

Spring 5-19-2016

Transitioning Care from Hospital to Home, Increasing Awareness of Take-home Pressure Injury Prevention Kits

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Final Project Prospectus and Summary Report 1-10:

Transitioning Care from Hospital to Home

Increasing Awareness of Take-home Pressure Injury Prevention Kits

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Author Note

This paper was prepared for Professor, Dr. Elena Capella, EdD, MSN/MPA, RN, CNL, CPHQ, LNCC for N653, Internship: Clinical Nurse Leader.

Increasing Awareness of PI Prevention Kits

Clinical Leadership Theme

This project will uphold the Clinical Nurse Leader (CNL) role of client and professional advocate. The parameters of this project will allow the CNL to work as a leader who both ensures that care planning is patient-safety centered while promoting the nursing profession through improved awareness and expansion of evidence-based care (AACN, 2007, p. 13). By integrating a successfully studied approach to transfer patient-safety pressure injury (PI) (NPUAP, 2016) strategies from hospital to home, this project will aim to improve at-home pressure injury prevention through education of patients identified by staff as at risk (Braden Scale score of less than 19) (BS<19) of pressure injury development who are scheduled to be discharged from Unit 4N at Kaiser Permanente Santa Rosa Medical Center (KPSR) and back into their community setting or home environment.

Statement of the Problem

Kaiser has recently completed a study in which fourteen patients assessed at risk (BS <19) were discharged with a prevention kit containing a hand-mirror, a sample of Boost, a waffle cushion and an educational brochure (prevention kit) (Appendix A, H, I, J) highlighting Kaiser's SKIN Bundle PI prevention strategies. Each patient was followed for up to two years and none of them developed a community acquired pressure injury (CAPI) by the end of that time. In assessing the microsystem for at-home PI prevention, it has been discovered that while this initial study to transition care from the

hospital to home has been deemed successful, the only nurses aware of the initiative are those who were directly involved in the study (Appendix F).

According to the Institutes of Medicine (IOM) (2001), this discovery would initiate a need for a risk-anticipation action as this assessment has revealed an underuse of effective care (p. 3). Absence of awareness creates a performance gap and sets the stage for a CNL project to raise awareness of this initiative and provide nursing staff with knowledge about the prevention kits so they can, in-turn, expand upon patient-safety by “providing services based on scientific knowledge to all who could benefit” (IOM, 2001, p. 3).

In review of the evidence-based change practice checklist, this project was shown to be an evidence-based activity. It has been led by substantive research and does not require an IRB review as the expectation is to improve patient safety, quality and continuity of care. In addition, by working on this process it is anticipated that staff will essentially prevent readmission and its associated costs through increased patient and nurse knowledge-base. It is important to work on this project now because the need to do so has been clearly identified and by increasing awareness the expectation will be to increase patient safety, improve quality and continuity of care, reduce the risk of costly hospital re-admissions due to CAPIs and increase the knowledge-base of patients and nurses to at-home PI prevention strategies.

Project Overview

This project was selected as it directly integrates the high-level standards of care that (KPSR) nurses have been recognized for providing (CALNOC, 2015) with already previously

proven evidence-based practice (EBP) strategies for home PI prevention. This parallels KPSR's goal of providing safe, quality care throughout the continuum of care which includes "health education and the support of community health" (KP, 2016). This author confirms the project is not research-based as it fulfills the parameters of an evidence-based activity that is designed to improve upon the usual process of care delivery involving established quality standards and EBP strategies. Furthermore, the project does not require staff to override clinical decision making as it is not designed to follow a research design nor untested methods or interventions. Finally, this author confirms the project is not a personal research project and has the approval of the unit manager and the CWOCN to improve delivery of care.

The process of this project begins with the premise of eventual integration of the global aim of identifying patients at risk (BS <19) for pressure injury development while still in the inpatient environment and ends with providing those identified as at risk with education through description of how to use the evidence-based items in their provided prevention kit (Appendix E). Providing patients with this education allows for interventional use at-home in order to reduce risk and help prevent CAPIs from developing after discharge. The kits will consist of four evidence-based tools that are already used by nurses as evidence-based interventions during inpatient stay as proven preventative strategies and include an educational brochure, a hand mirror, a waffle cushion and one sample of a Nestle Boost supplement (Appendix A, H, I, J).

Without awareness, however, the global aim of educating patients toward self-actualization of PI prevention strategies will ultimately suffer in implementation and sustainability. In fact, as part of microsystem data collection it has come to light that on a 25-bed, medical surgical unit only one nurse was aware of the at-home PI prevention study and

subsequent transition from hospital to home initiative. Therefore, the most pressing need is to improve awareness of the nurses within the microsystem to the availability of the prevention kits so that they may begin to provide them to their patients assessed to be at risk at the time of discharge. The increased patient-safety outcome potential of this global aim directly aligns with KPSR's goal to provide their patients with safe, patient-centered care that includes "health education and the support of community health" (KP, 2016). For that reason, in order to reduce at risk patients from developing CAPIs post-discharge, it is the author's specific aim *to expand upon the successful patient-safety outcomes resulting from the Pressure Injury Reduction in the Home pilot study by using huddles to increase awareness of take-home PI prevention kits to 75% of all nursing staff on unit 4N at KPSR by May 1st, 2016.*

The daily staff huddle has been identified as the best approach to increase awareness as this is an EBP strategy that is informal, nurse-inclusive, measureable through pre and post-testing and effective in promoting sustainable change (Bouton, 2014, pp. 32-33; Clarke & Marks-Maran, 2014, p.220; Provost et al., 2015, p. 5). Huddles will be attended multiple times and information gathered during these informal sessions will be used to assess whether staff is increasing awareness to the goal of 75% by May 1st, 2016. Furthermore, huddles will provide the platform in which to identify barriers and to involve staff in support and encouragement of the global initiative.

Rationale

(NOTE: All of the following Kaiser-specific data used for this project has been confidentially blinded to the author by either the CWOCN or Preceptor). Over the course of a two year pilot study fourteen patients were given prevention kits upon discharge and none of

them developed CAPIs in their home or setting. For KPSR's study purposes, all patients fit into specific demographic criteria and all were deemed to be at risk for PI development when assessed using the Braden Scale quantifier of at or below nineteen (BS <19). As part of KPSR's research for the study, a predictive analysis study showed that up to 20% of the population with BS less than 19 were at risk for developing a CAPI. This data was interpreted to mean that KPSR can expect up to eighteen patients to be admitted at risk for developing PIs over the course of one year. On February 1st, 2016, KPSR had fourteen out of ninety beds occupied with patients that were documented by nursing staff to be at risk for PI development based on BS of less than nineteen. Mathematically this ratio (14:90) translates to 16% and this quantifier identifies a real-time percentage of KPSR's patients being admitted at any given time who are, in fact, at risk when entering the facility from the community setting. A second set of data was collected on March 3rd, 2016 when CALNOC results showed a census of three out of 23 patients assessed at risk with BS scores of less than nineteen. This ratio (3:23) translates to 13% of the assigned microsystem and further demonstrates real-time corroboration of the statement that a large percentage of patients at risk for skin breakdown can be found in the inpatient setting at any given time.

These figures are important as it parallels the data driven literature research available. For example, Mull et al.'s (2014) research found that 20% of veterans develop CAPIs within or after 30 days of discharge from acute care (pp. 216-217). In other studies, research identified that between 15% and as much as 50% (variations are due to scores determined from rates of 20-16 and below) of patients discharged with home health needs were deemed at risk of developing PIs when assessed using the Braden Scale (Ferrell, et al., 2000, p. 6; Stevenson, et al., 2013, p.

1556). In addition, Keelaghan et al.'s (2008) study found that between 6.6% and 12.7% of patients admitted to the hospital from community setting Nursing Homes had CAPIs at the time of admission (p. 334).

The above data demonstrates the need for PI prevention in the community and because KPSR has piloted an initiative that has proven to be effective in preventing and/or at the very least reducing the risk of CAPIs, the patient-safety prospect of increasing awareness of the prevention kits is un-mistakenly clear. While considering this, it is also important to note that at the time of the microsystem assessment at least one of the aforementioned at risk patients entered the facility with at least one Stage IV CAPI present on admission. Without including the cost of staff hours and assuming this will be an uncomplicated pressure injury, the treatment for this one patient will cost KPSR a minimum of \$10,000 (Appendix D) in wound care (Ca.gov, 2015). This realization becomes exponentially important when considering Brem et al.'s (2010) findings that Stage IV PIs can cost over \$127,000 to treat when all costs of care are averaged over the course of four readmissions (p. 475).

