Background

Telemonitoring can be considered a subdivision of telemedicine that involves the use of audio, video, or other telecommunication technologies to monitor a patient status at a distance. While the exact components of telemonitoring systems vary depending on their purpose, most incorporate five components: data acquisition using an appropriate sensor, transmission of that data to a clinician, integration with other data describing the state of the patient, determination of an appropriate action, and data storage. Home telemonitoring utilizes this approach to monitor the condition of a recently discharged or chronically ill patient to detect changes in their health status early while they remain at home.

In the studied program the patient is provided with a body weight scale, a sphygmomanometer and a central telemonitoring device. This device is a stand-alone box which reminds patients to complete their recordings, collates data, and asks a series of questions about symptoms. This information is then sent to a central server where it is processed. Patient data is compared against parameters set by healthcare practitioners and, if any readings are abnormal, the system activates an alert. The alerts generated by the system are then reviewed by a healthcare provider and triaged based on the severity of the patient’s condition, with follow up care ranging from a phone call to a visit from a provider.

Methods

The goal of this study was to describe the lived experiences of nurses involved with the daily operation of telemonitoring systems in a homecare setting, and examine their perceptions of what makes telemonitoring a beneficial addition to patient homecare from a phenomenological framework.

Data was collected from a total of 4 participants via individual 20-40 minute interviews at a time and place of their choosing. Participants were asked to respond to 16 questions from an IRB approved questionnaire designed to describe their personal experiences with home telemonitoring, and responses were audio recorded for later reference. Participants were recruited via email and flier from South County Home Health Service in Wakefield, RI. Eligible participants were limited to Registered Nurses (RN) currently working in homecare. Each of the nurse’s responses was analyzed for common themes and insights.

Central Themes

CHF and COPD Patients - Nurses found that telemonitoring is most commonly and most effectively used with CHF and COPD patients

Early Detection - Throughout the interviews, all nurses repeatedly identified early detection and intervention as the primary functional mechanism behind telemonitoring

Prevent Re-hospitalizations - Nurses found that in their experience telemonitoring reduced the number of patient re-hospitalizations

Coordination of Care - Three out of the four nurses interviewed also identified coordination of care and expedited communication between patient and providers as a significant secondary benefit of home telemonitoring

Prioritization - Trends in collected telemonitoring data assisted the interviewed nurses in prioritizing patient care

Patient Anxiety - All of the nurses interviewed described severe anxiety experienced by some patients while using the system. Either from unfamiliarity with the technology or disruption of daily routine

Need for Continuing Support - Continuous coaching by homecare nurses and frequent telephone contact with dedicated telehealth RN was identified as integral to the effectiveness of home telemonitoring by the nurses interviewed