

Envisioning the Future of Interactive Health

Ignacio Avellino
Sorbonne Université, CNRS, INSERM,
ISIR
Paris, France
ignacio.avellino@sorbonne-
universite.fr

Pei-Yi (Patricia) Kuo
National Tsing Hua University
Hsinchu, Taiwan
pykuo@iss.nthu.edu.tw

Pin Sym Foong
National University of Singapore
Singapore, Singapore
pinsym@nus.edu.sg

Jason Wiese
University of Utah
Salt Lake City, Utah, USA
jason.wiese@utah.edu

Helena M. Mentis
Drexel University
Philadelphia, Pennsylvania, USA
helena.mentis@drexel.edu

Sean A. Munson
University of Washington
Seattle, Washington, USA
smunson@uw.edu

James R. Wallace
University of Waterloo
Waterloo, Ontario, Canada
james.wallace@uwaterloo.ca

Aneesha Singh
University College London
London, United Kingdom
aneesha.singh@ucl.ac.uk

Andrew D. Miller
Indiana University Indianapolis
Indianapolis, Indiana, USA
andrewm@iu.edu

Daniel A. Epstein
University of California, Irvine
Irvine, California, USA
epstein@ics.uci.edu

Francisco Nunes
Fraunhofer Portugal AICOS
Porto, Portugal
francisco.nunes@fraunhofer.pt

Abstract

This workshop will gather the health and well-being (henceforth “Health”) research community to prepare and kickstart an independent conference. While there is substantial research at the intersection of HCI and Health, there is not yet a SIGCHI-sponsored conference dedicated to the HCI and Health community. The workshop will bring together the broad community of academic and industry researchers across Human–Computer Interaction, medical informatics, health informatics, and digital health. This widespread Health community also brings diverse approaches to epistemology and research, requiring that we work towards defining the scope, audience, and methods that will establish a shared language while welcoming areas of growth. This workshop will be an opportunity for the fledgling community to start important discussions around what constitutes a contribution for the Health community.

CCS Concepts

• **Human-centered computing** → **Human computer interaction (HCI)**.

Keywords

health, healthcare, wellbeing, interactive systems

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1 Motivation

Health and well-being technologies are an increasingly prominent topic at CHI, with 19.2% of the accepted articles in 2024 ($n = 204/1060$) addressing “health” or “well-being”. Despite a significant presence at the CHI conference, researchers in Health lack a distinct community within SIGCHI or dedicated activities, to meet, confer, and craft future Health contributions from an HCI perspective. The lack of a dedicated community motivated the organizers to call on the community of global researchers and practitioners from Human–Computer Interaction (HCI), medical informatics, and digital health to explore the future of research in interactive health systems.

Work at the intersection of HCI & Health is not without its challenges. Although these fields share common research methods and values, their underlying differences can often lead to misunderstandings and difficulties in interdisciplinary collaborations. Blandford et al. [2] point out that this is particularly evident in the importance placed on formative evaluation in HCI versus summative evaluation in the health sciences. For example, while the domains of public health and implementation science have developed extensive knowledge about creating health programs and strategizing about adoption, less attention has been paid to how the formative design phases can boost the likelihood of health program success.

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Waddell et al. [6] experimented with bringing together frameworks from implementation science (health) and user-centered design (HCI) to enhance the consideration of implementation issues in the formative design phase. Among other lessons, the authors describe the continued tension between the novelty focus of technology design and the more pragmatic and integrative focus of implementation science. They concluded that there remains space for multiple ideas of outcome success and call for more work on this topic.

Blandford et al. [2] also point out how HCI and health sciences differ in the nature of accepted evidence and reporting styles. For example, health science journals have rigorous and detailed reporting formats (e.g., COREQ for qualitative studies, CONSORT for trials), which are well-suited for scientific reporting, but may be too constraining for design-informed approaches. Unsurprisingly, this has led to the rejection of valuable research on the human aspects of health technologies from health sciences venues. Through the years, various scholars have made proposals to bring these sub-fields together. Writing about ubiquitous computing and behavioral science research, Arriaga and Abowd [1] in 2019 called for collaboration between multiple fields “including computer scientists, psychologists, and health practitioners.” Later workshops have discussed how to bridge HCI and Implementation Science for public health impact [4], and, more recently, Slovak and Munson [5] described a framework to scope computing innovations within health-related theories to promote shared understanding and improved collaboration.

