Designing for Negotiation in Collaborative Healthcare: The Role of AI Mediators

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Collaborative healthcare is shaped by complex negotiations among patients, caregivers, and clinicians, yet current technologies focus primarily on monitoring and adherence, offering limited support for shared decision-making. Differences in knowledge, power, and goals often generate tension around treatment, lifestyle, and data-sharing decisions. Recent advances in GenAI and LLMs open the possibility for AI to act as a mediator, translating clinical evidence into patient-relevant insights, visualizing trade-offs, and supporting negotiation without overriding human agency. This workshop aims to bring together an interdisciplinary mix of HCI researchers, AI practitioners, clinicians, and designers to explore AI-mediated collaboration. Through hands-on activities, participants will discuss design challenges and opportunities, identify ethical and socio-technical tensions, create speculative design stories, and future research avenues. The goal is to develop a shared research agenda for interactive health systems that foster equitable negotiation, respect stakeholder agency, and place human relationships at the center of collaborative care.

CCS Concepts: • **Human-centered computing** → **Human computer interaction (HCI)**; **Collaborative and social computing**.

Additional Key Words and Phrases: Clinical AI, Collaboration, Negotiation, Healthcare, Human-AI Collaboration

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1 Introduction

Collaboration plays a central role in healthcare management, particularly in contexts of chronic illness and long-term care [11]. However, this collaboration unfolds among stakeholders with differing goals, levels of expertise, and degrees of power, including patients, informal caregivers, and healthcare professionals [11]. These asymmetries create persistent challenges for information sharing, day-to-day support, and the definition and negotiation of personalized care plans, often leading to misalignment between clinical recommendations and the expectations, lived experiences and values of patients [13].

Digital health technologies and the data they generate have the potential to support collaborative care by enabling communication, coordination, and shared sensemaking among stakeholders [1, 5, 7, 10, 17]. However most existing systems remain primarily oriented toward monitoring, motivation / adherence, and reporting, offering limited support for the joint exploration and interpretation of data or for negotiating diverging interests and priorities [2, 16]. As a result, there is a critical gap in interactive mechanisms that facilitate shared understanding while respecting the distinct perspectives, needs, and agency of each stakeholder involved in care.

Recent advances in GenAI and LLMs introduce new opportunities to address this gap showing potential to support data exploration, generate adaptive explanations, and tailored representations to different audiences [18]. Prior research has explored the use of AI in healthcare as a diagnostic aid [3, 6, 9], a clinical monitoring tool [4, 12, 15], and for everyday support [8, 14]. However, the role of AI in collaborative healthcare remains underexplored, particularly its potential to function not only as an individual support tool, but also as a mediator that facilitates communication, negotiation, and shared decision-making among multiple stakeholders.

This workshop aims to critically examine the current and future role of AI in supporting collaboration in healthcare. We focus specifically on how AI-based systems might be designed to responsibly support moments of negotiation, such as decisions about what data to collect, how to interpret it, and how to share it across stakeholders, while preserving individual agency, ascertaining the required accountability, promoting transparency, and addressing power imbalances. Through the use of real-world case studies, illustrative scenarios, and participatory design activities, the workshop will provide a space to surface challenges, identify barriers and design requirements, and explore opportunities for integrating AI into real-world collaborative health monitoring contexts. Ultimately, the workshop seeks to contribute to the future of collaborative health monitoring by building a shared understanding of AI's role in mediating collaboration, negotiation, and shared decision-making, fostering a cross-disciplinary community . and shared decision-making, and fostering a cross-disciplinary community.

2 Workshop Goals

The primary goal of this workshop is to bridge cross-disciplinary perspectives between researchers and practitioners interested in how AI technologies can be designed, developed, and deployed to support collaborative health monitoring and care. The workshop aims to move beyond individual-focused AI applications toward a shared understanding of the role of AI in mediating collaboration, negotiation, and shared decision-making among multiple healthcare stakeholders. In doing so, it seeks to foreground patient agency and empowerment while critically examining power dynamics, ethical considerations, and socio-technical challenges that shape AI-supported collaboration in real-world care contexts. To guide this discussion, the workshop will focus on three overarching goals: (1) Identify challenges, tensions and opportunities in AI-supported negotiation and shared decision-making; (2) Build a cross-disciplinary community around AI-mediated collaboration and negotiation in healthcare; (3) Articulate open research questions and future directions for

