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Mobile Video Monitoring to Reduce Falls and Sitter Usage

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Mobile Video Monitoring to Reduce Falls and Sitter Usage

Submitted in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice
at Eastern Kentucky University

By

Jennifer Forman

Nicholasville, KY

2019

Abstract

In the United States between 700,000 to 1,000,000 people fall in hospitals each year. Reducing patient falls in the inpatient setting remains a challenge for many acute care hospitals. Inpatient falls can lead to serious injuries such as fractures and internal bleeding. Fall-related complications can lead to increased hospital stay, prolonged rehabilitation, and increased healthcare costs. Inpatient falls are considered preventable. One intervention commonly used to prevent falls and keep patients safe is the use of an in-person sitter or a patient safety companion (PSC). However, sitters are very costly and considered a variable staffing resource. The need for a sitter can be difficult to predict and adequately staff. Many organizations are looking for ways to reduce sitter usage and costs. Research suggests reducing sitter use does not negatively influence patient fall rates and fall with injury rates. An alternative solution to reduce sitter usage is mobile video monitoring. Mobile video monitoring is an innovative tool that has been shown to significantly reduce healthcare cost and reduce patient falls and falls with injury. The purpose of this project was to implement mobile video monitoring to decrease fall incidences, fall with injury incidences, and decrease sitter usage and costs. Demographic data, sitter hours, falls, and fall with injury incidences were collected. Results indicated no significant difference in falls and falls with injury with use of mobile video monitoring versus an in-person sitter. Sitter hours and sitter costs decreased with use of mobile video monitoring during the 44 day pilot.

Keywords: mobile video monitoring, fall rates, hospitalized patients, companion, sitter, sitter usage

Mobile Video Monitoring to Reduce Falls and Sitter Usage

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Mobile Video Monitoring to Reduce Falls and Sitter Usage

Background and Significance

Problem Identification

In the United States between 700,000 to 1,000,000 people fall in hospitals each year (Agency for Healthcare Research and Quality [AHRQ], 2013). Inpatient falls can lead to serious injuries such as fractures and internal bleeding. Falls are the number one cause of injuries and deaths among the older population (Center of Disease Control and Prevention [CDC], 2016). From 2007 to 2016, fall related deaths increased by 31% in older adults (Burns and Kakara, 2018). Fall-related complications can lead to increased hospital stay, prolonged rehabilitation, and increased healthcare costs. In addition, falls can cause the fear of falling phenomenon that can lead to further complications such as “muscle weakness, contractures, postural hypotension, and thrombogenic events” (Roza da Costa et al., 2012, p. 1).

One commonly used intervention used to prevent falls is the use of a one-on-one sitter or patient safety companion (PSC). A sitter is defined as “a mean to provide direct observation of patients for the purpose of providing a safer environment for the patient” (Harding, 2010, p.330). However, sitters are costly and considered a variable staffing resource (Burtson & Vento, 2015). At one organization, the annual sitter cost of one fiscal year was \$3,197,515 (Burtson & Vento, 2015). At another organization, the cost of providing a sitter twenty-four hours a day for an average of ten patients per day, per year cost was \$2,004,080 (D. Vela, personal communication, May 22, 2018). The need for a sitter can be difficult to predict and adequately staff. More often, bedside nursing care technicians (NCTs) are pulled from their regular patient assignment to sit one-on-one with a patient that requires a sitter, which makes the unit short staffed and increases the risk of harm to more patients.

Context of Problem

In the inpatient setting, patients are at risk for falls due to multiple factors such as physical mobility issues, physiological changes associated with their medical condition, complicated medication regimen, surgery and other procedures that can cause weakness and unsteadiness (The Joint Commission, 2015). In addition, being in an unfamiliar environment places the patient at risk for falls. There is widespread believe that sitters reduce falls, however, current evidence suggest sitters to be an ineffective and inefficient safety intervention (Burtson & Vento, 2015).

Scope of the Problem

According to AHRQ (2013), research suggests that approximately one third of falls are preventable. Fall prevention strategies include identifying the patient at risk for a fall, identifying fall risk factors, adjusting to the hospital's physical environment, and having a multidisciplinary approach to keep patients safe. In a survey of nurse managers, sitters were used 68% of the time for fall prevention, yet the evidence does not support this intervention as being effective in reducing falls (Lang, 2014). One report indicated that the annual sitter cost in the United States can range up to \$3 million (Jeffers et al., 2013).

Consequences of the Problem

On average 30-50% of falls result in injury (The Joint Commission, 2015). The average cost associated from a fall with injury is estimated to be \$30,000 (Center of Disease Control and Prevention [CDC], 2016). Reports indicate that a fall with injury can increase hospital length of stay by 6.3 days (The Joint Commission, 2015). Inpatient falls occur at a rate of two to seven falls per 1000 patient days. In five percent of these cases, serious injury was reported (Brown et al., 2013).

Due to lack of availability of sitters, a staff member is often pulled from their regular assignment to provide companionship. Frequently pulling staff from their assignment can lead to

negative job satisfaction (Bradley, Smith, & Rice, 2016). Due to high sitter usage and costs, many organizations are looking for innovative measures to optimize staffing and to keep patients safe.

Evidence-based Intervention and Project Purpose

The evidence-based intervention was implementation of mobile video monitoring for patients who required one-on-one companionship in the inpatient adult setting. Mobile video monitoring technology utilized mobile video cameras with two-way audio capabilities that could be deployed up to twelve locations and monitored remotely by a trained monitor technician from a centralized monitoring station. The purpose of this project was to implement mobile video monitoring to decrease fall incidence, fall with injury incidence, and decrease sitter usage and sitter cost.

Theoretical Framework

Lewin's Theory of Change provided the conceptual framework for the mobile video monitoring project. Kurt Lewin, known as the father of social psychology, developed the Lewin's Theory of Change, which is often highlighted in nursing literature today (Shirey, 2013) (Lewin, 1947). The structure and steps of the theory promote the avoidance of common pitfalls associated with change and helps drive successful change initiatives (Shirey, 2013). There are three steps to Lewin's change theory.

The first step is "unfreezing" (Lewin, 1947). This step highlights that an issue or problem exist. According to Shirey (2013), the first step involves getting ready for a change utilizing a change agent that recognizes a problem and the need for change. During this phase, the need to reduce patient falls and sitter usage was identified. A group of nursing leaders were tasked by executive leadership to identify an innovative solution to decrease sitter usage, decrease falls, and to get the NCTs back to the bedside to care for a regular patient assignment. The solution

was to apply mobile video monitoring as a tool to prevent falls, decrease sitter usage, and optimize staffing.

The second step is the “changing” or “moving” phase that will demonstrate the benefits of the change and “decrease the forces that affect change negatively” (Wojciechowski et al., 2016). According to Shirey (2013), this step “entails looking at the change as a process rather than an event” (p. 70). The “changing” step is often considered the most difficult step because of fear and uncertainty often associated with change. This step involved the planning for the implementation of mobile video monitoring. Implementation included key clinical and technical factors. This phase also included the development of the policy, processes, and workflow.

The final step is “refreezing”, which is integrating and stabilizing a new equilibrium into the system so it becomes habit and resists further change” (Wojciechowski et al., 2016, p. 1). Lewin’s theory of change identifies driving forces and restraining forces; these are positive forces for change and obstacles identified for change. According to Shirey (2013), during this phase, the change demands stabilization so that it is embedded into the culture, policies, and practice.

Review of Literature

A systematic review of the literature was performed focusing on the use of the mobile video monitoring, fall reduction, and sitter usage reduction in the inpatient hospital setting. The following databases were used to search for relevant literature: the Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medline, PubMed, and the Cochrane Collaboration. Keywords used in an initial search of these databases included: mobile video monitoring, fall rates, fall reduction, hospitalized patients, companionship, sitter, and sitter usage. Eight articles of relevant literature were reviewed.

Relevant Research

Burtson and Vento (2015) conducted an evidence-based project using a pre- and post-implementation design. The project occurred at a 595 bed Magnet® facility, on nine acute care units. The purpose of the project was aimed to reduce sitter-staffing costs and outperform national benchmark compare groups regarding nurse sensitive indicators: staff effectiveness, falls, falls with injury, and restraint usage. The project included the implementation of mobile video monitoring and the development of a nurse-driven sitter protocol. Post implementation, the findings demonstrated a 23.9% reduction in sitter staffing or 16 full-time equivalents (FTEs) in the first year. By the second year, a 53.6% reduction in sitter staffing hours or 33.9 FTEs resulted with a cost savings of \$1,718,823 dollars. In addition, the organization was able to outperform national benchmark in staffing effectiveness in seven of eight quarters post implementation. In regards to falls, falls with injury, and restraint usage, the organization outperformed or equaled compare groups. The results showed that the organization met six of eight quarters for falls per 1,000 patient days; for falls with injury per 1,000 patient days, the organization met six of eight quarters. Restraint rates were 4.7% lower compared to baseline rate of 6.7%.

Jeffers et al. (2013) conducted an evidence-based project using LEAN methodology and a pre- and post- implementation design. The project implemented a centralized video monitoring program at a 595-bed acute care facility. The purpose of the project was to use an innovative approach to address organizational demands to improve patient safety and reduce operational expenses regarding sitter usage. The project occurred on one pilot unit and consisted of implementing a centralized video monitor unit to reallocate one-on-one sitters to video monitoring technicians, which were capable of monitoring eight-ten patients at a time. After the implementation of centralized video monitoring program, the results demonstrated the prevention of 57 falls, seven oxygen therapy disruptions, and ten intravenous catheter removals. The program had positive unintentional effects such as the prevention of having two patients use

an in-room sitter and subsequently facilitated placement to a skilled nursing facility. The nursing staff expressed their appreciation of having additional eyes on the patient at all times. Additional findings included a reduction in sitter usage and costs with a savings of 2.02 million dollars over a year and a half and return on investment of \$381,323.

In a prospective descriptive study, Votruba, Graham, Wisinski, and Syed (2016) determined that video technology is a safe and effective instrument in reducing patient falls and decreasing sitter cost. The aim of the study was to evaluate the effectiveness of remote video monitoring and a dedicated monitoring technician or Telesitter, in order to reduce falls and sitter usage in the inpatient adult population. The study took place at a Magnet® designated, 350-bed urban not-for-profit facility on three adult inpatient units which includes a critical care/intermediate unit, a neuroscience unit, and a senior adult unit. Results from the study demonstrated a 35% decrease in patient falls from 85 to 53 falls in a nine-month period. During the study period, 13 out of 828 patients experienced a fall (1.6%). The study findings reported a reduction in sitter hours from 1930 to 1735 hours per month during the study period.

In a sequential cohort design study conducted by Cournan, Fusco-Gessick, and Wright (2018), fall rates and sitter cost were compared before and after implementation of a video monitoring system. The study was conducted at a 115-bed rehabilitation facility on a 31-bed brain injury unit. The study included implementation of a video monitoring program, which included the development of monitoring criteria, training, and implementation. Results comparing pre and post implementation of video monitoring demonstrated a reduction in fall rates from 10.26 falls per 1,000 patient days to 6.87 falls per 1,000 patient days which was statistically significant; $t(18)=2.647, p=0.016$. In addition, hospital wide fall rates decreased from 6.34 falls per month to 5.09 falls per month ($SD=1.75$) which was statistically significant at $t(31) = 2.043, p=.0496$. There were 28 patient falls in areas where video monitoring was implemented, this occurred over 3,641 patient days. Compared to 37 patient falls for

nonmonitored patients, which occurred over 5,788 patient days during the same 12-month period. Results demonstrated over a 12-month period, a cost savings of \$186,120 on one-to-one sitter usage.

Lang (2014) conducted a review of the literature in regards to sitter usage and falls. The search terms used for this review included fall and sitter, fall and nursing assistant, fall and companion, and fall and constant observation. Articles between 1995 and 2013 were reported. Initial search yielded 287 records after the duplicates were removed. After applying the inclusion/exclusion criteria, twelve studies were reviewed. Six were level IV level of evidence articles and six were level V. Key findings from the review suggest few studies demonstrated a link between increased sitter use and a reduction in falls in hospitalized patients. Sitter reduction studies show no link between increased falls and decrease in sitter usage. Nursing must continue to use their judgement to prevent falls in hospitalized patients, especially if staff is pulled from regular assignment to sit with a patient, which may put other patients at risk for injury. If a sitter reduction program is implemented, there must be clear guidelines for sitter use and discontinuation. There must be a formal education program for sitters regarding their responsibilities and role expectations.

