Where did the practices go? On why Interactive Health should provide space for patient and healthcare professional practices

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Abstract

This paper is a provocation to the future organizers of Interactive Health and the broader health community at CHI to highlight the need to create space for studies of practices at both conferences. Our argument builds on the long tradition of practice studies in HCI research, even when technology is absent, to reflect on the relevance of these studies in the Interactive Health community. We describe specific case studies from our own work to show the type of contributions studies of practice can produce. In our perspective, recognising the role of studies of practice, even absent from technology, is instrumental to our community, and has the potential to sustain and amplify the influence of HCI in the Health area.

ACM Reference Format:
Chia-Fang Chung, Francisco Nunes, and Elena Agapie. 2025. Where did the practices go? On why Interactive Health should provide space for patient and healthcare professional practices. In *Proceedings of (CHI '25 Workshop on Envisioning the Future of Interactive Health).* ACM, New York, NY, USA, 3 pages.

1 INTRODUCTION

Studying user practices has a long history in HCI research and HCI in the Health area. The first ethnographies or ethnographic-informed studies published in HCI and CSCW investigated the practices of workers leading air traffic control [2] or subway control rooms [11]. There was some technology around the users, but studies focused on the user practices and collaborations, as there was the expectation to introduce additional technology in the future. In the health area of HCI/CSCW, studies of practices covered a range of future users and contexts, including health management and how technology can support that for managing diabetes [13], cancer [12], and health behavior change [5]. Researchers have also studied collaborative practices to support clinical care [7, 14, 20], social support [6, 17, 18], family and caregiver coordination [4, 19], and community health [9]. Researchers have studied practices at the level of design processes and collaboration across research fields and practice [3, 8]. These studies have documented user needs and contributed greatly to how we see users, and the potential role that technologies can play in their everyday life or (care) work.

While studies of user practices exist in HCI and Health, we believe these have become harder to publish. In recent years, we have started receiving more and more rejections that claim that studies of practice are not relevant to HCI. It could be that we stopped being able to author compelling studies of practices, but we hear the same testimonies from colleagues at other institutions, and, what leaves us even more concerned, the discouragement from PhD students that studies of practices are no longer worth pursuing, due to the difficulties in getting them published.

Having been part of the Health subcommittee of CHI in last years we see a tendency of more and more submissions of technology development and deployment of interactive systems to support people in managing health [5, 19]. We believe this growth in technological-focused studies, has unbalanced the HCI and health area towards believing that only these studies contribute to HCI scholarship.

In this provocation, we seek to discuss how research focused on studying people's health practices, particularly absent technology, is still relevant and critical to HCI research today. We show and unfold examples of what we might learn from studying health practices, expanding on why HCI researchers are uniquely equipped to study health practices in a way that informs technology design.

2 CASE STUDIES

2.1 Goal setting practices in mental health

In a series of papers at CSCW 2022 and CHI 2024, we presented studies of how people set mental health goals in collaboration with mental health therapists [1, 16], to understand challenges and needs in how people set goals over time. We learned that people's mental health goals covered a wider range of domains than we expected and that people managed multiple goals concurrently. We characterized how people's goals change and evolve over time, identifying techniques for goal selection, adjustment, and simplification. We also characterized how therapists personalize recommendations to client needs. These insights helped us identify techniques that people can use to set more effective goals.

This research contributed to understanding how people think about their goals and manage them in ways that technologies do not currently support. Such findings might not have been possible just by studying how people use existing technologies. The study of professional practices of mental health therapy gave us the opportunity to gain deep insight into the techniques, behaviors, challenges, and thoughts that clients and therapists experienced though reflections and coaching of the client that would not necessarily come up when studying technologies alone.

One direct application are personal informatics (PI) technologies, which are driven by tracking data towards some target, a goal. PI data related to goals goals is tracked, visualized, supported, and designed for. Hundreds of research projects have investigated how technology can support people's goal pursuit and engagement, and

CHI '25 Workshop on Envisioning the Future of Interactive Health, Yokohama, Japan

overwhelmingly have done so by studying technology. For mental health goals, the context and thought process of users has such a rich and complex set of considerations, which are not currently supported through technology. Our findings indicate types of reflection that technology could support for setting and adjusting goals based on their changing life circumstances, opportunities for when technologies could support users in changing a goal, stopping workingo on it, or pivoting to a different goal. This research points to considerations for how technologies should support ecosystems of goals that people might be working towards in parallel.

