Technology Innovation in the Health Center: On-Site Self-Service Technology and the Patient Experience

Millie A. Harrison, M.A., Doctoral Student, Moody College of Communication, millieharrison@utexas.edu | 256.762.3143

Nicole Murry, RN, BSN, Doctoral Candidate, School of Nursing

Ana L. Herrera, M.P.H., Doctoral Student, College of Education

Keri K. Stephens, Ph.D., Associate Professor & Associate Director, UT Center for Health Communication, Moody College of Communication

Terri Sabella, RN BSN, JD, Doctoral Student, University of Texas Health Science Center Houston, School of Public Health - Management, Policy, and Community Health, and Chief Operating Officer & Chief Nursing Officer CommUnityCare

Purpose: Self-service technologies (SSTs) are part of the everyday experience. On a normal day, you may visit the ATM, go through the express self-service check out at the grocery store, or utilize the bag-check kiosk at the airport. In recent years, SSTs have been incorporated into health centers across the country, but the utility and impact of these on-site technology services have yet to be explored. Thus, using a grounded theory approach, our study aims to understand the following: (1) factors that affect decisions to use healthcare SST; (2) patient perceptions of healthcare SST; and (3) consequences of healthcare SST use.

Keywords: self-service technology (SST); technology acceptance; uses and gratifications; meaningful use; health information technology

This study develops a comprehensive understanding of the use, perceptions, and impact of self-service technologies (SSTs) in a healthcare organization. SSTs are technologies that allow consumers to complete a service task independently (Dabholkar & Bagozzi, 2002). SSTs have been explored, using quantitative methods, in many service organizations, such as banks (Curran & Meuter, 2005), supermarkets (Wang, Harris, & Patterson, 2012), and airports (Abdelaziz, Hegazy, & Elabbasy, 2010; Liljander et al., 2006; Meuter et al., 2003). However, SSTs have yet to be explored in a healthcare context, despite their growing presence. Thus, there is a clear opportunity for researchers to explore SSTs in a health context and gain in-depth knowledge of the process and meaning of SST use.

Our research aims are threefold: (1) Identify factors that affect decisions to use the healthcare SST; (2) Understand patient perceptions of the SST; and (3) Ascertain the consequences of using the SST. While the goal of qualitative research is to develop new theory (Charmaz, 2006), our study is grounded in the technology acceptance model (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989; Venkatesh & Davis, 2000), the unified theory of acceptance and use of technology (Ventakesh, Morris, Davis, & Davis, 2003), uses and gratifications theory...
(Katz, Blumer, & Gurevitch, 1973), and uncertainty management theory (Brashers, 2001; Brashers et al., 2000).

Our project will occur at CommUnityCare, a local federally qualified health center (FQHC), with over 20 sites of service that has implemented check-in kiosks in their patient waiting rooms. To accomplish the research aims, our team will utilize a grounded theory approach (Charmaz, 2006; Strauss & Corbin, 1990), which seeks to explain social processes by relying on an inductive analysis of participants’ experiences. This approach helps the researchers be open-minded, informed, and aware of the research phenomena (Donovan-Kicken et al., 2011). Our data collection entails field observations followed by patient interviews. First, our team will observe the patient waiting rooms and collect ethnographic field notes to gain an initial understanding of patients’ experience with and reactions to the kiosks. This information will also help us refocus and recalibrate our interview protocol if needed. Next, our research team will interview 20 CommUnityCare patients for approximately 45 minutes each to clarify and elaborate on our observational findings.

The data analysis phase will follow a constant comparative approach, which involves iterative investigation of themes that materialize in the data (Charmaz, 2006; Glaser & Strauss, 1967; Strauss & Corbin, 1990). We will begin with initial coding, where we review observational notes and transcripts line by line and delineate concepts and categories (Charmaz, 2006). Next, our team will conduct a round of focused coding, where we review the most significant initial codes, compare data to data, then compare data to our codes to polish our preliminary categories (Charmaz, 2006). We will then conduct theoretical and axial coding to extract interconnected relationships among the categories discovered (Croucher & Cronn-Mills, 2015; Glaser & Strauss, 1967; Strauss & Corbin, 1990). In the selective coding phase, our team will unify concepts into core themes (Corbin & Strauss, 1990). The conceptual categories we develop will follow Owen’s (1984) criteria of recurrence, repetition, and forcefulness. Data will be continuously collected and analyzed until our team is confident we have reached data saturation (i.e., no new themes or concepts emerge; Glaser & Strauss, 1967).

By conducting a qualitative analysis to answer our research aims, our team can help CommUnityCare and enrich scholarship in three primary ways. First, our findings can inform the design of the check-in kiosk and future SSTs implemented in CommUnityCare sites, as well as inform the introduction of patient-facing technology in similar healthcare environments. Second, our findings can serve as important baseline information for staff and patient education. Thoughtful implementation with staff training and educational materials for patients can facilitate a smoother check-in workflow and stimulate more meaningful use of the SST. Finally, our study will generate new considerations for patient-centered communication and care. As patient care is no longer centered around human-to-human contact (Chowdhury et al., 2014; Finney Rutten et al., 2014), scholars must be vigilant in keeping the “human” element intact and uncovering patient-centered technology approaches.