In a descriptive evidence-based practice study conducted by Adams and Kaplow (2013), a sitter reduction program was implemented into a large, four hospital system with over 1,000 beds and over 100 intensive care unit beds. The goal of the program was to reduce sitter use by 50% without negatively influencing quality indicators, such as falls and restraint use. The program first identified a “sitter stop” date. The program investigated all sitter alternative equipment needs and implemented the alternatives. Education on the sitter alternatives and indications for use was provided. In addition, the organization’s policies were updated to reflect the elimination of sitters and this change was communicated effectively. Results from the study demonstrated sitter usage reduction by >50% and expenditure dropped from \$477,561.86 to

\$91,991.27. The severity of injuries from falls decreased, fall rate did not increase, and restraint use continued to meet target. Overall, the sitter reduction program was successful in reducing sitter costs without negatively influencing quality indicators.

Harding (2010) conducted a review and cost analysis of sitter usage and the relationship in fall rates and patient volume. Pre-intervention, the sitters were contained in a centralized cost center that permitted one manager to oversee the cost, instead of the individual unit managers. In addition, the need for sitters exceeded the number of employees hired for this position, which resulted in other staff members to act in this role at a higher hourly rate, contributing to higher sitter cost. The intervention included a new pay scale, a thirty-minute educational program regarding the job description and expectations of being a sitter. The findings from this intervention resulted in a 13.4% reduction in the monthly average sitter cost in the first month. The author concluded that direct observation is ineffective and an expensive means of providing patient safety. This case was unable to find a correlation between sitter use and the ability to decrease fall rates, elopements, or assault behaviors.

Bradley (2016) described an overview of benefits and challenges associated with the use of mobile video monitoring and the effects on inpatient falls. Overall, the article supported the use of mobile video monitoring used in conjunction with other fall prevention measure to reduce inpatient falls. Some of the benefits identified in the article included patient safety and fall/injury prevention, potential reduction in sitter costs, and dedicated staff to monitor patients. The challenges described included the need for adequate wireless capability for mobile video monitoring, effective communication between the monitor sitter and bedside staff, and the need for self-directed telesitters for twenty-four/seven staffing.

Synthesis of Research

The overall strength of the review of the literature supports mobile video monitoring technology as an intervention to reduce sitter usage, sitter cost, and fall rates. Similarities of the

reported evidence were found in the studies. The major similarity is the outcome measurement of fall rates in relation to sitter usage. All of the evidence reviewed indicated that fall rates either decreased or did not increase when sitter usage was decreased or eliminated. The evidence suggests mobile video monitoring is an effective tool to decrease inpatient falls and sitter usage. All evidence suggests a significant reduction in healthcare costs related to a decrease in sitter usage. All reports indicated the patient population studied were in the acute care setting with the exception of one, which occurred in a rehabilitation facility.

However, there were differences in the variable measurements in the evidence; five studies indicated the fall rates were measured as the number of falls per 1,000 patient days. Two studies did not indicate the fall outcome measurement, and one study measured falls as the number of falls per discharge. The outcome measurement of sitter usage hours were different among the eight studies. Measurements included (1) monthly sitter hours, (2) sitter full time equivalents (FTEs), (3) sitter shifts per month, and (4) average hourly sitter cost.

The strength of the evidence supports mobile video monitoring as a safe alternative to in-person sitting. The weakness of the reported evidence includes the lack of systematic reviews and randomized control trials surrounding the use of mobile video monitoring to reduce patient falls and sitter usage.

Agency Description

Setting

A level I adult and pediatric trauma center and a level IV neonatal intensive care unit, located in Lexington, KY (UK Healthcare, n.d). UKHC a 954-bed medical and surgical facility comprised of Albert B. Chandler hospital (Pavilion A, Pavilion H, and Pavilion HA), Good Samaritan Hospital, Kentucky's Children Hospital, and Eastern State Hospital. In addition, UKHC has over 80 specialized clinics, 140 plus outreach programs, and a team of 9,000 physicians, nurses, pharmacists and healthcare workers (UK Healthcare, n.d.).

This project took place at the Good Samaritan Hospital location. The Good Samaritan hospital is located at 310 South Limestone in Lexington, KY. The implementation of mobile video monitoring took place on the adult inpatient units: 4 East, a thirty-two bed telemetry unit; 4 West, a twelve bed progressive care unit; 4 ICU, a fifteen bed intensive care unit; 5 East, a twenty-eight bed acute care unit; 6 East, a twenty-three bed acute care unit; and 7 East, a twenty-three bed acute care unit.

Target Population

A maximum of 100 patients (male and female) aged 18 to 90 years' old who were admitted to UKHC with a patient safety companion (sitter) order that met inclusion criteria and none of the exclusion criteria for the mobile video monitoring served as the project population. Inclusion criteria included patients with a history of a fall within the past six months or at risk for fall, patients with behavioral disturbances (dementia, confusion, etc.), patients who wander or who are at risk for elopement, impulsive patients, or any patient the nurse or healthcare team deems not safe that would benefit from the mobile video monitoring. Patients who were homicidal or suicidal, pediatric patients, violent or aggressive patients, patients that were on a legal 72-hour hold, patients with an arterial line or who were intubated were excluded from the mobile video monitoring intervention. Patients that were deaf were excluded from this project due to the inability to hear verbal redirections from the monitor technician.

Congruence of Capstone Project to Organization

The basis of the UKHC Strategic Plan (2015) is patient-centered care, with a primary focus on preventing patient harm, improving patient experience, strategic cultural alignment, and growth in complex care (UK Healthcare, n.d.). UKHC's *No Harm Steering Committee* is committed to reducing hospital-acquired conditions by 30% this fiscal year. A branch of the No Harm committee is the Falls Committee. The Falls Committee was supportive of this initiative to implement mobile video monitoring in order to reduce falls.

Description of Stakeholders

The primary key stakeholders of this project include the patients of the identified nursing units that require a patient safety companion (sitter). Other key stakeholders included:

- The nurses and nursing care technician staff who care for the patient.
- The mobile monitor technicians who will provide the mobile video monitoring.
- The capacity command center who provides patient safety companion staffing.
- The divisional charge nurses who will request and assign patient safety companions.
- Nursing leadership to meet no harm goals and to reduce in healthcare costs.
- The informational technology and clinical engineering departments who install and provide maintenance of the mobile video monitoring equipment.
- The patient care managers and director of the identified pilot units who support this project and who is responsible for the quality of care on the unit.

Statement of Mutual Agreement with Agency

The project lead (PL) and project site were in agreement for the implementation of the mobile video monitoring project. Key nursing leaders from the project site and the PL were co-leads on this DNP project and were provided weekly project updates. See Appendix A DNP site approval.

Project Design

The design of the evidence-based project involved the implementation of mobile video monitoring to include all clinical and technical aspects of the project. This project included a pre- and post- intervention analysis. A sample of 25 inpatients aged 18 to 90 years of age took part in this project. Twenty-five participants that had an order for a sitter who met inclusion criteria received the mobile video monitoring intervention. Patients who met exclusion criteria were provided a PSC. Sitter hours, fall incidence, and fall with injury incidence data was collected.

Project Methods

Description of EBP Intervention

This evidence-based intervention included the implementation of mobile video monitoring for patients who required one-on-one companionship in the adult inpatient setting to determine if mobile video monitoring would have a positive impact on fall incidences, fall with injury incidences, and sitter usage during a 44 day period. Prior to implementation, the nursing staff on the units were educated on the policy and trained on the mobile video monitoring cameras and workflow process by completing a 30-minute web-based training, attending roving vendor in-services, or a clinical champion class. Monitor technicians had a more extensive training which included a 30-minute web-based training on the basics; a one hour web-based training on the software; and one-one training on the monitoring program, documentation flowsheet and policy with special focus on communication.

Patients with an order for a patient safety companion (sitter) who met inclusion criteria were included in the mobile video monitoring intervention instead of having an in-person companion. A mobile video monitoring policy was developed to guide the inclusion/exclusion criteria for patients appropriate for remote monitoring. The policy defined the process of obtaining a mobile unit, the monitoring process, steps for staff notification, troubleshooting, equipment failure, and discontinuing process.

To initiate the intervention, a physician's order was required for a PSC (sitter)/mobile video monitoring. The previous PSC (sitter) order was changed to default to mobile video monitoring unless exclusion criteria was selected. Once the physician placed the order, a copy of the order was sent to the central monitoring station and the staffing office in order to provide either a PSC or mobile camera based on the identified need. The patient's nurse notified the staffing office that a companion was needed. Once the patient was deemed appropriate for

mobile video monitoring, the assigned registered nurse completed a mobile video monitoring admission form, faxed the form to the central monitoring station, and called report.

The next step in the intervention was to deploy the mobile camera to the patient's room by a dedicated runner or unit resources. The camera was placed in the patient's room to allow for best visualization of the patient. The patient and their family were provided education on the use of mobile video monitoring by the assigned registered nurse.

Next, the monitor technician remotely monitored the patient from a different site, the central monitoring station (CMS) which is located on the fifth floor of Albert B. Chandler Medical Center at the University of Kentucky. CMS has the capability to monitor up to twelve patients at once. During the monitoring phase, the monitor technician constantly observed the patient. The monitor technician was able to verbally redirect the patient if suspicious activity or attempts to get out of bed were observed. The monitor technician had the capability to activate a STAT alarm. The STAT alarm is an audio alarm that alerted the staff that the patient was in immediate need or danger and should report to the patient's room immediately. The number of verbal redirects and STAT alarm data were collected and analyzed. If the patient had greater than five redirects in 30 minutes or greater than three STAT alarms in 30 minutes, the patient was removed from mobile video monitoring and provided an in-person sitter. A documentation flowsheet was created for this project to provide the monitor technician a place to document communication with the patient and with the unit staff. Sitter hours, fall incidences, and fall with injury incidences were collected during the duration of this project.

Procedures

IRB Approval

This project was presented and approved by the UKHC Research Council prior to seeking Institutional Review Board (IRB) approval. See Appendix B for Research Council Approval Letter. Once approval was granted from UKHC's Research Council, the PL submitted

an Expedited IRB approval from Eastern Kentucky University (EKU). See Appendix C for ECU IRB approval. After ECU IRB approval was acquired, the PL pursued an IRB Reliance Request from the University of Kentucky (UK). The UK IRB Reliance recognized ECU as the IRB of record.

Measures and Instruments

Three instruments were used for this pilot project: Datix UHC Safety Intelligence report, Sitter Report, and Mobile Safety Companion Data Collection Tool (MSCDC).

Datix UHC safety intelligence report. The first instrument was the utilization of the Datix UHC Safety Intelligence (SI) web-based event reporting and management system, also known as the SI report system. This instrument collected all inpatient fall reports and inpatient falls with injury reports. The SI system is part of a consortium, which includes approximately 116 United States academic medical centers and 283 affiliated hospitals (Datix, 2018). The system has the capability to extrapolate fall data at individual unit level, allowing the fall committee co-chairperson to collect data on the identified pilot units and remove any patient identifiers prior to sharing data with PL. See Appendix D for Datix UHC Safety Intelligence instrument.

Daily fall incidences and daily fall with injury incidences were collected throughout the project implementation. Fall incidences were measured by the actual number of inpatient falls. Permission to collect fall and fall with injury data from the Datix UHC Safety Intelligence system was approved by Dr. Amanda Green, Director of Quality Monitoring and Reporting for UK Healthcare and Rebecca Dotson, Clinical Nurse Specialist and co-chairperson of the Falls Committee. The PL received de-identified data from the fall committee co-chairperson.

Sitter report. The second instrument that was used for this project was the *Sitter Report*. The report was provided daily by the organization's capacity command center. This report was used to collect patient sitter and mobile video monitoring use on the identified pilot units. The

fall committee co-chairperson collected sitter and mobile video monitoring data and removed all patient identifiers prior to sharing data with PL. See Appendix E for a copy of the daily *Sitter Report*.

Daily *Sitter Reports* were collected throughout the project implementation. Sitter usage was measured by the number of hours that a patient required one-on-one companionship or mobile video monitoring. Permission to collect sitter usage data from the *Sitter Report* was approved by Dr. Amanda Green, Director of Quality Monitoring and Reporting for UK Healthcare.

MSCDC. The third instrument used for this project was a self-developed tool called the MSCDC. This tool collected demographic data such as the inpatient unit, date and time mobile monitoring started, reason for mobile safety companion, and date and time mobile monitoring discontinued, the number of STAT alert and verbal redirects, and a place to document any issues or comments. Data was collected by the fall committee co-chairperson and all patient identifiers were removed prior to sharing with the PL. See Appendix F to view *the Mobile Safety Companion Data Collection* tool.

