Technoskepticism or Justified Caution? The Future of Human-Centered AI in Mental Health Care

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Abstract

Recent advances in AI provide a unique opportunity to reshape mental health care systems and practices. However, there remains considerable skepticism that AI will positively impact the futures of patients, workers, and technologies. An interdisciplinary approach toward design and development of human-centered AI is necessary, yet discussions about the future of mental health work are often stratified by discipline (e.g., clinical vs. HCI research) or mental health domain (i.e., PTSD, depression, etc.). With this panel, we will bring together HCI, AI, organizational, and clinical researchers and practitioners to focus on the future of patients, workers, and AI-based technology in mental health care. We will discuss current challenges associated with mental health care AI across diverse clinical domains. This panel aims to move toward common ground for the future of human-centered AI in mental health work among those spanning perspectives from technoskepticism to justified caution.

CCS Concepts

• **Human-centered computing** → **Human computer interaction (HCI)**; • **Computing methodologies** → **Artificial intelligence**; • **Applied computing** → **Consumer health**; Health informatics; Health care information systems.

Keywords

AI, Health, Healthcare, Human-Centered AI, Interdisciplinary, Teams, Teaming, Collaboration, Risks, Mental Health, Healthcare Workers, Future of Work, Technoskepticism

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1 Introduction

Health spending has increased significantly across the globe in the past thirty years with this trend projected to continue, rising to an estimated $15 trillion by 2050, or 9.4% of the global economy [10]. Health spending in the US has reached over $4 trillion and accounts for roughly 17% of the nation's GDP [19]. Still, the US and many other countries around the world deal with pervasive issues of accessibility to quality healthcare for large groups of people [11–13, 33, 39]. In the US, there are substantial social, structural, environmental, and economic inequities in the health care system [29]. There also exists an increasing physician shortage that threatens to exacerbate barriers to effective care [56]. Mental health care has suffered in particular. In 2020, $280 billion was spent on mental health treatment and assessment and yet more than half of surveyed adults reported they did not receive timely, adequate care [47]. New technologies promise improvements to health assessments, interventions, and communication for diverse groups of people [5, 18, 32, 43, 49]. They also promise more efficient, scalable training of the healthcare workforce and efficacious patient-clinician teams [6, 28]. It remains unclear, however, whether this potential is being realized, especially within mental health work. We must understand how to design and integrate mental health care technology safely within existing workflows. Up to now, it has been suggested that integration of healthcare technologies, particularly those using AI, might actually worsen or generate new inequities and cause unintentional harm [26, 31, 38, 48, 53]. As implemented, they may also contribute to burnout rather than combat the physician shortage [8, 44, 46]. An interdisciplinary response between

HCI, AI, organizational, and clinical researchers and practitioners is needed to move toward a safe, equitable, and scalable future of human-centered AI in mental health work.

Certainly, collaborative work to address persisting challenges of the broader healthcare system is underway. With risk-mitigation in mind, much focus has been on the design of tools with significant oversight and limited autonomy that support clinicians and patients, like telemedicine platforms, patient portals, electronic health records (EHRs), mobile applications, and clinical decision support systems [9, 14, 25, 36, 40]. Telemedicine platforms, or mobile and web-based applications that allow for the provision of healthcare through messaging and calls, have enabled easier access to patient populations by removing the need for travel [4, 40]. Patient portals and EHRs can be used to facilitate communication and sharing of data between providers and patients, as well as between different providers [20, 23, 57]. Mobile applications may allow patients to more easily record and monitor behaviors and symptoms, such as in the maintenance of chronic conditions [1]. Each of these technologies, however, rely on human direction. Healthcare providers are increasingly burdened by the demands of their workplace, including emotionally intense work, navigating inefficient systems, administrative demands, and lack of control [51]. One 2022 study showed that 62.8% of physicians were experiencing at least one sign of burnout [42]. Digital health tools add administrative burden onto already-overwhelmed providers (and patients) by requiring them to learn new systems and then operate them. In doing so, these tools may add to the workload of providers rather than alleviating it. One review, for instance, found that insufficient time to complete the documentation required by EHRs has been linked to higher burnout among clinicians in multiple studies [52]. Even decision-support systems often require significant oversight and raise questions about fairness, accountability, transparency, and explainability in decision making [3, 30, 45]. Taken together with persisting concerns about the role of technology in issues of healthcare inequity [53], it is clear that a new approach is needed to fully address the widespread problems facing the healthcare system.