Therefore, the specific aim of this project addresses the barrier to implementation of the global aim in that the nurses are not aware of the potential they have in expanding their talents of PI prevention for patients being discharged at risk back into their homes/community settings. In fact, nursing staff at KPSR has an above average ranking (0.3 versus 0.32) in HAPI prevention (Leapfrog, 2015) and higher than average rating in both "discharge training" (KP, 2015) and "after care understanding" (KP, 2015) throughout the state of California. The above data show that increasing staff awareness of the availability of the prevention kits combined with staff's high level of standards of care will provide the catalyst to encourage sustainable transcendence

of PI prevention from hospital to home and with time and encouragement; can become integrated into current discharge practice.

In developing a business case to support this CNL improvement project, a cost-benefit ratio (Appendix D) was calculated based on \$10,000 in cost of care versus \$0 for 220 hours of the author's time (as a non-employee student) and approximately \$3,375 in combined hourly time spent by the Preceptor and the CWOCN. This equated to a savings of \$2.96 for every dollar spent on the project. The project design is simple with no additional overhead costs as all products used in the prevention kits have been donated or are already supplied to patients deemed at risk for PI prevention while receiving inpatient treatment. Additionally, the project is not projected to affect FTE as implementation of increasing awareness during huddles will not require any additional cost of staffing time.

When considering the initial study in which zero patients developed CAPIs after discharge the cost-saving, patient-safety potential of this project becomes quite clear. Therefore, it could be said that the value added to KPSR is the potential to predict cost savings related to services that will not need to be rendered for CAPI wound care as directly related to the prevention PI after discharge. Considering this financial information, the main benefit to KPSR would therefore be the potential to increase patient-safety while reducing the rate of CAPIs present on admission and the associated costs inherent therein. As previously noted, according to Northern California's Chargemaster data, the average the cost of care for one patient with one uncomplicated sacral CAPI present on admission is approximately \$10,000 (Ca.gov, 2015; Appendix D). This number does not include the cost of any additional staffing or

pharmacological needs for patients needing heavy lifting, multiple nurses needed to manage dressing changes, pain management or potential antibiotic therapy, respectively.

Qualitatively, the cost of improved patient-safety and increased patient and staff education cannot be accounted for in dollars and cents. However, the long-term global aim of this project has the potential to eliminate the devastating effects caused by CAPIs by preventing the development of these debilitating wounds after discharge; a fact that should be considered universally priceless. Just as with the inpatient setting, CAPIs are preventable and in addition to the financial burden, patients living with them state they suffer greatly from fear, disfigurement, pain and isolation (Hopkins, et al., 2006, p. 346-349).

Methodology

Lewin's Change Model (Lewin) will be used to improve awareness of the at-home PI prevention kits on unit 4N. *Unfreezing* will be accomplished through promoting urgency that staff already has the ability and can immediately begin to offer patients prevention kits. The concept of transitioning patient-safety and PI prevention from hospital to home will be encouraged as a must-do if we are to help patients move from passive patients to active participants in spite of the tendency to want to maintain traditional views that inpatient needs end at discharge (Mitchell, 2012, p. 33). According to Bower (2011), Lewin's theory is appropriate for nurses in that this theory "enable[s] the whole team to psychologically identify with and sustain change" (p. 20). Because the author of this CNL project is not an employee of KPSR, Lewin's approach has been assessed to be the best approach as it can be used to appeal to the strengths of staff in order to promote urgency in unfreezing and it is the hope to do so by praising INCREASING

staff for their statewide recognized talents in both HAPI prevention (Leapfrog, 2015), “discharge training” and “after care understanding” (KP, 2015). From here, the *moving* stage of Lewin’s theory can be incorporated by motivating continuance of provide patients with the prevention kits in a “progressive” (p. 33) manner (Mitchell, 2012). The goal is to do this by continuing to attend huddles in order to provide a presence of support and attention to the new integration of change. Finally, the *refreezing* stage will take shape as the concept of transitioning into at-home PI prevention during discharge becomes adopted as a standard of safe, patient-centered, quality-care practice (Mitchell, 2012, p. 33). While this stage will be difficult to achieve upon completion of the author’s semester, the aforementioned Unit Champion has been identified as interested in moving the project forward.

During the first huddle, staff will be introduced to the previous pilot study and its success. Staff will also be informed about the availability of the prevention kits, the parameters for use (BS <19, nutrition, mobility and education) and where they can be found on the unit. Also at this time, a pre and post-test questionnaire (Appendix G) will be and used to gather both baseline and ongoing data concerning the levels of rising awareness of staff nurses. Pre and post-testing will be used to measure outcomes of the project as this strategy has been proven to be an effective tool in gathering useful information on baseline awareness and knowledge gathering (I-Tech, 2010, pp. 6-7). Once implementation has begun, the author will work with the Unit Champion in updating progress and the author will continue to attend staff huddles at least once a week over the course of several weeks. These subsequent huddles will be used as the platform to both introduce staff to the prevention kits, to re-enforce awareness of their

availability, to encourage utilization and to assess for barriers affecting the project and/or concerns about providing the prevention kits to patients.

Data Source/Literature Review

The PICO question used to search for the following literature review was: *For nurses without awareness of take-home PI prevention kits, will informational sessions during staff huddles as compared to formal sessions or no sessions at all, increase awareness of take-home PI prevention kits?* This PICO question was used to search the Cumulative Index of Nursing and Allied Health (CIHNAL) and PubMed using the key words of huddle and nursing with the parameters of dates 2010 to 2016 and English language only. This search resulted in a total of 37 articles and after completion of a full review, 20 articles were selected for inclusion while the remaining articles were excluded due to lack of applicable data or inappropriate content. A review of these literature sources led to the following results:

The Agency for Healthcare Research and Quality's (AHRQ) TeamSTEPPS 2.0 provides healthcare professionals evidence-based tools for effective communication. Its platform is based on evidence that inter-professional teamwork skills create an optimal environment in which to deliver efficient, quality care. AHRQ is a recognized industry leader in developing outlines that define the requirements of delivering safe patient care. This tool was used to provide insight into EBP strategies on how to deliver concise and effective information to raise awareness during huddles.

The American Association of Colleges of Nursing (AACN) is an organization that sets determinants of nursing professionalism parameters and provides detailed guidelines and

requirements for CNL certification standards. CNL nursing programs and CNL students can use these guidelines to track their progress and experiences as journaled by the CNL student and are used by the AACN to determine eligibility to take the CNL certification exam. Embedded within are the guidelines on how the CNL role is used to bridge the gap between bedside nursing staff and management. This was used as a tool to connect EBP project concepts to the role of the CNL.

Baldelli and Paciella (2016) performed a benchmarking study aimed at decreasing the prevalence of PIs using an evidence-based PI prevention bundle. The results of their study showed that the prevalence of PIs decreased and the authors tied this outcome to improved safety and increased quality of care. This article was helpful in correlating the effectiveness of the educational brochure in the take-home kits and provided evidence of the importance to increase staff awareness.

Bergquist-Beringer and Gajewski's (2011) retrospective cohort study was used to identify risk factors for pressure injury development in older adult home health patients. Data was gathered using Outcome and Assessment Information Set (OASIS) charting systems and was analyzed to show that patients with the highest risk for skin breakdown in the home health setting were those with bowel incontinence and in need of assistance in activities of daily living (ADLs) with statistically significant findings of $p = 0.05$ and $p = 0.001-0.026$ respectively. The authors further concluded their research analysis shows that OASIS is an appropriate tool for predicting PI development. This information was helpful in providing data to support PI development prevalence in the community setting.

Bouton (2014) published results from a literature review aimed at identifying specific behaviors that impact the sustainability of learning and retaining knowledge for use in the future behavior changes. Her findings highlighted what methods hinder learning and what methods help sustain newly learned behaviors. This article was helpful in identifying strategies to both implement and avoid when eliciting staff buy-in to create change during huddles.