As part of the efforts to build bridges across HCI & Health, a group of conveners¹ envisioned a dedicated HCI & Health conference sponsored by SIGCHI, tentatively titled Interactive Health. Until this point, the conveners have met regularly, gathered feedback in the form of a survey with over 500 respondents, and held two online Town Hall meetings in June 2024 that gathered more than 120 participants. A sigchi-health listserv has been set up, which currently has more than 200 subscribers. The input from this HCI & Health community forms the basis for the proposal for this workshop. This CHI '25 workshop will (1) provide a forum to explore what constitutes a contribution at the intersection of both domains and challenges of a HCI & Health conference, and (2) promote scientific research in this space through posters and mentoring opportunities. The results of the workshop, in conjunction with the community input gathered to date, will shape the future landscape of a dedicated HCI & Health conference, which has been formally proposed to the SIGCHI Executive Committee in September 2024. That proposal, which described a first conference to be tentatively held in Summer of 2026, is currently being reviewed by SIGCHI.

The specific goals of the workshop include:

- Refining research agendas for interactive systems in health and well-being.
- Discussing technical and methodological challenges in the design and evaluation of interactive systems in healthcare.
- Sharing examples of research on the implementation of interactive systems in health and well-being.
- Addressing critical challenges in defining the HCI & Health research community, like defining the scope of topics and integrating diverse methodological approaches, with the goal of moving towards a SIGCHI-sponsored conference.

- Extending a mentorship program for junior researchers, to provide a forum for dialogue between junior or early-career researchers and leading researchers in the field.

2 Organizers

The organizers have extensive research experience in the area of HCI and Health, variously serving as Associate Chairs on CHI's Health subcommittee and other areas of community leadership.

Ignacio Avellino is a tenured research fellow at CNRS and Sorbonne Université, Paris, France. His research lies at the intersection of interaction, collaboration and learning, applied to surgical work, with an emphasis on supporting clinicians in imparting knowledge through surgical telementoring and pedagogical videos. Ignacio has attended WISH in the past and was general chair of IHM '24, the french speaking HCI conference, where the theme was interaction in healthcare.

Pei-Yi (Patricia) Kuo is an Associate Professor at National Tsing Hua University in Taiwan. Her research focuses on studying and developing digital health interventions and technologies to encourage behavior change in domains of well-being. Her work has been published in major HCI venues. She has served as the student design competition chair at CHI 2022 and organized workshops at UbiComp and CSCW.

Pin Sym Foong is Head of Design at the Telehealth Core, an internal digital health consultancy at the National University Health System in Singapore. Her research focuses on the intersection of aging, behavior change and chronic disease, with a recent focus on decision-making in serious illness. Pin Sym currently serves as Health Sub-Committee Chair at CHI.

Jason Wiese is an Associate Professor in the Kahlert School of Computing at the University of Utah. His research focuses on the intersection of personal data, ubiquitous computing, and healthcare, with a recent focus on patient experiences in rehabilitation hospitals. Jason has organized multiple workshops pertaining to health and wellbeing at venues including Ubicomp, MobileHCI, and ASSETS.

Helena M. Mentis is Professor and Head of the Department of Information Science at Drexel University. Her research focuses on understanding communication and collaboration practices in healthcare and designing systems to support such work. Her work has been published in prominent HCI venues such as CHI as well healthcare venues such as AMIA and Surgical Endoscopy.

Sean Munson is a Professor of Human Centered Design & Engineering at the University of Washington. He researches the design of personal informatics systems, with a focus on goal-directed approaches and collaborative uses. Sean also co-directs the UW ALACRITY Center, which adapts and applies methods from human-centered design and implementation science to the design of complex psychosocial interventions.

James R. Wallace is an Associate Professor in the School of Public Health Sciences at the University of Waterloo. His research focuses on games for health behaviour change, and understanding how theory and tools from HCI can intersect with those from Public Health.

Aneesha Singh is an Associate Professor at University College London. She is interested in the design, adoption and use of personal health and wellbeing technologies in everyday contexts. A

¹<https://www.hcihealth.org/>

particular focus of her work has been on sensitive and stigmatized populations. She has organized workshops in the context of health and its intersection with HCI at venues including CHI, Ubicomp and CSCW.

Andrew D. Miller is an Associate Professor of HCI at Indiana University Indianapolis, USA. His research focuses on care coordination technologies for youth and families, with an emphasis on family resilience technologies for extended pediatric hospitalizations. Andrew has attended WISH eight times, and currently serves as a member of the WISH steering committee. Andrew has organized multiple workshops at prominent venues, including CHI and CSCW.

Daniel A. Epstein is an Associate Professor in the Department of Informatics at the University of California, Irvine. His research focuses on personal informatics, or the design and study of technologies that aim to help people better understand themselves and their habits towards achieving health and wellbeing goals. He has organized multiple workshops pertaining to health and wellbeing at prominent venues including CHI, Ubicomp, and CSCW.

