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Krys Elgarico

University of San Francisco, klelgarico@dons.usfca.edu

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Getting to Zero: Creating an Infrastructure to Support Fall Prevention in a Medical–Surgical

Telemetry Unit

Krys L Elgarico

University of San Francisco

School of Nursing and Health Professions

Abstract

Problem: Hospital falls are a growing national patient safety concern that cause anxiety, pain, distress, serious injuries, and increased health care utilization. Despite the presence of a well-developed falls prevention protocol since 2017. Internal data from an inpatient medical-surgical telemetry (MST) unit indicate the largest number of fall-related events among the hospital's departments.

Context: Practice improvement project was initiated in a 217-bed community hospital to determine barriers and potential success factors. This MST is a dynamic, 48-bed unit providing care to mainly geriatric patients who require continuous telemetry monitoring and complex medical, trauma, and surgical services. Senior leaders in the hospital consider falls and fall-related injuries to be a top priority and therefore support the implementation for a cost-effective plan to improve clinical, quality, and fiscal outcomes.

Intervention: A unit based Clinical Nurse Leader (CNL) led the team to achieve the unit goal of a 20% reduction in falls by the end of the performance year 2019 utilizing improvement activities to foster the development of both a nursing and patient-centered approach. The primary intervention included the formation of a long-term Fall Prevention Safety Committee (FPSC) to develop, oversee and test a new and multifaceted intervention (or change package) consisting of several best practices. The re-introduction of a well-organized, committed fall prevention team was implemented to enhance the organizational infrastructure and oversight of unit-based fall prevention initiatives.

Measures: To evaluate the effectiveness of the FPSC and the change package, three "metrics that matter" were assessed including a quarterly patient and team satisfaction survey, monthly fall rates and an annual analysis of the MST fall rate. These metrics will continue to be

monitored and compared with benchmarks and baseline data in order to assess progress toward a yearly reduction of 20% in fall rates.

Results: Implementation testing has been ongoing since June 03, 2019. Based on the preliminary data, the FPSC help reduced the rates of falls during the initial stage of the implementation testing through a collaborative team effort to identify problem areas and implement solutions. Only one fall event has occurred since the test of change began over 8 weeks. The change package significantly impacted the knowledge and behaviors of the staff, patients and their families, thus resulting in heightened awareness and engagement about fall prevention. The result is limited at this time; however, the change is clinically relevant and continues to trend downward.

Conclusion: Improving the identification of at-risk patients and decreasing falls is a complex process in the acute care setting. Lack of sustainable organization infrastructure contributes to inconsistent monitoring and interventions to ensure patient safety and decrease fall rates. Unit-based interprofessional teams that are highly motivated and well organized can significantly decrease fall rates through proactive approaches to anticipate risk and implement change strategies.

Keywords: *falls, prevention, hospital, infrastructure, improvement, teamwork*

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Telemetry Unit

Introduction

Falls and fall-related injuries are a growing national concern, being a significant source of anxiety, pain, distress, serious injuries, and increased health care utilization. According to the Centers for Disease Control and Prevention (CDC) (2016), some 700,000 to 1,000,000 falls occur each year in US hospitals. From 2007 to 2016, death rates from falls in the US increased by 30%. Indeed, falls are currently the leading cause of injury and death for persons over the age of 65 (CDC, 2016).

Many hospitals have accordingly implemented fall prevention policies and procedures that rely on evidence-based interventions. However, some changes have been necessary when incorporating these interventions, in order to increase staff engagement with the relevant education. Developing a fall prevention strategy requires a collaborative effort as well as considering organizational and clinical factors.

Description of the Topic and Problem

Fall prevention is a National Patient Safety Goal for both hospitals and long-term care facilities. Moreover, falls are the most common type of preventable inpatient accident, accounting for up to 70% of adverse events (Agency for Healthcare Research and Quality [AHRQ], 2018). Outcomes can include minor to severe injuries, reduced quality of life, prolonged hospital stays, and admission to long-term care facilities. Specifically among the elderly, an estimated 30–50% of falls result in such minor injuries as bruises, abrasions, and lacerations, and 10% result in such significant injuries as fractures and head trauma (Walker & Steffens, 2014). The CDC (2018) has reported falls as responsible for most of the injury deaths

among Americans over 65, with one in three older adults suffering a fall at least once within a given year. Around 20% of patients who experience hip fractures as a result of a fall die within a year of injury, while 25% are unable to live independently after a fracture for up to a year, and most remain in the hospital for at least a week.

Inpatient falls contribute to increased hospital stays and impose enormous costs on individuals, families, and the health care system. In 2010, direct medical costs related to fall injuries for individuals over 65 amounted to some \$30 billion (CDC, 2018). The problem is expected to grow worse due to the increasing size of the elderly population. The Centers for Medicare and Medicaid Services (CMS) have classified inpatient falls as “never events” and, since 2008, have not reimbursed hospitals for treatment costs resulting from fall-related injuries sustained by hospitalized patients (AHRQ, 2018). The average total cost of treatment for such injuries now exceeds \$30,000 (CDC, 2018), making them among the most expensive preventable conditions.

The statistics thus make clear the severity and ubiquity of falls, as well as the need for policies and procedures to prevent them. The Kaiser Foundation Hospital (2016) released a fall policy statement designed to facilitate identifying patients at risk of falls through applying evidence-based interventions. This policy statement singled out three key areas for concern and improvement: monitoring specific patient activities, individualized risk assessment for each patient, and mitigation of environmental risk factors (including poor footwear, wet floors, and room layout). The prevention strategies form the acronym TEAM, for *Toileting/bathroom* activities, *Environmental* risk reduction (including wet floors, objects on floors, and equipment tethered to patients), *Assessing/addressing* each patient’s fall risk (through a routine assessment on admission), and a *Multidisciplinary* plan and *Medication* review. Despite this well-developed

fall prevention protocol, internal data show that patients in the medical–surgical telemetry (MST) Unit at the Kaiser Permanente South Sacramento Medical Center (KPSSC) have been suffering more falls than those in other units, with 32 falls in 2019 as of June 30th.

The purpose of this improvement project is to develop and test a dedicated Fall Prevention Safety Committee (FPSC) as part of a long-term organizational effort to decrease preventable inpatient falls and fall-related injuries at this busy MST unit. The project aims to fill this gap in the infrastructure by fostering a culture of learning and improvement to optimize team-based care and, eventually, result in a fall rate of zero.

Available Knowledge

PICOT Question

The PICOT model question for this research was whether, in the MST unit (P – population), a formation of a FPSC (I – intervention) would, compared with no committee and instead relying only on the current falls prevention policy (C – comparison), reduce inpatient falls by 20% in the period from October 2018 to the present (T – time).

Review of Literature

A comprehensive literature search was conducted to examine current fall prevention practices and review pertinent data relating to inpatient falls. The databases included Elton B. Stephens Co. (EBSCO), the Cumulative Index to Nursing and Allied Health Literature (CINAHL), the AHRQ, PubMed, and the CDC; the searches covered the years from 2012 to the present. The keyword search terms were “falls”, “hospital falls”, “inpatient falls”, “fall prevention”, “patient safety”, and “teamwork.” The focus of the literature review was to identify evidence-based strategies for fall prevention and supporting collaborative care, with an emphasis on teamwork at the microsystem level.

Much of the literature on fall prevention has focused on long-term care facilities, acute care units, and community centers, which are often responsible for treating fall-related injuries. These studies have addressed topics including risk factors for falls, predictors of fall-related injuries, models for identifying these risk factors, interventions to mitigate falls, the formation of patient safety teams, and post-fall debriefings. The literature includes empirical quantitative studies (Avanecean, Calliste, Contreras, Yeogyong, & Fitzpatrick, 2017; France et al., 2017; Hill, Etherton-Bear, & Haines, 2013), qualitative studies (Frieson, Foote, Frith, & Wagner, 2012; Howard, 2018; Tzeng & Yin, 2015; Stevens & Phelan, 2013; Wilson et al., 2016), and mixed-methods research (Ambutas, Lamb & Quigley, 2017; Dykes et al., 2017; Godlock, Christiansen, & Feider 2016). These works are relevant to the issues confronting the MST unit at KPSSC.

Several factors have contributed to the increasing fall rate at MST unit, including noncompliance with the fall prevention bundle measures, incomplete understanding of the risk factors for falls, and ineffective communication about patients at high risk for falls. Frieson et al. (2012) developed the Change Theory Fall Model (CTFM) to reduce fall rates for long-term care residents. Although implementation of the CTFM did not significantly reduce falls, education about evidence-based practice did lead to changes in behavior by various stakeholders so that no fall-related deficiencies remained. Furthermore, efforts to increase the awareness of hospital staff, patients, and families regarding falls in collaboration with the various stakeholders have proven effective in decreasing falls and fall-related injuries (Wilson et al., 2016).

Godlock, Christiansen, and Fieder (2016) and Ambutas, Lamb, and Quigley (2017) contended that preventable inpatient falls can be most efficiently reduced by cultivating teamwork through infrastructure and standard evidence-based tools, such as frontline staff education and involvement about fall prevention, fall risk assessment, post-fall assessment, alarm

device usage, side effects of medications, hourly rounding, and offering toileting frequently. Raising situational awareness, increasing mutual support, engaging leaders, and encouraging open communication can reduce the impact of unpreventable falls.

Similarly, France et al. (2017) successfully developed a quality improvement (QI)–based multicomponent fall prevention strategy that includes (a) creation of a QI team; (b) environmental and systems assessment; (c) assessment of educational needs of staff, patients, and families; (d) review of existing unit signage and visual alerts; (e) documentation of post-fall huddles; and (f) direct observations of patient activity and care delivery in the three high-risk pilot units. Their approach was able to mitigate the statistical and clinical impacts of falls with injuries during the five months of the study. The authors acknowledged that the success of their strategy resulted from the leadership culture of teamwork, and stable and supportive organizational infrastructure.

In a quantitative study, Avanecean et al. (2017) conducted a systematic review of the effectiveness of patient-centered interventions in reducing falls in an acute care setting. These interventions consisted of assessing individual patients' risks based on their needs, values, and preferences, and such measures as communication tools for alerting nursing staff to patients at risk for falls, as well as person-centered education, individualized and directed physical therapy exercises, assessments of medication lists, and ambulatory aid. To test these interventions, five randomized controlled trials were evaluated for methodological quality based on a comprehensive search of the literature available at the time. While two analyses revealed no difference in fall rates between the two groups of patients (experimental and control, $p < 0.05$), three others did show statistically significant reductions in fall rates ($p < 0.04$) as measured by the use of personalized care plans and patient-centered education tailored to the results of each

patient's fall risk assessment. The Kaiser Hospital Foundation's fall prevention policies already combined individual patient risk assessments with patient-centered interventions; under the new provisions, staff engagement and team collaboration were also leveraged as part of the effort to reduce hospital fall rates and injuries.

In another quantitative study, Hill et al. (2013) conducted a randomized controlled trial comparing the delivery of fall prevention education to older hospital patients using either a multimedia approach involving a DVD or written materials. They found that the former showed significantly better results in terms of increasing knowledge of falls prevention measures ($p = 0.04$) and engagement in falls prevention strategies ($p = 0.14$). Most importantly, fewer falls occurred in the intervention group six months after discharge than in the control group ($n = 5$ intervention; $n = 18$ control). Notably, however, this study was only a pilot designed to test the intervention in anticipation of a larger trial. At the time of this improvement project, KPSSC was providing neither written nor multimedia fall education to patients and families, which represented an obvious step in efforts to reduce falls and fall-related injuries.

A qualitative study by Stevens and Phelan (2013) described the development of a fall prevention tool known as Stopping Elderly Accidents, Deaths, and Injuries (STEADI). This tool, which drew on the latest theories and evidence, consisted of a variety of resources for assessing the risk of falls and assigning activities on this basis. For instance, it suggested educating even low-risk patients on fall prevention. The STEADI toolkit is an example of the kind of fall prevention measure that could be incorporated into the policies and procedures of Kaiser Foundation Hospitals (Stevens & Phelan, 2013). Likewise, Dykes et al. (2017) found that most patient falls result from lack of communication, noting that inpatient falls could be prevented through conducting a fall risk assessment, developing tailored or personalized prevention plans,

and implementing the customized fall prevention plan consistently. Integrating a patient-centered fall prevention toolkit such as the Fall Tailoring Intervention for Patient Safety (TIPS) poster resulted in significantly reduced patient falls on intervention units.

Tzeng & Yin (2015) explored nurses' perceptions of the 10 most effective interventions to prevent adult inpatient fall injuries. Analysis of the results of the multihospital nurse survey identified several interventions in various specialty areas that proved beneficial in mitigating falls, the most common being a fall risk assessment. Other interventions included keeping hospital bed brakes locked, ensuring that call lights were within reach, one-on-one support for toileting, use of sitters, placing beds in the low position, daily mental status assessments, maintaining clean and dry floor services, and providing patients with non-slip footwear. Some of these were already included in the policies and procedures of Kaiser Foundation Hospitals, but some changes were necessary to incorporate the interventions in terms of increasing staff participation and promoting patient and family education.

While Tzeng & Yin (2015) addressed nurse perceptions of fall prevention, Howard et al. (2018) focused on identifying and implementing a refined process to promote more accountability and engagement among nurses to decrease falls. The implementation team designed a new fall huddle process that integrated a new huddle form and a reflective email to communicate fall events to peers. After implementation, the fall rate was reduced below the predetermined benchmark of 2.5 in six of the seven months of the study.

The combined weight of these studies suggests that, while the existing fall prevention policies at Kaiser Foundation Hospital include evidence-based practices, improvements could be realized through stable infrastructure, improving teamwork and communication, promoting awareness and engagement with staff, patients, and families, and other collaborative efforts.

Rationale

Role of the Clinical Nurse Leader

The existing fall prevention policies at Kaiser Foundation Hospital include evidence-based practices, but improvements have the potential to eliminate patient falls with injury by the end of September 2019 at the MST unit, and to reduce the overall fall rate by 20%. Clinical nurse leaders (CNLs) are a crucial part of this effort because, having been tasked with maximizing the quality of care in cost-effective ways, they are well positioned to identify factors that lead to poor outcomes or patient dissatisfaction. The CNL serves as a leader but also as an educator and a resource for nursing and ancillary staff (American Association of Colleges of Nursing [AACN], 2007). Thus, empowered as change agents, CNLs can implement interventions designed to minimize falls in their units, evaluate their efficacy, and recognize and address any problems. The CNL also serves as a systems analyst and risk anticipator, with the critical duty of evaluating data systems and anticipating risks based on patient safety trends (AACN, 2007). They therefore serve several critical roles relating to the review and analysis of falls in the unit and implementation of delivery using resources such as failure mode and effects analysis (FMEA) tools to enhance quality of care.

