

eAppendix: Detailed Methodology for Qualitative Analysis

Study inception and design

The inception of this qualitative study came from a quality initiative (originally stemming from our institutions stage two *meaningful use* attestation related to patients accessing their medical record information after an inpatient stay via a patient portal) to improve the communication between hospital providers and patients and family. This quality initiative included a Lean customer value discovery process designed to surface the breadth of information that patients and family members desired in the hospital setting. (Blanks S. *The Four Steps to the Epiphany: Successful Strategies for Products that Win*. 5, illustrated ed: K & S Ranch 2013) During this process, semi-structured interviews were conducted on 41 hospitalized patients and/or their family members. The project was approved by the authors' institutional review board.

Selection of participants

Participants were selected from a convenience sample of patients on the medical nursing units from November 2014 to February 2015. Patients who were too ill participate and did not have a family member present and/or did not speak English were not interviewed. Because this study was intended to gain the perspectives of all of the individuals who might access a patient's medical records – including a patient's caregiver and/or family member – both patients and family members were invited to participate in the interview and included in the data analysis. Participants were recruited until the study investigators, who met periodically during the data collection period, determined that there was saturation in the answers to the open ended questions and there were no new concepts discovered.

Interview structure and data collection

Because the project's goal was to determine how patients and family could be better engaged in accessing information using a patient portal during a hospital admission, patients and family were inherently viewed as consumers of health care and hospital communications. Therefore, the interview structure and design was based in the Lean customer discovery process, which typically views the participant as a consumer, and identifies the breadth of commonalities

of what participants want in a particular product. The interviews were semi-structured, beginning with an open-ended question, “What do you want to know while you are here in the hospital?” The interviewers listened to the participants’ responses and then asked probing questions to give the participants a full chance to discuss any thoughts/concepts that they might be able to contribute. If there was a concept that was not well-understood or fully fleshed out, the interviewer would give the participant additional opportunities to fully convey their thoughts. While it may not have been possible to avoid interviewer bias all-together, the interviewers paid particular attention to listen to the participants responses and not interject any of their own opinions into the discussion.

The interviewers (KL, KN, and DW) approached patients in the patients’ room on the medical ward and gained permission to talk to either the patient or the family member in the patient room. The interviewers took notes during the interviews, making sure to capture all pertinent concepts and perspectives. The notes were then transcribed into discrete concepts by one of the investigators (KN) and were available and referenced during the coding.

Analysis

A qualitative analysis was performed on the de-identified discrete concepts. Three of the study investigators (KL, KN, and MW) participated in the coding. The discrete concepts were coded into themes and sub-themes by 2 of the coders. If there was agreement, then the concept was coded as such. Discrepancies were discussed, with the potential of the third coder as a tie-breaker. The original notes were available for reference, when needed. The investigators noticed data saturation after approximately two-thirds of the concepts were coded. However, the remainder of the concepts were coded to ensure thoroughness. A fourth investigator (DW) reviewed the data for any gross inconsistencies and to ensure that notes did not include any concepts that were inappropriately coded.