2.2 Food Hypersensitivities

In a study published at CHI 2021 [15], we examined how people with food hypersensitivities safely eat out. Participants mentioned using interactive technologies – apps, websites, and restaurant recommendation systems – to find restaurant choices, but they found existing technology support insufficient to keep them safe while dining out.

By providing detailed descriptions of how participants avoided reactions outside of the home, even when there was no digital technology involved, these findings helped paint the design space that technology could better support people with food hypersensitivity. For example, to support food allergy as an evolving condition, technology could better support experimentation and learning in various aspects of eating (e.g., preparation and hygiene practices). Online review platforms could explicitly prompt and encourage users to share food allergy-related experiences, such as safe practices or menu design, to motivate restaurants to improve their practices. Ordering systems could also provide simple reminders for staff to adopt safe practices or precautions while training staff.

Managing health conditions in everyday life is a prominent theme in the CHI health community. When existing technology is insufficient or unsuitable, returning to how people use or appropriate non-digital tools provides an opportunity to go beyond what existing technology can offer, identify where new technology should focus, and learn when new social systems (e.g., policy, guidelines, or education) should evolve alongside digital technology.

2.3 Accounting for Life Events in Design

In a CHI 2025 paper [10], we studied how people manage healthy eating practices during life events and proposed design opportunities to support these changing needs. Because existing technology often focuses on supporting the creation of routines, people are often left to manage food preparation and eating activities on their own when routines change. Studying the interaction with digital technology, as a result, cannot provide the understanding needed to support how people react to and struggle with routine changes.

Findings from this study show that technology could help people prepare for and readjust to both anticipated (e.g., moving) and unexpected changes (e.g., family member illness). Technologies could also help people revalidate what is important to them (e.g., balanced eating versus efficient cooking), show the relationship between these values and their situation (e.g., care responsibilities and time constraints), and help people negotiate and clarify these new priorities with others who collaborate and coordinate food activities together.

Findings from this study have implications for a wide range of technologies, from tools supporting users with meal planning, doing groceries, cooking, or to meal delivery services. Our findings show that technologies that support meal preping, groceries and cooking can adjust their recommendations in light of changes in values and priorities of how and what a person might want to eat. Technologies for food preparation should support collaboration between family members as they might reconcile preferences in how they eat as they change over time. Food related products that help people choose where to eat, or provide meal kits, should allow users to identify solutions based on a wide range of values, including those related to sustainability and supporting local businesses.

3 THE ROLE OF PRACTICE STUDIES IN HCI

3.1 Pertinence of studying practices

Health practices are complex and require studies in specific domains of practice, such as exercise, diet, diabetes, mental health management, and more. Such complexity has led to many researchers already conducting formative reserach about people's health practices in a wide range of domains. So when is there a need for more studies of practices?

When technology does not support a particular set of practices. Focusing on practices is particularly relevant when the phenomenon studied is *not explicitly designed for in current health technologies*, and current research has not already surfaced insights related to the phenomenon studied. For example, technologies are not currently accounting for people's life changes during significant life events. This opens up an opportunity to understand the needs of people in managing health during life changes. Such a gap can enable researchers to study different aspects of that phenomenon, such as needs during specific life events (e.g., technology use during pregnancy, during periods of disease progression) or across a wide range of domains.

When technology is limited in which practices it supports. Focusing on practices absent of technology can be particularly important when the *current tools are particularly limiting* based on what is supported through technology, compared to the range of experiences people have. For example, current health-tracking technologies are driven by the quantification of data, which grounds users in quantifying different aspects of their lives. If researchers study qualitative goals that people might have with trackers, user perspectives might be biased by their experiences with quantified tools, making it difficult to imagine experiences outside of them. Such an investigation requires some understanding of practices outside of the use of current trackers. To summarize, grounding user experiences in only a class of technology can bias them towards describing and thinking what is possible with current technologies without understanding what users might do without them.