The MSCDC tool was used during the implementation phase of the project. Data was collected for patients requiring use of a mobile video monitoring and a PSC. De-identified data was collated by the PL after project completion. The tool was developed by the PL and did not require permission to use; however, the mobile safety companion project team approved the tool. The fall committee co-chairperson completed the MSCDC tool. The PL provided the training on the tool.

Implementation Framework

The Iowa Model of Evidence-Based Practice to Promote Quality Care is a model used to guide nurses in making decisions about practices that affect patient outcomes (Melnyk & Fineout-Overholt, 2015). Overview of the model consists of seven steps, which includes

identifying triggers through identification of a clinical problem or new knowledge, clinical application to important issues, organizational priorities, forming a team to develop, implement, and evaluate a practice change, piloting a practice change, evaluating the pilot, and evaluating the practice change and dissemination of results.

The application of the Iowa Model of Evidence-Based Practice to the implementation of a mobile video monitoring began with the identification of the need to reduce patient falls and sitter usage. The second step applied the clinical question of whether implementation of a mobile video monitoring will affect fall incidences, fall with injury incidences, and sitter usage. The third step included support from nursing leadership for the project, which aligned with the nursing strategic plan. The fourth step involved the formation of a mobile video monitoring team. The team consisted of the project leads, unit manager, director, clinical nurse specialists, informational technology, clinical engineering, finance partner, vendor representatives, bedside nurses, nursing care technician, central staffing office and monitor technicians from the CMS. The fifth step included the implementation of the mobile video monitoring project. The final steps involved the implementation of the mobile video monitoring on the pilot units, evaluating the process, disseminating the results from the project, and the plan to adopt organizational-wide.

In April 2018, a multidisciplinary team was developed to implement mobile video monitoring with an aim to reduce falls, sitter usage, sitter costs, and to optimize staff of the NCTs. The team conducted a literature search, researched different vendors, went on a site visit to observe mobile video monitoring in use and the operational process. The project team developed a business proposal and presented to nursing leadership for approval. The project was approved on October 30, 2018. Once the project was approved, a policy and workflow design was developed. The team presented the policy and workflow to the nursing practice council, nursing directors, and clinical leadership committee for feedback. The PL presented the proposed project to the UKHC Research council on July 24, 2018. The PL received an expedited IRB

approval on September 31, 2018. After IRB approval was obtained, a project kick off with stakeholders and the vendor took place. The project implementation planning phase was 14 weeks. Week 1 was project kick-off meeting with the vendor. During week 2-14, weekly calls occurred with the vendor and the team regarding the clinical action plan and the technical action plan. The clinical action plan included policy finalization and process development, patient education development, internal awareness development, training week development, and go-live. The technical action plan included technical and specification review, server and client station provisioning, network considerations, support structure, and testing. In addition, the project co-leads met weekly for internal planning and then had a separate weekly meeting with the internal team prior to weekly vendor meetings. Week 13 was onsite technical deployment which included assembling equipment, configuring the network, performing software and equipment testing, conducting training for the information technology department, and setting up the training environment in the software. Week 14 was the onsite educational rollout which included monitor technician training, clinical staff training, ancillary staff training, and roving in-services on the pilot units. Week 14 was practice and project go live week. Patient enrollment in the project began August 15, 2018. The project end date was September 27, 2018. See Appendix G. for the timeline.

Results

The PL entered de-identified data into a codebook which guided data entry into the Statistical Package for Social Science (SPSS) Version 25.0 (IBM Corporation, 2019) for statistical analysis. See Appendix H for Mobile Safety Companion Pilot Codebook. Descriptive statistics were reported on the demographic variables using mean and standard deviation or frequency and percentage, depending on the distribution of data, as appropriate.

A total of 25 participants received mobile video monitoring intervention. As demonstrated in Table 1, the average age for participants who received mobile video monitoring

was 69 years of age (69 ± 14). The majority (60%) of all participants were male. There were six units included in the pilot project. The majority of the participants who received mobile video monitoring were on 5 East ($n=8$) and 7 East ($n=8$) units. Distribution of units where mobile video monitoring occurred is demonstrated in Figure 1. The reasons indicated for mobile video monitoring included: fall prevention ($n=14$), elopement ($n=7$), and harm prevention ($n=4$).

Overall, 28% ($n = 7$) of participants were discharged from the hospital, 8% ($n = 2$) of participants left AMA, and 28% ($n = 7$) were deemed not appropriate for mobile video monitoring. Additionally, 16% ($n = 4$) of participants were removed from mobile video monitoring due to > 5 redirects in 30 minutes per policy and 12% ($n = 3$) of participants were removed from mobile video monitoring due to > 3 STAT alarms in 30 minutes per policy. One participant was removed from mobile video monitoring due to a fall without injury. One participant continued to receive mobile video monitoring after pilot completion. There were 14 (34%) participants on the mobile video monitoring who were transitioned to an in-person sitter.

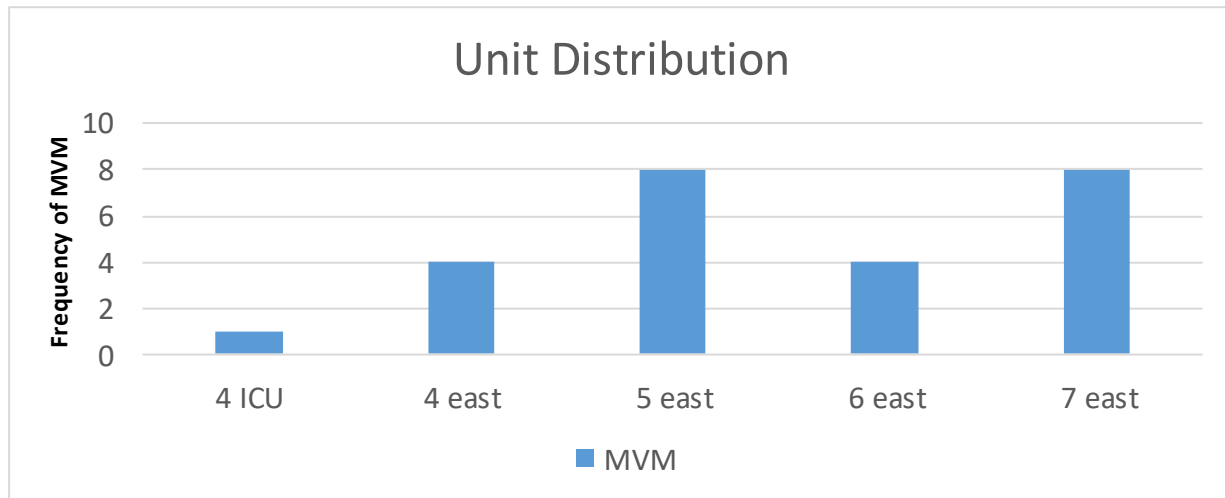
Table 1

Mobile Video Monitoring Variable Frequency

| Variable | Frequency |
|-----------------------------|-------------|
| Age in years ($m \pm SD$) | 69 ± 14 |
| Gender | |
| Male Participants | 15 (60%) |
| Female Participants | 10 (40%) |
| Unit | |
| 4 ICU | 1 (4%) |
| 4 East | 4 (16%) |
| 5 East | 8 (32%) |
| 6 East | 4 (16%) |

| | |
|-----------------------------|----------|
| 7 East | 8 (32%) |
| Reason for Sitter | |
| Elopement | 7 (28%) |
| Fall Prevention | 14 (56%) |
| Harm Prevention | 4 (16%) |
| Reason for camera removal | |
| Discharged from hospital | 7 (28%) |
| > 5 redirects in 30 minutes | 4 (16%) |
| > 3 STAT alarms in 30 min | 3 (12%) |
| Patient left AMA | 2 (8%) |
| Patient not appropriate | 7 (28%) |
| Fall | 1 (4%) |
| Remained on Camera | 1 (4%) |

Figure 1. Distribution of Units Where Mobile Video Monitoring Occurred



The average number of mobile video monitoring hours utilized was 141 hours (141 ± 179). The hours participants remained on mobile video monitoring ranged from 1 hour to 710 hours. The total number of hours participants received mobile video monitoring equaled 3,380

hours. 75% of participants received 186 hours or more. See Table 2 for full description of longevity data.

Table 2

Sum of Mobile Video Monitoring Hours

| N=24 (1 missing) | Frequency |
|------------------|-----------|
| Mean | 140.8333 |
| Std, Deviation | 179.83003 |
| Range | 1-711 |
| Sum | 3380.00 |
| Percentiles 25 | 30.2500 |
| 50 | 59.5000 |
| 75 | 186.0000 |

A pre- and post- analysis on sitter hours and falls were conducted. The pre-implementation period was 44 days prior to the implementation of mobile video monitoring. The post-implementation phase was 44 days after the implementation of mobile video monitoring. An independent sample *t*-test of sitter hours was conducted pre- and post-implementation of mobile video monitoring (Table 3.). In-person sitter hours decreased significantly from pre-implementation (215 ± 340) to post implementation (74 ± 63), $t(41) = 1.63$, $p=.004$.

Table 3

Independent Sample t-test of Sitter Hours Pre- and Post-implementation

| Group | Pre- | Post- | p |
|---------------------|---------------|-------------|------|
| Mean hours \pm SD | 215 ± 340 | 74 ± 63 | .004 |

During the pre-implementation phase, there were zero falls and zero falls with injury for patients that had a one-on-one sitter. During the post-implementation phase, one fall occurred

and zero falls with injury utilizing mobile video monitoring (Table 4). A Fisher's Exact Test determined there was no significant difference in patient falls and falls with injury incidence using mobile video monitoring versus an in-person sitter. (X^2 (1, n=51) 1.148, $p = .471$).

Table 4

Fisher's Exact Test Comparison of Falls and Falls with Injury Pre- and Post-Implementation

| | Pre- | Post- | P |
|-------------------|--------|--------|------|
| Falls | 0 (0%) | 1(4%) | .471 |
| Falls with Injury | 0 (0%) | 0 (0%) | 1.0 |

Discussion

The PL set out to determine how mobile video monitoring would affect fall incidences, fall with injury incidences, sitter usage and cost. The 25 participants who received mobile video monitoring may not be representative of all patients that would receive mobile video monitoring. However, this project highlighted that the use of mobile video monitoring did not have a significant increase in falls and falls with injury when in-person sitters were eliminated, decreased in-person sitter hours by 3,380 hours in 44 days, and had a sitter cost savings in the range of \$38,870 to \$45,224.

On average, participants who received mobile video monitoring were monitored almost twice as long as patients who received an in-person sitter. This difference could be contributed to the wide range of monitored hours seen in the video monitoring group. One patient remained on the camera 711 hours which may have skewed the results. Even though patients who received mobile video monitoring were monitored twice as long, there was one person remotely monitoring the participants at one time, with the ability to monitor up to twelve patients

simultaneously, instead of a 1:1 ratio, mobile video monitoring allows for a 1:12 ratio which is a cost savings to the organization.

The overall outcome of the project indicated that the use of mobile video monitoring is an additional tool to prevent falls, reduce sitter use and organizational cost. In the 44 days prior to implementation of mobile video monitoring, there was a total of 5,814 hours of one-to-one in-person sitter hours utilized. In 44 days post-implementation, there was a total of 3,380 hours of mobile video monitoring. Pre-implementation sitter hours cost the organization \$66,861 to \$77,791, depending on if a PSC or NCT sat one-on-one with the patients. Post-implementation sitter cost decreased to \$38,870 to \$45, 224 with use of mobile video monitoring. These costs were determined by the average PSC salary and average NCT salary provided by the finance department. To counter the cost of the mobile video monitoring equipment, software, and cost of monitor personnel, 2.80 cameras were to be utilized full time. However, during this pilot phase there was an average of 2-3 cameras utilized during this first 44 days. On most days, only 2 of the 12 camera were used due to the large number of patients meeting exclusion criteria. Toward the end of the 44 days, the average increased to 3-4 cameras daily.

Limitations

One limitations to this project included the small sample size. Even though the sample size was small, this limited number of patients receiving mobile video monitoring allowed the monitor staff time to learn and become comfortable with the new monitoring equipment and flowsheet documentation. This small number of participants also allowed the registered nurses on the units to perfect the process and establish trust with the monitoring staff to keep a watchful eye on their patients. Another limitation to this project was the brief timeframe for the intervention; 44 days is not enough time to determine the benefits of the project of this magnitude. The plan is to extend for 90 days and then go-live organizational wide. This extension will allow the PL and project co-leads to evaluate all factors of the project, make

appropriate changes, and focus on hardwiring the process. For the purpose of this project, the first 44 days of a 90-day pilot was evaluated.

