

Bridging Clinical and Non-clinical Health Practices: A Workshop Report

Yunan Chen¹, Charlotte Tang², Karen Cheng¹, Sun Young Park¹

¹Department of Informatics, University of California Irvine, Irvine, CA

²Department of Computer Science, Engineering and Physics, University of Michigan-Flint, MI

Abstract

This poster reports the results from our one-day workshop held in conjunction with CHI 2012 conference. Our workshop goal was to bring researchers and practitioners who work in different health settings to discuss and explore the interplay between health practices conducted in clinical and non-clinical settings. Although health practices and technological designs have been studied extensively in HCI, most prior studies have focused on a single setting, like hospitals and clinics, or non-clinical spaces, like patients' homes and senior centers and there has been little work that investigated how patient care in clinical and non-clinical settings connect with each other. Our workshop investigated how practices in these two settings can be bridged. We identified challenges of conducting HCI/health research in this domain and developed a research agenda for further investigation.

Introduction

There has been a growing interest in studying and designing health technologies from the perspective of Human Computer Interaction (HCI). Studies of healthcare systems focus on a variety of systems including large-scale in-hospital systems such as Electronic Medical Records (EMR)¹, and nursing communication tools², to systems that are designed for use outside of clinical settings such as those for the management of personal health information³. These systems serve different purposes, and they all have the potential to benefit patient care through improved clinical practices in hospitals and clinics, or self-care activities in patients' homes and other non-clinical settings. While these previous studies provide valuable insights into understanding healthcare practices in targeted settings, there has only been limited work that examined how clinical and non-clinical health practices connect and interplay in the overall patient care trajectory. Developing systems that can bridge clinical and non-clinical settings, however, is no trivial task, as health practices, knowledge, stakeholders, environment, constraints, expectations, and liabilities are all distinctly different in these environments. Besides, the implications and impacts of the systems designed for one setting (e.g., clinical setting) on the other setting (e.g., non-clinical setting) should be considered.

Workshop Goals

- To identify critical challenges and opportunities in supporting transitions between and integration of health practices in clinical and non-clinical settings, and
- To brainstorm issues that span different healthcare settings for achieving comprehensive trajectory work and converging on design principles that may be applied to multiple settings

Roundtable Activities and Results

Sixteen papers were accepted into the workshop, representing a wide range of projects and research perspectives⁴. The workshop included two roundtable discussion sessions:

Roundtable 1: Case Study. Participants discussed a case study on the challenges of caring for preterm infants. Two key issues raised from the workshop were 1) whether technology can solve these problems, and how to design technology that supports parents' and clinicians' need for information without overwhelming them, and 2) designing for social and emotional support for parents of preterm infants to connect with other parents who have had similar experiences. The discussions resulted in recommendations for parents of preterm infants to keep a diary of preterm care that could be shared through such channels as videos to parents of newly discharged infants. In addition, role-based information support was also proposed to provide tailored and personalized information based on users' roles, e.g. nurses, doctors, caregivers, pediatricians, and specialists.

Roundtable 2: Developing a Research Agenda. The goal of the discussions was to develop a research agenda for the HCI community to bridge the gap between clinical and non-clinical work practices. Several key challenges identified were privacy (e.g., how to study people and technology use in home space?), recruitment (e.g., people who come to clinic are those who are already engaged. How can we reach out to the other users who might benefit from the technology?), methodology (e.g., how to validate self-reported data in studying patient behaviors), and organizational issues (e.g., how to design technologies to accommodate red-tapes in clinical settings and flexibility in home settings?). We also explored non-conventional methods for health research, such as design, drama, art, action research, and retrospective storytelling.

Conclusion and Future Work

Our workshop concluded that 1) it is important to build conceptual models for understanding complex health practices that often cross multiple and distinct settings; 2) understanding the differences in privacy, cultural, methodological issues in both clinical and non-clinical settings are critical for design, and 3) because the context of health problems is often so complex, it is crucial to understand when technological solutions are beneficial vs. harmful in solving certain healthcare issues. Finally, our workshop recommended further investigation across settings among the workshop participants, for example, integrating diabetes care in home and clinic, and combining novel methods from other fields such as NLP, data visualization, and visual analytics.

Relevance to WISH community

This poster is expected to draw attention from a number of research communities such as health informatics, human-computer interaction, practitioners and designers. The topic is also directly relevant to WISH.

References

1. Chen, Y. Documenting transitional information in EMR. In Proc. CHI2010. 1787-1796.
2. Tang, C., Carpendale, S. An Observational Study on Information Flow During Nurses' Shift Change. In Proc. CHI 2007. 219-228.
3. Pratt W, Unruh K, Civan A, Skeels M. Personal Health Information Management. Communications of the ACM. 2006; 49; 51-55.
4. Chen, Y., Tang, C., Cheng, K. and Park, S. (2012). Bridging Clinical and Non-Clinical Health Practices. Extended Abstract at CHI 2012. (<http://www.ics.uci.edu/~yunanc/chi2012health/>)