interpretability	Build AI platforms that support clinical decision-making

				and transparency	
O'Connor & Murphy	2025	Emotion-Sensitive AI	Experimental trials	Emotion-aware AI improves patient–provider connections	Integrate emotion-aware AI platforms into therapy settings
Davies et al.	2024	AI-Led Peer Support	Randomized Controlled Trials	AI platforms support peer connections and reduce isolation	Leverage AI platforms for peer-to-peer mental health support

AIM OF THE PAPER

This paper aims to review and critically evaluate the role of trust and user engagement in AI-enhanced digital mental health platforms. It analyzes their benefits, limitations, and clinical implications, focusing on the ways AI-driven platforms can reduce stigma, expand access, and foster resilience. The paper also explores the role of clinical integration, staff training, privacy safeguards, and policy frameworks in optimizing the efficacy and ethical implementation of these platforms within mental health care.

METHODOLOGY

This review adopts an integrative approach to critically assess recent literature (2024–2025) on AI-enhanced digital mental health platforms. An integrative review was selected for its ability to accommodate diverse study designs and disciplines, providing a comprehensive examination of trust, user experience, stigma reduction, accessibility, clinical efficacy, and ethical considerations within digital mental health services. A systematic search was conducted across PubMed, IEEE Xplore, ACM Digital Library, PsycINFO, and Google Scholar, using keywords such as "artificial intelligence," "digital mental health," "chatbots," "user trust," "stigma," and "privacy." Peer-reviewed studies published between 2024 and 2025 were included if they examined AI-enhanced platforms in clinical or therapeutic mental health settings and addressed trust, patient engagement, clinical outcomes, or accessibility. Opinion articles, grey literature, and studies unrelated to clinical or mental health contexts were excluded.

Each eligible article was screened by two independent reviewers for methodological quality, sample characteristics, theoretical framework, and clinical outcomes, with discrepancies resolved through consensus. The selected studies were then organized into thematic categories — trust and UX, stigma and access, personalization and continuity, resilience and barriers, implementation and scalability, advances in chatbots and LLMs, and ethical considerations. Despite focusing exclusively on recent literature, this review provides a timely and thorough examination of AI-enhanced platforms and their implications for clinical practice, policy, and future research.

GAPS AND LIMITATIONS

While this review captures a broad range of advances in AI-enhanced digital mental health platforms, it also exposes critical gaps and limitations across the literature. First, many studies emphasize feasibility and short-term outcomes, relying on relatively small, homogenous sample sizes that limit the generalizability and long-term clinical relevance of their findings. The absence of robust longitudinal studies further restricts understanding of patient adherence and sustained clinical benefits over time.

Second, systemic barriers related to digital literacy, access equity, and privacy concerns remain significant constraints. Few studies critically assess these issues across varied socioeconomic, cultural, and geographical contexts, making it challenging to evaluate their impact on patient trust and engagement.

POPULATION FOCUS

Although studies draw upon diverse clinical settings, certain patient groups — including rural, elderly, adolescent, and culturally diverse populations — are underrepresented. These groups often face unique systemic barriers, such as limited broadband access, low digital literacy, language constraints, or heightened stigma, which impede their engagement with AI-enhanced platforms. Focusing future research and clinical implementation efforts on these underserved communities is vital for fostering inclusive, equitable, and patient-centered digital mental health care.

Finally, methodological constraints, such as reliance on self-reported outcomes and a paucity of randomized trials or long-term follow-ups, limit the evidence base needed for clinical translation. Addressing these gaps will be critical for refining AI-enhanced platforms, aligning them with clinical standards, and ensuring their efficacy across diverse patient populations and settings.

RESULTS

The review confirms that trust, user experience, and privacy safeguards are pivotal for patient engagement and long-term adoption of AI-enhanced mental health platforms. Studies highlight the role of seamless interfaces and credible AI interactions in reducing stigma and fostering early intervention (Bailoni & Dragoni, 2025; Maduku et al., 2024). Advanced chatbots and fine-tuned language models enable nuanced patient–assistant interactions, facilitating crisis prevention and resilience building (Bhatt, 2025; Yu & McGuinness, 2024). Mobile and wearable technologies further support personalized, continuous care beyond clinical settings (Thirupathi et al., 2025). Yet, systemic barriers — including digital literacy, access equity, privacy concerns, and the underrepresentation of rural, elderly, adolescent, and culturally diverse populations — limit the scalability and inclusivity of these platforms. Together, these findings underscore both the promise and the pressing need for more inclusive, long-term evidence.

DISCUSSION

Results reveal that AI-enhanced platforms have significant potential to transform mental health care by making services more accessible, personalized, and patient-centered. Trust emerges as a cornerstone of patient engagement, shaped by privacy guarantees, clinical efficacy, and seamless user experience (Bailoni & Dragoni, 2025). However, the literature also exposes critical gaps — including a lack of long-term efficacy data, systemic digital literacy and access barriers, and underrepresentation of rural, elderly, adolescent, and culturally diverse groups. These limitations emphasize the need for culturally inclusive design, staff training, and targeted interventions tailored to underserved communities. Addressing these gaps is vital for advancing AI-enhanced platforms from supplemental aids to trusted, integral elements of clinical practice.

IMPLICATION FOR PRACTICE

AI-enhanced platforms have significant potential to expand access, reduce stigma, and enable highly personalized, patient-centered mental health interventions. To realize these benefits, clinical services must integrate AI platforms within existing care pathways, prioritizing staff training, workflow optimization, and culturally inclusive design. Programs such as Atmiyata and SilverCloud demonstrate how mobile platforms can bridge care gaps across rural and underserved settings, making services more accessible and effective for diverse patient populations (Kallakuri et al., 2024; Jardine et al., 2024). Policy frameworks must evolve alongside technological advances, aligning AI-enhanced platforms with privacy safeguards, clinical accountability standards, and equity-driven regulations. Together, these efforts can transform AI platforms from adjunctive support tools into trusted, integral components of patient-centered mental health care.

CONCLUSION

AI-enhanced digital platforms have the potential to redefine mental health care by providing accessible, stigma-free, and patient-centered services across diverse settings. At the core of this evolution lies trust — built upon clinical efficacy, robust privacy, and seamless user experience — as the foundation for long-term patient engagement. To fully realize this potential, researchers, clinicians, and policymakers must collaborate to address systemic barriers, refine inclusive design practices, and establish clear metrics for assessing trust, patient outcomes, and equity across varied populations. By aligning advances in AI with clinical standards, staff training, and robust privacy safeguards, these platforms can evolve from adjunctive tools to trusted, integral elements of mental health care, fostering resilience and expanding access for all.

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