Title

Symposium: Workgroup on Interactive Systems in Healthcare (WISH)

ISBN

9781450394222

Authors

Epstein, Daniel A
O'Kane, Aisling Ann
Miller, Andrew D

Publication Date

2023-04-19

DOI

10.1145/3544549.3573804

Symposium: Workgroup on Interactive Systems in Healthcare (WISH)

DANIEL A. EPSTEIN, University of California, Irvine, USA
AISLING ANN O'KANE, University of Bristol, UK
ANDREW D. MILLER, IUPUI (Indiana University-Purdue University Indianapolis), USA

The Workgroup on Interactive Systems in Healthcare (WISH) connects academic and industry researchers across human-computer interaction, medical informatics, health informatics, digital health, and beyond to foster a community around innovations in consumer and medical health and wellbeing. The WISH Symposium at CHI 2023 will regather the HCI health and wellbeing research community for the first in-person community meeting in four years, allowing us to discuss and disseminate findings, methods, and approaches towards understanding and creating interactive health and wellbeing systems. We will continue the tradition of providing mentoring opportunities for early- and mid-career researchers, ranging from undergraduates to post-PhD, to establish future generations of scholars in the area. This will be the tenth WISH meeting, following a successful tradition of workshops at relevant venues including CHI over the past decade.

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

Additional Key Words and Phrases: health, healthcare, wellbeing, interactive systems

ACM Reference Format:
Daniel A. Epstein, Aisling Ann O'Kane, and Andrew D. Miller. 2023. Symposium: Workgroup on Interactive Systems in Healthcare (WISH). In *Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems (CHI EA '23), April 23–28, 2023, Hamburg, Germany*. ACM, New York, NY, USA, 6 pages. https://doi.org/10.1145/3544549.3573804

1 INTRODUCTION AND BACKGROUND

Health and wellbeing technologies have incredible potential to improve quality of people's everyday life, such as improving healthcare outcomes, empowering individuals to have greater ownership of their care, enabling people to identify and address health inequities, and much more. Recent years have seen particular rise in a few key areas: (1) Consumer health technologies, or technologies aimed at supporting the traditional "recipients" of healthcare, have significantly improved people's capabilities to monitor and advocate for their health needs. (2) Digital diagnostic tools, fueled by advances in artificial intelligence and machine learning, have offered new approaches to evaluating a person's medical condition. (3) Public health monitoring systems, including community health dashboards, have become critically important since the onset of COVID-19. (4) New healthcare technologies that connect people, highlighting the key role of *care* in *healthcare* within the context of aging societies worldwide, with opportunities for human-centered approaches to facilitate care, particularly informal and social care. Collectively, these interactive healthcare technologies have introduced substantial coordination challenges among individuals and their care networks: families, clinical providers, and greater institutional systems [1–3]. They have also posed critical questions around whose health and wellbeing are being prioritized or ignored by these structures, and how or whether technology can abate these issues.

Manuscript submitted to ACM

To discuss advances these topics, we therefore propose to reconvene the Workgroup on Interactive Systems in Healthcare (WISH) for a symposium, building on the success of the group's previous workshops and symposia in the space. Our community has been acutely impacted by the COVID-19 pandemic, which forced dramatic changes to our health-focused research and severely limited our ability to gather in-person. The WISH symposium at CHI 2023 will be the first opportunity for this community to meet in-person in four years (the last in-person meeting was held at CHI 2019 [4]) to reestablish the WISH community, to review the innovations in the field over the last few years, and to refocus on supporting the next generation of health HCI researchers through mentorship.

The specific goals of the WISH symposium at CHI 2023 include:

(1) Refine research agendas for interactive systems in healthcare. We particularly aim to advance agendas around four topics of growing interest in healthcare HCI: consumer health technologies, intelligent diagnostic tools, social health, and care technologies.
(2) Discuss methodological approaches to advancing the design and evaluation of interactive systems in healthcare. We see benefit in presenting and discussing the new research approaches the community has adopted during the COVID-19 pandemic, and what benefits and tradeoffs they provide.
(3) Disseminate research related to the implementation of research on interactive systems in healthcare that have been siloed in other corners of the research community, or have not been given the opportunity for in-person presentation.
(4) Foster a strong research community through mentorship of junior researchers. All three co-organizers have benefited from WISH mentorship in previous years.