Bower's (2011) article discussed successful approaches to use when attempting to implement change. His review of a nursing team within a community setting highlighted that empowering staff was beneficial in helping to implement sustainable change. He concluded that successful approaches were those that highlighted empowerment of staff in a structured and supportive way. This article helped to solidify that the empowerment aspect of Lewin's change theory would be the best approach to use for this project.

Brem et al., (2010) provided data collected from a retrospective chart data review in an aim to monetarily quantify the cost of Stage 4 PIs. Their results showed that over the course of four readmissions a Stage 4 PI can exceed the cost of \$127,000 in total care when uncomplicated and over \$129,000 when complications arise. This information was useful in providing evidence as to the cost-saving benefit and patient safety importance of increasing awareness toward take-home pressure injury prevention strategies.

Clarke and Marks-Maran (2014) studied strategies to implement a program of change within an acute care hospital setting. The results of their literature review showed that sustainable change is difficult to achieve and the best outcomes can be attributed to the involvement of a nursing leader and ward sister. The article also highlighted that utilizing a champion as being part of an effective strategy to continuance of change. This article was used

to in helping to understand the importance of utilizing appropriate skills of the CNL to help increase awareness during huddles.

The Collaborative Alliance for Nursing Outcomes (CALNOC) (2015) is a data registry depository that can be used to provide hospital executives information on California specific, nurse-reliant patient outcomes. These nursing outcomes data points can be used to assign average rates and standards of care when scores are compared hospital to hospital throughout the state of California. This tool was useful in gathering data on SFRO's patient-care averages in regards to pressure injury related patient outcomes.

Cooper and Meara (2002) published an article in which they directly observed the results of The Organizational Huddle Process as it relates to its success as a communication tool. They concluded several benefits to utilization of the huddle. It was observed that the huddle can be successful in promoting communication, collaboration, focus, and support. This article was useful in identify the high level of effectiveness the huddle offers versus the traditional meeting in regards to selecting the best vehicle to increase awareness of the take-home prevention kits.

Davis (2009) wrote this peer-reviewed article with the audience of healthcare workers in mind. It was intended to raise interest in using huddles as an effective tool for increasing communication. It was useful in determining the most effective implementation approach to use in order to increase staff awareness of prevention kits.

Duncan (2008) wrote this article as a three part series in response to the Institutes for Healthcare Improvement (IHI) recommendation to prevent pressure injuries. The 5 Million Lives Campaign defines pressure injury prevention as not just assessing patients for risk but for requiring implementing EBP prevention interventions when patients are assessed as

such. It was helpful in providing validation that this project is rooted in EBP patient safety interventions that follow national standards of quality care.

Ferrell, Josephson, Norvid and Alcorn (2000) are the authors of this cross-sectional survey aimed to determine the prevalence of patients who develop CAPIs within the home health care setting. Their study used the Braden Scale as an assessment tool and their data identified between 9 and 14% of patients had active pressure injuries in the home health setting. This data was used to show prevalence of CAPIs and was helpful in validating the need for increasing awareness of the prevention kits.

Hopkins, Dealey, Bale, Defloor and Worboys (2006) are the authors of this qualitative article which identified several themes emphasizing what it is like to live with a PI. Their study used the Heideggerian phenomenological approach and self-reflective interviews from patients living with PI who told of constant pain, disability and isolation. These findings were helpful in validating the importance of preventing CAPIs after discharge. This study was also helpful in attaching quality of life and patient safety issues to the goal of raising awareness of the prevention kits.

The Institute of Medicine (IOM) (2001) is a non-profit division of the National Academies of Sciences, Engineering and Medicine. The IOM provides analysis and guidance on rectifying complex public problems. The overarching goal of the IOM is to provide information that will help both the private and public sector to make informed decisions on a variety of health-related subjects. Information gathered from the IOM was used to provide evidence to support the need for the increased awareness of the prevention kits.

Ishii (2016) authored this article which is aimed at identifying how to successfully implement sustainable change strategies. The author explored the concept of performance gaps and suggested that guideline implementation could be used to successfully fill gaps in care. It highlighted that identifying performance gaps follow the IOMs standard of making improvements to quality and safety. This article was useful in determining the performance gap within this author's chosen microsystem and was used as evidence of the need to increase awareness of the prevention kits.

International Training and Education Center for Health (I-Tech) (2008) was developed through a collaborative effort between the University of Washington and the University of California, San Francisco. It was created with the mission of supporting health care teams toward working effectively and provides a guide on how to create pre and post-test questionnaires. This guide also provides information on how to read and usefully obtain results from these tests. This guide was used to help create the author's pre and post-testing and will serve as a guide on how to interpret the results.

Kaiser Permanente (KP) (2015) published this online article of internal highlights of KPSR's achievements in the area of patient safety including their commitment to transitioning care from hospital to home. It was helpful in determining the appropriateness of the project and was used as evidence that increasing awareness of the prevention kits follows KPSR's goals of safe and quality care.

Kaiser Permanente's (KP) (2016) public website provided information about KPRS's goals of care, including the intent to promote health and wellness in the community setting. It was helpful in determining the appropriateness of this project and was used as validation that

increasing awareness of the prevention kits follows KPSR's goals of safe, quality care.

Keelaghan, Margolis, Zhan and Baumgarten (2008) authored this secondary data analysis study article aimed at comparing PI rates between patients admitted to acute care facilities from nursing homes versus patients admitted to acute who were not from nursing homes. Their study revealed a 26.6% prevalence rate of PIs in these patients already existed prior to admission. It was helpful in data gathering and was used to highlight the need of increasing awareness of the prevention kits to improve safety and protect patients from developing CAPIs.

Koelling, Johnson, Cody and Aaronson (2005) conducted a randomized control trial (RCT) of 223 patients with heart failure in order to study the effect of outcomes on those who received patient-centered discharge education versus those who did not. Results of their RCT concluded that patients who received the discharge education via a nurse educator showed improved outcomes once they re-entered their community settings. This article was used to attribute positive outcomes with nursing relevance in relation to the goals of this project.

McNichol, Watts, Mackey, and Gray (2015) are the authors of this review used evidence based on past literature to complete an algorithm in regards to how to best reduce pressure to prevent skin breakdown and the development of PIs. Their article discusses the importance of offloading and was used to correlate the need to include a waffle seat cushion surface in the take-home PI prevention kits and was therefore used as evidence of the need to increase staff awareness of the prevention kits.

Mitchell's (2013) peer reviewed article researched the usefulness of using different change theories in achieving workplace effectiveness. His review of theories highlighted both

the pros and cons of Lewin's, Roger's and Lippitt's theories. In regards to Lewin's Change theory, aspects to consider when implementing unfreezing, moving and refreezing stages were discussed. This article was used to help decide which change theory would be most appropriate to use in regards to the increasing awareness during huddles. The author concluded that the effectiveness of Lewin's theory was noted to be most successful when using encouragement and when using small scales of change. This article helped to define this change theory as the most appropriate to use in order to implement change for this project.

Mull, Borzecki, Chen, Shin and Rosen (2014) are the authors of this inpatient administrative data driven article aimed to explore and identify what patient safety indicators resulted in adverse effects up to 30 days post discharge within the Veteran population. Their research found that 20% of Veterans developed PIs up to 30 days and beyond. This article was helpful in data gathering and was useful in validating the need to increase awareness of the prevention kits.

The National Quality Forum (NQF) (2016) is a national organization that sets priorities on patient safety standards for healthcare professional and institutions of care. It is responsible for implementing the Patient Safety Measures Steering Committee of which includes the call to remedy gaps in care as determined by their framework for measuring hospital acquired injuries. This website was helpful in gathering data relating to PIs, admission rates, readmission rates and CAPIs and was used to provide evidence for the need to increase awareness of the take-home PI prevention kits.

Pressler (2015) published this clinical comment paper was used as a quick reference guide to highlight EBP, PI prevention interventions. It was helpful to identify that the take-

home kits used in the original KPSR study were based on best practice evidence. In addition, this article was used to highlight the need to increase awareness of the prevention kits as they are inclusive of these interventional goals.

