Embracing Challenges for Impact in Clinical Systems Research

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Abstract

This panel is aimed at addressing the methodological challenges of conducting information systems research in clinical environments. Panelists will present barriers they have encountered and the approaches they have used in their own clinical systems research programs. The intention is to encourage WISH attendees to engage in clinical systems research by addressing any concerns and frustrations regarding methodological barriers to systems impact. This is an important panel to have at WISH in order to engage the community in cementing its relationship to the AMIA conference it is organized within.

Introduction

The CSCW and HCI fields have historically contributed a growing body of empirical and conceptual knowledge about coordination, collaboration, communication, sensemaking, information seeking and information use in clinical settings in order to inform the design of electronic health records (EHRs) and other clinical information systems [1-7]. This contribution is reflected in the tight relationship between the AMIA conference and WISH workshop, which is now going into its fourth year. Recently, however, there has been a shift of focus to personal health informatics and patient-centered systems design [9, 9]. While we attribute this increasing interest in the patient-centered research to the explosion of technologies and practices focused on wellness, we also believe this shift may have been spurred by the methodological and practical challenges of conducting research in clinical settings. Even so, there are a number of researchers who have successfully navigated the clinical terrain and, in the process, have collected lessons-learned that could be of interest to the WISH community.

Our focus on the methodological challenges of engaging in research in the clinical sphere in this panel is intentional for two reasons. First, compared to studying interactions between a patient and a medical device, studies of clinical work take into account interactions among a wide variety of factors and agents, including people, technologies and organizational routines [10, 11]. The methodological approaches and practical impact of such research are therefore more challenging. Second, the AMIA community has been traditionally focused on clinical systems design. Given the tight relationship between AMIA and WISH, the WISH community should continue to strive to contribute our unique socio-technical approaches and viewpoints [12].

We have gathered a panel of four scholars in the WISH community who have studied work in clinical settings from a variety of perspectives, including US and non-US based practices, and medical and non-medical backgrounds. Although the work of all four panelists focuses on similar medical settings, the approaches and strategies to overcome challenges are diverse. Between them, panelists have used a wide array of techniques to study issues of collaboration, work coordination, system use, and information sharing in different clinical units. The four panelists will share experiences in conducting their research and discuss the implications of their studies. These individual stories will then serve as the material for an open discussion.

Structure

The session will begin with a five-minute presentation by the moderator to describe the purpose and format of the panel, and to introduce the panelists. This will be followed by 10-minute presentations by panelists detailing experiences, approaches and outcomes of their exemplar studies. We will then open the floor to discussion among panelists and with the audience in the remaining 15 minutes.

The goal of this session is to open discussion and sharing around experiences and outcomes of research in clinical environments. Although we expect that topics will emerge through the discussion, some of the questions that may help structure the conversation are as follows:
• What are the approaches to studying clinical work and technology design that have led to successes in the clinical systems domain?
• How can we apply the findings and implications of clinical information systems research to real-world healthcare settings given the challenges in technology adoption and use in healthcare?
• How can we assess the practical impact of clinical information systems research given the slow pace of transferring research results into the real-world deployment?

Panelists

Helena Mentis is an Assistant Professor in the Department of Information Systems at the University of Maryland-Baltimore County. Through qualitative techniques, Helena has examined the challenges clinical healthcare providers face in sharing and understanding ambiguous and interpretive health information. She has most recently been studying issues of embodied collaboration and communication around health information in the operating room in both the US and the UK [2]. Helena will serve as a panelist, as well as moderator.

Aleksandra Sarcevic is an Assistant Professor at the College of Information Science and Technology at Drexel University. She has conducted a series of field studies at several adults and pediatrics US Level 1 trauma centers and emergency departments to gain a deeper understanding of the complex work of emergency medical teams. Through the analysis of communication, collaboration, decision-making, and information seeking, Aleksandra aims to identify inefficiencies in the work processes and opportunities for technology support [4].

Rebecca Randell is a Senior Translational Research Fellow in the School of Healthcare at the University of Leeds, UK. She has studied a range of primary and secondary care settings, gathering qualitative data on work practice to inform technology design and to explore the impact of new technologies. This has included undertaking a multi-site study of patient transfers and shift handovers across eight varied hospital settings in order to develop a model to support technology design and evaluation [7].

Paul Gorman is Associate Professor in the Department of Medical Informatics and Clinical Epidemiology and the Department of Medicine at Oregon Health & Science University. He divides his time about equally between supervising patient care in the hospital, teaching medical and informatics students; and multidisciplinary research to understand sociotechnical aspects of information use in patient care. His work has addressed (1) the information seeking of clinicians; (2) information sharing and collaboration in critical care, (3) health professional work practices and patient safety; (4) development of HIT for multidisciplinary medication management; and (5) implementation of HIT in rural primary care settings [10, 11, 12].

References