Change Theory

Change is inevitable and necessary for progress to occur. The responsibility of change agents is to determine the appropriate theoretical basis for implementing, managing, and evaluating change in health care and other contexts. Since staff, patient, and family awareness and engagement represent the main barriers to the proposed change in approach to fall prevention, Kotter's eight-step process for organizational change, which takes this issue into account, is particularly appropriate as a framework for this study (Appendix A). The eight steps

involve (1) creating a sense of urgency, (2) building a guiding coalition, (3) forming a strategic vision and initiatives, (4) enlisting a volunteer army, (5) empowering action and removing observed barriers, (6) realizing short-term successes, (7) sustaining acceleration, and (8) instituting the change (Kotter International, 2018). Implementing these steps throughout a health care organization can bring about successful change despite resistance (Finkelstein, 2016).

Model for Improvement (MFI)

The Model for Improvement (MFI) is a nationally recognized framework developed by the Associates in Process Improvement for testing change ideas to guide quality improvement projects (Nelson, Batalden, & Godfrey, 2007). The model (Appendix B) is designed to accelerate the improvement process, which consists of two parts: (1) three fundamental questions to focus improvement work: the aim of the test, how improvement will be perceived, and how each specific change can result in improvement; and (2) tests of change using the plan-do-study-act (PDSA) method.

The PDSA cycle is a tool within the MFI used to conduct small tests of change by developing a plan to test a change (Plan), carrying out the test (Do), observing and learning from the effect of the tested change (Study), and determining what modifications should be made to the test (Act) (Institute for Healthcare Improvement [IHI], 2019). For this practice improvement project, the PDSA (Appendix C) will be used to conduct small tests of change for the multifaceted evidence-based fall reduction interventions. This repetitive process helps decipher which intervention could potentially have the greatest impact on reducing falls in the MST unit, recognize potential barriers, and determine appropriate solutions. During this change process, several cycles of the PDSA may be conducted as the practice improvement team learns more about the issues (IHI, 2019).

Project Aims

Global Aim

The global aim of this quality improvement project is to engage and motivate staff, patients, and families to promote safety and reduce falls, by creating a culture of continuous improvement to change outcomes through forming and implementing a FPSC.

Specific Aim

The specific aim of this project is to develop an engaged and proactive FPSC to eliminate patient falls with injury by the end of September 2019 at the MST unit and reduce the overall fall rate by 20%.

Aim Statement

We, the FPSC, aim to promote safety and improve patient outcomes in the MST unit at KPSSC by reducing the overall fall rate by 20% and eliminating patient falls with injury by the end of September 2019.

The process began with the formation and implementation of a FPSC. The process will end with staff, patients, and families presenting an increase in awareness, engagement, and knowledge of the effectiveness of the fall prevention change package in place.

By working on the process, we expect to (1) improve patient and staff satisfaction, (2) enhance staff, patient, and family knowledge and skills relating to the prevention of falls and fall-related injuries, (3) ensure that staff, patients, and families understand what a safe environment means and implement appropriate strategies to increase safety and prevent inpatient falls, (4) decrease the potential for adverse events, (5) reduce length of stay and health care utilization, and (6) improve the efficiency and safety of the process.

Working on this now is important because we have identified opportunities for improvement, several near misses have occurred, and the CMS has classified inpatient falls as “never events”. No reimbursement will be provided for treatment costs resulting from fall-related injuries to hospitalized patients.

Methodology

Context

Several efforts have been made to help reduce inpatient falls at the MST unit. For instance, a health care FMEA tool (Appendix D) was used in 2017 to evaluate the fall prevention process in place and identify areas for improvement to prevent future failures. This resulted in a hospital-wide policy of “no one’s toileting alone”, and the development of a fall kit consisting of a yellow gown, yellow socks, yellow fall risk bands, and “call don’t fall” door signage. During the implementation phase, fall events showed some improvements. However, soon after the implementation testing was finished and the fall prevention team dissipated, the fall rates in the unit began rising again. Thus, an organizational infrastructure is necessary for the success and sustainability of any practice improvement project.

Microsystem Assessment

Assessment is crucial for improving the clinical microsystem. Various methods and tools can be used for these assessments. For example, the health care microsystem includes five “Ps”: purpose, patients, professionals, processes, and patterns. The five Ps framework can be used to measure the success of clinical microsystems in meeting patient needs (Nelson, Batalden & Godfrey, 2007). A microsystem assessment was conducted by this CNL.

For the purpose of implementing this practice improvement project, KPSSC was the designated macrosystem, and the MST unit the designated microsystem (Appendix E) in which

the FPSC was created to promote better patient outcomes. KPSSC is a licensed 217-bed facility, primary stroke center, and designated level-II trauma center serving approximately 236,485 members.

The MST is a dynamic, 48-bed unit that provides care to adults, primarily geriatric patients who require continuous telemetry monitoring and complex medical, trauma, and surgical services. Approximately half of the MST patients are 60 years old and older, and 45% of its admitted patients are women. The top diagnoses include congestive heart failure, non-ST-elevation myocardial infarction, sepsis, respiratory failure, stroke, gastrointestinal bleeding, and traumatic injury. The unit also specializes in the care of patients undergoing head and neck and minimally invasive surgeries. The average length of stay is three days for medical patients and five days for surgical patients. Around 75% of patients are discharged to their homes. Some surgical patients go home with a visiting nurse, and some are transferred to a skilled nursing facility.

The patient care team at the MST unit is a diverse group consisting of department manager, assistant nurse managers, and registered nurses (RNs). All RNs have telemetry expertise and national certification credentials; a few are working on furthering their current nursing degrees. The unit also includes patient care technicians, physicians, residents, and unit assistants. Supporting services include respiratory, neurology, cardiology, laboratory, radiology, pharmacy, rehabilitation, case management, social services, housekeeping, ancillary, and engineering. On average, the patient care team comprises at least eight nursing staff and three non-nursing staff for each shift.

The MST unit follows routine processes for shift changes, admissions, transfers, discharges, and medication administration. Before each shift, the assistant nurse manager (ANM)

conducts a 10-minute huddle in the break room to discuss concerns with the next shift's incoming staff. The staff nurses conduct a shift-change handoff report at each patient's bedside using the Nurse Knowledge Exchange via KP HealthConnect™. Whiteboards in front of patient beds are filled out and updated daily with patient and family information, upcoming procedures and lab tests, daily goals, and expected date of discharge.

The physicians and patient care teams conduct daily, multidisciplinary rounds to communicate care plans to patients and their families. The discharge and transfer process usually occur during the evening shift. Physicians are expected to write discharge or transfer orders during the day shift, but most are written after 1 pm. Additional discharge delays can occur due to later orders or inadequate equipment.

KPSSC policy at the time of this practice improvement project was that universal fall precautions (Appendix F) be taken for all hospitalized patients. Thus, nurses assessed each patient for fall risk on admission and then daily or more frequently as needed, especially after a fall or a change in condition. These assessments used the Schmid Fall Risk Assessment tool, nurses' judgment, and the Schmid Plus ABCS; specifically, the fall prevention bundle was implemented for patients who scored 3 or higher on the assessment scale of 0 to 5. Additionally, in order to alert hospital staff to these patients' fall status, a fall risk banner was activated in KP HealthConnect™, according to which they wore yellow gowns, socks, and arm bands and had a fall risk sign placed outside their rooms. Further fall prevention strategies included risk-specific interventions based on the TEAM bundle, such as offering toileting every two hours, the use of bed and chair exit alarms for patients unable or unwilling to use the call light, and assignment of at-risk patients to rooms close to nursing stations.

The MST unit has many opportunities for quality improvement based on the last performance year. “Metrics that matter” include decreasing pressure ulcers, catheter-associated urinary tract infections, central-line associated bloodstream infections, and inpatient falls. Retrospective analysis of microsystem processes revealed that the 2017 Failure Modes Effect Analysis (FMEA) was completed; however, no sustainable program was implemented and falls continued to increase. Patterns revealed no oversight body to assess or monitor at risk patients or provide fall prevention education.

Thus, the microsystem assessment and internal records review revealed that patients were suffering more falls than those in other hospital departments due to a lack of infrastructure in terms of team focus, oversight, or integration of evidence-based practices. For example, established best practices and resources from Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS) had not been introduced, despite their potential to increase patient and staff engagement with fall prevention education (AHRQ, 2014).

SWOT Analysis

In order to assess the aspects that may positively and negatively affect this practice improvement project, a completed a strengths, weaknesses, opportunities, and threats (SWOT) analysis was completed (Appendix G). This analysis is critical to the successful planning and implementation of the FPSC and change package.

The strengths identified for this improvement project included an extensive fall prevention policy, presence of existing tools and equipment, resources available, and leadership support.

The weakness assessed were inconsistencies with fall risk assessment and documentation; low levels of staff, patient, and family participation; lack of teamwork; communication among

staff; interdisciplinary support; fall prevention knowledge; standard follow-up; and inconsistent purposeful staff rounding.

Identified opportunities for improvement were patient and staff education, committee development, policy revision, team building, and intentional nurse leader rounding.

Threats that may keep this improvement project from success could relate to inertia, financial costs, increased length of stay, Medicare and Medicaid reimbursements, injury or death, lawsuits, and alarm fatigue.

Cause and Effect (Fishbone) Diagram

Another QI analysis tool used for this improvement project is the cause and effect (fishbone) diagram (Appendix H). Creating this diagram was important because it examines the contributing factors behind patient falls in the MST unit, thus facilitate the FPSC to discuss and formulate appropriate intervention to address the problem. The main categories include patients, process, environment, and staff.

Histogram Analysis

A visual representation of the data collected is an effective tool to analyze the current fall rate statistics and fall-related injuries. The FPSC tallied all the 32 fall events and formed a histogram to highlight the time intervals when the most inpatient falls occurred. The histogram analysis (Appendix I) assisted the FPSC in determining the appropriate intervention to implement. It also created a sense of urgency and helped secure project buy-in for both senior leaders and staff.

Cost-Benefit Analysis

As previously mentioned, the CMS has not reimbursed hospitals for treatment costs resulting from fall-related injuries to hospitalized patients (AHRQ, 2013). The average total cost

of treatment for such injuries now exceeds \$30,000 per occurrence (CDC, 2018), which ranks falls among the most expensive, yet preventable, conditions. This practice improvement project was designed to decrease fall and fall-related injury rates, thus healthcare expenditures related to fall-related events such as increased length of stay, post-fall injuries, staff injuries, and lawsuits could be greatly reduced.

The number of reported falls for performance year 2017 was 43, while 41 occurred in 2018, and 32 in 2019 so far. The cost of falls in the MST for 2018 was approximately \$1,230,000 (Appendix J). The cost of materials is roughly estimated at \$960. The cost avoidance measure is calculated by multiplying the number of an event by 0.20. The difference between the cost of the fall event in 2018 and the cost of avoidance rate will help determine the cost savings for this project. Thus, if this project can achieve a 20% reduction in falls, the projected cost for fall events this performance year will be \$960,000 – an estimated saving of \$270,000.

CNL Fall Prevention Teaching Plan

The development of a fall prevention strategy requires collaborative efforts as well as consideration of organizational and clinical factors. Based on the SWOT analysis and fishbone diagram, it is necessary to increase staff engagement in education about risk factors for falls and multifactorial, evidence-based measures for improving fall prevention strategies in the MST unit. Potentially useful in this respect is TeamSTEPPS, a program that many hospitals have implemented to improve teamwork skills and enhance communication (AHRQ, 2014). A CNL fall prevention teaching plan has been created (Appendix K) to help guide this education.

Implementation of Project

For the MST microsystem and CNL-led team to achieve the unit goal of a 20% reduction in falls by September 30th, 2019, improvement activities must foster development of both a

nursing- and patient-centered approach. Kotter's model will therefore serve as a guide to clinical practice, particularly to enacting evidence-based changes to reduce fall rates and injuries from falls in the MST unit (Appendix L).

The CNL revisited the 2017 FMEA and offered the leadership and focus to re-organize the team and evaluate new approaches. The first intervention included the formation of a long-term Fall Prevention Safety Committee (FPSC) to develop, oversee and test a new and multifaceted intervention (or change package) consisting of several best practices. The addition of a well-organized, committed fall prevention team was implemented to enhance the organizational infrastructure and oversight of unit-based fall prevention initiatives.

Furthermore, the proposed change package to the MST unit include (a) presentation of hospital and unit data for current fall rates and fall-related injuries (Appendices M); (b) preparation of a microsystem gap analysis demonstrating the current state of fall prevention practices using an in-depth pre and post implementation chart and intervention fall analysis (Appendix N); (c) integration of the Hospital Elder Life Program (HELP) (Appendix O); (d) an interactive fall prevention information session and PowerPoint presentation (Appendix P) during the three MST staff meetings as directed by the designated unit falls champion; (e) development and implementation of a post-fall debriefing form (Appendix Q); (f) provision of one-on-one staff education using the AHRQ Fall T.I.P.S. patient board (Appendix R), and (g) standardization of walker utilization. A plan-do-study-act (PDSA) cycle will be used to conduct the small test of change for each initiative in the MST unit to improve performance.

Action Plan

An action plan is a list of tasks specific to the following phases that need to be accomplished to achieve the improvement goal (Finkelman, 2016). The action plan for this

project will rely on Kotter's eight steps as a theoretical framework for the design, organization, implementation, prioritization, and management of the actions necessary to decrease the fall rate and fall-related injuries in the MST unit. The appropriate actions are therefore grouped according to where they occur within Kotter's model, using a Gantt chart to manage overall improvement tasks (Appendix S). For the action plan to be successful, the goals for each phase must be achieved before the change champion moves on to the next. This plan will help the FPSC to implement and sustain the proposed change.

Application of TeamSTEPPS to the Prevention of Hospital Falls

After conducting a comprehensive fall data analysis and securing buy-in from senior management, a fall prevention program was developed based on TeamSTEPPS to educate staff about risk factors for falls and about multifactorial, evidence-based measures for improving fall prevention strategies in the MST unit. Prior to the education program, a pre-implementation fall audit (Appendix N) was conducted. In addition, a pre-test (Appendix T) was also given to the MST unit staff to establish a baseline of knowledge about falls and hospital fall intervention practices. For the interactive information session, arrangements were made with the department unit manager to include the fall prevention presentation in the staff meeting agenda.

The presentation (Appendix P) ran for 15 minutes in a large, quiet, well-lit room, accompanied by a complimentary continental breakfast. The PowerPoint slides displayed a summary of data analysis, key concepts about risk factors for inpatient falls, and evidence-based intervention proposals to prevent them. The topic and the session objectives were introduced, leading to a detailed discussion of falls in the form of an interactive lecture, during which staff asked and answered questions and shared their experiences and opinions. A pocket card

(Appendix U) was created and distributed to remind staff of best practices and promote accurate Schmid risk assessment.