2 WISH HISTORY AND FUTURE PLANS

WISH started as a symposium at CHI 2010 and attracted over 100 participants representing many different research communities. Building upon this initial success, WISH continued as a workgroup governed by an interdisciplinary and international steering committee with over 25 senior health-HCI scholars. WISH aims to bring together health and technology researchers, with a particular focus on supporting and cultivating junior researchers through panels, poster presentations and a mentorship program. In the last decade, it has organized several symposia, including at CHI (2010, 2016, 2019). Every WISH event in the past has been well-attended and well-received by the community.

WISH as an in-person symposium was last held at CHI in 2019, and after a successful virtual event in 2020 we are looking to reconvene at CHI in 2023. The timing is apt for a few reasons. First, technological advances described previously have radically changed the research topics surrounding interactive systems in healthcare, warranting community discussion on the field's directions and goals. Second, the COVID-19 pandemic has resulted in increased attention, interest, and focus on health and wellbeing. And finally, reconvening would allow for the large healthcare HCI community to re-establish networks and support the next generation of healthcare HCI researchers. Key to involving the community in decision making for WISH will be the first in-person town-hall in four years at CHI 2023. This is where collective input from a range of attendees, from the established steering committee members to new student WISH members, can discuss future plans for the long-term success of WISH. The organizing team has been encouraged to apply for a symposium, with support of the WISH Steering Committee, the CHI Steering Committee, and the CHI 2023 General Chairs.

3 SYMPOSIUM FORMAT

We plan to run WISH as a **one-day**, primarily **in-person** symposium, with opportunity for asynchronous engagement. An in-person symposium will support greater networking, mentorship, and community planning. Following previous incarnations of WISH, three highlights of the symposium include a **distinguished panel**, **research presentations**, and a **mentoring program**. We will also hold a town hall at the end of the symposium to discuss future plans for the WISH community. In line with typical CHI symposia, submission is not a requirement for attendance. We are prepared to have up to 120 attendees, depending on space constraints, and would prefer to have room for at least 50 attendees.

3.1 Distinguished Panel

The distinguished panel, akin to an keynote, aims to support agenda setting and encourage registration. We believe an opening panel will support re-engagement of multiple senior members of the research community, and enable establishing a more diverse agenda than a single speaker. Recent keynotes include Desmond Patton (Columbia University) and Doug Fridsma (President & CEO, American Medical Informatics Association). Given the location of CHI and focus of this year's workshop, we plan to recruit distinguished panelists who can speak interactive health systems in contexts beyond North America, such as regulation of health technology in Europe. We will begin recruiting panelists upon confirmation of the symposium, with nominations and advice from the WISH steering committee.

3.2 Research Presentations

Research presentations support disseminating research which may otherwise have not been noticed by a faction of the broader WISH community. We plan for two types of research presentations: *research highlights* and *works-in-progress*. Each submission will be read and considered by two of the organizers for relevance, with the aim of developing an inclusive program (e.g., accepting most or all relevant submissions). We will support oral and poster presentations as part of the program. We plan to support 7-minute oral presentations, with 3 minutes for questions and transitions (about 15 oral presentations in total). A poster session will occur alongside a coffee break, so poster authors and other attendees will be able to mingle and discuss informally. Depending on submission quantity and distribution between the two tracks, we may adjust these timings and format (e.g., works-in-progress as posters, selecting some of each track to offer as an oral presentation).

Research highlights offer an opportunity to present already-published work relevant to interactive systems for healthcare to a broader and wider-ranging audience. Research highlights can be from any of a range of archival venues relevant to WISH topics, having been published after the most recent WISH (November 2020) and before, but not including CHI 2023. Relevant publication venues include CHI, CSCW, DIS, IMWUT, and JMIR, but the organizing committee are open to publications from other works as well.