Implications

Clinical Practice

Healthcare organizations are tasked with providing safe and efficient care while optimizing staffing. Mobile video monitoring is an additional evidence-based tool to keep patients safe, aid in fall prevention and save organizations money by reducing one-on-one sitter usage. In addition, mobile video monitoring allows NCTs to be utilized at the bedside with a full patient assignment to keep more patients safe. Staff satisfaction may improve by not pulling NCTs from their regular assignment to sit one-on-one. Mobile video monitoring allows for optimization of staff by offering a 1:12 ratio instead of a 1:1 ratio for patient observation.

Quality and Safety

Mobile video monitoring has been shown to be effective in reducing falls and falls with injury. Currently, some organizations are utilizing mobile video monitoring to monitor low and moderate risk suicide patient. The Joint Commission standard indicates that high-risk for suicide patients need to be observed through the use of one-on-one observation from a qualified staff member per one high risk patient (The Joint Commission, 2019). In a retrospective review study, 39 participants who were deemed low risk for suicide received video monitoring instead of a one to one sitter. During the study period there were no adverse events (95% Confidence Interval (CI) = 0.000-0.090) (Kroll et al., 2019). At this time, the project site made the decision not to include mobile video monitoring for suicidal patients. However, utilizing this technology may have future implications on monitoring low and moderate risk for suicide patients.

Sustainability

In order to maintain future sustainability, the mobile video monitoring project will need to result in a significant reduction in sitter usage, patient falls, and offer additional mechanisms

to reduce harm. Other possibilities to reduce harm include use of mobile video monitoring for low and moderate risk for suicide patients and to serve as an observational tool in prevention of staff harm related to workplace violence. The success of the program and sustainability depends on having staff fully engaged, solid policy and workflow process in place, and properly trained staff.

Future Scholarship

Future research is necessary on the impact of utilizing technology to prevent harm. One area of research needed is the use of mobile video monitoring and the impact on mitigating workplace violence. Another topic of interest is the use of mobile video monitoring for suicidal patients in the acute care setting.

Summary and Conclusion

In summary, mobile video monitoring is an additional tool to use in conjunction with other fall prevention measures to decrease inpatient falls and a safe alternative to in-person sitters when appropriate. This pilot project demonstrated support of mobile video monitoring to reduce sitter usage and cost. This project determined there was no difference in patient falls with use of a mobile video monitor versus an in-person sitter. In conclusion, this project was able to save money in personnel costs, decreased sitter usage, and keep patients safe.

References

- Adams, J., & Kaplow, R. (2013). A sitter-reduction program in an acute health care system. *Nursing Economics, 31*(2), 83-89.
- Agency for Healthcare Research and Quality. (2013). *The problem of falls*. Retrieved from <https://www.ahrq.gov/professionals/systems/hospital/fallpxtoolkit/fallpxtkover.html#Challenges>
- Bradley, K. (2016). Remote video monitoring: A novel approach in fall prevention. *The Journal of Continuing Education in Nursing, 47*(11), 484-486.
- Brown, C. V. R., Ali, S., Fairley, R., Lai, B. K., Artherell, J., Walker, M., & Tips, G. (2013). Risk factors for falls among hospitalized trauma patients. *The American Surgeon, 79*(5), 465-469.
- Burns, E., & Kakara, R. (2018). Deaths from falls among persons aged > 65 years-United States, 2007-2016. *Morbidity and Mortality Weekly Report, 67*(18), 509-514.
- Burtson, P.L., & Vento, L. (2015). Sitter reduction through mobile video monitoring: A nurse driven sitter protocol and administrative oversight. *Journal of Nursing Administration, 45*(7/8), 363-369.
- Center of Disease Control and Prevention. (2016). *Costs of falls among older adults*. Retrieved from <https://www.cdc.gov/homeandrecreationalsafety/falls/fallcost.html>
- Center of Disease Control and Prevention. (2016). *Falls are leading cause of injury and death in older Americans*. Retrieved from <https://www.cdc.gov/media/releases/2016/p0922-older-adult-falls.html>
- Cournan, M., Fusco-Gessick, B., & Wright, L. (2018). Improving patient safety through video monitoring. *Rehab Nursing Journal, 43*(2), 111-115.
- Datix. (2018). UHC safety intelligency. Retrieved from <https://www.datix.co.uk/us/news/uhc-and-datix-debut-uhc-safety-intelligence>

Datix. (2018). UK Healthcare safety intelligence. Retrieved from <http://careweb.mc.uky.edu/psn/>

Harding, A. D. (2010). Observation assistants: Sitter effectiveness and industry measures.

Nursing Economic\$, 28(5), 330-336.

IBM Incorporation. (2019). SPSS statistics for windows, version 25.0. Armonk, NY: IBM Corporation.

Jeffers, S., Searcy, P., Boyle, K., Herring, C., Lester, K., Goetz-Smith, H., & Nelson, P. (2013).

Centralized video monitoring for patient safety: A Denver health lean journey. *Nursing Economic\$, 31(6), 298-306.*

Kroll, D. S., Stanghellini, E., DesRoches, S. L., Lydon, C., Webster, A., O'Reilly, M., Hurwitz, S., Alyward, P. M., Cartright, J. A., McGrath, E. J., Delaporta, L., Meyer, A. T., Kristan, M. S., Falaro, L. J., Murphy, C., Karno, J., Pallin, D. J., Schaffer, A., Shah, S. B., Lakatos, B. E., Mitchell, M. T., Murphy, C. A., Gorman, J. M., Gitlin, D. F., Mulloy, D. F. (2019). Virtual monitoring of suicide risk in the general hospital and emergency department. *General Hospital Psychiatry*, In press, 1-6.

Lewin, K. (1947). *Field theory in social science*. New York: Harper and Row.

Lang, C. E. (2014). Do sitters prevent falls? A review of the literature. *Journal of Gerontological Nursing, 40(5), 24-33.*

Melnyk, B., & Fineout-Overholt, E. (2015). *Evidence-based practice in nursing & health care. A guide to best practice (3rd ed.)*. Philadelphia: Lippincott Williams, & Wilkins.

Roza da Costa, B., Wilhelmina, S.R., Mendy, A., Freund-Heritage, R., & Vieira, E. R. (2012).

Can falls risk prediction tools correctly identify fall prone elderly rehabilitation inpatients? A systematic review and meta-analysis. *Public Library of Science, 7(7), e41061.*

Shirey, M. R. (2013). Lewin's theory of planned change as a strategic resource. *Journal of Nursing Administration, 43(2), 69-72.*

The Joint Commission. (2015). *Sentinel event alert: Preventing falls and fall related injuries in health care facilities*. Retrieved from

https://www.jointcommission.org/assets/1/18/SEA_55.pdf

The Joint Commission. (2019). Suicide risk reduction: Monitoring high-risk patient. Retrieved

From

https://www.jointcommission.org/standards_information/jcfaqdetails.aspx?StandardsFaqd=2015&ProgramId=46

UK Healthcare. (n.d.). About UK healthcare. Retrieved from <https://ukhealthcare.uky.edu/about>

UK Healthcare. (n.d.). Strategic plan. Retrieved from <https://ukhealthcare.uky.edu/strategic-plan>

Votruba, L., Graham, B., Wisinski, J., & Syed, A. (2016). Video monitoring to reduce falls and patient companion cost for adult inpatients. *Nursing Economic\$, 34*(4), 185-189.

Wojciechowski, E., Pearsall, T., Murphy, P., & French, E. (2016). A case review: Integrating Lewin's theory with lean's system approach for change. *Online Journal of Issues in Nursing, 21*(2), 1-2.

Appendix A.

DNP Site Approval

Eastern Kentucky University
Doctor of Nursing Practice Log
Request for DNP Experience Site Approval

NOTICE TO STUDENTS: ALL INFORMATION REQUESTED ON THIS FORM MUST BE PROVIDED FOR THE REQUEST FORM TO BE PROCESSED.

Is this a new DNP Experience or continuation of a DNP Experience? New Continuation
Are you an employee of this organization? Yes No
If yes, please provide the name and contact information for your immediate supervisor.
Sarah Lester, DNP, APRN, FNP-C, CCRN-K, CENP
Director of Nursing Professional Practice and Excellence
859-323-43328

STUDENT INFORMATION

Date to begin at facility: Ongoing since beginning of DNP program_
Term A Term B Full Semester Class
Student's Name: Jennifer Forman

FACILITY INFORMATION

Name of Agency: University of Kentucky Healthcare
Mailing Address: 800 Rose Street
Lexington, KY 40536

FACILITY CONTACT INFORMATION

Contact Person (*The person to whom the contract will be sent for review and signature of approval, not the preceptor*): There is a link. Jule Swafford
Title: Advance Practice Placement Coordinator
Phone: 859-218-6164 Email: Julie.swafford@uky.edu

MENTOR/PRECEPTOR INFORMATION

Mentor/Preceptor Name: _____ Title: _____
Phone: _____ Fax: _____

Email: _____

NSC Clinical Course Number for which request is being made: NSC 994 (preceptor not required)

Please send completed form to:

Christi Isaacs
Online Nursing Clinical Coordinators
Office: Rowlett 223
Email: Christi.isaacs@eku.edu
Phone: (859) 622-7954
Fax No. (859) 622-1972

Appendix B.

Research Council Approval Letter



July 24, 2018

Dear Ms. Forman,

Your proposal entitled, "*Effect of Mobile Video Monitoring on Patient Falls and Sitter Usage*" was reviewed during our July 12th meeting of the Nursing Research Council at the University of Kentucky Medical Center, and we are happy to report that your proposal has been approved. If you have not yet obtained approval for your research through the University of Kentucky Institutional Review Board (IRB), you must complete this process as well.

The Nursing Research Council reviews all proposals to conduct scientific inquiry that involve UK nursing staff in an effort to assess for a number of indicators: to determine the feasibility of conducting the proposed research, to establish the level of support from nursing management or administration to conduct the research, to determine the applicability to nursing, to evaluate protection of human subjects, and to assess the completeness of the proposal. If your proposal is amended in any way such that the methods or procedures are modified significantly, your proposal must be re-submitted for review by this Council.

Please contact me if you need further assistance, have questions, or wish to discuss anything.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Holden".

Dan Holden RN, BSN, OCN

Chair, Nursing Research Council

Office of the Executive Vice President for Health Affairs

University of Kentucky • 317 Wethington Building • 900 South Limestone • Lexington, Kentucky 40536-0200
Phone: (859) 323-5126 • Fax: (859) 323-1918 • www.ukhealthcare.uky.edu

Appendix C.
EKU IRB Approval

IRB Approval Notification: Protocol Number #2018



Sponsored Programs <support@inforeadyreview.com>
Fri 11/9/2018 12:30 PM
Forman, Jennifer; jiform2@email.uky.edu



Application
Management

Hello Jennifer Forman,

Congratulations! The Institutional Review Board at Eastern Kentucky University has approved your **IRB Application for Expedited or Full Review** for application entitled, "**Effect of Mobile Video Monitoring on Patient Falls and Sitter Usage.**" Your approval is effective immediately and will expire on 5/31/19.

Appendix D.

Datix UHC Safety Intelligence Instrument



CLICK HERE TO BEGIN REPORT

For assistance, please contact [Becky Fister](#)

The information contained herein has been compiled and/or is intended to be used as part of the UK Healthcare's Patient Safety Evaluation System, is deemed to be Patient Safety Work Product, and is privileged and confidential.

- The UHC Safety Intelligence® SI Platform is an easy-to-use Web-Based event reporting and management tool.
- Effective use of the tool improves communication and collaboration that are critical to patient safety.
- The SI captures information about adverse events, near misses, and unsafe conditions that involve patients, staff, and visitors.
- The UK HealthCare's policy on Promoting a Culture of Patient Safety (A09-000) is available [here](#).

Report designer - Events

Report type

Report type selection area with icons for: Bar chart, Pie chart, Line chart, Area chart, Line chart with grid, Table, Table with filters, Gauge, and Heatmap.

Report settings

Custom title

* Query

Field 1

* Form

* Field

Run report Clear settings

Appendix F.