Provost, Lanham, Leykum, McDaniel and Pugh (2015) are the authors of this literature review, direct observational study and semi structured interview that aimed to highlight the reliability of using huddles to deliver time sensitive information in complex settings. Their research found affirmative relationships between the use of huddles and positive improvements to patient safety outcomes. This article was helpful in identifying the huddle as an effective tool in increasing staff awareness.

Roberts, Chaboyer, Leveritt, Banks and Desbrow (2014) authored this article which aimed to highlight the various nutritional aspects that are helpful in preventing the development of PIs. Their research showed a statistically relevant connection between proper supplementation and the potential to decrease skin breakdown ($p < 0.05$). This article was helpful in correlating the effectiveness of the Nestle Boost protein supplements as one of the elements to include within the prevention kits and provided evidence of the importance to increase staff awareness.

Rodrigues, Meredith, Hamilton and Rubenstein (2015) are the authors of this convergent mixed-methods study aimed to explore the effectiveness of using team huddles to implement new roles and responsibilities in the VA setting. The authors concluded a positive relationship between the use of the huddle to disseminate knowledge in order to improve quality patient care and safe patient practices. This article was helpful in identifying the huddle as an effective tool in increasing staff awareness.

Russo, Steiner and Spector (2008) are the authors of this statistical brief which was published by the AHRQ in an aim to expose the patient safety aspect of increasing PI prevalence in patients amongst hospitalized patients 18 years and older. The data presented included cost of caring for PIs in relation to length of stay. Specifically, the brief discussed general characteristics of hospital stays related to PIs, age-related PI prevalence, primary payer-related hospitalizations for patients with PIs, and the most common reasons for hospitalization due to PIs. It was helpful in gathering data to support the need of increasing awareness of take-home PI prevention kits as related to patient safety and quality care.

Stevenson, et al., (2015) authored this cross-sectional observational study aimed to determine prevalence of patients who develop PIs within the home health care setting. Their study identified that depending on the scale used, between 6 and 49% of patients will develop CAPIs in the home health care setting. This data was used to show prevalence of CAPI development and was helpful in validating the need for increasing awareness of the prevention kits.

The Leapfrog Group (Leapfrog) (2015) is a nationally recognized organization that collects data and makes it available to the public regarding quality of service in acute care hospital settings. Leapfrog notes that data delivery is voluntary and hospital-based in an effort to entice employers to use the site to leverage purchasing power. The site is also noted to bring recognition to patient safety and quality healthcare. This website was helpful in gathering data on how KPSR's rates in regards to patient safety efforts in relation to other acute care hospitals.

Van Gaal, Schoonhoven, Vloet, Mintjes, Born, Koopmans and van Achterberg (2010) are the authors of this cluster randomized trial aimed to explore the effectiveness of their PI

prevention guideline in regards to interactive education throughout ten acute care and ten nursing home facilities. Their data showed that implementation of PI prevention guideline learning is most successful when interventions are tailored and interactive to the staff and their specific settings. This article helped to elucidate the effectiveness of small and frequent implementations of change and was used as peripheral evidence to help determine that the structure of the huddle to be an effective tool to increase awareness of the prevention tool kits.

The Wound Ostomy Continence Nursing Society (WOCN) (2010) is a national society made up of thousands of wound care experts from around the world who convene to share experience in the field. It is recognized as providing expert clinical opinion and gives EBP strategies for prevention, intervention and the treatment of PIs. This guideline was helpful in gathering data regarding the high cost of PI treatment. It was also helpful in providing evidence correlating the importance of preventing CAPIs post-discharge.

Zhu, Hong and Wang's (2015) article discussed findings from their systematic review and meta-analysis evaluation of the effects on patient outcomes when nurses provide early discharge education for patients with chronic diseases. The results of their study were statistically significant and highlighted that when patient are provided information early and centered toward patient-specific goals of care, there are reduced readmission rates (95% CI). In addition, patients from this study reported better quality of life ($p = 0.010$) post-discharge. This article was used to validate the relevance of this project in regards to increasing awareness of staff nurses at KPSR.

Timeline/Expected Results

In coordination with the unit 4N manager, Preceptor, CWOCN and Unit Champion, the first huddle information session will be conducted during the week of March 21st, 2016. This will take place during AM shift huddles with subsequent attendance at huddles to continue at least once per week for the following four weeks. This time frame is designed to allow for enough time to lapse in order to have at least one session with up to 75% of all nurses working on this unit. This target would effectively satisfy specific aim of this projects goal and should be enough time to assess barriers and provide interventions in the case that they may arise. Data collection will be captured using pre and post-testing at each of these weekly huddle sessions and will be calculated using a run chart in order to provide measurement of outcomes and to provide the opportunity to interpret data for increased staff awareness. The CWOCN, Preceptor and unit manager will each be given the results as a way to continue interest and connection to the project while providing the opportunity to discuss successes, threats or unexpected changes to the expected outcome of increased awareness to at least 75% of staff nurses on unit 4N. In coordination with the unit 4N manager and Champion, the prevention kits will be made available at a pre-determined location and will be ready for staff nurses to use at the time of the first AM shift huddle the week of March 21st, 2016.

At the end of the four week huddle sessions, the author expects that at least 75% of staff nurses on unit 4N at KPSR will have gained awareness of the availability of the prevention kits. This author suspects that kits will be used early on in this project and that as the author attends huddles and discusses implementation with staff nurses that additional ideas for smaller

scales of change will emerge. It is expected that nurses may initially have reservations that these kits may increase their discharge workload and it is predicted that huddles will be used to encourage nurses to expose these feelings and to help identify solutions.

In addition, it is expected that with success of this project, other units will begin to be introduced to the initiative and it would be the hope that the global aim would be realized with implementation throughout the facility. This element of the project will rely heavily upon the unit Champion as the author is not an employee and will be leaving the facility after the semester ends. Unfortunately, if this element of the project is not successful by the end of the semester, it can be reasonably predicted that it may fade away over time. Ultimately, however, this author has made concessions for this and therefore expects success and that the patient-safety and nurse empowerment aspects of this project will help it prevail.

Nursing Relevance

Increasing awareness of the availability of at-home PI prevention kits is relevant to nursing practice in that it will allow staff be innovators in transcending care from hospital to home. The outcomes of this project are expected to increase nursing ability to help their patient mitigate risk and improve patient safety beyond their hands-on care in the hospital environment. This project encourages patient-centered delivery of care as it provides a catalyst transcending evidence-based concepts into usable interventions through the use of collaboration and communication with patients and their families.

The importance of preparing our patients for success is relevant to nursing in that it has been proven to “improve outcomes” (p. 184) when education has been “delivered by a nurse

educator” (p. 184) for patients being discharged (Koelling, et al., 2005). In addition, Zhu et al., (2015) parallel this same significance through nurse interaction during the preparation of patients for discharge. In fact, their systematic review and meta-analysis that showed significant results in reduced readmissions (95% CI) and increase quality of life ($p = 0.010$) (p. 3001). Finally, this project shows immediate relevance to nurses who practice bedside care at KPSRO as Kaiser (2015) promotes safe and effective care both in the hospital and community settings under the statement of their mission to prepare patients for discharge on admission. As such, this project is relevant in providing these nurses with an effective tool in which to do so.

Summary Report

Objectives, Population and Setting

In collaboration with the CWOCN, a performance gap was identified within the microsystem of inpatients assessed to be at risk of PI development at the time of discharge (Appendix E). Actual performance does not meet the desired expectation of patient safety as these patients are not provided preventative strategies to reduce the risk developing PIs after returning home (Appendix F). Anticipating risk advocates for patient safety and was used as the catalyst for change affecting this microsystem (AACN, 2007, pp. 11 – 12).

Literature showed that the predictive alternative to PI prevention is treatment. Unfortunately, this comes at the cost of \$11 billion annually; with Stage 4 PIs alone costing over \$127,000 when averaged over four readmissions (Russo, et al., 2008, p. 2; Brem at al., 2009, p. 2011). In addition, the literature showed that PI prevention is predictably successful when interventions consist of skin protection, frequent inspection and maintaining

evidence-based appropriate nutritional status (WOCN, 2010, pp. 37-38; Roberts et al., 2013, p. 842; Pressler, 2015, p. 1). Upon completion of the 5Ps microsystem review, it was discovered that these interventions are currently only provided during inpatient stay. In the article, *Closing the Clinical Gap: Translating Best Practice Knowledge to Performance with Guidelines Implementation*, Ishii (2016), conceptualizes that performance gaps are created because it is impossible to translate knowledge into action without having first been given to the information needed to do so (p. 898).

