
Emotion as a Type of Informal Communication in Healthcare

Elizabeth Eikey

College of Information Sciences and Technology
Pennsylvania State University
323 IST Building
University Park, PA 16802
exe145@ist.psu.edu

Madhu Reddy

College of Information Sciences and Technology
Pennsylvania State University
321J IST Building
University Park, PA 16802
mreddy@ist.psu.edu

Erika Poole

College of Information Sciences and Technology
Pennsylvania State University
321E IST Building
University Park, PA 16802
epoole@ist.psu.edu

Abstract

In an attempt to facilitate communication and coordination, technology systems such as the Electronic Medical Record (EMR) and the Computerized Physician Order Entry (CPOE) have been implemented in many healthcare settings. However, these systems neglect information communication and its impact on collaboration among healthcare teams. Emotion, which influences decision-making and collaboration, can be viewed as a type of information communication. This paper argues the need to study emotion as informal communication. Studying patients' and clinicians' emotions can help us better understand the highly collaborative nature of healthcare teams and the impact of current technology.

Author Keywords

Healthcare teams; emotion; informal communication; collaboration; EMR; CPOE

ACM Classification Keywords

H.5.3. Group and Organization Interfaces: Collaborative computing, Computer-support cooperative work

Introduction

As humans, we feel and perceive emotions daily. It would be unrealistic to say that emotion plays no role in the workplace. Despite this, emotion has often been

seen as inappropriate in organizations and has been largely left out of workplace studies [10]. Not only is emotion in medical work practices often ignored, but also emotion in other organizations has been neglected [7].

Given their spontaneity and intensity, healthcare facilities are especially laden with emotion, yet the role that emotions play in these collaborative environments is often ignored [7]. Emotions are part of the decision-making process and thus should be treated as an integral part of healthcare work practices. Emotion expression can create shared mental models among team members and can also function as a call to action [7].

However, in formalized systems like the Electronic Medical Record (EMR) and Computerized Physician Order Entry (CPOE) emotional content is not captured [7]. The literature suggests a number of issues regarding EMR and CPOE; they are too linear [3, 5, 8], disrupt workflow [1, 3, 5, 8] and support only permanence [4, 7, 11]. In addition, these systems leave no place for emotional and psychosocial information that may be extremely valuable [4, 7, 11].

While these types of technologies aim to facilitate communication and coordination, they neglect informal communication and workflows. Without systems that support informal communication necessary for collaboration in healthcare, workers develop workarounds and use transitional artifacts [2, 3, 5, 10]. Emotions are a type of informal communication but are not supported by current tools.

At minimum, there is a need to recognize emotions and support informal communication. This paper primarily covers two themes: patients' emotion [11] and clinicians' emotion [7].

Studying emotion as informal communication can help us better understand its importance in facilitating collaboration among healthcare teams and development of supportive technology.

Emotions as Informal Communication

Emotions can be viewed as informal communication in two ways: sharing emotional or psychosocial information about a patient and signaling emotion among workers.

For example, in studying the transition to CPOE, Zhou et al. found that healthcare workers often used emotional (and what some may consider judgmental) terms to create a vivid picture of patients [11]. To share information among each other, nurses often recorded subjective terms like "needy" for certain patients [11]. Based on these terms, nurses would approach and interact with patients differently [11]. Unfortunately, with the formal, permanent records in CPOE, nurses were wary to input these kinds of terms and did not include this type of information despite its value [11].

Not only is relaying emotional information regarding patients important to coordinate among doctors and nurses, but also recognizing emotion among healthcare workers is also crucial. Since we display and perceive emotions, we use them as signals to others to help us or to leave us alone. Helping other workers complete a task is one the primary reasons to collaborate in

healthcare settings. Mejia et al. [6] found that giving and seeking help was the in the top 3 types (of 9 identified types) of interactions among physicians and medical interns. Some of this collaboration occurs because of emotional signaling.