A shift huddle process (Appendix V) was implemented prior to the start of shifts to communicate and identify patients at high risk of falling. The shift huddle is proven to promote collaboration and improved communication among staff and leadership. Moreover, the microsystem assessment revealed a lack of tools to conduct an immediate post-fall analysis. The implementation of the post-fall debriefing form (Appendix Q) provided an immediate opportunity to plan for secondary prevention of falls and discuss any concerns.

Lastly, for in-service learning, each staff member spent approximately 10 minutes with the designated unit falls champion during their work shifts, while another nurse watched over their patient, for one-on-one staff education using the AHRQ Fall TIPS patient board (Appendix R). Fall TIPS provides a great communication and engagement tool for staff, patients, and families. It combines consistent patient risk assessment, patient-centered intervention, and individualized fall care planning.

Study of the Intervention

Measurement Strategy

The population criteria for this fall improvement project included all patients admitted to the MST unit. Baseline and current falls data were obtained from the electronic health record (EHR) by completing a comprehensive in-depth chart audit and reviewing the data collection in the Medical Information Data Analysis (MIDAS) reporting system.

In medical terms, a patient fall is defined as an unplanned drop to the floor or to an extension of the floor that may or may not be observed by or require assistance from staff

(AHRQ, 2018). This definition directly correlates to the KPSSC definition of falls, and therefore will serve as the definitive description when measuring and monitoring fall rates.

PDSA Phase 1

During the first cycle of PDSA (Appendix C), a fall prevention education was held during the MST unit staff meeting, incorporating utilization of walkers and KPSSC HELP volunteers within the identified hours of most falls during days and evening shifts.

The first PDA cycle process began with in-depth analysis of falls and fall-related events. Each room in the MST unit was surveyed for the presence and location of walker. Analysis revealed that 48% of patients who had fallen in the MST unit were using a walker. A total of seven rooms were missing walkers, and the location for each walker varied, with most found behind the door of each patient's room. The plan was to replace all the missing walkers and to recommend to staff that all patients using a walker should have the equipment placed within their reach at bedside, except for delirious and confused patients.

Another part of this cycle is utilizing HELP volunteers. Since only one volunteer is provided, a key component of this proposal is the careful identification of delirious *and* high fall risk patients by the ANM using the nursing staff's EHR documentation of the Confusion Assessment Method (CAM) and Schmid scores. After identifying appropriate patients, ANMs will create and provide the patient list for the HELP volunteers. Nursing staff are to provide an SBAR report to the volunteers prior to visiting the at-risk patients. HELP volunteers are to stay with each patient for at least 30 minutes per visit. The volunteer completes a feedback audit tool (Appendix C) to facilitate measurement of the proposed intervention.

During the first cycle of PDSA (Appendix C), a fall prevention educational training was held during the MST unit staff meeting, standardized the walker utilization and incorporate

KPSSC H.E.L.P. volunteers during the identified hours of the most falls in days and evening shifts. The process begins with the in-depth analysis of falls and fall-related events. Also, each room in the MST unit was surveyed by this CNL for the presence and location of walker. Analysis of data revealed 48% of patient who have fallen in the MST unit were utilizing a walker. It was also determined that there is a total of 7 rooms with missing walker in the MST unit and that the location for each walker varies, with majority of it found behind the door of each patient's room. The plan was to replace all the missing walkers and to recommend to staff that all patients using a walker should have the equipment placed within their reach at bedside with the exception of the delirious and confused patients.

Another part of this cycle is utilization of the H.E.L.P. volunteers. Since there is only one volunteer provided, a key component of this proposal is the careful identification of delirious AND high risk for fall patients by the assistant nurse manager (ANM) using the nursing staff's EHR documentation of the Confusion Assessment Method (CAM) and Schmid scores. After the identification of appropriate patients, ANMs will create and provide the patient list for the H.E.L.P. volunteers. Nursing staff are to provide an SBAR report to the H.E.L.P. volunteers prior to visiting the at-risk patients. H.E.L.P. volunteers are to stay with each patient for at least 30 minutes per visit. The H.E.L.P. volunteers completes a feedback audit tool (Appendix C) to facilitate the measurement of the proposed intervention.

PDSA Phase 2

Deficiencies in one of the measures prompted the second PDSA cycle (Appendix C), consisting of adding and implementing a post-fall analysis using the post-fall debrief tool. The post-fall debrief form (Appendix O) must be completed by the ANM immediately following a patient fall, including involved staff and ideally the patient and family to facilitate immediate

response and prevention of any future falls. The forms are collected, reviewed, and used by the FPSC to further assess and address prevention efforts.

PDSA 3

The last PDSA cycle (Appendix C) will include the AHRQ Fall TIPS patient board pilot, and is expected to go live from August 4th to 25th. Inconsistent communication and engagement are the primary barriers to fall prevention identified during the fall data analysis. Fall TIPS has been proven to decrease falls by linking the patient's individual risk factors to evidence-based interventions. The designated falls unit champion will conduct one-on-one education with nursing and ancillary staff, and use a teach-back method to assess the learning. Nursing staff are expected to integrate the tool on patient admission, and it must be reviewed and updated every shift and with any change of conditions.

Prior to go-live, designated fall champions in the MST unit will complete a baseline data collection related to patient and family knowledge of their individualized fall risk factors and their fall prevention plan (Appendix W) using a five-point Likert response format.

Post-implementation, adherence to the Fall TIPS protocol will be monitored via weekly audits of the MST unit by the designated unit champion. They will measure the effectiveness of this process improvement by observing whether the Fall TIPS patient board was completed with patient name, correct date, risk factors, and prevention plan. In addition, a post-survey patient data collection will reevaluate patient knowledge of risk factors and how to prevent falls.

Measures

Establishing metrics is a significant component of testing and implementing changes (IHI, 2019). These measurements allow the FPSC to determine whether the changes in practice are demonstrating improvement. The metrics should be assessed as a balanced set of structure,

process, outcome, and balance measures. The project charter describes the measurement description and strategies (Appendix X).

Structure Measures

A structural measure is used to assess infrastructure of systems and processes in order to provide high-quality care (AHRQ, 2018). For instance, this practice improvement project sought to decreased fall risk and fall-related injury through the implementation and support of FPSC to oversight and monitor fall prevention interventions. Having an effective infrastructure is the key toward the goal of reducing fall rates in the MST unit. Thus, measurement of effectiveness includes monitoring of the FPSC commitments to this improvement project.

Process Measures

Several measures can be used to assess the effectiveness of the FPSC and the change package. The designated unit champion can administer pre-tests and post-tests of fall prevention knowledge to MST staff to establish a baseline of knowledge and to provide immediate feedback on the effectiveness of the training. Likewise, a one-month post-implementation chart and intervention audit can be conducted to evaluate staff compliance with fall prevention strategies. Patient and employee satisfaction surveys can also be provided after implementation to assess the program's effectiveness. Also, measurement for the fall risk factor assessment performed within 24 hours of admission. Lastly, care plan addressing every deficit on fall risk factor assessment has been developed and is being implemented.

Outcome Measures

To evaluate the effectiveness of the FPSC and the change package, three “metrics that matter” are assessed, including a quarterly patient and team satisfaction survey, monthly fall rates, and an annual analysis of the MST fall rate. These metrics will continue to be monitored

and compared with benchmarks and baseline data to assess progress toward a yearly reduction of 20% in fall rates per 1,000 occupied bed days.

Balancing Measures

The balancing measure is a way for this practice improvement project to visualize the system from a different perspective, by identifying whether the changes designed to reduce inpatient falls are creating any new problems in the system. Measures to be closely monitored for this project will include the use of sitters and restraints, and the percentage of staff injury related to assisted falls.

Ethical Consideration

This practice improvement project was reviewed by the faculty and met the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (Appendix Y), rather than a research project requiring an Institutional Review Board (IRB) review.

The American Nurses Association established the Code of Ethics for Nurses in the 1950s to ensure nurses have guidance for carrying out responsibilities and making ethical decisions regarding a range of issues (Davis, 2015). As health care professionals and future nurse leaders, a firm understanding of the ethical code is important to help support decisions when confronted by difficult situations or moral stress (Schroeter, 2014). Thus, protecting patients' rights to confidentiality, privacy, and autonomy should be a top priority when dealing with moral distress.

Ethical principles such as autonomy, beneficence, nonmaleficence, and justice are used by health care providers to make choices when faced with an ethical dilemma (McGonigle & Garver-Mastrian, 2018). For this practice improvement project, ethical considerations involving the patient's autonomous decisions conflict with the beneficent duty to ensure the patient's interest and safety. Thus, providing patient-centered care is a critical component of health care

delivery and nursing care. Health care providers must emphasize treating individuals, understand patient preferences while respecting autonomy, collaborate to identify patient concerns and goals, and integrate care coordination to empower patients to promote safety and improve outcomes (Finkelman, 2016).

While acknowledging patient efforts to take control of their own health, the nurse's duty is to protect them from any harm. Therefore, strategies to reduce falls will include thorough fall prevention education and tailoring individual patient risk assessments using a standardized tool such as the Schmid fall risk scale with patient-centered interventions. By doing this, the patient will feel respected, empowered, and safe, and thus agree with their individualized plan of care to reduce harm from falls.

Results

The FPSC was created in the last week of May 2019, with implementation testing ongoing since June 3rd, 2019. Although data (Appendix Z) is not yet sufficient to establish a trend, initial results indicate a positive outcome. Prior to the FPSC, there were 32 inpatient falls in the MST unit, averaging 3.5 falls per month. Following FPSC creation, only one fall event has occurred over eight weeks since the test of change began.

Additionally, a profound increase in awareness of falls and engagement with related issues has been identified, through direct observation of increased staff response to bed and chair alarms, and increased usage of the call light system by patients prior to getting out of bed and toileting. Furthermore, results of the FPSC post-implementation chart and intervention audit (Appendix N) revealed an improvement in hospital staff compliance with the fall prevention strategies.

Discussion

Summary

The purpose of this practice improvement project was to engage and motivate staff and patients to promote safety and reduce falls, by creating a culture of continuous improvement to change outcomes through the formation and implementation of a FPSC and oversight of unit-based fall prevention initiatives. Based on the preliminary data, the FPSC has helped reduce falls during the initial stage of implementation testing, through a collaborative team effort to identify problem areas and implement solutions. The result is limited at this time; however, the change is clinically relevant and continues to trend downward. The change package significantly improved the knowledge and behaviors of staff, patients, and families, resulting in heightened awareness and engagement about fall prevention.

Key Findings and Success Factors

The key stakeholders for this change project are patients and their families, frontline nurses, patient care technicians, HELP volunteers, senior leadership, and ANMs. The senior leaders and ANMs are to enforce the implementation of the FPSC in cooperation with a designated fall prevention champion. Senior leadership support is as essential as frontline staff support and participation in the design and implementation stages, and in the overall sustainability of this practice improvement project.

Establishing an effective team, such as the FPSC, is crucial in creating a culture of quality improvement and collaboration. Communication is the key to a well-functioning team, and serves as a critical factor for successful teamwork and leadership (Finkelman, 2016). The biweekly team meetings held during this practice improvement project promoted effective

communication among team members to brainstorm solutions, assess the progress, and address any new areas of concern.

Using the TeamSTEPPS strategies of effective communication skills, teamwork, leadership, and mutual support is necessary to ensure patient safety, promote significant patient outcomes, and enhance staff morale (AHRQ, 2014). Furthermore, applying the TeamSTEPPS strategies such as the shift safety huddle and post-fall debrief tool helps promote better communication among staff, proactively address any patients at high risk for falls, and improve awareness to reduce inpatient falls in the MST unit.

Informational interviews with ANMs and nursing staff about the post-fall debrief tool revealed positive feedback and improved culture of safety in the unit. Nursing staff felt supported instead of “blamed” for patient falls. They also liked that the form included a reminder of the necessary documentations and assessments needed after a patient fall. ANMs reported that the tool helped them to effectively communicate to staff, senior leadership, and the FPSC regarding the fall and opportunities for improvement. Moreover, many staff expressed their excitement during the staff meeting about the AHRQ’s Fall TIPS patient board. Although the test of change has not started yet, the tool is already showing positive responses from frontline staff.

The staff pocket cards and presentation of fall education during the staff meeting facilitate engagement and awareness of the current fall state in the MST unit. The session also provides immediate feedback on staff’s current fall knowledge and opinions about the proposed change package. In the informational interviews with staff, HELP volunteers, and patient families, all agreed that the integration of HELP had shown value in reducing falls to high-risk patients. Nursing staff reported that even though the volunteers do not stay long, they feel less stressed knowing that another source of assistance is available during the busiest time of their

shift. Consequently, volunteers felt they were making valuable contributions to patient health and safety, while families were relieved that their loved ones were cared for and safe.

Barriers

Among the anticipated challenges to effecting change will be inertia, accountability, motivation, low levels of participation by staff and patients, and financial costs of materials and training. Lack of participation, accountability, and motivation can be addressed by ongoing fall education, continued presence of an influential team and leadership, and celebrating small successes in the MST unit.

Another barrier is the insufficient number of HELP volunteers available to cover all three shifts. However, the FPSC is hoping to acquire more volunteers as inpatient fall rates continue to improve because of their collaboration.

Implications for practice

Formation of the FPSC was an integral part of the organizational infrastructure for implementation of practice change. The ongoing fall prevention education to staff, patients, and families contributes to awareness and engagement, resulting in reduction of falls and fall-related injuries. With the assistance of the Medical Director at the MST unit, administration time of the diuretics are now changed to 0800 and 1800. This process will help reduce the fall during shift change and also help improve patient sleep. The integration of HELP volunteers and a post-fall debrief tool brought positive results and feedback. Thus, the process has been expanded to other hospital departments at KPSSC. Additionally, the Kaiser Northern regional office is now adapting the post-fall debrief tool and has recommended the form for all the Northern Kaiser hospitals.

Sustainability

Learning from previous efforts, this improvement project can only be sustained through commitment of the FPSC to continuously oversee the unit-based fall prevention initiatives and frequently track and monitor fall rates.

Conclusions

Improving the identification of at-risk patients and decreasing falls is a complex process in the acute care setting. Lack of sustainable organization infrastructure contributes to inconsistent monitoring and interventions to ensure patient safety and decrease fall rates. Unit-based interprofessional teams that are highly motivated and well organized can significantly decrease fall rates through proactive approaches to anticipate risk and implement change strategies. CNLs who function as outcomes managers and team leaders can support unit-based initiatives to develop and sustain cost-effective approaches for fall prevention. Forming and integrating a FPSC into the organizational structure of an inpatient microsystem can contribute to achieving and maintaining focus to decrease falls. Fall Prevention Safety Committees can provide consistent oversight to monitor and maintain fall prevention initiatives that impact patient, clinical, and fiscal outcomes.