interactive health systems; To address these goals, the workshop seeks to bring together researchers and practitioners from HCI, interactive health, AI/ML, clinical practice, ethics, and design. Participants will be encouraged to share real-world experiences, case studies, and challenges related to collaboration in healthcare, including both successful and problematic uses of AI technologies. Through structured discussions and participatory activities, the workshop will foster dialogue around existing designs, emerging practices, and future directions. Ultimately, the workshop aims to build a shared understanding and a cross-disciplinary community around AI-mediated collaboration in healthcare, laying the groundwork for future research collaborations and impactful interactive health systems. The workshop invites contributions that engage with the following topics: (1) Design and evaluation of interactive health technologies for patients, caregivers, and healthcare professionals; (2) Collaboration, negotiation, and shared decision-making in care; (3) AI technologies, ethics and governance in healthcare; (4) Privacy, consent, and data-sharing in multi-stakeholder health ecosystems; (5) Participatory, co-design, and user-centered design methods in healthcare research; (6) Use of AI in clinical workflows and real-world constraints in the deployment of AI systems in care settings.

3 Workshop Structure and Activities

The workshop will take place in person over one day, complemented by pre-workshop asynchronous activities to foster early engagement and broaden participation.

Approximately two weeks prior to the workshop, participants will be invited to join an asynchronous communication space (e.g., a Slack server). This space aims to support inclusive participation, including engagement from individuals who may not be able to attend the workshop in person, and to create a more informal environment for participants to get to know each other. Dedicated channels will be created for introductions, workshop-related discussions, topic exploration, and discussion of accepted submissions. Participants will also be encouraged to collaboratively identify and discuss scenarios illustrating the role of AI in collaborative healthcare. Shared collaborative tools (e.g., Miro boards) will be used to collect and structure these scenarios ahead of the workshop.

During the in-person workshop, three lightning talks will provide initial perspectives and seed discussion, while the majority of the time will be dedicated to small-group discussions and hands-on collaborative activities. Building on the scenarios identified during the pre-workshop phase, groups will engage in speculative design activities to explore challenges, tensions, and opportunities related to AI-mediated collaboration and negotiation in healthcare. Each group will iteratively develop speculative design stories that surface barriers and propose possible design strategies for overcoming them, using shared Miro boards to support collaborative ideation.

After each activity, groups will report back to the full workshop, enabling cross-group reflection and synthesis. To ensure continued inclusion of participants who are not physically present, the Miro boards and discussion summaries will be shared in the asynchronous communication space, allowing for further commentary and reflection beyond the workshop day. These shared artifacts will serve as both documentation and key workshop outputs. These are the planned activities:

Introduction and welcome (10 minutes): The workshop will begin with a brief welcome from the organizers to introduce the objectives, schedule, and expected outcomes. Participants will receive an overview of the day's activities and be allocated to working groups, which will remain the same during activities.

Ice-breaking activity and participant introductions (30 minutes): Participants will introduce themselves, sharing their background, expertise, and interests in AI, healthcare, or collaborative technologies. The goal is to create a welcoming atmosphere, enable participants to identify shared interests, and facilitate networking early in the day.

Lightning talks: perspectives from HCI, AI, and health practice (40 minutes): Three short talks will be presented, each focusing on a different perspective: HCI and interactive design in healthcare; AI/ML capabilities and limitations in health applications; Clinical practice and real-world constraints. After the talks we will have QA, allowing participants to clarify concepts, ask questions, and connect the perspectives across disciplines. This session sets a common foundation for later group discussions and activities.

Break (15 minutes): A coffee break for participants to refresh and network.

Tools and scenarios for collaboration (60 minutes): Participants will explore tools, processes, and scenarios for collaborative healthcare. The focus is on how patients, caregivers, and clinicians negotiate, share information, and coordinate activities. Groups will identify challenges, trade-offs, and opportunities for improving collaboration, without focusing specifically on AI. Each group will then report back their findings to the full workshop, highlighting insights, tensions, and questions that emerge from real-world collaborative scenarios.