Mobile Safety Companion Data Collection tool

**Mobile Safety Companion Data Collection Tool
For
Effect of Mobile Video Monitoring on Patient Falls and Sitter Usage**

Study Number: _____

Age: _____ Gender: _____ Unit: _____

Date Safety Companion Ordered: _____ Time Safety Companion Ordered: _____

Reason for Mobile Safety Companion: -

Did the patient fall during mobile monitoring? yes no

If patient fell, did the patient sustain an injury? yes no

Any other identified issues or concerns during mobile monitoring?

Date Safety Companion discontinued: _____ Time Safety Companion Discontinued: _____

Appendix G.

Timeline for Implementation for the Mobile Video Monitoring

| ID | Progress | Task Name | Duration | Start | Finish | % Complete | Resource Names | Notes | Predecessors | Constraint | Date | Qtr | 2019 |
|----|----------|---|-------------|-------------|-------------|------------|------------------|-------|-----------------------|------------|-------------|-----|------|
| 0 | | DRAFT AvaSure Project Plan Rev10 | 138.63 days | Mon 2/18/19 | Fri 8/30/19 | 35% | | | | | NA | Apr | May |
| 1 | ✓ | Project Initiation | 12.63 days | Mon 2/18/19 | Thu 3/7/19 | 100% | | | | | NA | | |
| 2 | ✓ | P.O. Received | 0 days | Mon 2/18/19 | Mon 2/18/19 | 100% | | | | | Mon 2/18/19 | | |
| 3 | ✓ | Review Sales Artifacts (Agreement, Invoice, PO, PO to Project Hand-off) | 1 day | Wed 2/20/19 | Wed 2/20/19 | 100% | | | 2FS+1 day | | NA | | |
| 4 | ✓ | Conduct technical review | 1 day | Wed 2/20/19 | Wed 2/20/19 | 100% | | | 2FS+1 day | | NA | | |
| 5 | ✓ | Validate consistent messaging and confirm timing of deliverables | 1 day | Fri 2/22/19 | Fri 2/22/19 | 100% | | | 3FS+1 day | | NA | | |
| 6 | ✓ | Contracts & Exhibits completed | 0 days | Mon 3/4/19 | Mon 3/4/19 | 100% | | | 2FS+10 days | | NA | | |
| 7 | ✓ | Initial Contact with customer | 7.63 days | Tue 2/26/19 | Thu 3/7/19 | 100% | | | | | NA | | |
| 8 | ✓ | Initial email sent | 1 hr | Tue 2/26/19 | Tue 2/26/19 | 100% | | | 5FS+1 day | | NA | | |
| 9 | ✓ | Initial call scheduled | 0.5 days | Thu 3/7/19 | Thu 3/7/19 | 100% | Hospital PM | | 8FS+7 days | | NA | | |
| 10 | | Project Planning | 92.25 days | Thu 3/7/19 | Mon 7/15/19 | 99% | | | | | NA | | |
| 11 | ✓ | Conduct initial call | 1 hr | Thu 3/7/19 | Thu 3/7/19 | 100% | Hospital PM | | 9 | | NA | | |
| 12 | ✓ | Schedule kickoff call | 0 days | Thu 4/4/19 | Thu 4/4/19 | 100% | Hospital PM | | 11FS+1 mon | | NA | | |
| 13 | ✓ | Schedule project calls | 0 days | Mon 4/15/19 | Mon 4/15/19 | 100% | Hospital PM | | 24FS+2 days | | NA | | |
| 14 | ✓ | Identify deployment & go live dates | 0 days | Thu 5/9/19 | Thu 5/9/19 | 100% | Hospital PM | | 12FS+5 wks | | NA | | |
| 15 | ✓ | Initial documents received from customer | 43.25 days | Mon 3/11/19 | Thu 5/9/19 | 100% | | | | | NA | | |
| 16 | ✓ | Project contact list | 2 hrs | Mon 3/11/19 | Mon 3/11/19 | 100% | Hospital PM | | 9,11FS+2 days | | NA | | |
| 17 | ✓ | Technical Questionnaire | 3 hrs | Tue 4/16/19 | Tue 4/16/19 | 100% | Hospital PM,Hosp | | 16FS+5 wks | | NA | | |
| 18 | ✓ | Clinical Questionnaire | 2 hrs | Thu 5/9/19 | Thu 5/9/19 | 100% | Hospital PM,Hosp | | 24FS+4 wks | | NA | | |
| 19 | | Manufacturing | 90.25 days | Mon 3/11/19 | Mon 7/15/19 | 99% | | | | | NA | | |
| 20 | ✓ | Submit pack list | 1 hr | Mon 3/11/19 | Mon 3/11/19 | 100% | | | 9FS+2 days | | NA | | |
| 21 | ✓ | Configuration of units (if applicable) | 2 hrs | Tue 3/12/19 | Tue 3/12/19 | 100% | | | 20FS+1 day | | NA | | |
| 22 | ✓ | Units shipped to warehouse | 2 hrs | Tue 3/12/19 | Tue 3/12/19 | 100% | | | 20FS-1 day,21FS-1 day | | NA | | |
| 23 | ○ | Ship AvaSys devices | 0 days | Mon 7/15/19 | Mon 7/15/19 | 0% | | | 202FS-10 days | | NA | | |

| | | | | | | | | | | |
|----|--|------------------------|-----------|-------------|-------------|------|---|-------------------------------------|---------------|----|
| 24 | | Conduct kickoff call | 1 hr | Thu 4/11/19 | Thu 4/11/19 | 100% | Hospital PM | | 12SF+5 days,6 | NA |
| 25 | | Project Implementation | 90.5 days | Thu 4/11/19 | Fri 8/16/19 | 30% | | | | NA |
| 26 | | Project Meetings | 35 days | Thu 4/25/19 | Thu 6/13/19 | 38% | | | 24,13 | NA |
| 27 | | Meeting 1 | 1 hr | Thu 4/25/19 | Thu 4/25/19 | 100% | Hospital Clinical,Hospital IT Lead,Hospital | Software/dashboard demonstration... | 24FS+10 days | NA |
| 28 | | Meeting 2 | 1 hr | Thu 5/2/19 | Thu 5/2/19 | 100% | Hospital Clinical,H | Technical ... | 27FS+5 days | NA |
| 29 | | Meeting 3 | 1 hr | Thu 5/9/19 | Thu 5/9/19 | 100% | Hospital Clinical,H | Technical ... | 28FS+4 days | NA |
| 30 | | Meeting 4 | 1 hr | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,H | Technical ... | 29FS+5 days | NA |

| | | | | | | | | |
|---|------------|---------------|-------------|-----------|----------------|----------------|--------------------|----------------|
| Project: DRAFT AvaSure Project Date: Wed 5/15/19 | Task Split | Summary | Inactive | Milestone | Duration-only | Start-only | External Milestone | Critical Split |
| | Milestone | Project | Inactive | Summary | Manual | Finish-only | Deadline | Progress |
| | | Summary | Manual Task | | Summary Rollup | External Tasks | Critical | Manual |
| | | Inactive Task | | | Manual | | | Progress |

Page 1

| ID | Progress | Task Name | Duration | Start | Finish | % Complete | Resource Names | Notes | Predecessors | Constraint Date | Qtr 2, 2139 |
|----|----------|--|------------|-------------|-------------|------------|--|----------------------|-----------------|-----------------|-------------|
| 31 | | Meeting 5 | 1 hr | Thu 5/23/19 | Thu 5/23/19 | 0% | Hospital Clinical,H | Technical ... | 30FS+5 days | NA | Apr |
| 32 | | Meeting 6 | 1 hr | Thu 5/30/19 | Thu 5/30/19 | 0% | Hospital Clinical,H | Technical... | 31FS+5 days | NA | May |
| 33 | | Meeting 7 | 1 hr | Thu 6/6/19 | Thu 6/6/19 | 0% | Hospital Clinical,H | Technical - deployme | 32FS+5 days | NA | |
| 34 | | Meeting 8 | 1 hr | Thu 6/13/19 | Thu 6/13/19 | 0% | Hospital Clinical,H | Technical ... | 33FS+5 days | NA | |
| 35 | | Technical Readiness | 75.42 days | Thu 4/11/19 | Fri 7/26/19 | 49% | | | | NA | |
| 36 | | Conduct technical call (if desired) | 0 hrs | Thu 4/11/19 | Thu 4/11/19 | 100% | Hospital Desktop,Hospital IT Lead,Hospital | | 24,27FS-10 days | NA | |
| 37 | | Remote Access | 15.13 days | Thu 5/9/19 | Thu 5/30/19 | 100% | | | | NA | |
| 38 | | Complete Securelink/remot access paperwork | 1 hr | Thu 5/9/19 | Thu 5/9/19 | 100% | Hospital IT Lead | | 36FS+4 wks | NA | |
| 39 | | Test remote access connectivity | 1 wk | Fri 5/24/19 | Thu 5/30/19 | 100% | | | 38FS+10 days | NA | |
| 40 | | Remote access available to AvaSure Support | 0 days | Thu 5/30/19 | Thu 5/30/19 | 100% | | | 39FF | NA | |
| 41 | | Server (by hospital) | 43.14 days | Thu 4/11/19 | Tue 6/11/19 | 17% | | | | NA | |
| 42 | | WAN considerations | 0.02 days | Thu 4/11/19 | Thu 4/11/19 | 100% | | | | NA | |
| 43 | | Identify if server is on WAN | 5 mins | Thu 4/11/19 | Thu 4/11/19 | 100% | Hospital IT Lead | | 36FF | NA | |
| 44 | | Identify latency of WAN | 5 mins | Thu 4/11/19 | Thu 4/11/19 | 100% | Hospital IT Lead | | 36FF | NA | |
| 45 | | Identify if Hub and Spoke | 5 mins | Thu 4/11/19 | Thu 4/11/19 | 100% | Hospital IT Lead | | 44 | NA | |

| | | | | | | | | | | |
|----|--|---|-----------|-------------|-------------|------|------------------|--|--------------|----|
| 46 | | Server provisioned (physical or VM) | 2 hrs | Thu 5/2/19 | Fri 5/3/19 | 100% | Hospital Server | | 36FS+15 days | NA |
| 47 | | Certificate | 5.31 days | Thu 5/9/19 | Thu 5/16/19 | 89% | Hospital Server | | | NA |
| 48 | | Certificates created (2 per each server) | 2 hrs | Thu 5/9/19 | Thu 5/9/19 | 100% | Hospital Server | | 46FS+4 days | NA |
| 49 | | gMSA or MSA created | 2 hrs | Thu 5/9/19 | Thu 5/9/19 | 100% | Hospital Server | | 48 | NA |
| 50 | | Screenshot sent to AvaSure of certificate information | 30 mins | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Server | | 48FS+5 days | NA |
| 51 | | Server Hostname provided to AvaSure | 0 days | Wed 5/15/19 | Wed 5/15/19 | 100% | Hospital IT Lead | | 52 | NA |
| 52 | | Server available to AvaSure for remote installation | 0 days | Wed 5/15/19 | Wed 5/15/19 | 100% | | | 36FS+24 days | NA |
| 53 | | Server software remotely installed | 5 days | Tue 6/4/19 | Tue 6/11/19 | 0% | Hospital Server | | 52FS+14 days | NA |
| 54 | | Apply latest Windows update to server | 1 hr | Tue 6/11/19 | Tue 6/11/19 | 0% | Hospital Server | | 53 | NA |
| 55 | | Antivirus exclusions in place | 2 hrs | Wed 5/22/19 | Thu 5/23/19 | 100% | Hospital Server | | 53FS-14 days | NA |

Project: DRAFT AvaSure Project
Date: Wed 5/15/19

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| Task | Summary | | Inactive Milestone | | Duration-only | Start-only | External Milestone | Critical Split |
| Split | Project Summary | | Inactive Summary | | Manual Summary Rollup | Finish-only | Deadline | Progress |
| Milestone | Inactive Task | | Manual Task | | Manual Summary | External Tasks | Critical | Manual Progress |