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Appendix A

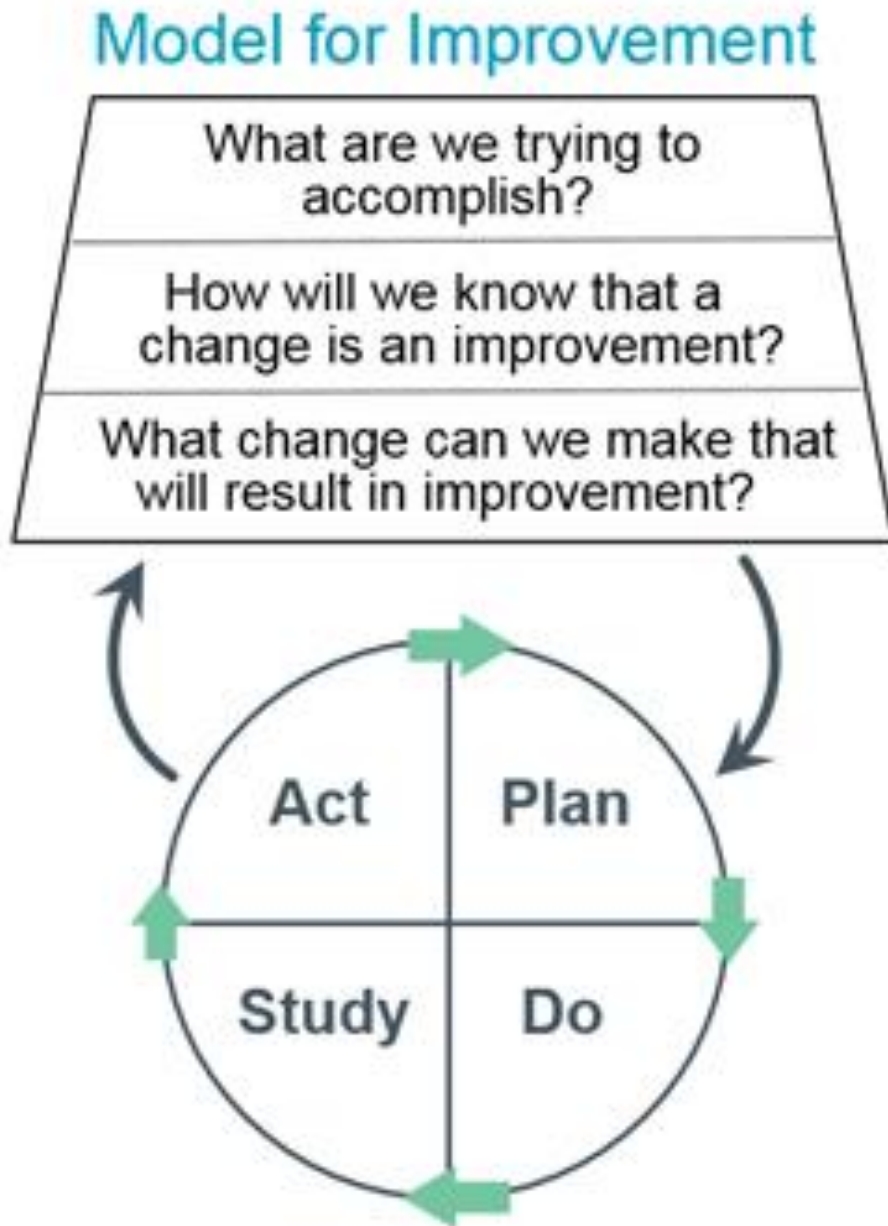
Kotter's Eight Step Change Process



(Kotter International, 2018)

Appendix B

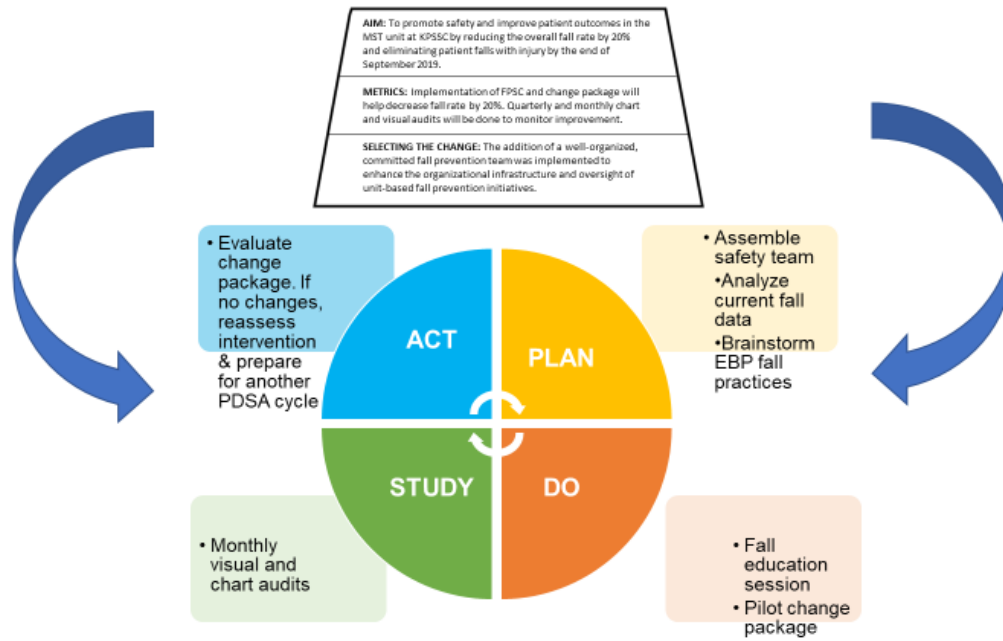
Model for Improvement



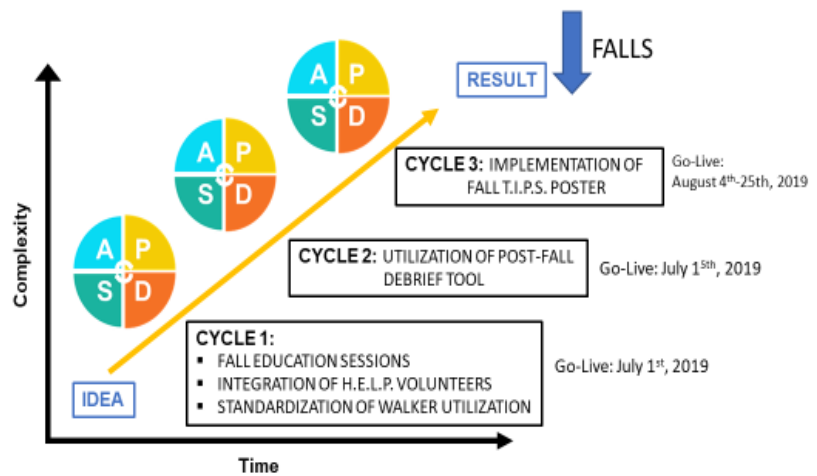
(Institute for Healthcare Improvement [IHI], 2019)

Appendix C

Model for Improvement



Ramp PDSA Cycles



Appendix D

KPSSC 2017 FMEA

HFMEA WORKSHEET – Kaiser SSC Fall Prevention 2017

Severity: Minor Event 1; Moderate Event 2; Major Event 3; Catastrophic Event 4

Probability: Remote 1; Uncommon 2; Occasional 3; Frequent 4

<u>Process Step:</u>	<u>Potential Failure Mode:</u>	<u>Potential Effect:</u>	<u>Severity:</u>	<u>Probability:</u>	<u>Hazard score:</u>	<u>Rank Order:</u>
1) RN & PCT communicate to determine pt. need: (What does the pt. need? Who is closest to nursing station? Who has time?)	1. No one is available to help. a. Bed/Chair alarm on	Pt. will get up and fall	4 4	4 3		
2) Pt. sat up in bed to determine mobility status: (Fall risk status, Medications, Change in LOC etc.) (Are additional staff required?)	Lack of communication between staff.	Assisted fall	2	4		
3) Provide bed pan, BSC, or urinal based on pt.'s mobility status: (If assessed as safe for ambulation to toilet.)	Left Unattended	Pt. can get up and fall	4	3		
4) Assist pt. to ambulate to toilet	Unexpected event due to syncopal episode, leg weakness etc.	Assisted fall	2	4		
5) Assist pt. on toilet: (Add BSC to toilet if needed [pt. height, leg weakness])	Unexpected event due to syncopal episode, leg weakness etc.	Assisted fall	2	4		
6) Pt. safety monitoring. (Standby with door-open/partially open/closed?)	1. Staff Assertiveness 2. Time Constraint	Unattended fall	4 4	4 4		
7) Assist pt. to ambulate back to bed: (Determine pt.'s ability to stand and ambulate; request additional staff if needed?)	Unexpected event due to syncopal episode, leg weakness etc.	Assisted fall	2	4		
8) Sit pt. on side of bed, reset rails and bed alarm, call w/in reach.	1. Forgot to put alarm back on. 2. Equipment failure	Unattended fall	4	4		
RN Rounding q 2hrs (4P's): RN offers toileting	1. RN failed to ask pt. to toilet 2. Lack of communication between staff 3. Pt. unaware of potential complication of getting up without assistance.	Pt. will get up and fall	4 4 4	4 4 4		

Appendix E

MST Unit Profile

Appendix A: Inpatient Unit Profile								
A. Purpose: Why does your unit exist? Create a culture of care and compassion								
Administrative Director:		Site Contact: Nurse Director: Katie Hoganson			Date: Medical Director: Dr. Chu			
B. Know Your Patients: Take a close look into your unit, create a "high-level" picture of the PATIENT POPULATION that you serve. Who are they? What resources do they use? How do the patients view the care they receive?								
Est. Age Distribution of Pts:		List Your Top 10 Diagnoses/Conditions			Patient Satisfaction Scores			
19-50 years	15	1. CHF	6. Trauma	Nurses	92.6			
51-65 years	25	2. NSTEMI	7. GIB	Doctors	92.9			
66-75 years	40	3. Sepsis	8. Cancer	Environment	88.9			
76+ years	20	4. Respiratory Failure	9. Cardiac disease	Pain	89.3			
		5. Stroke	10. Renal and Liver disease	Discharge	% Yes	88.5		
% Females	45	Point of Entry		Overall	% Excellent	93		
Living Situation	%	Admissions	40	Pt Population Census: Do these numbers change by season? (Y/N)				
Married		Clinic	5	Pt Census by Hour				
Domestic Partner		ED	50	Pt Census by Day				
Live Alone		Transfer	5	Pt Census by Week				
Live with Others		Discharge Disposition		Pt Census by Year				
Skilled Nursing Facility		Home	75	30 Day Readmit Rate				
Nursing Home		Home with Visiting Nurse	10	Our patients in Other Units				
Homeless		Skilled Nursing Facility	5	Off Service Patients on Our Unit				
Patient Type	LOS avg.	Other Hospital	2	Frequency of Inability to Admit Pt				
Medical	3	Rehab Facility	5	*Complete "Through the Eyes of Your Patient", pg 8				
Surgical	5	Transfer to ICU	3					
Mortality Rate		C. Know Your Professionals: Use the following template to create a comprehensive picture of your unit. Who does what and when? Is the right person doing the right activity? Are roles being optimized? Are all roles who contribute to the patient experience listed?						
Current Staff	Day FTEs	Evening FTEs	Night FTEs	Weekend FTEs	Over-Time by Role	Admitting Medical Service	%	
MD Total (12)	12	12 until 1800	0	8		Internal Medicine		
Hospitalists Total	0	1	1	1		Hematology/Oncology		
Unit Leader Total (7)	3	2 until 1800	1	1		Pulmonary		
CNSs Total	0	0	0	0		Family Practice		
RNs Total (55)	8	8	8	8		ICU		
LPNs Total	0	0	0	0		Other		
LNAs Total	0	0	0	0		Supporting Diagnostic Departments		
Residents Total	0	2	2	2		(e.g. Respiratory, Lab, Cardiology, Pulmonary, Radiology)		
Technicians Total	2	2	1	2		Respiratory, neurology, cardiology, laboratory, radiology, pharmacy, rehabilitation, case management, social services, housekeeping, ancillary and engineering department.		
Secretaries Total	1	1	0	1				
Clinical Resource Coord.	2	3	2	2				
Social Worker	1							
Health Service Assts.								
Ancillary Staff	2	2	0	1				
Do you use Per Diems?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> NO	Staff Satisfaction Scores					
Do you use Travelers?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> NO	How stressful is the unit?				% Not Satisfied	
Do you use On-Call Staff?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> NO	Would you recommend it as a good place to work?				% Strongly Agree	
Do you use a Float Pool?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> NO						

D. Know Your Processes: How do things get done in the microsystem? Who does what? What are the step-by-step processes? How long does the care process take? Where are the delays? What are the "between" microsystems hand-offs?			
1. Create flow charts of routine processes.		Do you use/initiate any of the following?	
<ul style="list-style-type: none"> a) Overall admission and treatment process b) Admit to Inpatient Unit c) Usual inpatient care d) Change of shift process e) Discharge process f) Transfer to another facility process g) Medication Administration h) Adverse event 		Check all that apply <input type="checkbox"/> Standing Orders/Critical Pathways <input type="checkbox"/> Rapid Response Team <input type="checkbox"/> Bed Management Rounds <input type="checkbox"/> Multidisciplinary/with Family Rounds <input type="checkbox"/> Midnight Rounds <input type="checkbox"/> Preceptor/Charge Role <input type="checkbox"/> Discharge Goals	
		Capacity	# Room <u>24</u>
			# Beds <u>24</u>
		# Turnovers/Bed/Year _____	
		Linking Microsystems (e.g. ER, ICU, Skilled Nursing Facility) ER, MS, SNF, PACU	
2. Complete the Core and Supporting Process Assessment Tool, pg 14			
E. Know Your Patterns: What patterns are present but not acknowledged in your microsystem? What is the leadership and social pattern? How often does the microsystem meet to discuss patient care? Are patients and families involved? What are your results and outcomes?			
<ul style="list-style-type: none"> • Does every member of the unit meet regularly as a team? Yes • How frequently? Quarterly • What is the most significant pattern of variation? Workflow distractions 		<ul style="list-style-type: none"> • Do the members of the unit regularly review and discuss safety and reliability issues? Yes • What have you successfully changed? • What are you most proud of? • What is your financial picture? 	
*Complete "Metrics that Matter", pgs 20 & 21			