Recent advancements promise a move beyond this taxing, human-directed model of technology integration toward a new paradigm that involves collaboration and teaming with AI in health settings [16, 17, 24, 30, 49, 55]. Of course, this makes paramount the centering of the challenges and risks of AI health technologies, as well as the needs and considerations of diverse stakeholder groups. We must consider several issues including addressing persistent safety and equity concerns, supporting transparent and fair clinical decision-making, and maintenance of effective human oversight without contributing to physician burnout [15, 30, 38, 48, 54]. This panel aims to unite the ongoing discussions of these issues applicable to mental health work that are often stratified by discipline (e.g., clinical vs. HCI research [7]) or mental health domain (i.e., PTSD, depression, etc.). To best move toward a common ground future given the range of perspectives from technoskepticism to justified caution, panel discussion will be framed around one main question with three parts. Here, we define technoskepticism as the belief that the risks of a technology outweigh the potential benefits. We define justified caution as the belief that adoption of an innovation has the prerequisite of sufficient risk identification and mitigation strategies.

Should we approach AI in mental health work with technoskepticism or justified caution given its potential impact:

(1) **on future patients?** What could AI's impact be on patient self-advocacy and clinical outcomes?
(2) **on future workers?** How could AI impact the burden on workers (e.g., physician workload) and worker motivation?
(3) **on future technology?** How could AI impact the types of interfaces or systems we design?

2 An Example Application of Human-Centered AI in Psychotherapy Training

To best bridge gaps between researchers situated within different health AI contexts and facilitate discussion, this panel will draw from efforts to investigate human-AI teaming in the mental health training space. In mental health care, the shortage of trained workers [35] compounds an ongoing mental health crisis that sees fewer than a third of American adults receiving the treatment they require [50]. Despite the US spending billions of dollars annually on mental health care [34], only a small fraction of patients have access to psychotherapy protocols grounded in empirical research and clinical trials, referred to as empirically-supported treatments (ESTs) [27]. The current paradigm for workforce training, reliant on a limited number of EST experts to provide individualized observation and feedback, faces critical scalability challenges [2, 21]. In order to overcome the restrictions of long-standing human-to-human training methods, future mental health workers will have the opportunity to team with AI systems, fostering the learning and sustenance of evidence-based practices. Teams are defined as two or more autonomous entities that work interdependently to achieve a shared goal [41], and AI systems are developing to the point where they can be considered as teammates [37].

Presently, the AI systems for health care workers are typically unidirectional (AI to Worker) and do not contain features that would capitalize on the benefits of having an additional team member; integrating an AI Teammate has far greater implications for the future of mental health work than simply using AI as a data processing tool. Ideally, bidirectional AI systems will function as objective, nonjudgmental, and confidential teammates who can provide individualized feedback throughout the worker's career. While their design must be approached with caution, they have the potential to improve the efficacy and scalability of mental health training, making targeted ESTs available to wider populations [22]. Hence, research is needed to understand not only how to build and design these bidirectional systems for this work context but also how to integrate them ethically and effectively into diverse clinical settings. As such, the design and implementation of bidirectional human-AI teams in mental health training workflows can serve as a fruitful exemplar for panel discussions.