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| ID | Progress | Task Name | Duration | Start | Finish | % Complete | Resource Names | Notes | Predecessors | Constraint Date | Qtr 2, 2139 | Apr | May |
|----|----------|--|------------|-------------|-------------|------------|--------------------------------|-------|---------------|-----------------|-------------|-----|-----|
| 56 | | Screenshot sent to AvaSure of AV exclusions | 0 days | Thu 5/23/19 | Thu 5/23/19 | 0% | Hospital Server | | 55 | NA | | | |
| 57 | | Client Workstation (by hospital) & Monitor Station | 24.26 days | Thu 4/25/19 | Thu 5/30/19 | 46% | | | | NA | | | |
| 58 | | Determine if shared or dedicated space | 0.1 days | Fri 4/26/19 | Fri 4/26/19 | 100% | Hospital Clinical, Hospital PM | | 59,27 | NA | | | |
| 59 | | Location identified | 0.4 days | Thu 4/25/19 | Fri 4/26/19 | 100% | Hospital PM | | 4FS+5 days,27 | NA | | | |
| 60 | | Confirm location | 0 days | Thu 5/2/19 | Thu 5/2/19 | 100% | | | 28 | NA | | | |
| 61 | | Construction | 20 days | Fri 5/3/19 | Fri 5/31/19 | 0% | Hospital-Contract | | 60FS+0.5 days | NA | | | |
| 62 | | Room available for occupancy | 0 days | Thu 5/2/19 | Thu 5/2/19 | 100% | | | 60 | NA | | | |
| 63 | | Peripherals provisioned | 2 hrs | Thu 5/23/19 | Thu 5/23/19 | 0% | Hospital PM | | 60SS+14 days | NA | | | |

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|----|--|---|------------|-------------|-------------|------|--------------------|--|-------------|--|----|
| 64 | | Phone number provided to AvaSure | 2 hrs | Fri 5/24/19 | Fri 5/24/19 | 0% | Hospital Clinical | | 71FF | | NA |
| 65 | | Workstation provisioned | 0 days | Wed 5/22/19 | Wed 5/22/19 | 100% | Hospital Desktop | | 52FS+5 days | | NA |
| 66 | | Autologin in place | 1 hr | Mon 5/27/19 | Mon 5/27/19 | 100% | Hospital Desktop | | 65FS+3 days | | NA |
| 67 | | Screensaver disabled | 0.1 hrs | Tue 5/28/19 | Tue 5/28/19 | 100% | Hospital Desktop | | 66 | | NA |
| 68 | | Antivirus exclusions in place | 1 hr | Tue 5/28/19 | Tue 5/28/19 | 0% | Hospital Desktop | | 67 | | NA |
| 69 | | Screenshot sent to AvaSure of AV exclusions | 0 days | Thu 5/30/19 | Thu 5/30/19 | 0% | Hospital Desktop | | 68FS+2 days | | NA |
| 70 | | Monitor + mount provisioned | 0 days | Wed 5/22/19 | Wed 5/22/19 | 100% | Hospital Desktop | | 65SS | | NA |
| 71 | | Monitor mounted | 1 hr | Fri 5/24/19 | Fri 5/24/19 | 0% | Hospital Desktop | | 70FS+2 days | | NA |
| 72 | | Picture of monitor station sent to AvaSure | 0 days | Fri 5/24/19 | Fri 5/24/19 | 0% | | | 71 | | NA |
| 73 | | Active Directory | 65.41 days | Thu 4/25/19 | Fri 7/26/19 | 6% | | | | | NA |
| 74 | | Discuss AD groups during project meeting | 0.25 hrs | Thu 4/25/19 | Thu 4/25/19 | 100% | | | 27 | | NA |
| 75 | | Groups created | 1 hr | Tue 6/4/19 | Tue 6/4/19 | 0% | Hospital IT Lead,H | | 53SS | | NA |
| 76 | | Identify group membership | 2 hrs | Thu 7/18/19 | Fri 7/19/19 | 0% | Hospital Clinical | | 74FS+12 wks | | NA |
| 77 | | Groups populated | 1 hr | Fri 7/26/19 | Fri 7/26/19 | 0% | Hospital IT Lead,H | | 76FS+5 days | | NA |
| 78 | | Screenshot sent to AvaSure of populated AD Groups | 0 days | Fri 7/26/19 | Fri 7/26/19 | 0% | Hospital IT Lead | | 32,77 | | NA |
| 79 | | Network Readiness | 50.13 days | Fri 5/3/19 | Fri 7/12/19 | 99% | | | | | NA |
| 80 | | Identify connection method | 0.5 hrs | Fri 5/3/19 | Fri 5/3/19 | 100% | Hospital IT Lead,H | | 28,36 | | NA |
| 81 | | Identify method for IP address assignment | 0.5 hrs | Fri 5/3/19 | Fri 5/3/19 | 100% | Hospital Network | | 80 | | NA |

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|---|-----------|-----------------|--|--------------------|--|-----------------------|----------------|--------------------|-----------------|
| Project: DRAFT AvaSure Project Date: Wed 5/15/19 | Task | Summary | | Inactive Milestone | | Duration-only | Start-only | External Milestone | Critical Split |
| | Split | Project Summary | | Inactive Summary | | Manual Summary Rollup | Finish-only | Deadline | Progress |
| | Milestone | Inactive Task | | Manual Task | | Manual Summary | External Tasks | Critical | Manual Progress |

| ID | Progress | Task Name | Duration | Start | Finish | % Complete | Resource Names | Notes | Predecessors | Constraint Date | Qtr 2, 2139 |
|-----|----------|--|------------|-------------|-------------|------------|---|-------|----------------|-----------------|-------------|
| | | | | | | | | | | | Apr May |
| 82 | | Send MAC address information to hospital | 0 days | Fri 7/12/19 | Fri 7/12/19 | 0% | | | 22,81FS+10 wks | NA | |
| 83 | | Wireless Device Information | 0.08 days | Fri 5/3/19 | Fri 5/3/19 | 100% | | | | NA | |
| 84 | | Identify care units that will utilize AvaSys | 0.1 hrs | Fri 5/3/19 | Fri 5/3/19 | 100% | Hospital Clinical | | 81 | NA | |
| 85 | | Identify band | 0.1 hrs | Fri 5/3/19 | Fri 5/3/19 | 100% | Hospital Network | | 84 | NA | |
| 86 | | Identify SSID | 0.1 hrs | Fri 5/3/19 | Fri 5/3/19 | 100% | Hospital Network | | 85 | NA | |
| 87 | | Identify if QoS is enabled and level | 0.1 hrs | Fri 5/3/19 | Fri 5/3/19 | 100% | Hospital Network | | 86 | NA | |
| 88 | | Identify encryption method | 0.1 hrs | Fri 5/3/19 | Fri 5/3/19 | 100% | Hospital Network | | 87 | NA | |
| 89 | | Identify if certs are required | 0.1 hrs | Fri 5/3/19 | Fri 5/3/19 | 100% | Hospital Network | | 88 | NA | |
| 90 | | Identify Support Model for AvaSys | 10.81 days | Thu 6/6/19 | Thu 6/20/19 | 0% | | | | NA | |
| 91 | | Provide support model information to hospital | 0.5 hrs | Thu 6/6/19 | Thu 6/6/19 | 0% | | | 29FS+4 wks | NA | |
| 92 | | Develop support model process | 0.5 days | Thu 6/20/19 | Thu 6/20/19 | 0% | Hospital Clinical,Hospital IT Lead,Hospital | | 91FS+10 days | NA | |
| 93 | | Create visual aid for placement in monitor station room with troubleshooting steps | 2 hrs | Thu 6/20/19 | Thu 6/20/19 | 0% | | | 92 | NA | |
| 94 | | Clinical Readiness | 77.16 days | Thu 4/11/19 | Mon 7/29/19 | 40% | | | | NA | |
| 95 | | Program Goals | 0.03 days | Thu 5/2/19 | Thu 5/2/19 | 100% | | | | NA | |
| 96 | | Identify Goals | 0.25 hrs | Thu 5/2/19 | Thu 5/2/19 | 100% | Hospital Clinical | | 27FS+1 wk | NA | |
| 97 | | Discuss best practices for achieving goals | 0.25 hrs | Thu 5/2/19 | Thu 5/2/19 | 100% | | | 27FS+1 wk | NA | |
| 98 | | Hiring | 30.31 days | Thu 5/16/19 | Thu 6/27/19 | 11% | | | | NA | |
| 99 | | Develop Job description | 1 hr | Thu 5/16/19 | Thu 5/16/19 | 100% | Hospital Clinical | | 27FS+3 wks | NA | |
| 100 | | Identify if position is union or non-union | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 100% | Hospital Clinical | | 99FS-1 day | NA | |
| 101 | | Identify shift length | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 100% | Hospital Clinical | | 100 | NA | |
| 102 | | Identify manager of monitor technicians | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 100% | Hospital Clinical | | 101 | NA | |
| 103 | | Identify pool for break coverage | 1 hr | Thu 5/23/19 | Thu 5/23/19 | 100% | | | 101FS+5 days | NA | |
| 104 | | Hiring process | 30.22 days | Thu 5/16/19 | Thu 6/27/19 | 5% | | | | NA | |

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|--|--|--------------------------------------|------|-------------|-------------|------|-------------------|--|--------|--|----|
| 105 | | Identify number of positions to fill | 1 hr | Thu 5/16/19 | Thu 5/16/19 | 100% | Hospital Clinical | | 102,28 | | NA |
| <p>Project: DRAFT AvaSure Project Date: Wed 5/15/19</p> <p>Summary Inactive Milestone y External Milestone Project Summary Inactive Summary Manual Summary Rollup c Milestone Manual Task Manual Summary s l Manual Progress</p> <p style="text-align: center;">Page 4</p> | | | | | | | | | | | |

| ID | Progress | Task Name | Duration | Start | Finish | % Complete | Resource Names | Notes | Predecessors | Constraint Date | Qtr 2, 2139 |
|-----|----------|--|------------|-------------|-------------|------------|--|-------|---------------|-----------------|-------------|
| 106 | | Identify if position to be filled internally or externally | 0.25 hrs | Thu 5/23/19 | Thu 5/23/19 | 100% | Hospital Clinical | | 103,27,105 | | NA |
| 107 | | Position posted | 1 hr | Thu 6/20/19 | Thu 6/20/19 | 100% | Hospital Clinical | | 103FS+20 days | | NA |
| 108 | | Positions filled | 1 wk | Thu 6/20/19 | Thu 6/27/19 | 0% | Hospital HR | | 107 | | NA |
| 109 | | Policy Development | 30.19 days | Thu 4/11/19 | Thu 5/23/19 | 0% | | | | | NA |
| 110 | | Provide SharePoint site information to customer project lead | 0 days | Thu 4/11/19 | Thu 4/11/19 | 100% | | | 24 | | NA |
| 111 | | Define inclusion & Exclusion criteria | 0.5 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,Hospital PM,Hospital | | 102,28 | | NA |
| 112 | | Define Failure protocol | 0.5 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,H | | 111 | | NA |
| 113 | | Define Mandatory Trial | 0.5 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,Hospital PM,Hospital | | 112 | | NA |
| 114 | | Define floor staff and house supervisor responsibility | 0.5 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,Hospital PM,Hospital | | 113,29 | | NA |
| 115 | | Define monitor tech responsibilities | 0.5 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,Hospital PM,Hospital | | 114 | | NA |
| 116 | | Define patient/family awareness process | 0.5 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,Hospital PM,Hospital | | 115 | | NA |
| 117 | | Define cleaning procedures | 0.5 hrs | Thu 5/23/19 | Thu 5/23/19 | 0% | Hospital Clinical,H | | 31 | | NA |
| 118 | | Develop downtime procedures | 0.5 days | Thu 5/23/19 | Thu 5/23/19 | 0% | Hospital Clinical,Hospital PM,Hospital | | 117 | | NA |
| 119 | | eLearning Module Implementation | 52.66 days | Thu 5/16/19 | Mon 7/29/19 | 97% | | | | | NA |
| 120 | | Identify hospital LMS | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 100% | Hospital Educator | | 112 | | NA |
| 121 | | LMS Administrator identified | 0.25 hrs | Fri 5/17/19 | Fri 5/17/19 | 100% | Hospital Educator | | 120FS+1 day | | NA |

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| 122 | | | LMS administrator contacted by AvaSure | 5 days | Fri 5/17/19 | Fri 5/24/19 | 100% | | | 121 | | NA |
| 123 | | | Application for eLearning Modules sent to HealthStream by hospital LMS administrator | 0.5 hrs | Fri 5/24/19 | Fri 5/24/19 | 100% | Hospital LMS Admin | | 122 | | NA |
| 124 | | | Approval from AvaSure requested by HS | 1 day | Fri 5/24/19 | Mon 5/27/19 | 100% | | | 123 | | NA |
| 125 | | | Approval sent from AvaSure | 1 day | Mon 5/27/19 | Tue 5/28/19 | 100% | | | 124 | | NA |
| 126 | | | Modules available to the hospital | 0 days | Fri 5/31/19 | Fri 5/31/19 | 0% | | | 125FS+3 days | | NA |
| 127 | | | Assign modules | 15.13 days | Mon 7/8/19 | Mon 7/29/19 | 0% | | | | | NA |