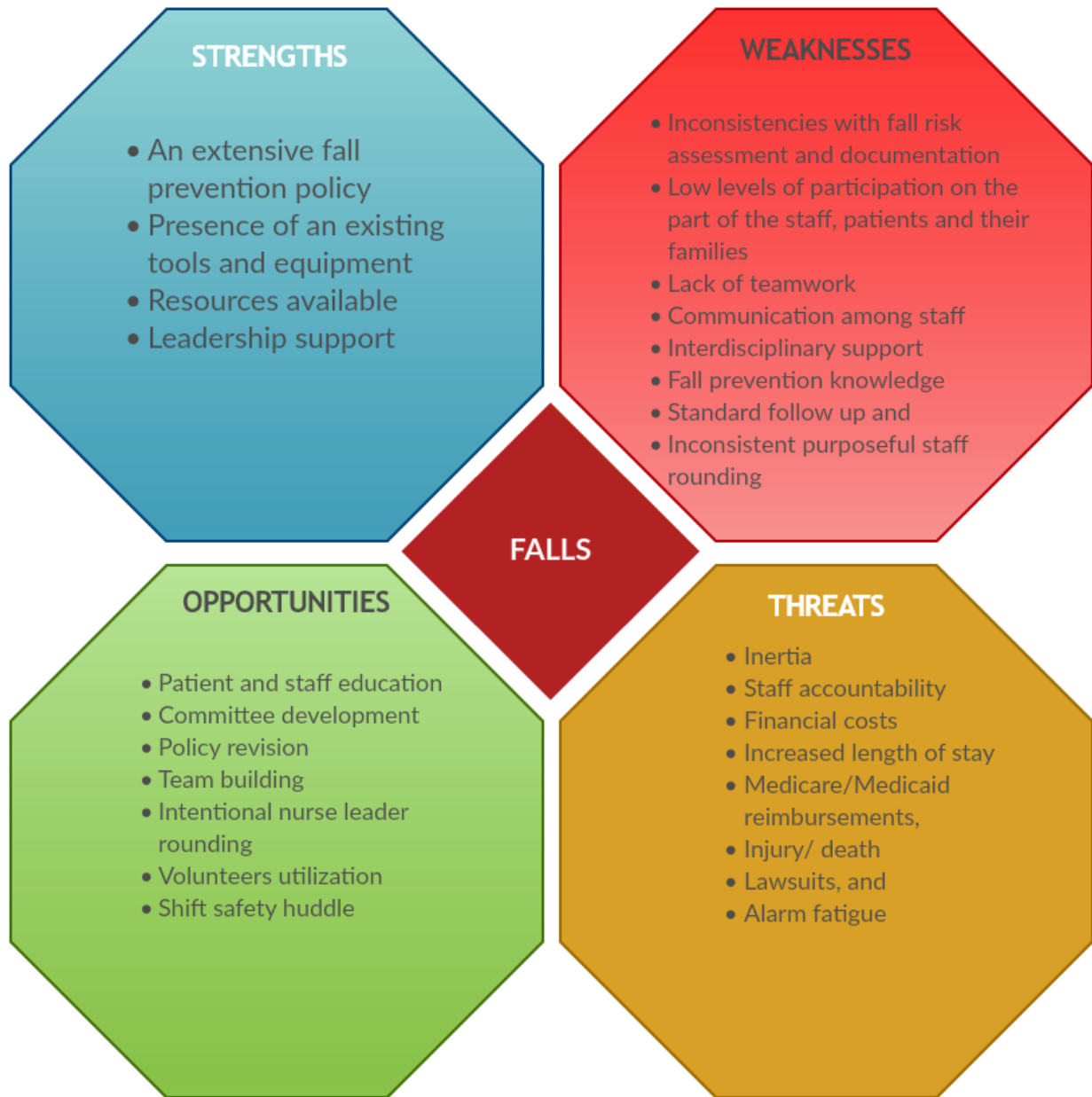
Appendix F

Universal Interventions for ALL Patients to Prevent Falls

- ♣ Assess Fall Risk on admission. Reassess Fall Risk every shift, after a fall, a change in status, level of care, and PRN
- ♣ Purposefully Round on patients to proactively meet patient comfort, toileting, and personal needs
- ♣ Ensure call light, phone, assistive devices & personal items are within reach
- ♣ Use teach back to verify that patients knows when and how to use the call light system
- ♣ Promote mobility to prevent deconditioning
- ♣ Provide non-skid foot coverings for ambulation
- ♣ Eliminate potential trip hazards in the room; provide a clear path to the bathroom
- ♣ Ensure appropriate and adequate lighting at all times
- ♣ Address sensory deficits such as the need for glasses, hearing aids, etc.

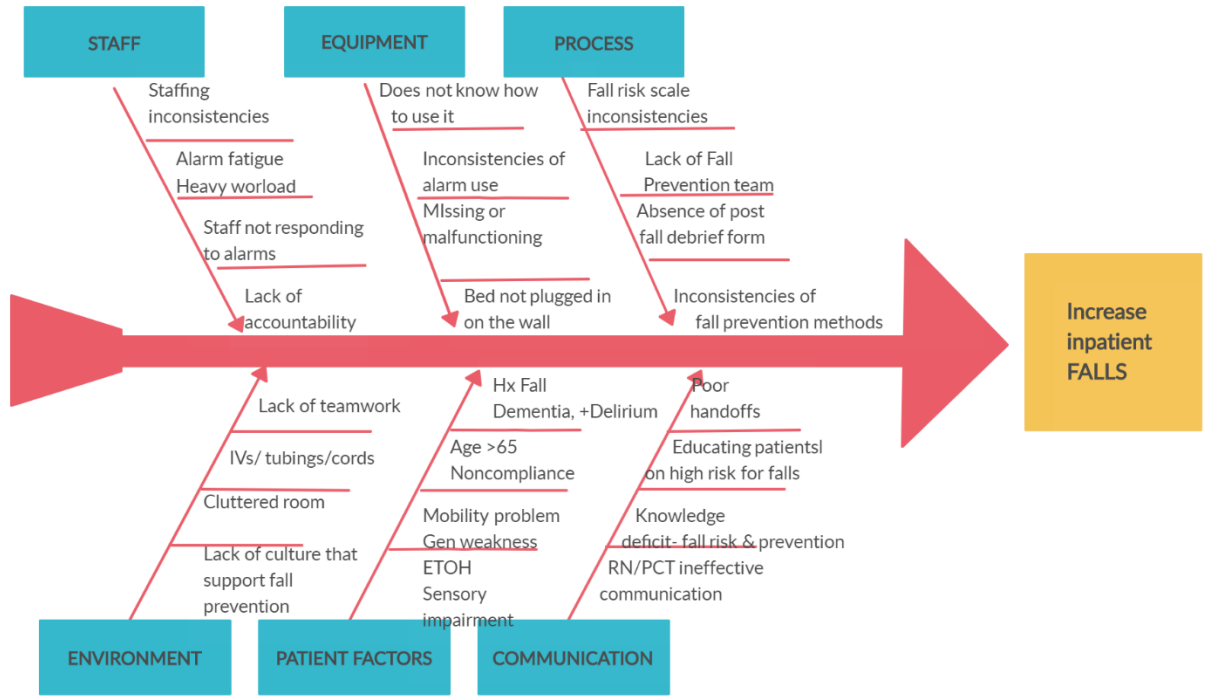
Appendix G

SWOT Analysis



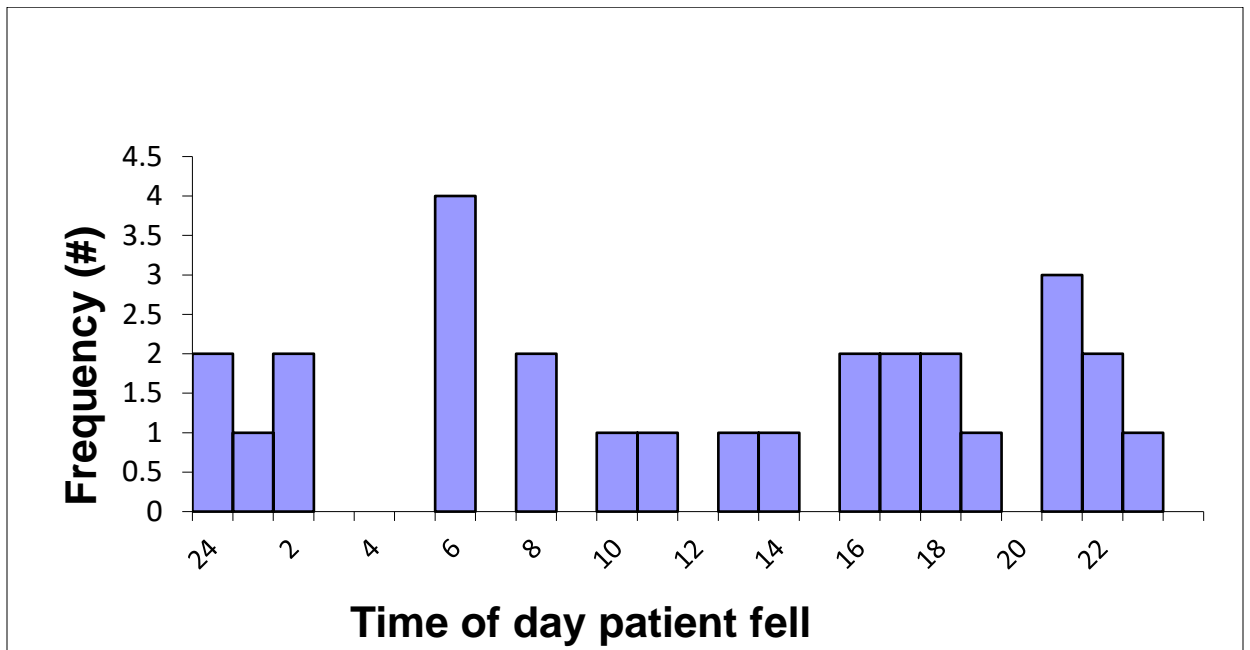
Appendix H

Cause and Effect Diagram



Appendix I

Histogram of MST Falls PY2019



Appendix J

Cost Benefit Analysis

COST DESCRIPTION

ITEM	DESCRIPTION	COST
Cost Avoidance	Number of Falls per 1000 days	\$30,000.00

COST OF INJURIOUS FALLS IN MEDICAL-SURGICAL TELEMETRY UNIT

PERFORMANCE YEAR 2017		PERFORMANCE YEAR 2018		PERFORMANCE YEAR 2019	
# of Falls	Cost of Falls	# of Falls	Cost of Falls	# of Falls	Cost of Falls
43	\$1,290,000.00	41	\$1,230,000.00	32	\$960,000.00

COST SAVINGS

DESCRIPTION	COST AVOIDANCE MEASURE	REDUCTION BY 25%	COST SAVINGS
41 inpatient falls in 2018	Average cost added per admission: \$30,000.00	20% (41 x 0.20) = 8.20 or 8 falls	\$1,230,000.00 - \$960,000.00 = \$270,000.00

CNL FALL TEACHING PLAN

1. LEARNING NEEDS ASSESSMENT AND DATA EVALUATION

- Obtain current fall rates statistics and fall-related injuries at 3 South MST.
- Analyze current state of fall prevention practices in this organization.
 - i. Perform pre-implementation chart and intervention audits
 - ii. Assess the current state of staff knowledge about fall prevention by performing pre-test survey
- Secure buy-in from hospital leadership and staff regarding fall prevention education

2. WRITING LEARNING OBJECTIVES

- Eliminate patient falls with injury by the end of 2019 at 3 South MST and reduce the overall fall rate by 25% .
- Enhance staff knowledge and skills relating to the prevention of falls and fall-related injuries.
- Ensure that staff members understand what a safe environment means and implement appropriate strategies to increase safety by preventing inpatient falls.

3. EVALUATING THE EVIDENCE

- Approaches to enhancing the current fall prevention strategies explored and chosen using evidence-based practice. Frieson et al. Change Theory Fall Model
- Frieson et al. Change Theory Fall Model, Wilson et al. Staff Awareness and Avanecean et al. Patient-Centered Interventions

4. IMPLEMENTATION OF PROJECT

- Assessment of potential barriers with plans in place to address.
 - Engage staff and get them excited about the changes needed
- Ensure necessary training and resources in place.
- Interactive information session based on a PowerPoint presentation
- Complete one-on-one education with all nurses on the unit
- Patient safety huddle

5. EVALUATION

- Administer: post-test of fall prevention knowledge, post-implementation chart and intervention audit
- Utilize weekly fall data results.
- Monitor fall prevention progress using the checklist tool.