3.2 Properties of studies of practices

While writing this paper we reflected on the properties of studies of practices and what their specific contribution to HCI scholarship could be. We got to four characteristics.

Increase understanding: These studies offer new ways of looking at potential future users, including their context, their actions, their values and priorities, and their relationship with technology.

By focusing on potential future design, these studies pay attention to roles, breakdowns, issues, and opportunities, much different than other social research studies, and with the potential to have a strong impact in technology development.

Increase safety and ethical approaches of technology interventions: With more information about users, researchers are better able to create value with the proposed technological solutions. This is extremely important in healthcare, where autonomy, non-maleficence, beneficence, and justice are seen as the key values.

Generative: Studies of practices offer new ideas to explore in future system design, which can support re-interpreting features, use intentionality, user roles, or unexplored opportunities for design.

Theoretical and conceptual understanding: Studying practices enable researchers to reach more comprehensive concepts or theories of technology use. Through the studies of practices, researchers might uncover a more in-depth understanding of everyday life or care work and be able to reflect on the opportunities explored by the technologies or the underlying values in design choices, which can be reinterpreted and lead to considerable changes in design direction.

3.3 Unique position of HCI community

The study of practices has been an HCI angle of work that is not reproduced in other areas of technology design or even other research areas. Only we, as a community, devoted attention to the users to the point that their practices were relevant to study. If we reflect on anthropology or sociology, they also study participants' practices, but the goal was to understand and advance social theory, economics theory, etc, which is quite different from our work. We study these practices because they are relevant to our understanding of users, their meanings, metaphors, ways of thinking and acting, as well as scenarios where technologies will be used.

The CHI conference at the moment is perhaps valuing too much the development of technology field pilots and trials. Researchers at times design for a setting with very little knowledge about it, which can be detrimental to users. In healthcare, this can even be dangerous. Studying practices is a way to address this issue, making sure that the community has more information about users and the context they are designing for, avoiding every researcher having to sustain long user research phases before starting.

HCI researchers are uniquely equipped to study practices because of their orientation to study user behaviors, values, and thoughts as they pertain to technology design.

4 Conclusions

The studies of practices have strong potential to contribute to HCI scholarship and future technology design. We thus hope that our argument can support the CHI and Interactive Health conferences to ensure that this type of study has space in the conference.

Acknowledgments

Francisco Nunes was supported by Fundação para a Ciência e Tecnologia (FCT-Portugal) by project NUTRIA [2022.09373.PTDC], with DOI 10.54499/2022.09373.PTDC. Elena Agapie was partly supported through the NSF grant IIS-2233738. Chia-Fang Chung was partially supported by the NSF award IIS-2414270.

References

[1] Elena Agapie, Patricia A Areán, Gary Hsieh, and Sean A Munson. 2022. A longitudinal goal setting model for addressing complex personal problems in mental health. *Proceedings of the ACM on Human-Computer Interaction* 6, CSCW2 (2022), 1–28.

[2] R. Bentley, J. A. Hughes, D. Randall, T. Rodden, P. Sawyer, D. Shapiro, and I. Sommerville. 1992. Ethnographically-informed systems design for air traffic control. In *Proceedings of the 1992 ACM Conference on Computer-Supported Cooperative Work* (Toronto, Ontario, Canada) *(CSCW '92)*. ACM, New York, NY, USA, 123–129. doi:10.1145/143457.143470

[3] Ann Blandford, Jo Gibbs, Nikki Newhouse, Olga Perski, Aneesha Singh, and Elizabeth Murray. 2018. Seven lessons for interdisciplinary research on interactive digital health interventions. *Digital health* 4 (2018), 2055207618770325.

[4] Yunan Chen, Victor Ngo, and Sun Young Park. 2013. Caring for caregivers: designing for integrality. In *Proceedings of the 2013 conference on Computer supported cooperative work*. 91–102.