For instance, in the work of Mentis et al. [7], one emergency room nurse gained composure after an emotional episode, and others asked her if they could help ease her load. Her emotions acted as a cue for assistance that others easily noticed. This type of signaling happens often and in different ways. We display emotion with our body language, our facial expressions, and even our tone of voice.

Discussion

It is important to consider emotion as a type of informal communication because emotion in and of itself tells us something. A prime example is that of an infant. When humans are first born, they cannot speak and their vision and movements are limited. However, they communicate with their caregivers by expressing emotion. As we get older and develop language skills and other ways to communicate, we still express and recognize emotion.

Emotion affects how we interact with other people and technology. From a sociotechnical perspective, emotion is a key factor in workplace interactions. Healthcare is no exception.

Healthcare workers are expected to use technologies that are supposed to ease their workload, facilitate collaboration, create accurate records, deliver safe medical care, and keep patients' information secure. Often times patients' emotions and the clinicians'

emotions influence how workers interact with other workers, patients, and technical systems. Yet during system development, emotions are not considered. Especially in healthcare, where patients are often faced with intense circumstances, emotions are prevalent, act as important signals, and influence collaboration and technology use.

Based on the importance of understanding emotions as a type of informal communication in collaboration among healthcare teams, I would like to discuss the following questions with workshop participants:

- How does emotion expression facilitate collaboration and coordination in healthcare environments?
- How does emotion influence the use of workarounds and transitional artifacts?
- What ways can healthcare systems support or at least recognize emotional and psychosocial information?

Conclusions

In summary, emotions are prevalent yet often ignored throughout healthcare studies [7]. When workers share information about patients' emotions, they provide each other with valuable information that may help decide how to interact with a patient. This information is missing from formal medical systems. In addition, emotions also function as signals that can solicit collaborative behaviors. Current technologies do not support this type of informal communication necessary to healthcare. To better understand the highly collaborative nature of healthcare teams, CSCW can bridge these gaps by studying emotion as informal communication.

References

- [1] Aarts, J. et al. 2007. Extending the understanding of computerized physician order entry: implications for professional collaboration, workflow and quality of care. *International Journal of Medical Informatics*. S4–S13.
- [2] Ash, J. et al. 2007. The extent and importance of unintended consequences related to computerized provider order entry. *Journal of the American Medical Informatics Association*. 14, 4, 415–423.
- [3] Chen, Y. 2010. Documenting transitional information in EMR. *CHI 2010* (Atlanta, Georgia, 2010), 1787.
- [4] Green, S.D. and Thomas, J.D. 2008. Interdisciplinary collaboration and the electronic medical record. *Pediatric Nursing*. 34, 3, 225–240.
- [5] Harrison, M. et al. 2007. Unintended consequences of information technologies in health care—an interactive sociotechnical analysis. *Journal of the American Medical Informatics Association*. 14, 5, 542–549.
- [6] Mejia, D. et al. 2007. Supporting informal co-located collaboration in hospital work. *Groupware: Design, Implementation, and Use*. 255–270.
- [7] Mentis, H. et al. 2010. Invisible emotion: information and interaction in an emergency room. *CSCW 2010* (Savannah, Georgia, 2010), 311–320.
- [8] Niazkhani, Z. et al. 2009. The impact of computerized provider order entry systems on inpatient clinical workflow: a literature review. *Journal of the American Medical Informatics Association*. 16, 4, 539–49.
- [9] Schoville, R.R. 2009. Work-arounds and Artifacts During Transition to a Computer Physician Order Entry. *Journal of Nursing Care Quality*. 24, 4 (2009), 316–324.
- [10] Star, S. and Strauss, A. 1999. Layers of silence, arenas of voice: The ecology of visible and invisible work. *CSCW*. 8, 9–30.
- [11] Zhou, X. et al. 2009. I just don't know why it's gone: maintaining informal information use in inpatient care. *CHI 2009* (Boston, Massachusetts, 2009), 2061–2070.