Current opportunities and challenges of AI in collaborative health (60 minutes): Participants will discuss existing AI applications, limitations, ethical concerns, and power dynamics, and reflect on how AI currently supports or hinders collaboration. In small groups, they will analyze case studies that reflect diverse healthcare contexts (e.g. formal vs informal settings, synchronous and asynchronous settings) and examples of AI deployments and report back key insights, including gaps and challenges that could inform future AI-mediated interventions. Each group will then report back to the full workshop, sharing key insights, identified gaps, and recurring challenges. As an outcome, groups will articulate a set of research provocations or design hypotheses to guide future work on AI-mediated collaboration in healthcare.

Lunch (90 minutes): Lunch will be in places nearby the venue to allow participants to network and discuss ideas in smaller, informal groups.

Designing AI as a mediator for collaboration in health (60 minutes); Building on the challenges, opportunities, and dimensions identified in earlier sessions, participants will work in groups to critically explore how AI could act as a mediator in collaborative healthcare contexts. Rather than focusing on fully specified solutions, groups will examine key moments of tension, negotiation, or breakdown in collaboration and articulate design opportunities, constraints, and trade-offs. Through sketches, interaction narratives, or design prompts, participants will explore how AI-mediated interventions might support shared decision-making while accounting for stakeholder perspectives, power dynamics, agency, and ethical concerns.

Break(15 minutes): A coffee break for participants to refresh and network.

Creating and Sharing Group Stories (60 minutes): Groups will collaboratively develop speculative design stories grounded in the scenarios and discussions from earlier sessions. Each story will articulate a collaborative healthcare challenge, highlight tensions and stakeholder perspectives, and explore how AI could mediate collaboration, support negotiation, or enhance shared decision-making. Groups will then present their stories to all participants, followed by collective discussion and feedback to surface common themes, contrasting approaches, and key insights. The resulting stories, along with the research questions and future research directions they generate, will contribute to shared workshop outputs and inform the post-workshop white paper.

Reflection and wrap-up (30 minutes): The workshop will close with a collective reflection on key insights, challenges, and research questions identified during the day. Organizers will summarize the outputs, discuss next steps, and provide guidance on ongoing engagement, including follow-up activities or involvement in the next workshop edition.

Dinner and informal discussions (optional): An informal dinner will provide additional opportunities for networking, deeper discussions of ideas raised during the day, and fostering collaborations beyond the workshop.

Following the workshop, the organizers plan to consolidate the outputs from the discussions and collaborative artifacts into a shared white paper outlining key insights, challenges, and future research directions. In addition, participants will be invited to engage in follow-up activities, including the potential organization of a future edition of the AI as Mediator for Collaborative Health workshop at a subsequent Interactive Health conference.

4 Organizers

Diogo Branco is a PhD student and an Invited Assistant Professor in Computer Science at Faculdade de Ciências da Universidade de Lisboa. His research focuses on HCI and Digital Health, with an emphasis on designing, developing, and studying technologies that support collaboration in healthcare contexts. Diogo has experience organizing workshops, including at Ubicomp.

Filipa Ferreira-Brito is a researcher with a background in neuropsychology and cognitive assessment, working at the intersection of digital health, participatory design, and cognitive rehabilitation in older adults. She is an invited assistant researcher at the Faculty of Sciences, University of Lisbon, and an integrated member of LASIGE Computer Science and Engineering Research Centre. Her work is grounded in close collaboration with patients and health technology users, focusing on the design, implementation, and evaluation of digital health interventions, including mobile health solutions and immersive virtual environments.

Pavithren V S Pakianathan is a PhD candidate at the Ludwig Boltzmann Institute for Digital Health and Prevention and LMU Munich. His research focuses on designing tools for shared decision-making, specifically examining how patients and clinicians collaboratively interpret Patient-Generated Health Data (PGHD). He employs a mixed-methods approach, integrating design research and PPIE (Patient and Public Involvement and Engagement) with surveys and iterative prototyping, evolving concepts from low-fidelity sketches to high-fidelity interactive systems. Drawing on five years of experience in digital transformation consulting, Pavithren adopts a socio-technical perspective to surface and address the design tensions that arise during the implementation of digital health tools. By bridging industry experience with academic expertise, he aims to advance medicine with human-centered digital health interventions.