Without the transfer of preventative knowledge to those assessed to be at risk, the potential for PI development and subsequent readmission is real. Therefore, it was the authors recommendation to follow the National Quality Forum's (2016) *Patient Safety Measures* challenge to "expand available patient safety measures beyond the hospital setting" (NQF) by providing inpatients with knowledge in the form of strategies and tools to help prevent the development of PIs after being discharged to home. As a result, it was decided that the most pressing need was to improve awareness of the nurses within the unit 4N microsystem to the availability of the prevention kits so that they may begin to provide them to their patients assessed to be at risk for developing CAPIs after discharge. The resulting aim of the proposed CNL project was *to expand upon the successful patient-safety outcomes resulting from the Pressure Injury Reduction in the Home pilot study by using huddles to increase awareness of take-home PI prevention kits to 75% of all nursing staff on unit 4N at KPSR by May 1st, 2016.*

Methods of Implementation, Baseline Data & Conclusions

Baseline data gathered from within KPSR also supported the need for this project as it had been discovered during the research allocation accrued during a two-year KPSR's at-home PI prevention pilot study showed that up to 20% of the community population with BS less than nineteen were at risk for developing a CAPI. This data was calculated to mean that over the course of the oncoming year that KPSR should expect that as many as eighteen patients would either be at risk for developing a PI while inpatient and/or come into the facility with a CAPI present upon admission. In fact, during the authors 5Ps assessment internal data showed that fourteen out of ninety beds were occupied with patients that were documented to be at risk for PI development based on BS score of less than nineteen. Mathematically, this ratio (14:90) translates to 16% which this closely parallels the abovementioned quantifying number of patients being admitted at any given time who are at risk or admitted with a CAPI.

Additionally, a second set of data was collected during a CALNOC survey which revealed a census of three out of 23 patients to be assessed at risk with BS of less than nineteen. This ratio (3:23) translates to 13% of the unit 4N microsystem and further demonstrates corroboration of the statement that a large percentage of patients were at risk for skin breakdown in the inpatient setting at any given time. Furthermore, the fiscal ramifications inherent in the cost of caring for a single patient with a Stage 4 PI (such as the aforementioned patient identified during microsystem assessment) will cost KPSR a minimum of \$10,000 (Appendix D) in wound care (Ca.gov, 2015). And when Brem et al.'s (2010) findings that Stage 4 PIs can cost over \$127,000 to treat when all costs of care are averaged over the course of four readmissions this CNL project became solidified in need (p. 475).

Finally, this CNL project was determined to be of need as it correlates to the roles of client and professional advocate through enhancing discharge education through staff awareness of the prevention kits (AACN, 2007, p. 38). Because the nurses at KPSR have already been recognized for their skills in educating patients at the time of discharge (KP, 2015) awareness of this talent can be used to help elevate the level of care by filling the gap of transitioning care to home. According to Zhu et al., (2015) their findings are relevant to “formulating and implementing discharge planning programmes” (p. 2993). By increasing awareness and promoting use of the at-home prevention kits, these nurses will have a unique way to further use their talents through providing patients with a simple, but innovative patient-safety strategy to prevent CAPIs post-discharge. In addition, this article was used to define the relevance of this project to the profession of nursing. According to Zhu et al., (2015) their findings are relevant to “formulating and implementing discharge planning programmes” (p. 2993).

The original implementation date for this project was to be March 21st, 2016, however it wasn't until March 14th that approval was garnered from Nestle to send the Boost samples that were to be included in the prevention kits. In order to accommodate for this time lapse, and through discussions this with the 4N manager and the CWOCN the timeframe was intentionally altered was given a new start date of March 29th. Anticipating potential delay in Boost product delivery, the initial one dozen samples were purchased in order to complete creation of the decided upon number of kits scheduled to be available for nurses to give to eligible patients assessed to be at risk for PI at discharge at the time of the first huddle. With the completed take home PI prevention kits (Appendix A, H, I, J) on-hand, implementation during unit 4N AM

huddles began on time. In addition, the aim was also altered at this time and changed to only include the AM shift of fifteen staff nurses instead of the originally anticipated twenty-five nurses throughout all shifts over a twenty-four hour period.

During huddles, staff was introduced to the previous pilot study and its success. Staff was then informed about the availability of the prevention kits, the parameters for use and where the kits could be found. At that time, a pre and post-test (Appendix G) questionnaire was used to assess increased staff awareness before, during and after the huddle sessions as this platform of evaluation had been assessed to be an effective way to collect data in a healthcare environment (I-Tech, 2010, pp. 6-7). Information gathered from the pre post-testing questionnaires was then imputed into a run chart (Appendix K) in order to assess data correlating to the project's specific aim of increased staff awareness to 75% by May, 1st, 2016 (Perla et al., 2010. P. 51). Because delays in implementation had been identified as a potential barrier during preparation (Appendix B) resulting in the specific aim being narrowed from 25 to 15 nurses, the goal of %75 increased staff awareness was reached by May 1st, 2016. This early change was crucial as the author lost another week of implementation time during an unforeseen Joint Commission survey in which clinical attendance was temporarily suspended during that time.

Further evaluation of pre post-test questionnaire responses revealed themes that support the global aim and should be considered as the project moves forward. For example, while the majority of nurses had a positive response to the project, 25% of staff indicated that utilizing the prevention kits would be considered additional work (Appendix L, M, and N). It is the author's opinion that this will need to be addressed as the next PDSA cycle before moving forward.

Furthermore, it is the author's opinion that the unit 4N staff nurses should be included in that process and as such will be able to help identify useful strategies to overcome this potential global aim barrier. For example, specific ideas have been expressed during informal follow-up discussions that training during new-hire education and working with information technologies to create a reminder alerts for patients with BS scores less than nineteen would be helpful integration strategies.

In addition, this author believes that the global aim of this project has the potential to bring patient safety outcomes improvement results that could bring significant industry recognition to KPSR through benchmarking. According to Sower (2006) benchmarking "is not just copying . . . it is determin[ing] how to achieve comparable results given your unique internal and external conditions" (p. 60). One resource that could be used to identify and set those standards are the elements of "patient safety" (NIST, 2010) and "community services" (NIST, 2010) as assigned to the healthcare sector by the National Institute of Standards and Safety's (NIST) (2010), *Baldrige Performance Excellence Program*. This is a resource of excellence standards and these criterion highlight areas of improvement that are directly compared to renowned facilitates that already hold Magnet Status, TJC accreditation and are implementers of IHI initiatives which strongly aligns with transitioning of care from hospital to home aspect of increasing awareness of at-home PI prevention kits. An additional benchmarking resource to use would be the National Database of Nursing Quality Indicators TM (NDNQI®) mission that modern healthcare improve pressure injury prevention in the community setting (Montalvo, 2007). This resource can be used to research high standards and approaches used to prevent

CAPIS by others which can then be converted into acute care appropriate strategies while also providing goals of excellence.

Sustainability Plan

Early on in this CNL project a SWOT (Appendix C) analysis was performed in order to identify threats and weakness that may cause barriers to sustainability. The ongoing threat is that the author is not an employee; a barrier that was addressed by searching for a champion and by discussing this project with key stakeholders and during facility research meetings. Luckily, there is another USF, CNL student who has shown interest, and has inquired about helping to keep the project moving forward. According to Mount and Anderson (2015) assigning a unit Champion during process of change creates a “guiding coalition . . . [in] action planning, lead[ing] peers, monitor[ing] unit progress, and collect[ing] data” (p. 37). This will be important after the semester ends as this unit Champion will also be educated in the roles of the CNL and as an early innovator will have the skills to perform ongoing PDSA and SDSAs small scales of change. Additionally, the Champion’s CNL skills will be essential in keeping stakeholders interested in putting future time and effort into the project. In order for the champion to be effective, however, staff needs to remain invested now and therefore implementation huddle sessions and informal discussions have been used to maintain interest through reminders reduced readmission, LOS and time and resources spent in wound care. Repeating the history of the successful pilot study involves staff in the origin and reminders of their higher than an average California hospital rating (Leapfrog, 2015) instills pride of their ability to implement the same evidence-based interventions in the form of take-home PI prevention kits.