Appendix L

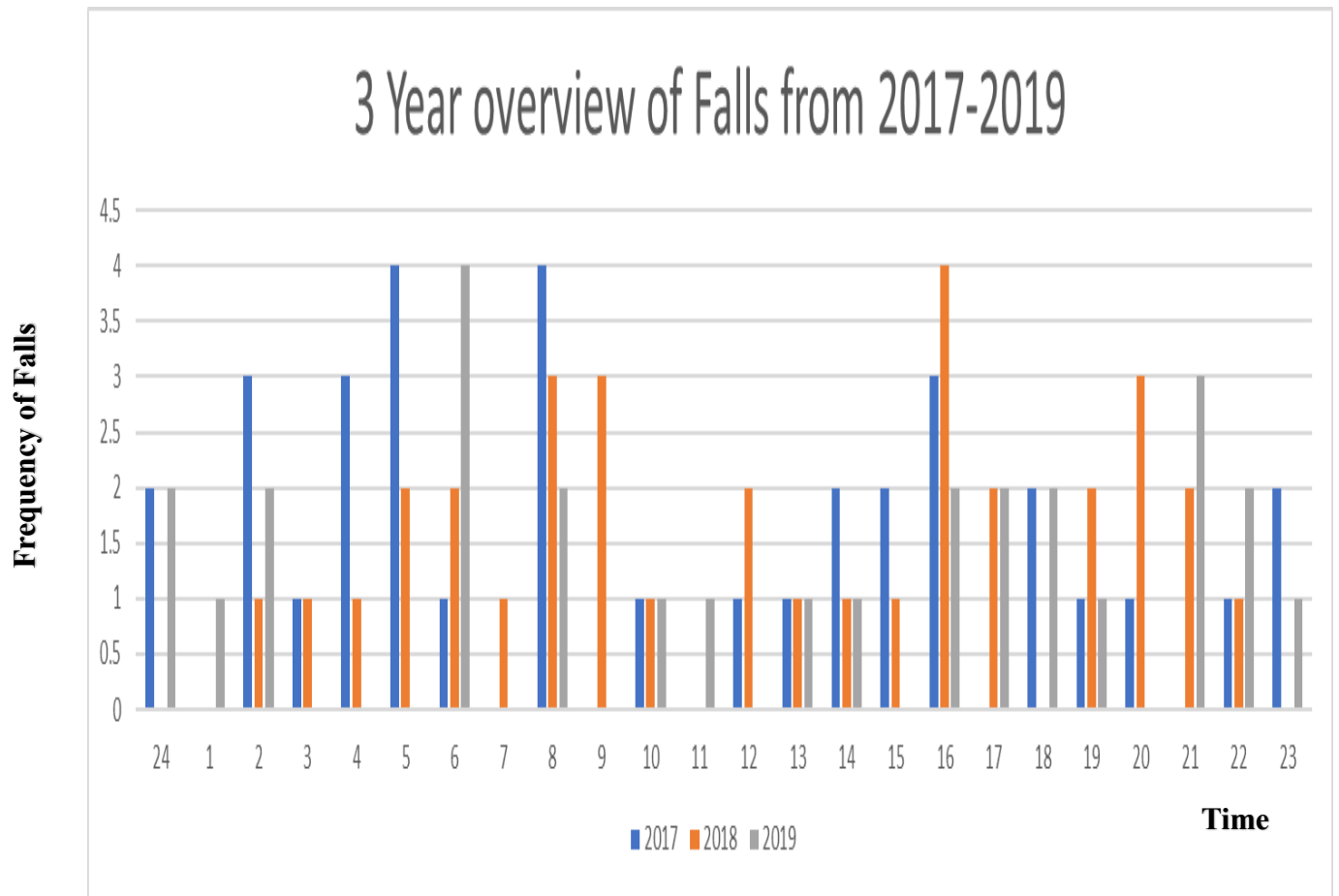
Kotter’s Change Model

<i>Kotter’s eight-step process for change</i>	<i>Required actions</i>	<i>Team members responsible to complete tasks</i>
<p>1.) Create a sense of urgency</p>	<ul style="list-style-type: none"> ➤ Data presentation of current fall rate statistics and fall-related injuries during staff meeting. ➤ Analyze current state of fall prevention practices in this organization: <ul style="list-style-type: none"> i. Perform pre-implementation chart and intervention audits, and present results to staff meeting. ii. Assess the current state of staff knowledge about fall prevention by performing pre-test survey. 	<ul style="list-style-type: none"> ➤ Team leader ➤ IT ➤ QI team ➤ Nursing and non-nursing staff ➤ Implementation team
<p>2.) Build guiding coalition</p>	<ul style="list-style-type: none"> ➤ Assemble Fall Prevention Safety Committee (FPSC). ➤ Members with necessary expertise/role recognized and added to the team. ➤ Connect with senior leadership. ➤ FPSC startup, agenda stated and initiated. ➤ Determine how incidence data on fall rates will be collected. 	<ul style="list-style-type: none"> ➤ Team leader ➤ QI team ➤ Implementation team
<p>3.) Form a strategic vision and initiatives</p>	<ul style="list-style-type: none"> ➤ Meet with the FPSC, establish direction for the change and vision for the project. ➤ Setting target goals for improvement and plans for change: <ul style="list-style-type: none"> i. Specific goals set. 	<ul style="list-style-type: none"> ➤ Team leader ➤ QI team ➤ Implementation team

	<ul style="list-style-type: none"> ii. Plan initiated for making changes to meet those goals. 	
4.) Enlist volunteer army	<ul style="list-style-type: none"> ➤ MST unit fall champions identified. ➤ Necessary training and resources in place for team to get started. ➤ Approaches to enhancing current fall prevention strategies explored and chosen. ➤ FPSC meeting every other Monday at 0730. 	<ul style="list-style-type: none"> ➤ Team leader ➤ QI team ➤ Implementation team ➤ DQC team ➤ Educator
5.) Empower actions and remove noted barriers	<ul style="list-style-type: none"> ➤ Assessment of potential barriers with plans in place to address. ➤ Complete one-on-one education with all nurses on the unit. ➤ Engage staff and get them excited about the changes needed. ➤ ANM to include agenda from FPSC meeting during huddle. 	<ul style="list-style-type: none"> ➤ Team leader ➤ Implementation team ➤ Nursing and non-nursing staff
6.) Create successes on a short-term basis	<ul style="list-style-type: none"> ➤ Utilize weekly fall data results to demonstrate short-term wins. ➤ Recognize staff members for their commitment. 	<ul style="list-style-type: none"> ➤ Team leader ➤ QI team ➤ Implementation team
7.) Sustain acceleration	<ul style="list-style-type: none"> ➤ Ensure continued leadership support. ➤ Ensure ongoing support from the interdisciplinary team. 	<ul style="list-style-type: none"> ➤ Team leader ➤ QI team ➤ Implementation team ➤ Ancillary staff ➤ Nursing and non-nursing staff
8.) Institute the change	<ul style="list-style-type: none"> ➤ Pilot test the FPSC and change package. ➤ Monitor fall rates practices, and other outcome measures: <ul style="list-style-type: none"> i. Communicate outcome results to staff. 	<ul style="list-style-type: none"> ➤ Team leader ➤ QI team ➤ Implementation team ➤ IT

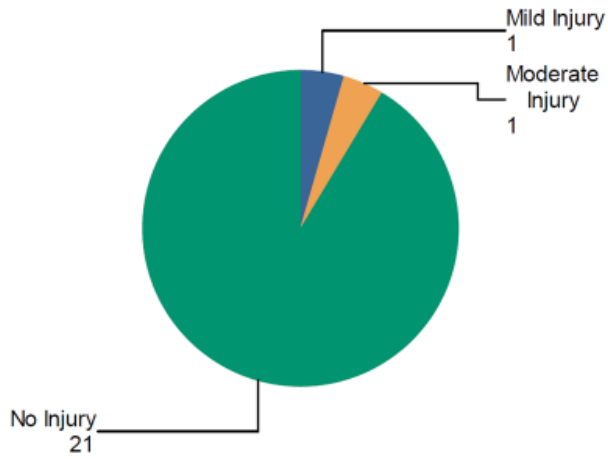
Appendix M

In-depth Analysis of MST Falls



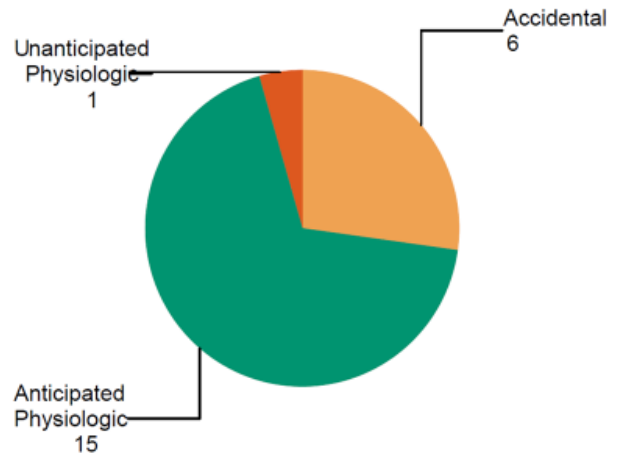
Severity of Falls

N = 23

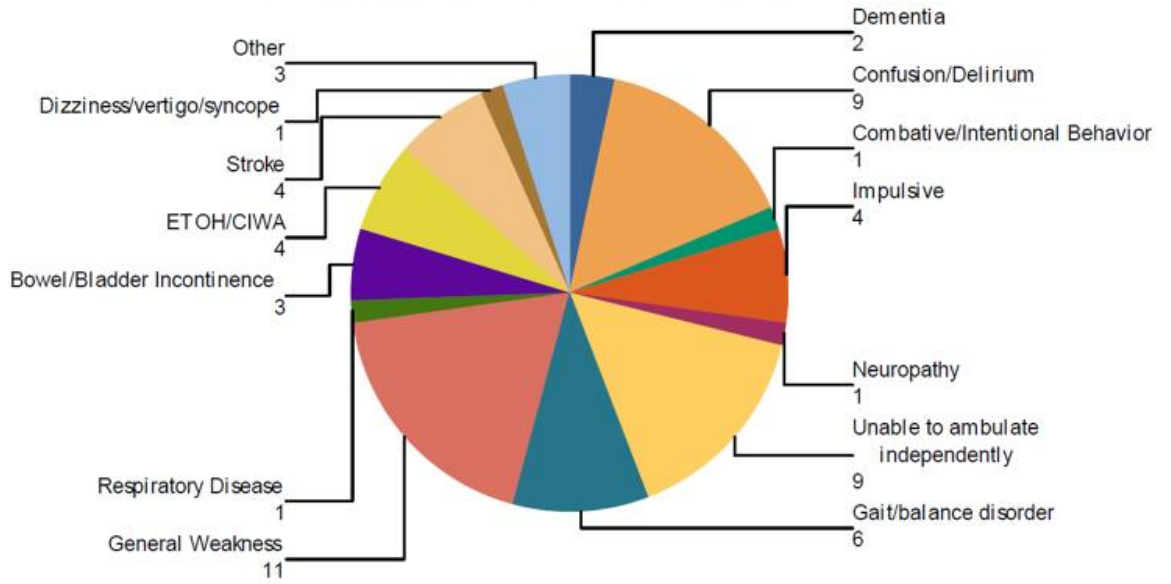


Type of Fall

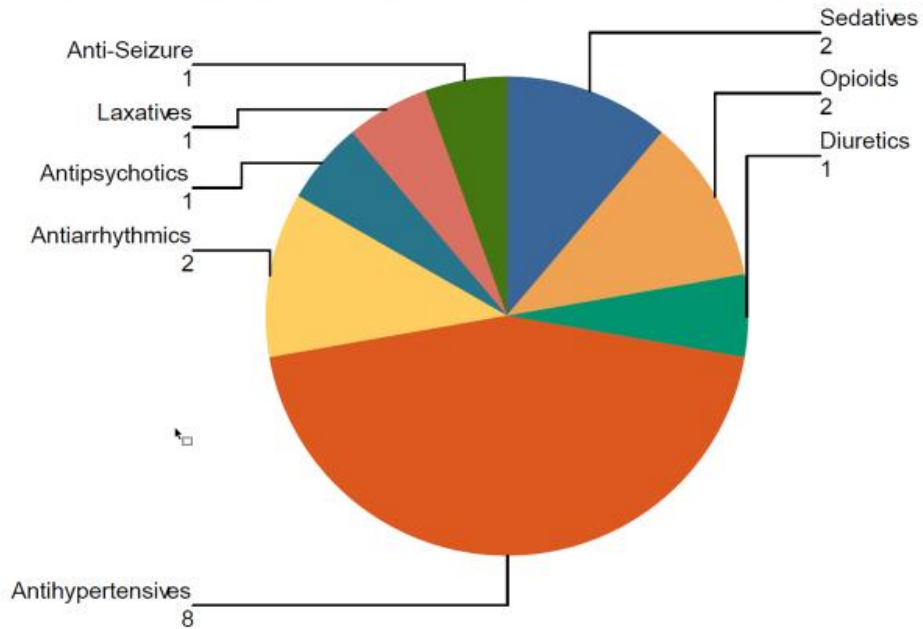
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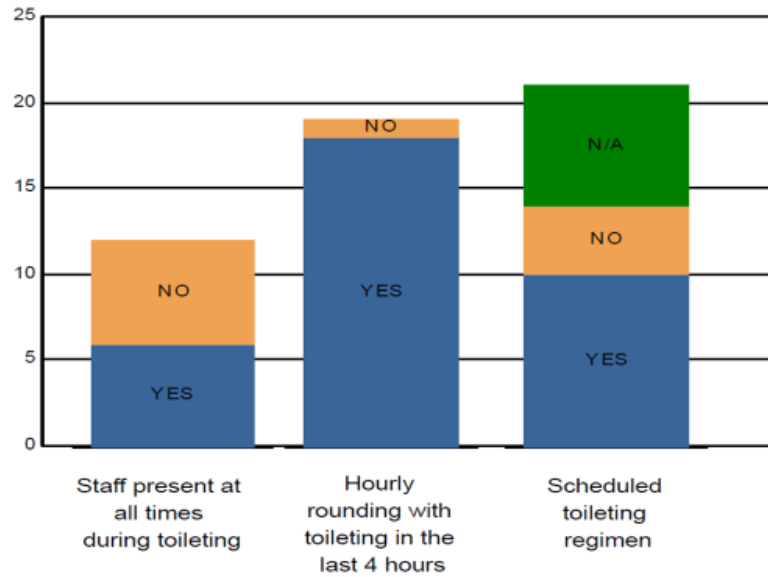
Co-morbidities Related to the Fall



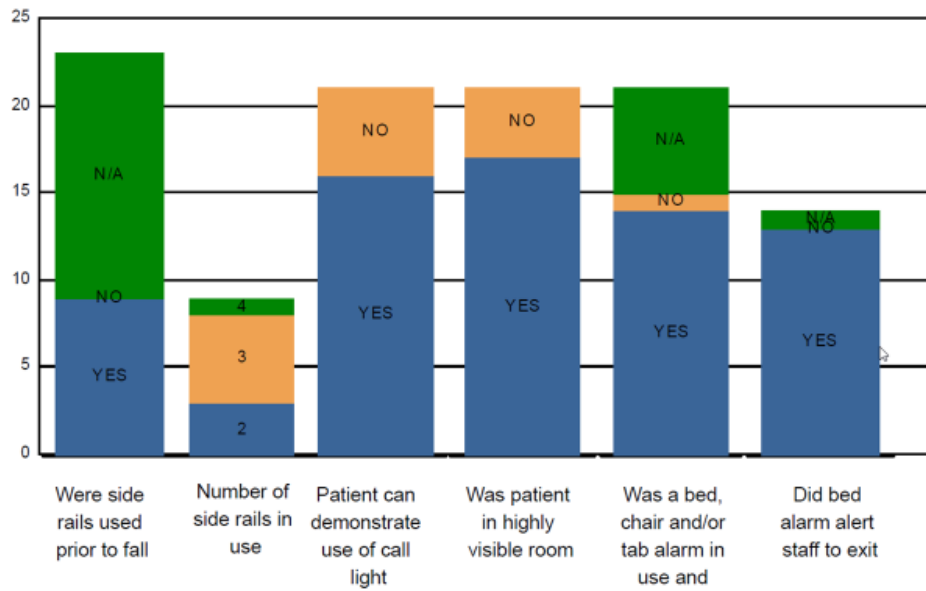
Medications administered in the last 4 hours



