HealthIUI: Workshop on Intelligent and Interactive Health User Interfaces

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Abstract

As Artificial Intelligence (AI) continues to transform health and care, the integration of Intelligent User Interfaces (IUI) in health and wellness applications presents both significant opportunities and challenges. This workshop aims to bring together researchers and practitioners from HCI, AI, healthcare, and related fields to explore how IUIs can impact long-term user engagement, personalization, and trust in health-oriented interactive systems. We focus on interdisciplinary approaches to design systems that are technically advanced but also responsive to user needs, demands of context of use, values and ethical requirements, and privacy. Through presentations, discussions, and collaborative sessions, participants will identify key challenges, share emerging solutions, and outline pathways for responsible and impactful innovation in health IUI.

CCS Concepts

• **Human-centered computing** → **Interactive systems and tools**; • **Applied computing** → **Consumer health**; **Health care information systems**; *Health informatics*; • **Computing methodologies** → **Artificial intelligence**.

Keywords

Intelligent User Interfaces, Human-Centered AI in Healthcare, Clinical Decision Support Systems, Explainable AI in Healthcare, AI-Driven Health Information Access

ACM Reference Format:
Helma Torkamaan, Peter Brusilovsky, Behnam Rahdari, and Shriti Raj. 2026. HealthIUI: Workshop on Intelligent and Interactive Health User Interfaces. In *Companion Proceedings of the 31st International Conference on Intelligent User Interfaces (IUI Companion '26), March 23–26, 2026, Paphos, Cyprus.* ACM, New York, NY, USA, 5 pages. https://doi.org/10.1145/3742414.3794956

1 Introduction

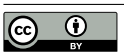
The integration of AI into health and care has introduced new opportunities to improve patient experience, optimize clinical workflows, and empower individuals to make more informed health decisions. These advancements set the stage for discussions on intelligent user interfaces (IUIs) in health applications, highlighting their role in improving accessibility, decision support, and engagement. The HealthIUI workshop explores how intelligent user interfaces can bridge the gap between AI-driven innovations and user-centric healthcare solutions, to ensure emerging technologies align with real-world needs and preferences. However, designing effective and intelligent user interfaces for AI-driven systems remains a complex challenge. IUIs in healthcare can facilitate intuitive interactions between users and advanced technologies, making the influence of AI interpretable, reliable, ethical, and aligned with user needs.

As the demand for AI-driven health solutions grows, trust and personalization has become increasingly important. Patients managing chronic conditions, clinicians leveraging AI for decision support, and caregivers assisting loved ones all require interfaces and interactions that adapt to their specific needs while maintaining usability and transparency. IUIs can balance the automation potential of AI with human oversight. This can address ethical concerns such as algorithmic bias, data privacy, and the risk of over-reliance on AI-generated recommendations.

This workshop seeks to foster an interdisciplinary dialogue that bridges human-computer interaction, AI, psychology, and healthcare. This bridge facilitate discussions on designing IUIs that enhance user engagement, improve decision-making, and promote safe AI adoption in healthcare. Through presentations, discussions, and interactive sessions, HealthIUI provides an opportunity to share cutting-edge research and generate insights that guide the future development of intelligent health interfaces.

2 Intelligent User-Centered Health Interfaces

Research at the intersection of Intelligent User Interfaces (IUI) and health has seen significant growth in the past five years, reflecting a concerted effort to harness artificial intelligence (AI) and user-centered design principles to address complex health challenges. This surge in interest is evident in the increasing number of health-related papers presented at the ACM IUI conference, showcasing innovative approaches to personalized interventions, assistive technologies, mental health support and AI-driven clinical decision support systems. This section reviews just a few of the popular topics.



IUI Companion '26, Paphos, Cyprus

ACM ISBN 979-8-4007-1985-1/26/03
https://doi.org/10.1145/3742414.3794956

A prevalent area of research in health IUI is personalized and adaptive technologies. For example, Schaefer and Willemsen [5] introduced a system for tailoring nutritional goals to individual users using Rasch-based models. Coppens et al. [2] conducted a randomized controlled trial that examined how personalized activity and tip recommendations can motivate people to increase their physical activity levels. These and similar studies highlight the potential of IUIs to enhance user engagement and promote healthy behaviors through personalization.

Assistive technologies have also been a critical component of health IUIs. Nazari et al. [4] developed an augmented reality (AR) communication system personalized for non-speaking autistic users, demonstrating how AR can facilitate communication for individuals with communication impairments. Lee et al. [3] presented a method to assess the quality of stroke rehabilitation exercises using machine learning and wearable sensors. These work emphasis the role of IUIs in supporting rehabilitation.