Works-in-progress provide a track for presenting ongoing works related to interactive health and wellbeing systems. We plan on the track being non-archival, allowing authors to get feedback on their work at the symposium and revise it for publication at another future venue.

3.3 Mentoring Program

Following on the success of the mentoring program at previous WISH symposia, we plan to offer a mentoring program over lunch. We will have a call for junior researchers (e.g., undergraduate students, PhD students, and post-doctoral researchers) looking for mentorship, and will facilitate off-site lunches for groups of 3-4 junior researchers with a

senior researcher we will recruit (e.g., from the WISH steering committee). Based on applicant interests, we will aim to theme the groups around research interests (e.g., mental health and wellbeing, interactive systems in hospital settings, care work) or topics of conversation (e.g., academic and industry job market preparation, establishing clinical research partners).

3.4 Draft Schedule

Below is a draft schedule for the symposium, with exact details subject to change based on number of submissions. The structured networking activity during the coffee break will pose an icebreaker question that attendees can ask one another, such as *"What is the most significant challenge you have faced in conducting HCI research in healthcare settings?"*

- 9:00-9:15 Welcome and introduction from the organizers
- 9:15-10:45 Distinguished Panel and Q&A
- 10:45-11:30 Coffee break, with structured networking activity
- 11:30-12:45 Research presentations, session 1
- 12:45-14:15 Lunch, with mentoring program
- 14:15-15:30 Research presentations, session 2
- 15:30-16:30 Poster session with coffee break
- 16:30-17:30 Town hall, closing comments

3.5 Asynchronous Plans

To enable participation of people who are unable to attend the symposium in-person for different reasons, we plan to support the following:

- Collection and distribution of slides and digital versions of posters associated with the research presentations and poster sessions. These will appear on the WISH website, alongside links to the published submissions associated with the research presentations.
- Organizing one or more synchronous, remote mentoring sessions for interested junior attendees to connect with a remote mentor. This session will be structured similarly to the in-person mentoring lunch. We successfully implemented this mentoring approach during the virtual WISH in 2020.
- Livestreaming the presentations and town hall for registered WISH steeering committee members and other community members who are unable to attend in-person. We will further provide a document for members to asynchronously add comments.

4 PRE-WORKSHOP ACTIVITIES

Prior to the workshop, we plan to broadly advertise the different opportunities for presentation and mentorship to a variety of communities. We particularly plan to leverage mailing lists such as CHI Announcements, as well as our social media profiles (e.g., the WISH Twitter account and Facebook group). We will also send targeted emails to leaders in the community to advertise the symposium to their contacts, such as the WISH steering committee and the associate chairs of the CHI Health subcommittee.

A website will be created and hosted by the University of California, Irvine, and maintained by a student volunteer webmaster. We will launch the website soon after acceptance of the symposium. The website will contain the

different calls for submissions, and eventually the accepted submissions and final schedule. The website is available at https://sites.uci.edu/wish2023/.

5 POST-WORKSHOP PLANS

In addition to continuing organization of WISH in future years, we plan to write a public-facing article summarizing the key topics (e.g., research areas, methods, communities) surfaced in the symposium. Depending on receptiveness, we may publish such an article in a sponsored venue (e.g., Interactions magazine, CHI Medium) or on our own (e.g., create a WISH Medium).

6 ORGANIZERS

The three organizers have extensive research experience in the area of HCI and health. They all received mentorship as early-career researchers at previous WISH workgroups and symposia, and have all recently served as Associate Chairs on CHI's Health subcommittee. With WISH reconvening in-person after a four year break, they are excited to foster a mentorship-focused environment with in-depth research discussions for a new generation of HCI healthcare scholars.

Daniel Epstein is an Assistant 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.

Aisling O'Kane is an Associate Professor of HCI for Health at the University of Bristol. Her research focuses on the use, misuse and non-use of health, wellbeing and care technologies outside clinical settings. She has co-organised multiple health related workshops and provided mentorship for early career researchers as the Deputy Director of the EPSRC Centre for Doctoral Training in Digital Health and Care.