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Appendix A

Taking care of your skin can save your life!

You may be at risk for a pressure ulcer. When you are discharged from the hospital, our team will provide you education on how and why it is important to move frequently and prevent skin breakdown at home.

What do we teach?

- What is a Pressure Ulcer?
- Mobility – Get Moving!
- Nutrition – Eat Well!
- Looking at your Skin – What to look for?

Contact Us!

Kaiser Permanente Santa Rosa
 Pressure Ulcer Prevention in the Home Team
 401 Bicentennial Way
 Santa Rosa, Ca 95403
 (707) 393-4000

Visit us on the Web:
 kp.org

Preventing Pressure Ulcers at Home

Learn what you can do to decrease the incidence of pressure ulcers and **THRIVE** at home.

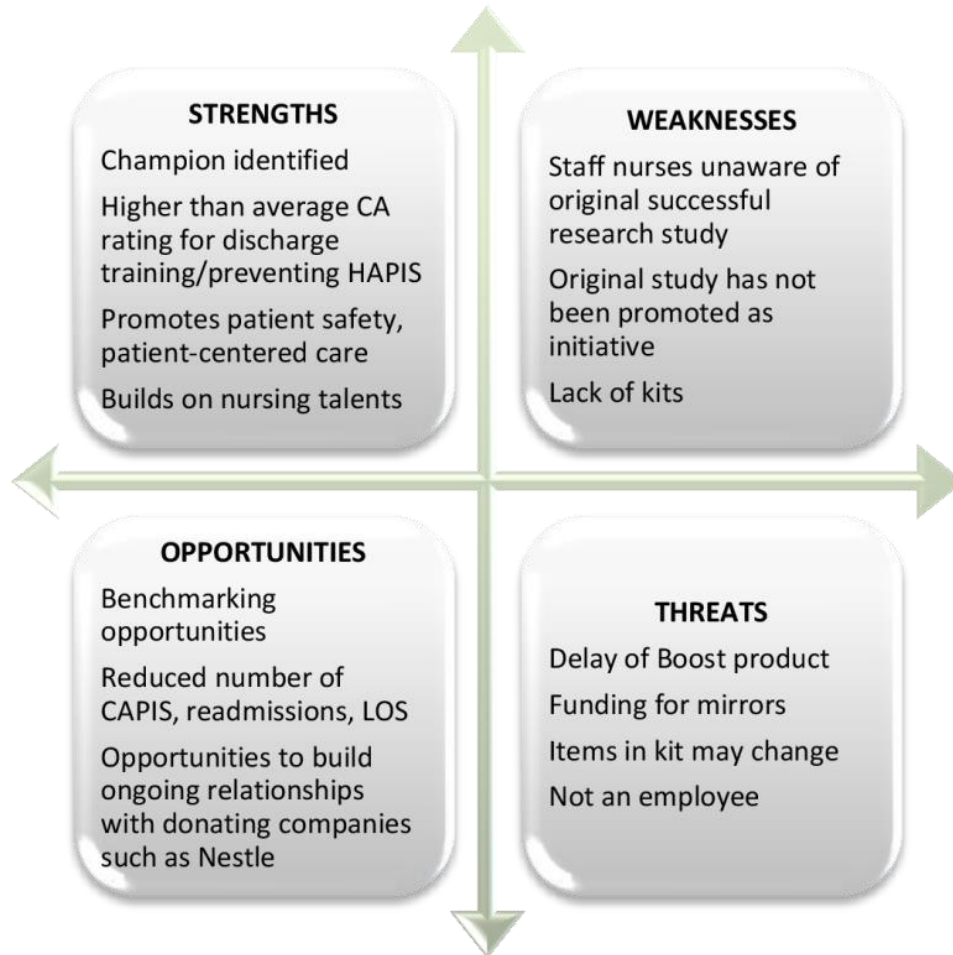
<p>What is a Pressure Ulcer?</p> <p>Pressure Ulcer (PU): A PU results from a lack of blood flow to a pressure point on the skin and can cause cell death and open wounds in your skin.</p> <p>Common pressure points are:</p> <ul style="list-style-type: none"> • Tailbone • Back • Buttocks • Heels or Elbows <p>PU can cause severe damage to skin which can be reason for readmission to or delayed recovery from the hospital.</p> <p>What can happen?</p> <ul style="list-style-type: none"> • Pain and Disability • Source of infection – open wounds can collect bacteria which can lead to infection. <p>How am I at risk?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Not able or wanting to move all the time <input type="checkbox"/> Not getting enough nutrition <input type="checkbox"/> Not knowing the signs of skin breakdown 	<p>What can I do to prevent this?</p> <ul style="list-style-type: none"> • Get Moving! Mobility helps blood flow to the skin <ul style="list-style-type: none"> <input type="checkbox"/> Walk or move around often! <input type="checkbox"/> Avoid long periods of time lying down or sitting. <input type="checkbox"/> Sit up in a chair for all meals – use waffle cushion <input type="checkbox"/> Switch positions while lying in bed. Make sure you turn at least every 2 hours or more. • Eat Well! -Healthy eating habits help cells grow <ul style="list-style-type: none"> <input type="checkbox"/> Eat lots of fruits of vegetables. <input type="checkbox"/> Drink plenty of fluids! <input type="checkbox"/> Drink the boost shakes like the Nestle boost we provided. They give you lots of nutrition and calories. 	<ul style="list-style-type: none"> • Looking at your Skin – What I need to look for? <ul style="list-style-type: none"> <input type="checkbox"/> Use a mirror to look at your skin daily. Focus on common sites of pressure ulcers. Look for changes in color, texture, or the way it feels. <input type="checkbox"/> Important things to look for: <ul style="list-style-type: none"> • Redness • Open wounds • Blisters <input type="checkbox"/> You will be contacted in 2 days after your discharge to talk about how your skin is. We will then contact you in 30 days, 60 days, then 90 days to check on your skin and you.
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You are now ready to take care of your skin and have the tools necessary to prevent pressure ulcers!