Francisco Nunes is a Senior Researcher at Fraunhofer Portugal AICOS. His research is concerned with the understanding, design, and evaluation of healthcare technologies, with a special interest in self-care technologies. Francisco has co-organised multiple workshops on health topics at prominent venues, including CHI and ECSCW.

3 Workshop Activities

This workshop will be a one-day in-person workshop with a prior online session. The workshop day will be divided into two segments. The first segment will focus on **envisioning** the future of an HCI & Health conference through (1) elaborating on identified challenges and brainstorming how to address them, as well as (2) collectively reflecting on working at the intersection of both HCI & Health through provocative experiences. The second segment will focus on **research content and community** through engaging in conversation around posters and a mentoring program. Paper submissions will not be a requirement for attendance. The workshop will culminate with the publication of the call for papers for the first edition of the HCI & Health conference.

Pre-Workshop Online Session We plan to run a 2.5-hour online session one month before the workshop. This session will repeat the first segment of the workshop, aiming at gathering feedback on the three key challenges from attendees who are unlikely to attend in person, to ensure input from as wide a range of researchers as possible. At the same time, the attendees that will participate in the in-person event will benefit from the reflections shared online.

3.1 Conference Envisioning Segment

In a first group activity, we will explore **challenges** of a conference at the intersection of HCI & Health, building on the feedback that the organizers have already gathered. This hands-on session following the format of a World Cafe, aims at contributing to the shaping of the upcoming conference. Attendees will be divided into small groups, each exploring one of three key challenges, rotating from challenge to challenge in two waves. In the first expansion wave, attendees will brainstorm on the specific dimensions of each

challenge, rotating across the three tables at the same time. In the second contraction wave, attendees will brainstorm ways to address the challenges in the different dimensions. Finally, each group will report back on one challenge.

1. Scope: Which topics does the HCI & Health field encompass? The WHO defines Health as broader than just medical health, as “*a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*”². A key concern of the HCI & Health community is how to coherently include a wide variety of topics which may include interactive systems for wellness, preventive care, palliative care, and simply *care* in general, while staying cohesive.

2. Community Members. Who is a member of HCI & Health? A major challenge of the HCI & Health field is to crystallize a community, as it will gather people from the different fields that constitute HCI (e.g., Computer Science, Engineering, or Design) and those that constitute Health (e.g., well-being, clinical work, or paramedics). Moreover, both HCI & Health involve academics, industry, practitioners, and users. A second open question within this challenge is understanding how to create spaces that can grow this new community, with a focus on inclusivity and global reach.

3. Methods. Which methods are used in the HCI & Health field?

The wide spectrum of methods that an HCI & Health conference will bring together is one of its strengths, given its multidisciplinary and diversity of members. Nonetheless, it is important to understand how members can publish and review work with fairness, in a space that values quantitative, qualitative, and mixed methods, with varying epistemologies and perspectives on rigor.

A second group activity will leverage provocations to stimulate thoughtful debate and dialogue around what characterizes impactful work at the intersection of HCI & Health. Workshop participants will be assigned to small groups, where authors of accepted provocation submissions will deliver a 10-15 minute presentation, followed by a 20-minute discussion within the group, inviting participants to reflect on their own scholarly journey, including both successes and setbacks, to better understand how we can make meaningful contributions and the lessons we can learn. The activity will conclude with a plenary sharing where each group will present their key takeaways to all workshop participants.

A third group activity will explore valid contributions to HCI & Health. Small groups will receive prompts to discuss the questions: “What is and what is not a valid interactive health contribution?”. After a 20-minutes reflection and sharing examples from their experiences, participants will collaboratively map the characteristics of both contributions and non-contributions on a shared board for 20-minutes. The session will end with a 20-minutes plenary sharing, where groups present their insights, comparing and contrasting key findings. This activity aims to deepen critical thinking on shaping the future of interactive health.

²<https://www.who.int/about/governance/constitution>

3.2 Research Segment

Works-in-progress in the form of posters will be presented during a coffee break where authors will get to connect with attendees, discuss future directions, and promoting the development of the community of researchers through networking. The workshop will also hold a mentoring program during lunch, following the success of previous HCI and health community efforts, such as at the WISH symposia [3]. Junior researchers, such as undergraduate students, PhD candidates, and post-doctoral fellows—who are seeking mentorship can answer the mentor program call. We will facilitate off-site lunch meetings for small groups of 3–4 junior researchers with a senior researcher we will recruit, such as an organizing member of the workshop. Groups will be organized based on shared research interests (e.g., mental health and well-being, interactive hospital systems, care work) or specific discussion topics (e.g., preparing for academic or industry job markets, forming clinical research partnerships).