3 Panel

3.1 Panel Format

We expect the panel to last roughly 90 minutes, held via hybrid format with Zoom. Four panelists and the primary moderator will attend in-person and one panelist will attend remotely. Two of the organizers will moderate the Zoom discussion and ensure these

voices are actively included in the panel by regularly submitting questions to be read aloud by the primary, in-person moderator. The panel will begin with brief introductions from the primary moderator and five panelists (1 minute each). Next, each panelist will be prompted to briefly reflect on their experience designing mental health technologies toward answering where they fall on the spectrum of AI perspectives that includes technoskepticism and justified caution (2-3 minutes each). The primary moderator will then lead a town hall style forum with 25 minutes each spent on previously noted themes regarding AI's potential impact on future patients, workers, and technologies. Finally, the primary moderator will summarize the main discussion points and any conclusions or outcomes. The remote moderators will formally write up the summary to be disseminated to those interested after the conclusion of the panel.

3.2 Panelists

The organizers and panelists include multiple interdisciplinary experts with experience investigating and designing mental health care technologies. The primary moderator and panelists are all faculty at top institutions in the US, South Korea, and Taiwan. Their areas of expertise range from computer science and informatics to industrial-organizational psychology to clinical research and practice. The two remote moderators are PhD students whose advisors are on the panel. Both have experience leading focus groups and interviews with a range of stakeholders surrounding AI and the future of mental health work.

Dr. Saeed Abdullah (Organizer, Primary Moderator) is an Associate Professor of Information Sciences and Technology at Penn State University. He leads the Wellbeing & Health Innovation (WHI) lab. His recent projects focus on developing fintech to support marginalized communities, including individuals with bipolar disorder and dementia. He is also developing human-centered AI systems for training mental health workers, improving dementia care, supporting palliative care, and generating personalized health interventions.

Nathaniel Swinger (Organizer, Remote Moderator) is a PhD Student in the Human-Centered Computing Program at Georgia Tech. He designs and investigates AI-based systems that might be used to improve therapy training practices. His current research focuses on how diverse stakeholder considerations surrounding ethics and trust impact risk-taking in human-AI teams in mental health settings.

Lauren Moran (Organizer, Remote Moderator) is a PhD Student in the Industrial-Organizational Psychology Program at Georgia Tech. Her research interests are broadly centered on fostering worker health and well-being in traditional and nontraditional contexts, including how emerging technologies can be used to foster meaningful work and healthy workplaces. In exploring these topics, she takes a multilevel perspective and leverages both psychological and physiological data.

Dr. Andrew M. Sherrill (Panelist) is an Assistant Professor in the Department of Psychiatry and Behavioral Sciences of Emory University School of Medicine and a practicing clinical psychologist at the Emory Healthcare Veterans Program. He is also the Training Director of the Emory University Prolonged Exposure Consultant Training Program. Dr. Sherrill's clinical expertise includes ESTs for posttraumatic stress disorder (PTSD) and his research explores effective implementation of ESTs for PTSD, especially through the deployment of AI, XR, and mHealth technologies. He has published over 50 manuscripts and provided over 50 presentations and clinical workshops on research-based clinical practices in mental health work. He has provided clinical consultation and supervision to over 50 clinical trainees in diverse settings across the United States and Canada. Additionally, Dr. Sherrill provides specialty training on the integration of technology into routine clinical practice, and he has disseminated several clinical guidelines for integrating clinical technologies. As such, he has direct experience of understanding and navigating technoskepticism in the mental health workforce. Within the leading professional organization of his discipline, the Association for Behavioral and Cognitive Therapies, his leadership activities include chairing the Military and Veteran Psychology Special Interest Group and serving on the Technology Committee and the Research Facilitation Committee. His current research is funded by the National Science Foundation and the Wounded Warrior Project. He received his PhD from Northern Illinois University.