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| Project: DRAFT AvaSure Project Date: Wed 5/15/19 | Task | Summary | | Inactive Milestone | | Duration-only | Start-only | External Milestone | Critical Split |
| | Split | Project Summary | | Inactive Summary | | Manual Summary Rollup | Finish-only | Deadline | Progress |
| | Milestone | Inactive Task | | Manual Task | | Manual Summary | External Tasks | Critical | Manual Progress |

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| ID | Progress | Task Name | Duration | Start | Finish | % Complete | Resource Names | Notes | Predecessors | Constraint Date | Qtr 2, 2139 | Apr | May |
|-----|----------|---|------------|-------------|-------------|------------|-----------------------------------|-------|---------------|-----------------|-------------|-----|-----|
| 128 | | Intro module | 1 hr | Mon 7/8/19 | Mon 7/8/19 | 0% | Hospital Educator | | 22ISF-25 days | | NA | | |
| 129 | | Video Monitor Tech module | 1 hr | Mon 7/29/19 | Mon 7/29/19 | 0% | Hospital Educator | | 128FF+3 wks | | NA | | |
| 130 | | Workflow Processes | 10.25 days | Thu 5/16/19 | Fri 5/31/19 | 0% | | | | | NA | | |
| 131 | | Management | 0.09 days | Thu 5/16/19 | Thu 5/16/19 | 0% | | | | | NA | | |
| 132 | | Identify manager role across all shifts | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,Hospital Policy | | 27FS+3 wks | | NA | | |
| 133 | | Develop triage process | 0.5 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,H | | 132 | | NA | | |
| 134 | | Develop Admission workflow | 0.5 hrs | Thu 5/23/19 | Thu 5/23/19 | 0% | Hospital Clinical,Hospital Policy | | 132SS+5 days | | NA | | |
| 135 | | Develop Discontinuation workflow | 0.5 hrs | Thu 5/23/19 | Thu 5/23/19 | 0% | Hospital Clinical,Hospital Policy | | 134 | | NA | | |
| 136 | | Develop RN/Clinical Setup & Report process | 0.5 hrs | Thu 5/30/19 | Thu 5/30/19 | 0% | Hospital Clinical,Hospital Policy | | 135SS+5 days | | NA | | |
| 137 | | Develop Monitor Tech Setup & Report Process | 0.5 hrs | Fri 5/31/19 | Fri 5/31/19 | 0% | Hospital Clinical,Hospital Policy | | 136 | | NA | | |

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| 138 | | Develop Break Coverage process | 0.5 hrs | Fri 5/31/19 | Fri 5/31/19 | 0% | Hospital Clinical,Hospital Policy | | 137 | NA |
| 139 | | Logistics | 1 day | Thu 5/30/19 | Fri 5/31/19 | 0% | | | | NA |
| 140 | | Determine storage location for devices not in use | 0.5 hrs | Thu 5/30/19 | Fri 5/31/19 | 0% | Hospital Clinical,Hospital Policy Committee | | 133FS+2 wks | NA |
| 141 | | Determine process for transport of devices | 0.5 hrs | Thu 5/30/19 | Thu 5/30/19 | 0% | Hospital Clinical,Hospital Policy | | 140FS-1 day | NA |
| 142 | | Determine process for tracking devices | 0.25 hrs | Thu 5/30/19 | Thu 5/30/19 | 0% | Hospital Clinical,Hospital Policy | | 141 | NA |
| 143 | | Determine process for cleaning devices | 0.5 hrs | Thu 5/30/19 | Thu 5/30/19 | 0% | Hospital Clinical,Hospital Policy | | 142 | NA |
| 144 | | Communication | 9.38 days | Thu 5/16/19 | Thu 5/30/19 | 0% | | | | NA |
| 145 | | Identify monitor station telephone number | 0.25 hrs | Thu 5/30/19 | Thu 5/30/19 | 0% | Hospital Clinical,Hospital Policy | | 143 | NA |
| 146 | | Identify if floor staff utilizes mobile phones | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,Hospital Policy | | 132 | NA |
| 147 | | Define change of shift communication process between RNs & monitor techs | 0.5 hrs | Thu 5/30/19 | Thu 5/30/19 | 0% | | | 145 | NA |
| 148 | | Monitor tech communications | 0.13 days | Thu 5/16/19 | Fri 5/17/19 | 0% | | | 132 | NA |

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|---|-----------|-----------------|--|--------------------|-----------------------|----------------|--|--------------------|-----------------|
| Project: DRAFT AvaSure Project Date: Wed 5/15/19 | Task | Summary | | Inactive Milestone | Duration-only | Start-only | | External Milestone | Critical Split |
| | Split | Project Summary | | Inactive Summary | Manual Summary Rollup | Finish-only | | Deadline | Progress |
| | Milestone | Inactive Task | | Manual Task | Manual Summary | External Tasks | | Critical | Manual Progress |

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| ID | Progress | Task Name | Duration | Start | Finish | % Complete | Resource Names | Notes | Predecessors | Constraint Date | Qtr 2, 2139 |
|-----|----------|------------------------------------|-----------|-------------|-------------|------------|-----------------------------------|-------|--------------|-----------------|-------------|
| 149 | | Define Escalation flow | 1 hr | Thu 5/16/19 | Fri 5/17/19 | 0% | Hospital Clinical,H | | 132 | NA | Apr |
| 150 | | Define STAT Alert Protocol | 1 hr | Thu 5/16/19 | Fri 5/17/19 | 0% | Hospital Clinical,Hospital Policy | | 132 | NA | May |
| 151 | | Documentation | 5.34 days | Thu 5/16/19 | Thu 5/23/19 | 0% | | | | NA | |
| 152 | | Identify Electronic Health Records | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,Hospital Policy | | 30 | NA | |

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| 153 | | | Identify how visual monitoring will be documented | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,Hospital Policy Committee | | 30 | | NA |
| 154 | | | Identify if build is required | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,H | | 30 | | NA |
| 155 | | | Monitor tech documentation | 2.09 days | Thu 5/16/19 | Mon 5/20/19 | 0% | | | | | NA |
| 156 | | | Identify if logging on paper or electronic | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,Hospital Policy | | 153 | | NA |
| 157 | | | Develop logging tool (paper or electronic) | 0.5 hrs | Mon 5/20/19 | Mon 5/20/19 | 0% | Hospital Clinical,Hospital Policy | | 156FS+2 days | | NA |
| 158 | | | Data Collection | 5.31 days | Thu 5/16/19 | Thu 5/23/19 | 0% | | | | | NA |
| 159 | | | Identify who will be accessing the dashboard | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical | | 153 | | NA |
| 160 | | | ORNA | 0.22 days | Thu 5/23/19 | Thu 5/23/19 | 0% | | | | | NA |
| 161 | | | Verify agreement has been signed & return | 1 hr | Thu 5/23/19 | Thu 5/23/19 | 0% | Hospital Clinical | | 31 | | NA |
| 162 | | | Give overview of ORNA | 0.09 days | Thu 5/23/19 | Thu 5/23/19 | 0% | | | | | NA |
| 163 | | | Timing of quarterly reports | 0.25 hrs | Thu 5/23/19 | Thu 5/23/19 | 0% | Hospital Clinical | | 161 | | NA |
| 164 | | | Estimated date of first report | 0.25 hrs | Thu 5/23/19 | Thu 5/23/19 | 0% | Hospital Clinical | | 163 | | NA |
| 165 | | | Demonstration of ORNA database | 0.25 hrs | Thu 5/23/19 | Thu 5/23/19 | 0% | Hospital Clinical | | 164 | | NA |
| 166 | | | Patient & Family Education | 0.25 days | Thu 5/16/19 | Thu 5/16/19 | 0% | | | | | NA |
| 167 | | | Develop signage | 1 hr | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical | | 116SS | | NA |
| 168 | | | Develop patient education handout | 2 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical | | 116SS | | NA |
| 169 | | | Determine where materials will be located | 0.25 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical | | 116SS | | NA |
| 170 | | | Determine where this will be documented in records | 0.25 days | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical | | 116SS | | NA |
| 171 | | | Internal Awareness | 3.88 days | Thu 4/25/19 | Wed 5/1/19 | 100% | | | | | NA |
| 172 | | | Awareness posters sent from AvaSure | 0 days | Wed 5/1/19 | Wed 5/1/19 | 100% | Hospital Clinical | | 27SF+4 days | | NA |

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|---|-----------|-----------------|--|--------------------|-----------------------|----------------|--|--------------------|-----------------|
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| ID | Progress | Task Name | Duration | Start | Finish | % Complete | Resource Names | Notes | Predecessors | Constraint Date | Qtr 2, 2139 | Apr | May |
|-----|----------|--|------------|-------------|-------------|------------|-------------------------------------|-------|------------------------|-----------------|-------------|-----|-----|
| 173 | | Develop internal awareness plan | 1 hr | Thu 4/25/19 | Thu 4/25/19 | 100% | Hospital Clinical,Hospital Educator | | 27 | | NA | | |
| 174 | | Policy, document and workflow approval | 5.19 days | Fri 7/19/19 | Mon 7/29/19 | 0% | | | | | NA | | |
| 175 | | Final drafts ready for AvaSure review | 0 days | Fri 7/19/19 | Fri 7/19/19 | 0% | | | 138FF,111,202SS-6 days | | NA | | |
| 176 | | PDF created and sent to hospital for final review | 0 days | Mon 7/22/19 | Mon 7/22/19 | 0% | | | 175FS+1 day | | NA | | |
| 177 | | Review by clinical staff | 1.5 hrs | Tue 7/23/19 | Wed 7/24/19 | 0% | Hospital Clinical | | 176FS+1 day | | NA | | |
| 178 | | PDF approved | 0 days | Wed 7/24/19 | Wed 7/24/19 | 0% | Hospital,PM,Hosp | | 177 | | NA | | |
| 179 | | Print and shipment of documents | 3 days | Wed 7/24/19 | Mon 7/29/19 | 0% | | | | | NA | | |
| 180 | | Documents sent to print | 1 day | Wed 7/24/19 | Thu 7/25/19 | 0% | | | 178 | | NA | | |
| 181 | | Verify shipping address | 0 days | Thu 7/25/19 | Thu 7/25/19 | 0% | | | 180 | | NA | | |
| 182 | | Documents shipped to site | 2 days | Thu 7/25/19 | Mon 7/29/19 | 0% | | | 180 | | NA | | |
| 183 | | Education Planning | 62.03 days | Thu 5/2/19 | Mon 7/29/19 | 13% | | | | | NA | | |
| 184 | | Review sample training schedule | 0.5 hrs | Thu 5/2/19 | Thu 5/2/19 | 100% | | | 28SS | | NA | | |
| 185 | | Identify if monitor station has enough space for monitor tech training | 0.5 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | | | 184SS+2 wks | | NA | | |
| 186 | | Clinical team revises training schedule | 0.5 hrs | Thu 5/16/19 | Thu 5/16/19 | 0% | Hospital Clinical,Hospital Educator | | 184FS+10 days | | NA | | |
| 187 | | 2nd review of training schedule | 0.5 hrs | Fri 5/17/19 | Fri 5/17/19 | 0% | Hospital Clinical,Hospital Educator | | 186 | | NA | | |
| 188 | | Reserve training rooms | 1 hr | Fri 5/31/19 | Fri 5/31/19 | 0% | Hospital Educator | | 187FS+2 wks | | NA | | |
| 189 | | Final review of training schedule | 0.5 hrs | Fri 7/26/19 | Fri 7/26/19 | 0% | Hospital Clinical,Hospital Educator | | 199SF-5 days | | NA | | |
| 190 | | Request training class schedule with attendee names | 0.25 hrs | Mon 7/29/19 | Mon 7/29/19 | 0% | Hospital Educator | | 189FS+1 day | | NA | | |
| 191 | | On Site Planning | 30.75 days | Tue 6/25/19 | Tue 8/6/19 | 0% | | | | | NA | | |
| 192 | | Schedule travel | 10 days | Tue 6/25/19 | Tue 7/9/19 | 0% | | | | | NA | | |