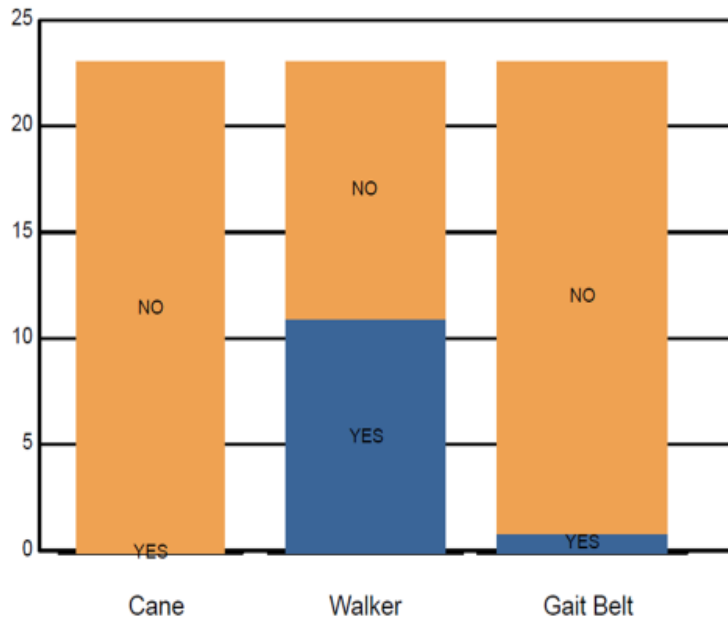
Toileting



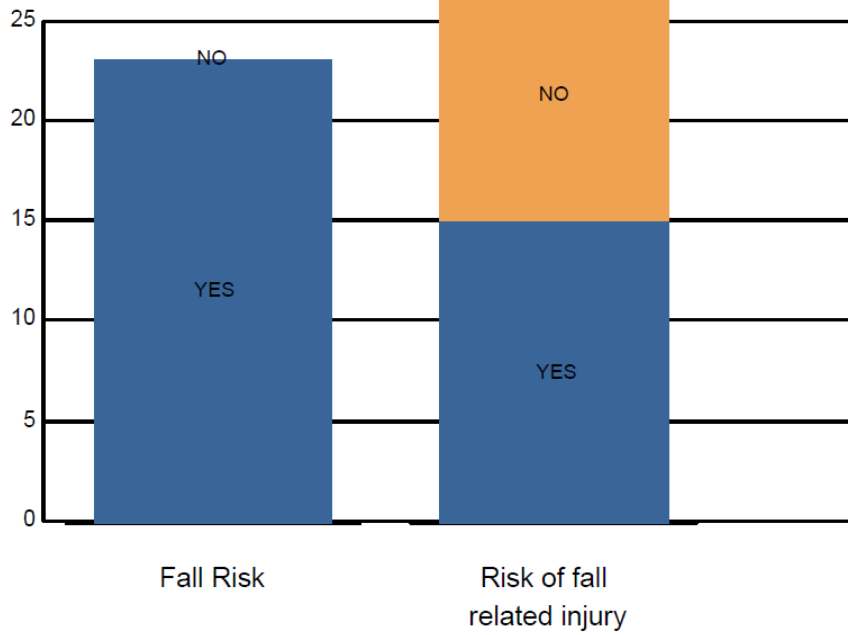
Environment



Were mobility aids available and in use?



Was patient and/or family provided education on



Appendix N

Pre and Post Intervention Fall Audit Tool

Room #	Fall risk? Schmid Score 3 or greater	Yellow gown?	Yellow socks?	Yellow armband?	Fall risk sign?	Fall risk careplan initiated in EPIC?	Bed/Chair Alarm on?	Bed Brakes on?	Is the bed connected on the wall?	Has the whiteboard been utilize to communicate pt.'s level of activity and function?

Created by this Author 7/2019

Appendix O

H.E.L.P. Volunteers Evaluation Form

*Refer to HELP Volunteer List in KPHC for additional patient information

Patient Label

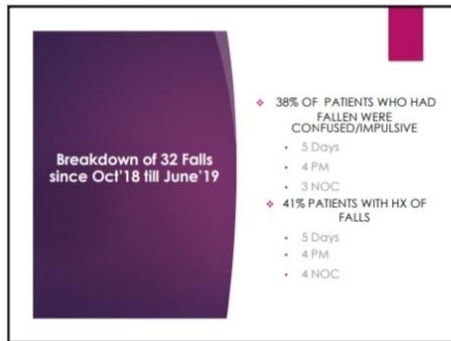
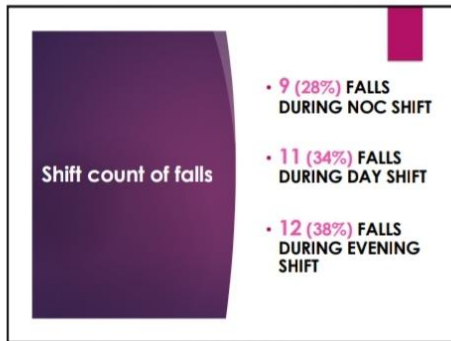
Date: _____ ANM: _____ Ext. 77284/ _____ Ext. 77293

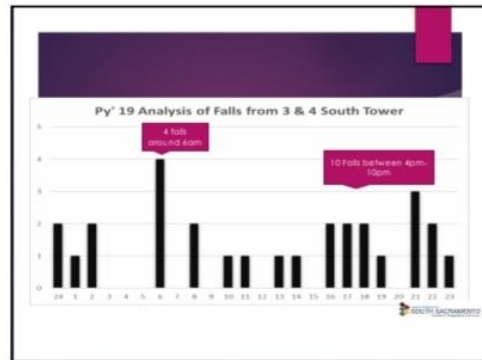
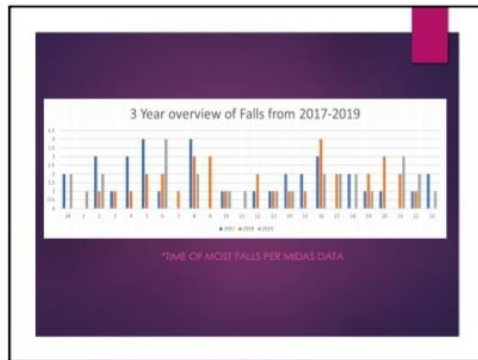
Intervention	Morning Shift (10AM-2 PM)	Afternoon Shift (1:30 PM-5:30PM)	Evening Shift (5 PM-9 PM)
	RN: _____ Ext: _____	RN: _____ Ext: _____	RN: _____ Ext: _____
<input type="checkbox"/> Orientation <input type="checkbox"/> OX1 <input type="checkbox"/> OX3 Have orienting conversation! (Person, time, place, situation) Glasses or Magnifier Hearing Aids or Amplifier Dentures	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____
<input type="checkbox"/> Therapeutic Activities (Current Events/Newspaper, Trivia/Games, Relaxation, Coloring Reminiscence) *What did you do/try?	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____
<input type="checkbox"/> Mobility Assistance <input type="checkbox"/> Range of Motion Active OR Passive <input type="checkbox"/> Walk: Distance?	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____
<input type="checkbox"/> Meals/Hydration <input type="checkbox"/> Fluids: _____ <input type="checkbox"/> Encourage and Socialize <input type="checkbox"/> Set Up <input type="checkbox"/> Out of Bed to Chair *How much did they eat?	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____
<input type="checkbox"/> Sleep Promotion (Relaxation, Massage, Warm Beverage, Light Reading) _____ Earplugs _____ Eye mask _____	Please find out how the patient slept last night. If they slept poorly, find out why!	Please find out how the patient slept last night. If they slept poorly, find out why!	<input type="checkbox"/> Done <input type="checkbox"/> Not Done, Why? _____

Note: Internal HELP evaluation document from regional office

Appendix P

Fall Education Presentation





Contributing factors for patient's fall

- Identified of risk patients with:**
 - History of falls, confused, non-compliant, general weakness, ETOH, etc.
- Environmental factors**
 - 48% utilization of walker - *potential opportunity for PDSA**
 - 30% of beds were in Low bed position
 - 19% of pts. were in low visibility rooms
 - 30% pt was with staff during toileting
 - 33% bed locked
- PI Education**
 - 50% patients were educated on the "Risk of fall injury"
- Medication - potential side effects:**
 - Hypertensive medication 8 of 18 (44%)
 - Sedatives/Opioids 4 of 18 (22%)

SOUTH SACRAMENTO

What can we do to prevent our patients from falls?

- Let's select an easy "win" - small "Test of Change" for big return of investment!**
 - Action Plan**
 - Equipment Walker of every bedside for both Day and Evening shifts. (2)
 - Engage volunteers through **H.E.L.P.** for both Day and Eve shifts (Go Live 7/1)
 - Post fall decision collaborate for shared learning (Go Live 7/1)
 - "Fall Tip" patient board pilot (Go Live August 18 17')

SOUTH SACRAMENTO

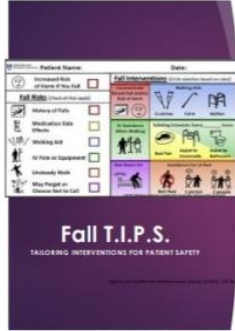


H.E.L.P.
(Hospital Elder Life Program)

HELP VOLUNTEERS ARE A TYPE OF "FAMILY EXTENDER" WHO HELP THE HEALTH CARE TEAM BY PROVIDING BASIC INTERVENTIONS PROVEN TO HELP PREVENT DELIRIUM DURING A PATIENT'S STAY IN THE HOSPITAL.

VOLUNTEERS ASSIST IN PATIENT'S:

- COGNITIVE/REAL SIMULATION
- SENSORY DEPRIVATION
- HYDRATION
- MOBILITY
- SLEEP PROMOTION
- SAFETY
- FEEDBACK...




Fall T.I.P.S.
TAILORING INTERVENTIONS FOR PATIENT SAFETY

- INCONSISTENT COMMUNICATION AND ENGAGEMENT ARE THE PRIMARY BARRIERS TO FALL PREVENTION
- FALL T.I.P.S. LINK FALL RISK FACTORS TO EVIDENCE-BASED INTERVENTIONS
- UTILIZE DURING NRE
- GREAT COMMUNICATION TOOL BETWEEN NURSES, PCT'S, AND OTHER BESIDE CAREGIVERS

3 STEP PROCESS:

1. Fall risk assessment
2. Tailored fall prevention care planning
3. Consistent implementation of the tailored care plan



Fall T.I.P.S.
TAILORING INTERVENTIONS FOR PATIENT SAFETY

❖ **Operational Step**

Reviewed every shift and updated at a minimum upon admission and changing condition



S.B.A.R.

SITUATION:
MEDAL DATA REPORT IDENTIFIED 48% OF WALKER UTILIZATION FOR PATIENTS WHO HAVE FALLEN.

BACKGROUND:
OF THE 32 PATIENTS FALLEN ON OUR DEPARTMENTS, 13 OF PATIENTS WAS IDENTIFIED WITH A HISTORY OF FALLS FROM HOME/PRIOR ADMISSION/TRANSFER FACILITY.

ASSESSMENT:
HAS BEEN IDENTIFIED THAT ONLY 48% PATIENTS WITH HX OF FALLS WERE UTILIZING A WALKER WHEN FOUND ON FLOOR/ASSISTED TO BA/BROCKMANS/RESIDE CHAIR.

RECOMMENDATION:
LEAVE THE WALKER WITHIN REACH AT BESIDE TO EACH PATIENT DURING BOTH DAY/PM SHIFTS ONLY.



MOST NOC SHIFT FALLS WERE REPORTED FOR 6 AM (4 OF 9)=44%

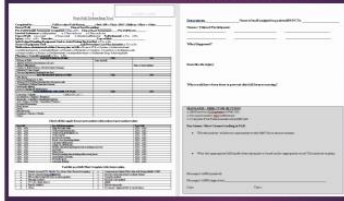
ACTION PLAN:
 ASSESS THE PATIENT LEVEL OF ASSISTANCE AND UTILIZE A "BUDDY" WHEN INDICATED FOR TOILETING AND/OR WEIGHING TIME.

Post Fall Debrief



- GOAL:**
 - To discover the root cause of a fall
 - To decrease the risk of a future fall for the patient by changing the plan of care.
 - To improve teamwork, collaboration and coordination
 - A brief meeting immediately after a fall that includes staff involved and (ideally) the patient and family
- WHAT THE FORM CONSISTS?**
 - Age and gender of patients who've experienced falls
 - Why the fall occurred, steps taken to assessment
 - What, if any, preventive measures were in place
 - Intrinsic and extrinsic risk factors contributing to the fall.

Post Fall Debrief Form



OPERATIONAL STEP

TO BE COMPLETED BY ANNU IMMEDIATELY AFTER A PATIENT FALL FOR OPEN DISCUSSION WITH STAFF



Appendix Q

PATIENT LABEL

Post Fall Debriefing Tool

Completed by: _____ Fall Location (Unit/Room): _____ Bed BR Chair BSC Hallway Floor Other _____
 Date of Fall: _____ Time: _____ Time of Last Rounding: _____
 Pre-Fall Schmidt Assessment Completed: Yes No Time of Last Assessment: _____ Pre-Fall Score: _____
 Level of Assistance: Independent 1 Person Assist 2 Person Assist
 Type of Fall: Assisted Unassisted Intentional/Behavior Fall witnessed: Yes No
 Injury: Yes No Describe: _____ Type of Bed: _____
 Safe Patient Handling Equipment Used to Assist Patient Back to Bed: Yes No
 Name of Equipment Used: _____ Fall Prevention Care Plan Included: Yes No
 Medications administered within 4 hours prior to fall: None PCA Opiates Anticonvulsants
 Antihypertensives Antiarrhythmics Diuretics Hypnotics Sedatives Laxatives Antidepressants
 Antipsychotics Benzos Antihistamines Antiparkinsonians Alzheimer drugs Anticoagulants
 Pharmacy Consult requested: Yes No

PATIENT RISK FACTORS	YES	NO
History of Falls	Date last fall:	
Altered Level of Consciousness (ALOC)		
Altered Elimination		Time of last toileting:
Unable to Follow/ Refuses Fall Prevention Strategies		
Multiple IV lines/ drains		
Sensory Impairment (hearing/vision loss)		
ENVIRONMENT RISK FACTORS	YES	NO
Wet Floors		
Furniture/Equipment in Path		
Tubing (IV/SCD/Foley/Feeding tube/Oxygen) in path		
Contributory Clothing/ Improper footwear		
Inadequate lighting		
Device / Equipment Malfunctions		
COMORBIDITIES RELATED TO FALL	YES	NO
Dementia / Delirium CAM <input type="checkbox"/> (+) <input type="checkbox"/> (-)		
Incontinence / Urgency / Frequency		
Impulsive / Combative / Intentional Behavior		
Gait / Balance Disorder / Generalized Weakness		
Postural Hypotension		
Head Injury		
Stroke		
ETOH/CIWA		
Dizziness / Syncope / Vertigo		
Other:		

Check all that apply for pre-precautions taken and post-precautions taken:

Pre-Fall	Pre-Fall Interventions	Post-Fall
<input type="checkbox"/> Yes <input type="checkbox"/> No	High Fall risk slider	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Yellow armband in place	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Yellow non-skid slippers on	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Yellow gown	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Bed in low position	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Room close to nursing station	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	All items within reach	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Alarm on (Bed/Chair)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Patient educated regarding fall risk including teach back	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Restraint:	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Sitter in use	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Hourly rounding done/toileting offered every hour	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Appropriate Care plan	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Bed rails up x3	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Yes <input type="checkbox"/> No	Adequate lighting	<input type="checkbox"/> Yes <input type="checkbox"/> No

Task list post fall: Must Complete ALL Intervention

<input type="checkbox"/>	Patient Assessed (VS; Head to Toe; Neuro; Pain Observe for injuries)	<input type="checkbox"/>	Communicate Patient Fall to other staff during Huddle / NKE
<input type="checkbox"/>	Fall Documented using .fall phrase	<input type="checkbox"/>	Provide safety instructions to patient /family
<input type="checkbox"/>	MD notified (Alert MD if pt. on anticoagulant)	<input type="checkbox"/>	Careplan updated
<input type="checkbox"/>	Manager notified	<input type="checkbox"/>	Fall risk score updated
<input type="checkbox"/>	CT scan / Xray ordered	<input type="checkbox"/>	eRRF
<input type="checkbox"/>	Family Notified	<input type="checkbox"/>	Review test results:
<input type="checkbox"/>	Other:	<input type="checkbox"/>	Document "Apparent Fall" in docflowsheet

Department: _____ Name of staff assigned to patient (RN/PCT): _____

Names / Titles of Participants:

What Happened?