Andrew Miller is an Associate Professor of HCI at Indiana University in Indianapolis (IUPUI), 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.

7 CALL FOR PARTICIPATION

The Workgroup on Interactive Systems in Healthcare (WISH) is holding its tenth meeting to discuss topics pertaining to technology for health and wellbeing. Of particular interest are research pertaining to topics of growing interest and importance to the community: consumer health technologies, intelligent diagnostic tools, public health monitoring systems and care technologies.

WISH has three main opportunities for participation: research highlights, works-in-progress, and the mentoring program. Research highlights and works-in-progress will be given opportunity to formally present at WISH as an oral presentation, a poster, or both.

Research highlights are an invitation to present novel, archival research related to interactive systems in healthcare that has previously been published in a WISH-related venue to a broad, diverse audience. Example venues include, but are not limited to: CHI, CSCW, DIS, IMWUT, and JMIR. Research highlights must have been published after the last WISH event in 2020 (e.g., after November 2020). Highlights published prior to, but not including at CHI 2023 are eligible. Please submit a 1-page summary of the article in the ACM Master Template. Be sure the summary includes the

names of all authors, date of publication, and a link (DOI or otherwise) to the published archival work, and whether you would like the highlight to be considered for oral presentation, poster presentation, or both.

Works-in-progress are an opportunity to present novel research for feedback from the WISH community. Works-in-progress is a non-archival venue, and we therefore encourage submissions which authors plan to expand on in future work. Examples of works-in-progress include pilot studies with planned follow-up recruitment and interactive systems with early-stage evaluations. We also recommend and encourage submissions reflecting on research methods or processes, such as adaptations of methods in response to COVID-19 parameters. Please submit a work-in-progress in the ACM Master Template, of no more than four pages including references and figures. Be sure to include whether you would like the work-in-progress to be considered for oral presentation, poster presentation, or both.

The **mentoring program** at WISH aims to group a small set of junior scholars with a senior mentor to discuss common interests around research topics or intellectual growth. Junior scholars may be students (e.g., Bachelors, Masters, PhD) or early career researchers (e.g. post-docs). We will organize offsite lunches between these groups at the symposium, themed around research topics like mental health and wellbeing and career development goals like industry or academic job searching. Please submit a form response expressing interest and providing details about your background. If there is sufficient interest, we may organize one or more remote, synchronous online mentoring meetings.

The symposium website is available at https://sites.uci.edu/wish2023/. Please submit research highlight and work-in-progress submissions to wish2023@uci.edu, and go to https://sites.uci.edu/wish2023/mentoring to express interest in the mentoring program.

REFERENCES

[1] Eunkyung Jo, Myeonghan Ryu, Georgia Kenderova, Samuel So, Bryan Shapiro, Alexandra Papoutsaki, and Daniel A Epstein. 2022. Designing Flexible Longitudinal Regimens: Supporting Clinician Planning for Discontinuation of Psychiatric Drugs. In *CHI Conference on Human Factors in Computing Systems*. 1–17.

[2] Sarah Nikkhah, Akash Uday Rode, Neha Kulkarni, Priyanjali Mittal, Emily Mueller, and Andrew D. Miller. 2022. Designing for Families as Adaptive Systems: Collaborative Emotional Support and Resilience in the Children's Hospital. In *CHI Conference on Human Factors in Computing Systems Extended Abstracts*. 1–8.

[3] Ewan Soubutts, Amid Ayobi, Rachel Eardley, Kirsten Cater, and Aisling Ann O'Kane. 2021. Aging in Place Together: The Journey Towards Adoption and Acceptance of Stairlifts in Multi-Resident Homes. *Proceedings of the ACM on Human-Computer Interaction* 5, CSCW2 (2021), 1–26.

[4] Nadir Weibel, Kim Unertl, and Susanne Boll. 2019. Symposium: WISH-Workgroup on Interactive Systems in Healthcare. In *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems*. 1–8.