In the domain of AI and clinical decision support, Yang et al. [8] proposed a human-AI collaborative system to assist pathologists in mitosis assessment, enhancing diagnostic accuracy through intelligent interfaces. Bhattacharya et al. [1] introduced directive data-centric explanations to support the monitoring of the risk of diabetes onset, enabling users to engage in what-if explorations and better understand their health data.

Mental health support via IUIs is another growing topic in this field. Vossen et al. [7] investigated the effects of personalizing a psychotherapy conversational agent on the therapeutic bond and users' intentions to continue using the agent, finding that personalization can positively impact user engagement. She et al. [6] developed a peer-based support system called Peer2S to enhance mental well-being among students during COVID-19 lockdowns, showcasing the potential of IUIs in fostering social support networks.

These advancements highlights the need for a dedicated forum to address the unique challenges associated with health IUIs. The complexity of health contexts, the necessity for long-term user engagement, and the critical importance of trust and ethical considerations in AI-driven health systems highlight gaps not fully addressed within the general scope of existing conferences.

3 Workshop Format

HealthIUI 2026 is organized as a half-day workshop, held in conjunction with the 31st ACM IUI conference. The workshop is designed to promote interdisciplinary discussions and collaboration among researchers and practitioners in the fields of intelligent user interfaces, AI, and health and care. The workshop begins with an welcome and introduction by workshop's chair and followed by paper presentations, divided into long (20 min+10 min discussion) and short talks (15 min + 5 min discussion) and poster presentations (5 min +5 min discussion). To encourage interaction and engagement, dedicated discussion sessions follow each presentation, encouraging participants to provide feedback, exchange ideas, and explore potential collaborations. Additionally, the workshop includes a concluding discussion, where attendees reflect on key takeaways, identify emerging research directions, and discuss opportunities for future interdisciplinary research.

4 Selection Process

We invited submissions for research papers (16 pages), short papers (8 pages), and research or project-focused submissions, as well as opinion pieces. All submissions went through a peer-reviewing process, with each submission receiving at least three reviews. Outstanding submissions were then invited for presentation at the workshop as either long, short presentations.

5 Workshop Themes and Topics

HealthIUI welcomes contributions related to the design and evaluation of intelligent user interfaces for health. Topics span patient and caregiver facing tools, clinician facing systems, and interfaces used in clinical, home, and community settings. The workshop emphasizes user centered design, interaction techniques, and evaluation methods that make AI driven health technologies understandable, useful, safe and responsible.

Health Information Access, Communication, and Engagement. How health information is presented and interacted with is a central topic for HealthIUI. The workshop invites work on recommendation, summarization, and explanation that adapts to user goals and context; tools that support health literacy, patient education, and shared understanding; and multi–modal or conversational interaction that uses text, speech, or vision to support patients, caregivers, and clinicians.

Clinical Decision Support and Human AI Collaboration. Clinical and care decisions create strong requirements for interpretability, workflow fit, and accountability. The workshop welcomes research on AI augmented diagnostics and treatment recommendations; clinical decision support interfaces that help clinicians inspect and use model outputs; human AI collaboration in clinical teams; assistive technologies that improve accessibility and support disability related needs; and ethics and societal implications including privacy, bias, trust, and equitable design.

Longitudinal Support, Monitoring, and Recovery. Many health needs involve frequent interactions over time to fully capture the patient's and the environment's context. The workshop invites work on wearable and sensor based monitoring interfaces; personalized interventions that use individual data and behavior; behavior change and chronic care support with longitudinal interaction; behavioral health support for mental health, cognition, and wellness; and rehabilitation technologies that support recovery tracking and adaptive guidance.

6 Organizers - in alphabetical order

- **Peter Brusilovsky** is a professor at the University of Pittsburgh and an expert in adaptive systems and personalized learning. His work in user modeling and recommender systems has had a lasting impact on fields such as education and healthcare, where personalized interaction is critical. Peter is a pioneer in creating technology that adapts to individual user needs, especially in complex, information-rich environments.
- **Behnam Rahdari** is a postdoctoral scholar at Stanford Center for Biomedical Informatics Research.He holds a PhD in

Information Science from the University of Pittsburgh and an MSc in Computer Science and Engineering from Politecnico di Milano. His research explores human–AI collaboration in clinical decision making by conceptualizing, designing, and evaluating novel AI support tools for clinicians and patients.
- **Shriti Raj** is an assistant professor at Stanford University and a faculty fellow at HAI. She specializes in human-centered computing with a focus on healthcare applications, particularly in making health data actionable for patients and clinicians. Shriti's research integrates AI with HCI to develop systems that help users better understand and act on health data, particularly in the management of chronic conditions.
- **Helma Torkamaan** is an assistant professor at Delft University of Technology, specializing in AI for Health Systems. Her work focuses on designing human-centered AI systems that support physical and mental well-being. Helma's research addresses challenges in health equity and personalization of healthcare interventions, leveraging AI to create adaptive systems that meet diverse user needs.