[5] Sunny Consolvo, David W McDonald, Tammy Toscos, Mike Y Chen, Jon Froehlich, Beverly Harrison, Predrag Klasnja, Anthony LaMarca, Louis LeGrand, Ryan Libby, et al. 2008. Activity sensing in the wild: a field trial of ubifit garden. In *Proceedings of the SIGCHI conference on human factors in computing systems*. 1797–1806.

[6] Jordan Eschler and Wanda Pratt. 2017. " I'm so glad I met you" Designing Dynamic Collaborative Support for Young Adult Cancer Survivors. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing*. 1763–1774.

[7] Geraldine Fitzpatrick and Gunnar Ellingsen. 2013. A review of 25 years of CSCW research in healthcare: contributions, challenges and future agendas. *Computer Supported Cooperative Work (CSCW)* 22 (2013), 609–665.

[8] Dominic Furniss, Aisling Ann O'Kane, Rebecca Randell, Svetlena Taneva, Helena Mentis, and Ann Blandford. 2014. *Fieldwork for healthcare: case studies investigating human factors in computing systems*. Morgan & Claypool Publishers.

[9] Andrea Grimes, Martin Bednar, Jay David Bolter, and Rebecca E Grinter. 2008. EatWell: sharing nutrition-related memories in a low-income community. In *Proceedings of the 2008 ACM conference on Computer supported cooperative work*. 87–96.

[10] Seung Wan Ha, Novia Nurain, Elena Agapie, and Chia-Fang Chung. 2025. Preparing and Experiencing Food During Life Events: Implications for Technology Supporting Social and Value Changes. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems* (Yokohama, Japan) *(CHI '25)*. ACM.

[11] Christian Heath and Paul Luff. 1992. Collaboration and controlCrisis management and multimedia technology in London Underground Line Control Rooms. *Computer Supported Cooperative Work (CSCW)* 1, 1 (March 1992), 69–94. doi:10.1007/BF00752451

[12] Predrag Klasnja, Andrea Hartzler, Christopher Powell, Giovandy Phan, and Wanda Pratt. 2010. Health weaver mobile: designing a mobile tool for managing personal health information during cancer care. In *AMIA Annual Symposium Proceedings*, Vol. 2010. American Medical Informatics Association, 392.

[13] Lena Mamykina, Elizabeth D Mynatt, and David R Kaufman. 2006. Investigating health management practices of individuals with diabetes. In *Proceedings of the SIGCHI conference on Human Factors in computing systems*. 927–936.

[14] Helena M Mentis, Kenton O'Hara, Abigail Sellen, and Rikin Trivedi. 2012. Interaction proxemics and image use in neurosurgery. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. 927–936.

[15] Francisco Nunes, João Almeida, Chia-Fang Chung, and Nervo Verdezoto. 2021. Avoiding Reactions Outside the Home: Challenges, Strategies, and Opportunities to Enhance Dining Out Experiences of People with Food Hypersensitivities. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (Yokohama, Japan) *(CHI '21)*. ACM, New York, NY, USA, Article 208, 16 pages. doi:10.1145/3411764.3445662

[16] Bruna Oewel, Patricia Anne Arean, and Elena Agapie. 2024. Approaches for tailoring between-session mental health therapy activities. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems*. 1–19.

[17] Aisling Ann O'kane, Sun Young Park, Helena Mentis, Ann Blandford, and Yunan Chen. 2016. Turning to peers: integrating understanding of the self, the condition, and others' experiences in making sense of complex chronic conditions. *Computer Supported Cooperative Work (CSCW)* 25 (2016), 477–501.

[18] Sun Young Park and Yunan Chen. 2015. Individual and social recognition: Challenges and opportunities in migraine management. In *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing*. 1540–1551.

[19] Laura R Pina, Sang-Wha Sien, Teresa Ward, Jason C Yip, Sean A Munson, James Fogarty, and Julie A Kientz. 2017. From personal informatics to family informatics: Understanding family practices around health monitoring. In *Proceedings of the 2017 acm conference on computer supported cooperative work and social computing*. 2300–2315.

[20] Madhu Reddy and Paul Dourish. 2002. A finger on the pulse: temporal rhythms and information seeking in medical work. In *Proceedings of the 2002 ACM conference on Computer supported cooperative work*. 344–353.