Christina Chung is an Associate Professor at the University of California, Santa Cruz. Christina's research focuses on how personal informatics technologies can be designed to support the changing and social nature of everyday behavior and contexts.

Jan Smeddinck is the Co-Director of the Ludwig Boltzmann Institute for Digital Health and Prevention. He brings extensive expertise in human-centered adaptive health technologies, having led research on personalization, patient-generated data integration, and long-term behavior change support. His work on human-data interaction principles and shared decision-making frameworks directly addresses collaborative healthcare challenges. Through supervising research on data sense-making for chronic disease management and developing adaptive digital health interventions, Jan has contributed foundational insights into designing patient-empowering systems that balance clinical evidence with lived experience together with further core themes of AI-mediated collaborative care.

Kyle Montague is Professor of Human-Computer Interaction at Northumbria University, where he directs the Northumbria Social Computing research group and serves as Research Co-Lead of the Centre for Responsible AI. His research focuses on digital civics and citizen-centred AI, exploring how participatory platforms can support more equitable relationships between citizens and the institutions that serve them. As Co-Investigator on the UKRI Centre for Doctoral Training in Citizen-Centred AI, he explores how AI systems can be designed to give voice to citizens'

needs and aspirations. He also leads work on the RAI UK PROBabLE Futures project, using storytelling and speculative methods to help citizens envision fairer AI futures for policing and criminal justice. Kyle has extensive experience organising workshops at leading academic conferences in HCI and Digital Health, and has built an international research community through the Digital Civics Exchange programme, which he has run annually since 2018.

Cátia Pesquita is an Associate Professor at Ciências ULisboa and Vice-Director of the LASIGE Computer Science and Engineering Research Lab, where she coordinates the Research Line of Excellence in Health and Biomedical Informatics. Her research focuses on the synergies between human and machine intelligence in generating scientific knowledge from data and bridging the gap between predictive ML and clinical practice. She has made significant contributions at the intersection of machine learning, knowledge graphs and explainable AI, with over 70 peer-reviewed publications in high-impact journals and conferences, having been recognized as one of the top 2% most cited scientists across AI and Bioinformatics since 2020. Her roles include advisory and leadership positions in international and national organizations, such as the Center for Artificial Intelligence and Causal Methods in Medicine (Germany), RedeSaude (the strategic network in health of ULisboa), and Biodata.pt, an association for the valorisation of the biological data generated by Portuguese Science.

Rúben Gouveia is an Assistant Professor at University of Lisbon's Faculty of Sciences, Department of Computer Science, working at the intersection of behavioral science and human–computer interaction. I have recently been focusing on the challenges of designing for engagement with digital health interventions, including how people engage with systems and interfaces, how they engage with the behaviors those systems aim to support, and how these forms of engagement shape understanding, and action on information.

5 Call for Participation

We invite researchers, designers, clinicians, and practitioners to participate in the Designing for Negotiation in Collaborative Healthcare: The Role of AI Mediators workshop at ACM Interactive Health 2026. This one-day, in-person workshop will combine pre-workshop asynchronous activities with interactive sessions, lightning talks, small-group discussions, and collaborative design activities. The workshop aims to explore how AI can support negotiation, shared decision-making, and collaboration between stakeholders, while foregrounding patient agency, empowerment, and ethical responsibility.

Participants will engage in scenario mapping, group discussion, speculative design stories, and structured reporting activities. These activities will foster cross-disciplinary dialogue and generate shared outputs highlighting challenges, opportunities, and future research directions for AI-mediated collaboration in healthcare.

We welcome authors to submit a statement of interest up to 3 pages in the ACM Master Template addressing at least one workshop topic. Submissions should briefly describe: (1) the author's background, (2) the healthcare context(s) of interest, and (3) experience with or perspectives on AI in healthcare, particularly in relation to collaboration or mediation. Submissions will be collected via a submission form on the workshop website.

Submissions will be reviewed for relevance, diversity of perspectives, and potential to contribute to discussion. At least one author of each accepted submission must attend the workshop in person, and all participants must register for both the workshop and at least one day of the conference. Accepted submissions will be published on the workshop website. We encourage contributions from diverse disciplines, including HCI, AI/ML, clinical practice, healthcare research, and design.

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