Appendix B



Appendix C



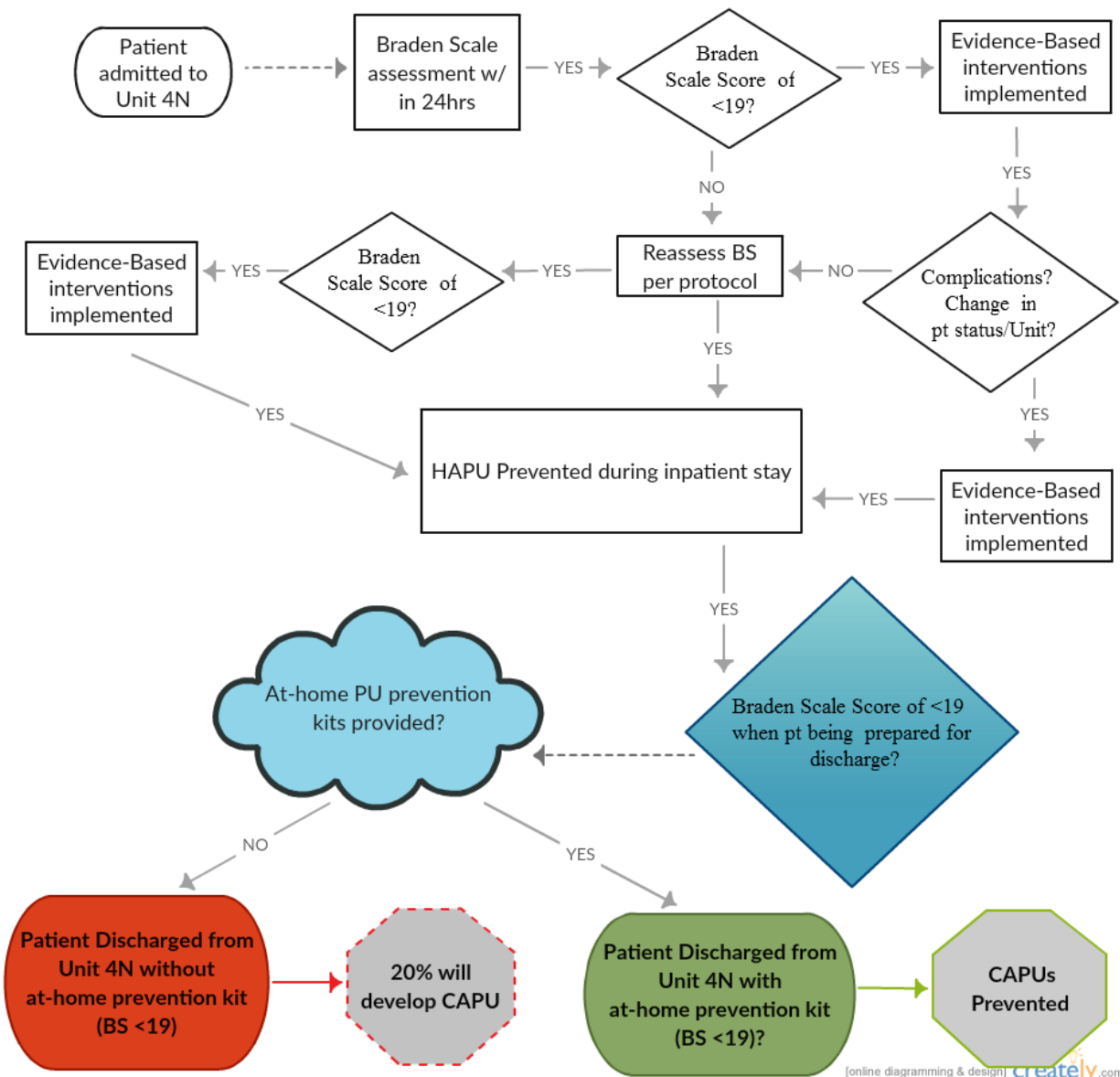
Appendix D

COST BENEFIT ANALYSIS		
Item	Calculation	Interpretation
Cost: Non-Employee Student Time	\$0	Actual cost.
Cost: CWOCN & Preceptor Combined Time (approximately \$150hr/22.5hrs over 15wks)	\$3,375	Estimate of direct and indirect costs.
Cost: Treatment of 1 uncomplicated sacral pressure ulcer (see Chargemaster data below)	\$10,000	Estimate of direct and indirect costs.
Cost-Benefit Analysis:		
Benefits	\$10,000	Indicates tangibility of positive benefit.
Net Benefit	\$10,000 - \$3,375 = \$6,625	Positive net benefit indicating more benefit than cost.
Benefit-cost ratio	\$10,000/\$3,375 = 2.9	For every \$1 spent on project there is a \$2.90 benefit.

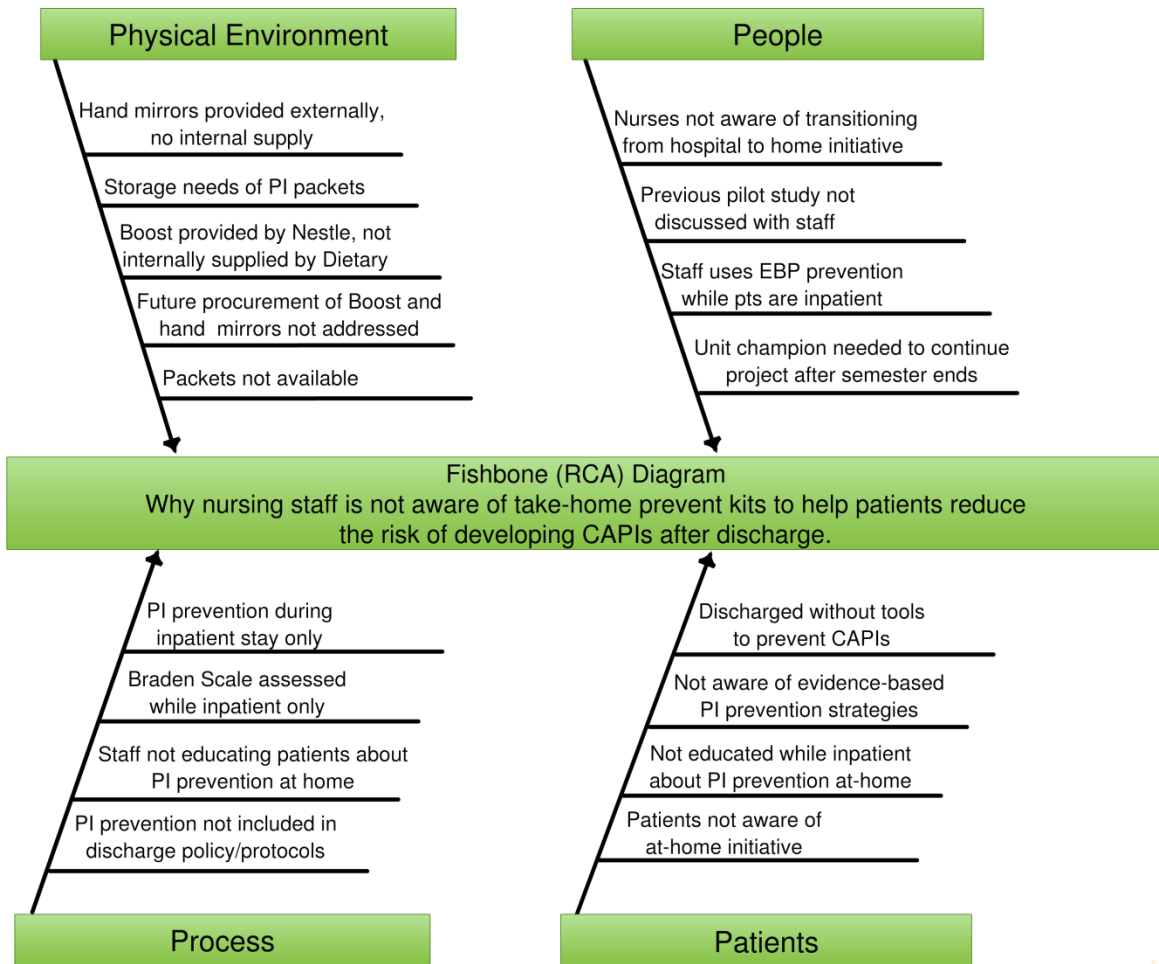
NORTHERN CALIFORNIA CHARGEMASTER	
Item Sacral Stage III / IV PU	Cost
EXCISION SACRAL PRESSURE ULCER W/PRIMARY SUTURE	\$ 4,986.00
NEGATIVE PRESSURE WOUND THERAPY > 50 SQ CM	\$ 501.00
NEGATIVE PRESSURE WOUND THERAPY <= 50 SQ CM	\$ 319.00
DEBRIDEMENT OPEN WOUND 20 SQ CM/<	\$ 501.00
DEBRIDEMENT SUBCUTANEOUS TISSUE&MUSCLE	\$ 822.00
DEBRIDEMENT WOUND SURFACE GREATER THAN 20 SQUARE CM, PT	\$ 501.00
DEBRIDEMENT SKIN FULL THICKNESS	\$ 501.00
DEBRIDEMENT SKIN PARTIAL THICKNESS	\$ 501.00
DEBRIDEMENT SUBCUTANEOUS TISSUE&MUSCLE	\$ 822.00
DEBRIDEMENT OPEN WOUND EACH ADDITIONAL 20 SQ CM	\$ 501.00
TRAY WOUND CARE W DRESSING	\$ 55.00
Total Estimated Cost	\$ 10,010.00
<i>Note:</i>	
SECONDARY CLOSURE SURG WOUND/DEHSN EXTSV/COMPLIC	\$ 5,319.00
Nursing FTE	Variable

Appendix E

Flow Chart - inpatient to discharge, patients at-risk for developing CAPUs



Appendix F



Appendix G

QUESTIONNAIRE: AT-HOME PRESUSRE ULCER PREVNTION KITS KAISER SANTA ROSA, UNIT 4N, AM SHIFT	
Were you aware of the At-Home PU prevention study before today?	Y / N
Were you aware of the initiative to transition PU prevention from hospital to home before today?	Y / N
Were you aware that Take-Home PU prevention kits were available before today?	Y / N
Do you educate your patients about the interventions you are using to prevent PU development while inpatient?	Y / N
Would you consider providing PU prevention kits additional work?	Y / N
Additional Comments/Concerns/Thoughts/Ideas?	