Describe the injury

What could have been done to prevent this fall from occurring?

MANAGER / DIRECTOR SECTION

- SBAR sent to PCShighalert-KPNC-SSC
- Forward email to Mgr/ANM team
- Complete Post Falls Assessment in MIDAS

Key Issues / Root Causes Leading to Fall

- Was the patient 's fall score appropriate to the fall? If not, please explain.

- Were the appropriate fall bundle elements in place based on the appropriate score? If not please explain.




















Manager / ANM (printed) _____

Manager / ANM (signature) _____

Date: _____ Time: _____

Appendix R

Fall T.I.P.S. Patient Board

 Patient Name: _____		Date: _____	
 Increased Risk of Harm If You Fall <input type="checkbox"/>		Fall Interventions (Circle selection based on color)	
Fall Risks (Check all that apply)		Communicate Recent Fall and/or Risk of Harm	
 History of Falls <input type="checkbox"/>	 	Walking Aids	
 Medication Side Effects <input type="checkbox"/>	 Crutches	 Cane	 Walker
 Walking Aid <input type="checkbox"/>	 IV Pole or Equipment <input type="checkbox"/>	Toileting Schedule: Every _____ hours	
 Unsteady Walk <input type="checkbox"/>	 Bed Alarm On <input type="checkbox"/>	 Bed Pan	 Assist to Commode
 May Forget or Choose Not to Call <input type="checkbox"/>	 Bed Rest <input type="checkbox"/>	 1 person	 2 people

(Agency for Healthcare Research and Quality [AHRQ], 2013).

Appendix T

Pre and Post Fall Prevention Knowledge Test

1. If my patient falls or is found on the floor, I need to reassess for fall risk, document fall risk score in narrative, Evaluate the Care Plan and initiate new interventions as indicated. T F
2. Being comatose places the patient at high risk for falls. T F.
3. Assessment for fall risk should be performed on admission, at least daily, after a fall, after change in level of care, and as needed. T F
4. What T.E.A.M stands for in regards to fall interventions?
5. What interventions do you do to help reduce the risk of falls regarding the patient's environment?

Appendix U

Staff Pocket Cards

Schmid Fall Risk Assessment

SCORE	MOBILITY
0	Amb with no gait disturbance
1	Amb or transfer with assistive devices
1	Amb with unsteady gait and no assistance
0	Unable to ambulate or transfer
MENTATION	
0	Alert, oriented x3
1	Periodic confusion or disorientation
1	Confusion at all times
0	Comatose / unresponsive
ELIMINATION	
0	Independent in elimination
1	In dependent, with frequency or diarrhea
1	Needs assistance with toileting
1	Incontinence
PRIOR FALL HISTORY (within past 6 months)	
1	Yes - BEFORE admission
2	Yes - DURING admission
0	No
0	Unknown
CURRENT MEDICATIONS	
1	Anticonvulsants/Sedatives/Psychotropics/Hypnotics/ New hypertension/ Opioids/Diuretics/Laxatives

SCORE OF > 3: Patient at risk for Falls

ABCS (High risk for Injury)

AGE	> 75 yrs. or older
Bones	Any fracture, condition, or medication that affects bone strength: osteoporosis, previous fracture, prolonged steroid use, or menopause (bone cancer)
COAG	Patients with impaired blood clotting, either through use of anticoagulants or underlying clinical condition (i.e., chronic liver disease, bleeding/clotting disorders)
LAST	FELL 48 hours post surgery, especially patients who have orthopedic surgery or a lower limb amputation

FALL PREVENTION POCKET CARD

T Toileting	<ul style="list-style-type: none"> Accessible toilet or bedside commode Toileting schedule at least every 2 hours Purposeful hourly rounding Identify causes of frequency
E Environment	<ul style="list-style-type: none"> Call light within reach Use low bed for high risk patients Eliminate any lines/tubes that may increase confusion and/or pose slipping risk Use bed and chair alarms if pt. impulsive or falls call light reach back High visibility room, if possible
A Activity	<ul style="list-style-type: none"> Activity schedule Remove tubes prior to ambulation Ensure mobility aid is accessible and provide non-slip footwear PT referral
M Medication	<ul style="list-style-type: none"> Identify medication with side effects that can increase fall risk Consult MD/Pharmacist regarding medication necessity Adjust dose timing related to activity periods Access/for treat orthostatic hypotension

TOGETHER AS A.T.E.A.M. WE CAN PREVENT FALLS!

Appendix V

Staff Huddle Worksheet

Huddle Date	Comments	Follow-up	Parking Lot	Lessons Learned
Changes in Census				
Who's at risk today?				
Knowledge sharing				
Reportable events?				
Patient/family compliments and concerns				
Focus of the week				
Follow-up on previous issues				

Created by this author 7/2019

Fall Prevention Intervention Huddle Message

- Utilize quality metric dashboard to educate days since last fall and days since last serious/sentinel event
- Inform current patient stats: number of patients at high risk for falls and patients at high risk for other safety issues
- Communicate with each other the patient's risk for fall
- Discuss fall plan and current fall risk patients in the unit
- Utilize Fall prevention kit
- Patient Zoning
- Practice Proactive Toileting-adhering to hourly rounding, offering patients the use of the bathroom before they feel the urgency
- Remember to deactivate bed/chair alarm before mobilizing patients
- Involve ancillary staff on the Unit's fall plan

Appendix W

Patient Survey

Fall Question	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I know my risks for falling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know what I need to do to prevent myself from falling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix X

Project Charter

Project Charter: Getting to Zero: Creating an Infrastructure to Support Fall Prevention in a Medical–Surgical Telemetry Unit

Global Aim: To engage and motivate staff, patients, and families to promote safety and reduce falls, by creating a culture of continuous improvement to change outcomes through forming and implementing a FPSC in a medical-surgical telemetry unit.

Specific Aim: To develop an engaged and proactive FPSC to eliminate patient falls with injury by the end of September 2019 at the MST unit and reduce the overall fall rate by 20%.

Background: Falls and fall-related injuries are a growing national concern, being a significant source of anxiety, pain, distress, serious injuries, and increased health care utilization. According to the Centers for Disease Control and Prevention (CDC) (2016), some 700,000 to 1,000,000 falls occur each year in US hospitals. Inpatient falls contribute to increased hospital stays and impose enormous costs on individuals, families, and the health care system. The Centers for Medicare and Medicaid Services (CMS) have classified inpatient falls as “never events” and, since 2008, have not reimbursed hospitals for treatment costs resulting from fall-related injuries sustained by hospitalized patients (AHRQ, 2013). The average total cost of treatment for such injuries now exceeds \$30,000 (CDC, 2018), making them among the most expensive preventable conditions. Fall prevention is a National Patient Safety Goal for both hospitals and long-term care facilities. Despite the presence of a well-developed falls prevention protocol since 2017, internal data from an inpatient medical-surgical telemetry (MST) unit in an integrated delivery system hospital in northern California indicate the largest number of fall-related events among the hospital’s departments.

Sponsors

Medical Director	Dr. Chu
Clinical Adult Services Director	Rachel Wyatt
Nurse Manager	Katie Hoganson

Goals

- To enhance staff, patient, and family knowledge and skills relating to the prevention of falls and fall-related injuries.
- To ensure that staff, patients, and families understand what a safe environment means and implement appropriate strategies to increase safety and prevent inpatient falls
- To decrease the potential for adverse events, reduce length of stay and health care utilization.
- To improve the efficiency and safety of the process.

Measures

Metrics that Matter	Type of Measure	Data Source
% of fall events per months	Outcome	Quality data: MIDAS, eRRF
% of annual fall rates	Outcome	Quality data: MIDAS
Quarterly patient and staff satisfaction scores	Outcome	Quality data
% of hospital staff's compliance with fall prevention strategies	Process	Survey, rounding results
% of fall risk knowledge by staff and patients	Process	Survey
# of use of sitters	Balancing	Quality data: chart review
% of staff injury related to assisted fall.	Balancing	Quality data: eRRF

Team Members

Quality Nurse Consultant	Won Kai Lee
Unit Manager Co-Lead	Teresa Sison
RN Co-Lead	Krys Elgarico
Clinical Educator	Malia La Valle
Staff Nurse Champions	Angelica Santos
PCT Champions	Mila Lafradez

References

- Agency for Healthcare Research and Quality [AHRQ]. (2013). Preventing Falls in Hospitals. A toolkit for improving quality of care. In *Hospital Resources*. Retrieved from <http://www.ahrq.gov/professionals/systems/hospital/fallpxtoolkit/fallpxtk5.html>
- Centers for Disease Control and Prevention. (2016). *Take a stand on falls*. Retrieved from <http://www.cdc.gov/features/older-adult-falls/index.html>
- Centers for Disease Control and Prevention (CDC). (2018). *Cost of falls among older adults*. Retrieved from <https://www.cdc.gov/HomeandRecreationalSafety/Falls/fallcost.html>

Measurement Strategy

Population Criteria: All patients admitted to the MST unit.

Data Collection Method: Baseline and current falls data were obtained from the Electronic Health Record (EHR) by completing a comprehensive in-depth chart audit and reviewing the data collection in the Medical Information Data Analysis (MIDAS) reporting system.

Data Definitions:

Data Element	Definition
Fall	An unplanned descent to the floor or extension of the floor. This may either be observed or unobserved, or assisted by staff.
Fall rate	Number of patients falls x 1000 patient bed days
Assisted Fall	A fall in which any staff member assisted the patient by slowing their descent to minimize the impact of the fall.
Anticipated Physiological Fall	Factors associated with known fall risks such as loss of balance, impaired gait or mobility, impaired cognition/confusion, impaired vision. Falls that we anticipate will occur due to the patient's existing physiological status, history of falls, and decreased mobility upon assessment.
Unanticipated Physiological Fall	Factors associated with unknown fall risks that were not predicted (cannot be predicted) on a fall risk scale: unexpected orthostasis; extreme hypoglycemia; stroke; heart attack; seizure
Behavioral (Intentional) Fall	Patient who has behavioral issues and voluntarily positions his/her body from a higher level to a lower level

Appendix Y

CNL Project: Statement of Non-Research Determination Form**Student Name: Krys Elgarico**

Title of Project: Getting to Zero: Creating an Infrastructure to Support Fall Prevention in a Medical–Surgical Telemetry Unit

Brief Description of Project:**A) Aim Statement:**

By October 2019, this project aims to develop an engaged and proactive Falls Prevention Safety Team resulting in a decrease in the unit fall rate by 25% compared to baseline.

B) Description of Intervention:

For the 3 South MST microsystem and CNL-led team to achieve the unit goal of a 25% reduction in falls by the end of the performance year 2019, improvement activities need to foster the development of a nursing- and patient-centered approach. The first intervention will include the formation of a Falls Prevention Safety Team to develop, oversee, and test a new multifaceted intervention (change package) consisting of several best practices.

C) How Will This Intervention Change Practice?

The unit team formation and focus on falls prevention will change practice by increasing the awareness and engagement of staff, patients, and patients' families regarding falls, and collaborating with other key stakeholders.

D) Outcome measurements:

To evaluate the effectiveness of the Fall Prevention Safety Team and change package, three “metrics that matter” will be assessed. First, a quarterly team satisfaction survey will be conducted and compared over time. Second, monthly fall rates will continue to be monitored, and data displayed openly on the unit data wall. Third, an annual analysis of the unit fall rate will be compared to benchmarks and baseline data to assess progress in achieving a yearly 25% reduction in fall rates.

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: (<http://answers.hhs.gov/ohrp/categories/1569>)

This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Student may proceed with implementation.

This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

Comments:

EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST *

Instructions: Answer YES or NO to each of the following statements:

Project Title:	YES	NO
The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.	X	
The specific aim is to improve performance on a specific service or program and is a part of usual care . ALL participants will receive standard of care.	X	
The project is NOT designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does NOT follow a protocol that overrides clinical decision-making.	X	
The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does NOT develop paradigms or untested methods or new untested standards.	X	
The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does NOT seek to test an intervention that is beyond current science and experience.	X	
The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.	X	
The project has NO funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.	X	
The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., not a personal research project that is dependent upon the voluntary participation of colleagues, students and/ or patients.	X	
If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: <i>"This project was undertaken as an evidence-based change of practice project at Kaiser Permanente South Sacramento Medical Center and as such was not formally supervised by the Institutional Review Board."</i>	X	

ANSWER KEY: If the answer to **ALL** of these items is yes, the project can be considered an Evidence-based activity that does NOT meet the definition of research. **IRB review is not required. Keep a copy of this checklist in your files.** If the answer to ANY of these questions is **NO**, you must submit for IRB approval.

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.

STUDENT NAME (Please print): Krysta Elgarico

Signature of Student: _____ **DATE** 04/24/2019

SUPERVISING FACULTY MEMBER (CHAIR) NAME (Please print):

Signature of Supervising Faculty Member (Chair): _____ **DATE** _____

Appendix Z

Results