7 Program Committee

- **Bart Knijnenburg** (Clemson University, USA)
- **Federica Cena** (University of Torino, Italy)
- **Maxwell Szymanski** (KU Leuven, Belgium)
- **Alain D. Starke** (University of Amsterdam, the Netherlands)
- **Hanna Hauptmann** (Utrecht University, the Netherlands)
- **Shatha Degachi** (TU Delft, the Netherlands)
- **Min Lee** (Singapore Management University, Singapore)
- **Bereket Yilma** (University of Luxembourg, Luxembourg)
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- **Martin Wiesner** (Heilbronn University, Germany)
- **Ludovico Boratto** (University of Cagliari, Italy)
- **Noemi Mauro** (University of Torino, Italy)
- **Ine Coppens** (Ghent University, Belgium)
- **Xuhai Xu** (Columbia University, USA)
- **Hyunggu Jung** (Seoul National University, South Korea)
- **Soohwan Lee** (UNIST, South Korea)
- **Edward Choi** (KAIST, South Korea)
- **Hubert Dariusz Zajac** (University of Copenhagen, Denmark)

8 Workshop Contributions

HealthIUI 2026 features growing work on intelligent and interactive health interfaces, with most accepted papers contributing design directions, early results, and evaluation approaches. A recurring focus is on how researchers interpret and implement AI in health information systems. Contributions around generative and conversational AI explore changes in trust and acceptance over time, how patients and clinicians judge the quality and safety boundaries of AI guidance, and what is feasible for remote conversational check-ins. These work foreground interpretation, confidence, and responsibility boundaries, and they surface limitations that matter for safe use.

A range of research in this year's workshop centers on sensitive settings where autonomy, privacy, and care needs shape interface requirements. Work on shared and partner facing health tools in sensitive domains highlights control and consent as core design constraints. Other contributions examine adoption in elder care and propose design principles for supporting end of life loneliness, largely through interviews and concept level feedback. Overall, these works emphasize that "better AI" is not necessarily the only challenge; aligning interaction with social context and user control is often the bottleneck in real–world applications.

Behavior change and digital well being appear through short-term comparative studies and offline evaluations of adaptive interventions. A chatbot versus app comparison for smoking cessation reports practical tradeoffs between perceived naturalness and engagement patterns. Offline simulation explores when to deliver nudges while managing user burden. The shared takeaway is that format and timing choices can shift engagement, but durable outcomes remain an open question.

A line of contributions at HealthIUI 2026 offers ways to prototype and evaluate human–AI collaboration concepts when realistic deployment is difficult or risky. This includes pilot studies of new interaction forms for reflecting on personal health data, exploratory evaluations of simulation-based training, and design scaffolds that support early personalization and evaluation planning. Overall, the workshop contributions map constraints, propose practical interface ideas, and identify next steps for building stronger evidence in the future of health and intelligent user interfaces.

9 Conclusion and Future Directions

The HealthIUI workshop at ACM IUI 2026 highlights the growing importance of user-centered AI in healthcare applications. Discussions from this workshop contribute to ongoing efforts to refine the design of intelligent health interfaces to be more transparent, adaptable, and ethically responsible. Future research directions identified through this workshop include the development of improved explainability techniques in AI-assisted decision-making, strategies for sustaining long-term user engagement, and methods for making AI-driven health technologies more inclusive and accessible. HealthIUI aims to contribute to the next generation of intelligent health interfaces that effectively integrate AI while prioritizing user needs by enabling collaboration among researchers from diverse fields,.

Acknowledgments

We extend our appreciation to the authors, program committee members, and reviewers for their valuable contributions to this workshop. Their expertise and dedication have shaped a strong

technical program that advances the field of intelligent health interfaces. We also thank ACM IUI 2026 for providing a platform to facilitate these discussions and promote innovation in health-oriented intelligent systems.

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