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| 193 | | Deployment tech | 2 hrs | Tue 6/25/19 | Tue 6/25/19 | 0% | | | | 203SF-5 wks | NA |
| 194 | | Clinical Educator(s) | 2 hrs | Mon 7/8/19 | Tue 7/9/19 | 0% | | | | 220FS-5 wks | NA |
| 195 | | Deployment | 2 days | Mon 7/22/19 | Wed 7/24/19 | 0% | | | | | NA |
| 196 | | Identify point of contact for deployment tech | 1 day | Mon 7/22/19 | Tue 7/23/19 | 0% | Hospital IT Lead | | | 204SF-5 days | NA |

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|---|-----------|-----------------|--------------------|-----------------------|----------------|--------------------|-----------------|
| Project: DRAFT AvaSure Project Date: Wed 5/15/19 | Task | Summary | Inactive Milestone | Duration-only | Start-only | External Milestone | Critical Split |
| | Split | Project Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Deadline | Progress |
| | Milestone | Inactive Task | Manual Task | Manual Summary | External Tasks | Critical | Manual Progress |

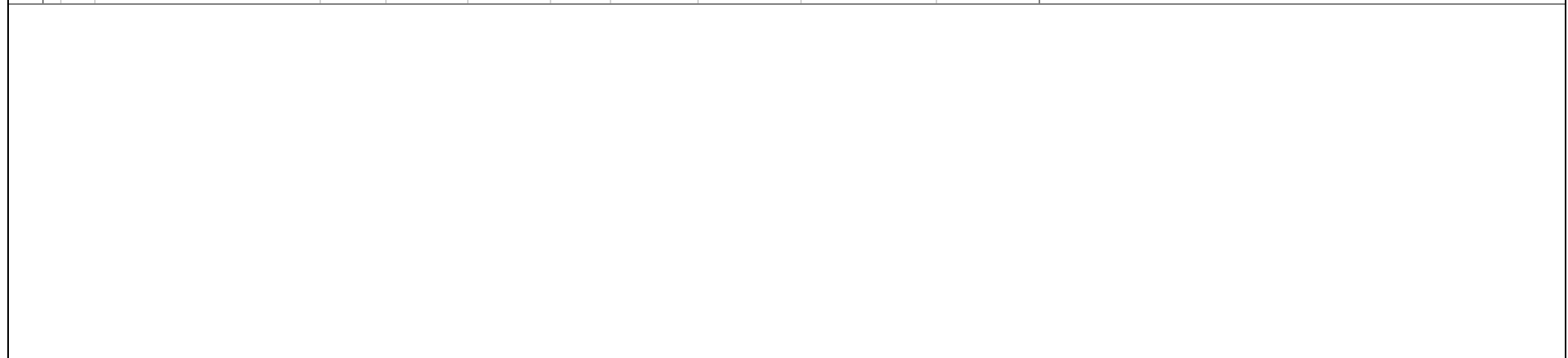
| ID | Progress | Task Name | Duration | Start | Finish | % Complete | Resource Names | Notes | Predecessors | Constraint Date | Qtr 2, 2139 |
|-----|----------|--|-----------|-------------|-------------|------------|-------------------|-------|-----------------------|-----------------|-------------|
| 197 | | Send out email handshake | 1 day | Tue 7/23/19 | Wed 7/24/19 | 0% | | | 196 | | Apr |
| 198 | | Clinical | 2 days | Fri 8/2/19 | Tue 8/6/19 | 0% | | | | | May |
| 199 | | Identify point of contact for clinical educator(s) | 1 day | Fri 8/2/19 | Mon 8/5/19 | 0% | Hospital PM | | 220SF-5 days | | |
| 200 | | Send out email handshake | 1 day | Mon 8/5/19 | Tue 8/6/19 | 0% | | | 199 | | |
| 201 | | Deployment Week | 3.38 days | Mon 7/29/19 | Fri 8/2/19 | 0% | | | | | |
| 202 | | Technician travel day | 0 days | Mon 7/29/19 | Mon 7/29/19 | 0% | | | 53SS+39 days,56,69,78 | | |
| 203 | | Day 1 | 0.5 days | Tue 7/30/19 | Tue 7/30/19 | 0% | | | | | |
| 204 | | Technician arrives on site | 0 days | Tue 7/30/19 | Tue 7/30/19 | 0% | Hospital IT Lead | | 202FS+0.5 days | | |
| 205 | | Technician assembles and configures equipment | 3 hrs | Tue 7/30/19 | Tue 7/30/19 | 0% | | | 204SS | | |
| 206 | | Technician gets the AvaSys units on the network | 3 hrs | Tue 7/30/19 | Tue 7/30/19 | 0% | Hospital Network | | 205SS+1 hr | | |
| 207 | | Day 2 | 0.5 days | Wed 7/31/19 | Wed 7/31/19 | 0% | | | | | |
| 208 | | PM sends daily report | 0 days | Wed 7/31/19 | Wed 7/31/19 | 0% | | | 209SS | | |
| 209 | | Technician installs the monitoring station software | 1 hr | Wed 7/31/19 | Wed 7/31/19 | 0% | Hospital Desktop | | 206FS+2 hrs | | |
| 210 | | Technician conducts wireless testing on hospital units | 3 hrs | Wed 7/31/19 | Wed 7/31/19 | 0% | Hospital Clinical | | 209 | | |
| 211 | | Day 3 | 0.63 days | Thu 8/1/19 | Thu 8/1/19 | 0% | | | | | |
| 212 | | PM sends daily report | 0 days | Thu 8/1/19 | Thu 8/1/19 | 0% | | | 213SS | | |
| 213 | | Technician completes wireless testing | 5 hrs | Thu 8/1/19 | Thu 8/1/19 | 0% | Hospital Clinical | | 210FS+4 hrs | | |

| | | | | | | | | | | |
|-----|--|--|-----------|-------------|-------------|----|-------------------------------------|--|---------------|----|
| 214 | | Inservice with desktop resource | 1 hr | Thu 8/1/19 | Thu 8/1/19 | 0% | Hospital Desktop,Hospital Help Desk | | 213FS-2 hrs | NA |
| 215 | | Post signage/display with escalation information | 0.5 hrs | Thu 8/1/19 | Thu 8/1/19 | 0% | Hospital Desktop | | 214FF | NA |
| 216 | | Inservice with Biomed/CE on care of units | 1 hr | Thu 8/1/19 | Thu 8/1/19 | 0% | Hospital Biomed | | 214 | NA |
| 217 | | Technician travel day | 0 days | Fri 8/2/19 | Fri 8/2/19 | 0% | | | 216FS+4 hrs | NA |
| 218 | | Validation and User Acceptance Testing | 5 days | Fri 8/2/19 | Fri 8/9/19 | 0% | Hospital Clinical,Hospital IT Lead | | 217 | NA |
| 219 | | Clinical Education | 3.38 days | Mon 8/12/19 | Fri 8/16/19 | 0% | | | | NA |
| 220 | | Educator travel day | 0 days | Mon 8/12/19 | Mon 8/12/19 | 0% | | | 202SS+10 days | NA |
| 221 | | Check in at hospital | 0 days | Mon 8/12/19 | Mon 8/12/19 | 0% | Hospital Clinical,H | | 220 | NA |
| 222 | | Day 1 of clinical education | 1 day | Tue 8/13/19 | Tue 8/13/19 | 0% | | | | NA |
| 223 | | Monitor tech training | 8 hrs | Tue 8/13/19 | Tue 8/13/19 | 0% | | | 221FS+1 hr | NA |

| | | | | | | | | | |
|---|-----------|-----------------|--|--------------------|--|-----------------------|----------------|--------------------|-----------------|
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| ID | Progress | Task Name | Duration | Start | Finish | % Complete | Resource Names | Notes | Predecessors | Constraint Date | Qtr 2, 2139 | Apr | May |
|-----|----------|-----------------------------|-----------|-------------|-------------|------------|---------------------|-------|--------------|-----------------|-------------|-----|-----|
| 224 | | Clinical champion training | 2 hrs | Tue 8/13/19 | Tue 8/13/19 | 0% | Hospital Educator | | 223SS | | NA | | |
| 225 | | Mobile awareness | 6 hrs | Tue 8/13/19 | Tue 8/13/19 | 0% | Hospital Educator | | 224 | | NA | | |
| 226 | | Day 2 of clinical education | 0.75 days | Wed 8/14/19 | Wed 8/14/19 | 0% | | | | | NA | | |
| 227 | | PM sends daily report | 0 days | Wed 8/14/19 | Wed 8/14/19 | 0% | | | 228SS | | NA | | |
| 228 | | Monitor tech training | 5 hrs | Wed 8/14/19 | Wed 8/14/19 | 0% | | | 225FS+2 hrs | | NA | | |
| 229 | | Clinical champion training | 2 hrs | Wed 8/14/19 | Wed 8/14/19 | 0% | Hospital Educator | | 228SS | | NA | | |
| 230 | | Mobile awareness | 4 hrs | Wed 8/14/19 | Wed 8/14/19 | 0% | Hospital Educator | | 229 | | NA | | |
| 231 | | Day 3 - Go Live | 1 day | Thu 8/15/19 | Thu 8/15/19 | 0% | | | | | NA | | |
| 232 | | Go Live Support | 1 day | Thu 8/15/19 | Thu 8/15/19 | 0% | | | 230 | | NA | | |
| 233 | | PM sends daily report | 0 days | Thu 8/15/19 | Thu 8/15/19 | 0% | | | 232SS | | NA | | |
| 234 | | Educator final check in | 2 hrs | Fri 8/16/19 | Fri 8/16/19 | 0% | Hospital Clinical,H | | 231 | | NA | | |
| 235 | | PM sends daily report | 0 days | Fri 8/16/19 | Fri 8/16/19 | 0% | | | 234 | | NA | | |
| 236 | | Educator travel day | 0 days | Fri 8/16/19 | Fri 8/16/19 | 0% | | | 234 | | NA | | |

| | | | | | | | | | | | |
|-----|--|--|-----------|-------------|-------------|----|---------------------|--|--------------|--|----|
| 237 | | PM sends go live email to sales | 0 days | Fri 8/16/19 | Fri 8/16/19 | 0% | | | 236 | | NA |
| 238 | | Project Closing | 5.38 days | Fri 8/23/19 | Fri 8/30/19 | 0% | | | | | NA |
| 239 | | First Follow Up Call | 0.5 hrs | Fri 8/23/19 | Fri 8/23/19 | 0% | Hospital Clinical,H | | 236FS+5 days | | NA |
| 240 | | Lessons Learned Meeting (AvaSure only) | 0.5 hrs | Fri 8/23/19 | Fri 8/23/19 | 0% | | | 239 | | NA |
| 241 | | Project closing document | 5.25 days | Fri 8/23/19 | Fri 8/30/19 | 0% | | | | | NA |
| 242 | | Send to customer | 1 day | Fri 8/23/19 | Mon 8/26/19 | 0% | | | 240 | | NA |
| 243 | | Signed document returned to Avasure | 2 hrs | Fri 8/30/19 | Fri 8/30/19 | 0% | Hospital PM | | 242FS+4 days | | NA |
| 244 | | Project survey sent to hospital team | 1 day | Mon 8/26/19 | Tue 8/27/19 | 0% | | | 242 | | NA |



| | | | | | | | | | |
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Appendix H.

Mobile Safety Companion Pilot Codebook

| Variable | SPSS Variable Name | Coding Instructions |
|-----------------------------|---------------------------|--|
| Study Identification Number | ID | Number assigned to each study |
| Age | age | Age in years |
| Gender | gender | 1=Males 2=Females |
| Unit | unit | Unit Telesitter took place 7= 7 east 6=6 east 5=5 east 4=4 east 3= 4 west 2=4 ICU |
| Date Ordered | orderdate | Date Telesitter ordered |
| Time Ordered | ordertime | Time Telesitter ordered |
| Reason | reason | Reason Telesitter ordered 1=Elopement 2=Fall Prevention 3=Harm Prevention |
| Fall | fall | Fall occurred while patient on Telesitter 1=No 2=Yes |
| Fall with injury | injury | Did an injury to patient occur from a fall 1=No 2=Yes |
| Number of Redirects | redirects | Number of patient redirect |
| Number of Stat Alerts | Stat | Number of patient Stat Alerts |
| Discontinue Date | dcddate | Date Telesitter Discontinued |
| Discontinue Time | dctime | Time Telesitter Discontinued |
| Time on Telesitter | teletime | Number of hours patient remain with Telesitter in place |
| Disposition | dispo | Reason patient discharged 1=patient discharged from hospital 2=>5 redirects in 30 minutes 3=>3 stat alerts in 30 minutes 4=patient left AMA 5=patient fell 6=not appropriate |