Dr. Christopher W. Wiese (Panelist) is an Assistant Professor of Industrial-Organizational Psychology at Georgia Tech and a leading scholar on the future of work, specializing in human-AI teaming. His cutting-edge research investigates how AI integration reshapes team dynamics, responsibilities, and collaboration, with a focus on developing unobtrusive methods to measure team performance and human-autonomy interactions. As a key figure at the Center for Human-AI-Robot Teaming at Georgia Tech, Dr. Wiese drives interdisciplinary collaborations that bridge psychology, computer science, and robotic systems. He is currently serving on the National Academies of Sciences, Engineering, and Medicine's Consensus Study Committee on the Science of Team Science, contributing to a landmark report shaping the future of cross-disciplinary collaborations. Additionally, he is a Board Member of the International Network for the Science of Team Science (INSciTS), where he supports efforts to advance team science globally. Dr. Wiese's scholarship not only influences academic discourse but also informs practice in industries navigating the future of work. His thought leadership spans topics such as leadership development for interdisciplinary teams, workforce adaptation to emerging technologies, and the design of equitable AI systems that enhance collaboration and innovation.

Dr. Uichin Lee (Panelist) is a Professor in the School of Computing at the Korea Advanced Institute of Science and Technology (KAIST), leading the Interactive Computing Lab, whose mission is to study intelligent positive computing systems that can intervene in threats to health and wellbeing. Specifically, his research focuses on sensing user behavior and contextual data using smartphones, wearables, and IoT devices, as well as understanding wellbeing states by building predictive models through machine learning. In 2023, he was inducted as a member of the SIGCHI Academy. He served as a program committee member of the key HCI conferences and journals, such as ACM CHI, CSCW, and Ubicomp, and as an editor for PACM HCI (CSCW) and IMWUT (Ubicomp). He received the best paper awards at ACM Ubicomp'24 (PACM IMWUT), ACM CHI'16, AAAI ICWSM'13, IEEE CCGrid'11, and IEEE PerCom'07, and an impact award from IEEE IoT Fourm'19.

Dr. Yuan-Chi Tseng (Panelist) is an Associate Professor in the AIMS Fellows Program at National Tsing Hua University (NTHU) and leads the Inclusive Inter-Intelligence Design Lab (iiiD-Lab). His pioneering work in health and co-design develops AI-driven tools—such as healthcare chatbots, AI interventions, and AI design platforms—that foster team-based care in clinical settings while enhancing communication among diverse stakeholders in the design process. By addressing challenges faced by marginalized communities, his research improves health literacy, accessibility, medication adherence, and patient–health professional collaboration, ensuring continuity of care in chronic disease management, alleviating stigma-induced psychological anxiety, and enhancing overall outcomes. A distinguished interdisciplinary scholar in HCI, CSCW, UX, and Healthcare Design, Dr. Tseng actively bridges academia, industry, and government to drive innovation. He serves on evaluation committees for Arts and Design and IEM under the National Science and Technology Council and plays key roles in Tsing Hua's Technology Innovation and Design as Dean of Tsing-Hua Residential College and Convenor of the Innovation Design Program and Group, promoting human-centered values. Dr. Tseng further contributes to the HCI field as Senior Editor of the International Journal of Human-Computer Studies (IJHCS) and holds leadership roles including Associate Chair of CHI and CSCW, General Chair of TAICHI (Taiwanese CHI conference), and Track Chair of Human-Centered AI for IASDR 2025.

Dr. Rosa I. Arriaga (Remote Panelist) is an Associate Professor in the School of Interactive Computing at Georgia Institute of Technology (GT), USA. Her research interests are in the use of psychological theories and concepts to address fundamental topics in Human Computer Interaction (HCI). Her recent focus is on designing, developing and deploying ecological computing systems for post-traumatic stress disorder (PTSD) and diabetes. She has received National Science Foundation awards to develop computational systems to improve PTSD treatment and recovery and to design interfaces that facilitate AI inclusion in clinical workforce training. She has also received funding from National Institute of Health to conduct community-based research on diabetes management and from the American Diabetes Association to create a diabetic foot ulcer tracking system. She earned a Ph.D. in Psychology from Harvard University.

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