3.3 Workshop Outline

- 08:30-09:00 Arrivals
- 09:00-09:15 Welcome & Ice Breaker
- 09:15-10:00 Envisioning Activity 1: Exploring challenges of an HCI & Health conference
- 10:00-10:20 Groups report back
- 10:20-10:30 Break
- 10:30-11:30 Envisioning Activity 2: Provocation presentations in breakouts
- 11:30-12:00 Groups report back
- 12:00-14:00 Lunch (Research Activity 1: Mentoring Program)
- 14:00-15:00 Envisioning Activity 3: Exploring the questions: What is and what is not a valid interactive health contribution?
- 15:00-15:40 Research Activity 2: Posters and Coffee
- 15:40-16:00 Presentation of Vision for Future HCI & Health conference
- 16:00-16:40 Questions and Discussion
- 16:40-17:00 Closing Remarks
- 17:00-17:30 Organizers meeting to discuss organization of future conference (SC, volunteers)
- Evening: Optional Group Dinner

3.4 Outcomes

We foresee three main outcomes for the workshop. The key outcome is the community feedback which will shape the Interactive Health conference, in the form of discussions of visions and perspectives around its creation. These include:

- Suggestions of list of topics for the conference;
- Ideas on how to cater for diverse community members and how to ensure geographical inclusion and reach of the conference;
- Visions on what constitutes a relevant contribution to the conference; and,
- Suggestions on how to assess quality and relevance of research approaches, while respecting a variety of research epistemologies and perspectives.

A second outcome is the scientific content presented through provocations and posters, enriched with in-depth conversations around HCI & Health Community scholarship. These will be made available in an open-access repository. The third outcome of the workshop will be community building, crystallized as membership in our existing mailing list. We expect the workshop to gather further list subscribers from various geographical areas and career stages. This mailing list will enable online discussions and information dissemination around the Interactive Health conference.

4 Call for Participation

In preparing for the future Interactive Health conference, we invite two types of submissions: Posters and Provocations.

Posters are for presenting innovative, ongoing research. We especially encourage those that could benefit from feedback for future work. Examples include pilot studies or early-stage interactive systems in areas like consumer health, diagnostics, public health, or care technologies. Authors will present through a poster session.

Provocations should reflect on impactful HCI & Health work or lessons learned from successful or rejected papers. We aim to understand both significant or exemplary HCI & Health contribution, as well as learn from why certain papers were not considered acceptable. The goal is to articulate and discuss aspects of the academic work that are desirable for this proposed venue. Both will be selected for quality, with provocations additionally assessed for topical diversity and representation. We encourage authors to submit papers with up to four pages in the ACM Master Template, including references and figures, although other formats will be considered. All instructions are available at <https://www.hcihealth.org>, submissions should be sent to interactivehealthchi25@gmail.com.

The **mentoring program** will pair junior scholars with senior mentors during off-site lunches. These may focus on specific research topics, PhD study challenges, career options, and self-development. To express interest in the mentoring program go to <https://forms.gle/dQjdPx47N8R6744X6>.

5 Post Workshop Plans

Following the workshop, we will document and use the mailing list to share the key insights gained during the event, focusing on critical topics such as the evolution of interactive health research, interdisciplinary collaboration, and methodological challenges, to connect with online workshop participants and the overall community. We plan to write a public-facing article to summarize the discussions and outcomes from the workshop, highlighting the perspectives of the HCI & Health community. The insights will further be relayed to the Interactive Health conference steering committee, who will further review these insights and incorporate the feedback into the calls and organization structure for the first Interactive Health conference in 2026, should it be approved by SIGCHI.

5.1 Plans to Publish

We aim to publish an article reporting on the workshop through accessible channels such as *Interactions* magazine or Medium. All accepted poster and provocation submissions will be made available

on HAL³ so content is freely accessible and preserved for future research and community engagement.

6 Asynchronous Materials

The workshop website and the sigchi-health mailing list will serve as a platform to maintain the community after the workshop and provide detailed information regarding the call for materials, participation, important dates, as well as workshop plan and structure: <https://www.hcihealth.org>.

6.1 Expected Size of Attendance

We expect about 100 participants in person, and up to 100 remotely. Candidates will need to fill out an online form specifying: research topics within Health and within HCI, service experience (especially in conference committees), and their vision of an HCI & Health conference.

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³<https://hal.science/?lang=en>