Appendix H



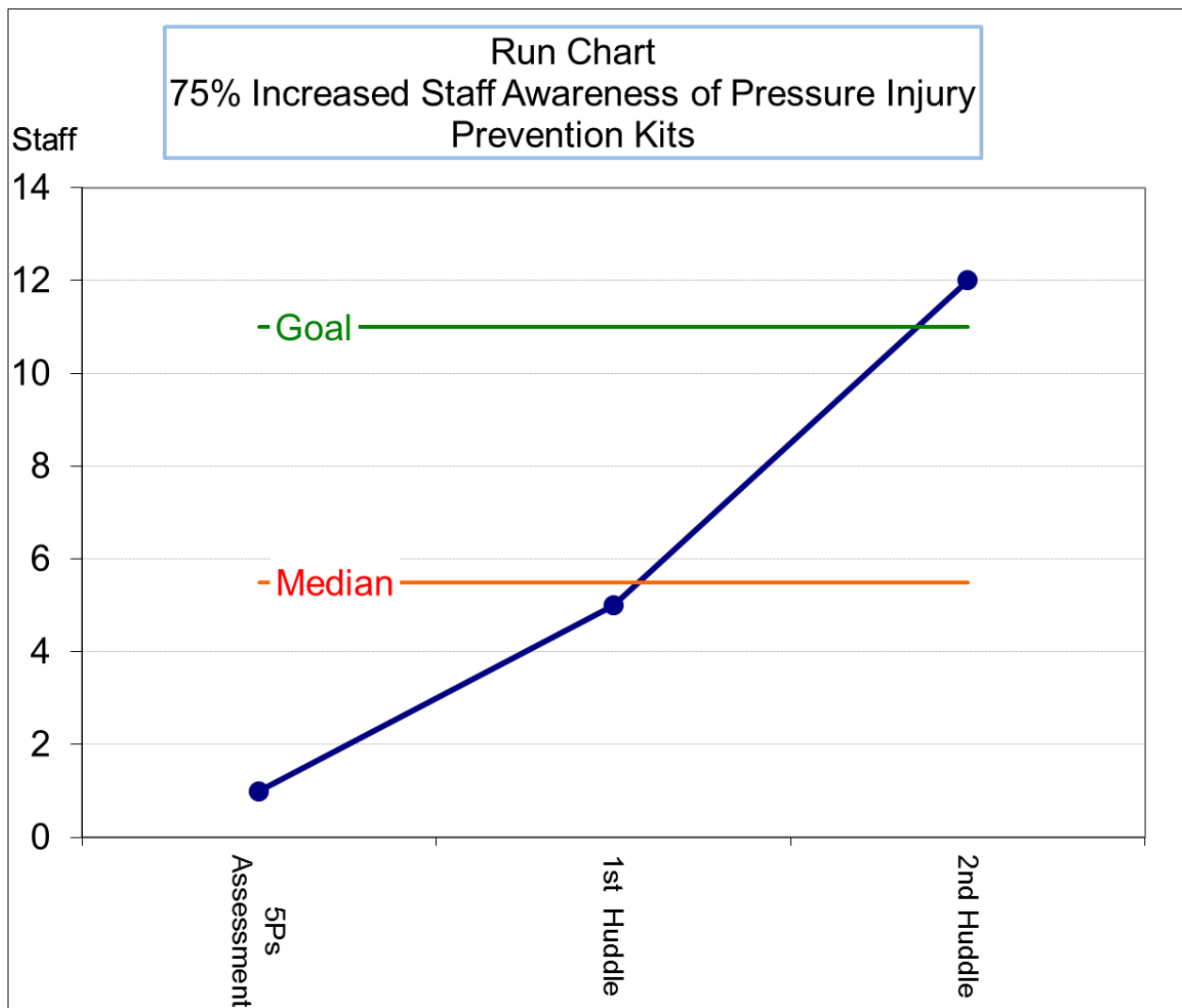
Appendix I



Appendix J

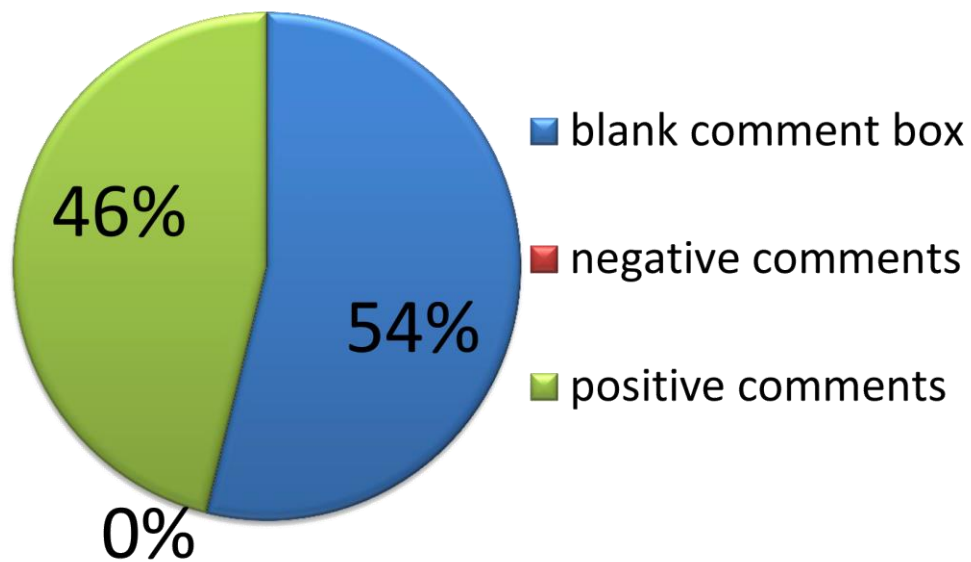


Appendix K



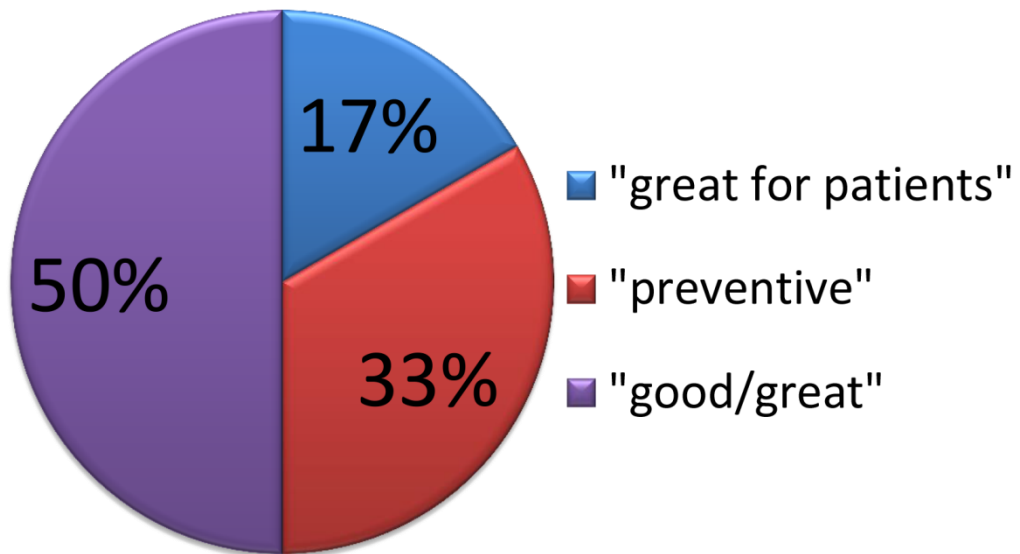
Appendix L

**Pre- Post-test Question:
*Additional comments, concerns,
thoughts or ideas?***



Appendix M

**Pre- Post-test:
*Positive Comment Themes***



Appendix N

Pre- Post-Test Question:
Would you consider providing PI prevention kits additional work?

