Beyond Formality: Informal Communication in Health Practices

Abstract
Despite an increasing use of formal healthcare systems such as the Electronic Medical Record (EMR) and communication devices, informal communication continues to play an important role in the highly collaborative, dynamic, and information-rich medical work. Formal systems often fail to support the spontaneous and opportunistic needs of healthcare providers to communicate patient information. Yet it is not clear what constitutes informal communication in healthcare practices, what roles does it play in the patient care process, what types of technologies can be designed to support informal communication, and how to design them. This workshop aims to gather interested researchers to better understand informal communication in healthcare, to discuss their implications for CSCW healthcare research, and to brainstorm technological innovations that can support the informal aspects of health communication.

Keywords
Health practices; Informal communication

ACM Classification Keywords
H.0 [information systems], J3. Life and Medical Sciences: Health, Medical Information Systems

General Terms
Design, Human factors
Introduction
Medical work, dynamic and information-rich by its nature, often relies on effective articulation and communication among clinicians from multiple disciplines across time and space [18]. Yet, as previous research has shown, a lack of understanding of what constitutes effective communication can lead to medical errors that threaten patient safety [1, 11, 15]. Because medical work is often distributed among multiple stakeholders, across different locations and over different times, achieving effective communication in medical settings can be challenging. To address this problem, an increasing number of new technologies, including EMR system, Computerized Provider Order Entry (CPOE), and patient portal systems have been implemented with the goal to support timely and effective communication in healthcare.

These new technologies, however, have a tendency to "formalize" work while neglecting the "informal" nature of communication, potentially creating new problems in healthcare practices [8]. For example, healthcare documentation systems have been criticized for over-formalizing work processes by imposing rigid rules on recording activities and user interactions, as well as for failing to support spontaneous and dynamic circumstances and provisional information sharing [17]. Often times, rather than facilitating effective communication as intended, such formalization may ignore, neglect, or even prohibit the informal communication in medical work, and consequently compromise the quality of patient care. The goal of this workshop is to better understand the role of informal communication in healthcare work and how best to support it through information and communication technologies.

Beyond Formal Communication
Informal communication has been studied extensively in prior literature. In addition to showing its important role in life-critical medical work [1, 12] a large body of research on workplace communication has also shown that informal communication—defined as impromptu, brief and context-rich interaction—is a vital component of effective collaboration [10, 14, 20]. These informal conversations, with topics varying between task-oriented and socially-bonded contexts, often involve small groups of people, and are usually triggered by their proximity. To illustrate, Meija et al. [12] found that informal communication is often conducted through verbal channels for reporting work progress, which is consistent with Coiera’s findings [4] that the “web of conversations” constitute the biggest information system in healthcare settings.

Informal communication is also mediated through tangible artifacts, such as paper, whiteboard, post-it notes, or magnets for information recording, sharing, and negotiation. Information scribbled on or presented through these artifacts is often not formally recorded for long-term archive. Yet these artifacts afford a convenient and efficient channel for clinicians to communicate and coordinate their work. For example, “scraps,” which are self-created informal paper notes, were found to facilitate communication of patient information during shift-changes [7, 8]. Nurses were also observed using provisional working documents to share sensitive psychosocial information about patients [21]. Similarly, in emergency departments, transitional artifacts such as paper notes alleviated the discrepancy between the formalized documentation and the actual workflow [3], and self-adhesive paper-based role tags
facilitated role identification during patient care coordination [16].

Despite the importance of informal communication identified in prior studies, it is still unclear what constitutes informal communication in healthcare. Here we use the following studies to exemplify informal healthcare communications:

• **Informal content**: The formality of information content can be used to reflect the formality of the intended communication. Clinical information in patient permanent records is often considered formal communication. In contrast, sensitive psychosocial information about patients shared among nurses (verbally or via working documents) is regarded as informal communication [21].

• **Informal artifacts**: From the artifacts perspective, the officially circulated and shared medical records, either paper-based or digitized, are formal records. Self-created notes such as “scraps,” by contrast, are informal records [3, 7, 9].

• **Informal media**: Verbal updates about patient status are often exchanged through informal media, including IM and texting [11], and through information sharing outside team meetings [2].

• **Informal location**: Informal communication usually happens in the “backstage” in locations such as hallways, break rooms or locker rooms [6].

The above illustrations are by no means exclusive, nor do they cover all aspects of informality in healthcare. We expect that this workshop will bring in researchers with experiences in different kinds of informal healthcare communication beyond those depicted here. We also welcome all forms of healthcare studies that are beyond hospital work.

**Workshop Goals**

In this workshop, we focus on exploring the informal aspects of communication behaviors in medical work. We will gather CSCW researchers and healthcare practitioners who study healthcare practices to discuss informal communication in different medical settings. We will brainstorm ways of understanding, designing for, and theorizing about the critical aspects of communication behaviors and their characteristics in healthcare practices. Specifically, we aim to:

• Provide an opportunity for researchers, designers, and practitioners in CSCW, medical informatics and related fields, to share and learn from each other’s experiences.

• Understand behaviors, strategies, and tools used in facilitating informal communication in health practices.

• Characterize informal health communication and identify its different types in medical settings.

• Theorize about informal health communication and discuss its implications for CSCW community.

• Brainstorm new solutions that can mediate and support informal aspects of health communication.

**Organizers**

**Yunan Chen** is an Assistant Professor in the Department of Informatics, University of California Irvine. She has conducted various research projects in examining the use of EMR systems in clinical settings,
as well as studying the information behaviors about chronic patients at home settings. Her current work investigates the use of a PHR system in mediating patient-provider interactions that occur across clinical and non-clinical settings.

**Charlotte Tang** is an Assistant Professor in the Department of Computer Science at the University of Michigan-Flint. Her research included investigating technology support for nurses’ communication in clinical settings, collaborative use of EMR, transition from a paper to electronic medical record system, patients’ transition from hospitals to primary care, and the design of an online cognitive assessment tool for prescreening dementia to be self-administered at home.

**Xiaomu Zhou** is an Assistant Professor in the School of Communication and Information, Rutgers University, New Brunswick, NJ. Through extensive field studies, she has examined clinical documentation practice (prior and after EMR and CPOE adoption) with a special focus on how clinicians handle patients’ psychosocial information. Her current research extends to understanding how patients communicate with clinicians through a patient portal system and exploring how information systems can be better designed to support this communication process.

**Aleksandra Sarcevic** is an Assistant Professor at the College of Information Science and Technology at Drexel University, Philadelphia, PA. She has conducted a series of field studies at several emergency departments and Level 1 trauma centers to examine collaborative work of trauma resuscitation teams as they treat severely injured patients. Through the analysis of communication, collaboration, and decision making, Aleksandra aims to identify inefficiencies in the resuscitation process and opportunities for technology support.

**Soyoung Lee** is a PhD student in the Department of Informatics, University of California Irvine. She has conducted a field study in an emergency department (ED) to investigate nurses’ communication in patient care team collaboration. Her current research examines various coordinating roles in ED patient care collaboration.

**References**


