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N660 Evidence-Based Improvement Project Prospectus

Adapted from Squire 2.0 Guidelines

Pressure Injury Prevention on a Medical Surgical Telemetry COVID unit

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Abstract

Problem: Hospital acquired pressure injures (HAPI) are potentially preventable but frequently occurring events in hospitalized patients. Pressure injuries can occur because of prolonged pressure and in combination with shear and friction forces. HAPI negatively impacts a patient’s quality of life. HAPI also increases the hospital’s financial burden and increases the patient’s length of stay.

Context: The 52-bed medical surgical, telemetry, COVID, unit is one of several units within a hospital setting. The unit is challenged with the management of HAPIs. The staff are challenged with documenting and escalating the findings, and with finding a second nurse to assist with the two-nurse skin check.

Intervention: A quality improvement project was developed to address the pressure injuries and improve patient outcome. The project’s interventions are aimed at providing education and training to the staff early identification, early escalation, and accurate documentation.

Measures: Three measures were implemented that included early escalation through the use of an escalation algorithm, use of the LDA Avatar for documentation, and designation of a second nurse to assist in performing the two-nurse skin assessment.

Results: Streamlining HAPI prevention strategies led to early recognition and implementations of the appropriate prevention strategies.

Conclusion: Standardizing practices led to decreased pressure injuries on the unit. The unit HAPI incidents decreased by 80% during the 4-month project.
Personal Leadership Statement

I work as an Assistant Nurse Manager on the medical surgical, telemetry, COVID unit. I have been in this role for almost 14 years. My leadership vision is to support the employees in their professional endeavors. I strive for open communication and to develop strong professional relationships. I chose the topic of hospital acquired pressure injury (HAPI) prevention because the hospital should be a place of healing and no one should suffer from preventable complications while in the hospital. As a leader on this unit, it is my responsibility to ensure quality care is delivered. I cannot do all the work alone, as such it imperative that the staff feel empowered to do the right thing. This project will lead to a decreased risk for HAPI development in the microsystem’s population.

Problem Description

In 2022, the overall hospital rate of hospital acquired pressure injury (HAPI) in a Northern California hospital increased 100% from 8 in 2021 to 16 in 2022. Eight were attributable to one unit. The unit is a 52-bed medical surgical, telemetry, COVID-19 unit with a population average age of 65 years old. The unit employs 112 staff that include the management team, nurses, patient care technicians, and transporters.

As a result of the increase in HAPIs, the hospital formed an FMEA to evaluate the situation. This is a metric that matters to both the unit and the region. A gap analysis was done by the FMEA committee that identified three items as potential contributors: 1) escalation was not timely 2) documentation of the time of discovery was unclear 3) the 2 RN skin check was inconsistent. To mitigate the findings, a plan was developed. The aim was to educate the staff on pressure ulcer prevention, use of the LDA Avatar, and
designate a “skin buddy”. The Safety Priority Index indicates there were 8 pressure injuries in 2022 on this unit. The regional benchmark for HAPI per 1000 patient days is 0.4. The current state for the unit is 0.83 per 1000 patient days. The target goal for this unit is 0.66 per 1000 patient days.

Available Knowledge

PICOT is a mnemonic that stands for patient, intervention, comparison, outcome, and time. The PICOT question helps to guide the action plan. Therefore, it is imperative that the PICOT question is developed before starting a performance improvement project. With the assistance of the FMEA committee, a PICOT question was developed. The PICOT question developed was: In the adult population, average age of 65 years old, how does timely escalation, the use of skin buddy, and the use of the LDA Avatar compared to the current practice affect the prevention of pressure injuries within 3 months.

A comprehensive literature search was conducted in CINAHL and PubMed. The search produced over 1500 articles. The articles were filtered by searching articles that were peer reviewed, academic, and written after 2017. The articles were rated using the Johns Hopkins Appraisal Tool. The search was done using the following key words and variation of words: “PU and inpatient” pressure injur*” “pressure injury and nursing” “pressure injury and documentation” “pressure injury and skin bundle” “2 nurse skin assessment or 4 eyes on the patient”. The search was narrowed down using criteria specific to documentation, escalation, and skin assessments. This resulted in 22 articles for review. The top 5 were selected to be used in this project. See Appendix C, evaluation table.
Monfre et al. (2022) noted that documentation occurs in the electronic health record. However, gaps can occur due to the duplication of documentation and the ability of charting to occur in various places. In a position statement based on a 100-bed pediatric trauma hospital a workgroup was created to identify gaps in the documentation features in the electronic health record. The workgroup used evidence from nursing and pressure injury associations on skin assessments, interventions, and documentation to develop, trial, and implement updated documentation fields. The workgroup improved pressure injury documentation in the electronic health record (EHR) to make it consistent for all end-users in the medical center. This created consistency in documentation throughout the electronic health record. This article is useful in providing justification for clear documentation along the care continuum. The evidence rating for this article is Level V A, based on the Johns Hopkins evaluation table.

Thorough collaborative skin assessments help identify and prevent pressure injuries. According to Mahramus and Peneyor (2019) early identification of a pressure injury or the potential for a pressure injury is important for prevention method implementation and treatment. Communication of these findings through documentation is essential. A quality improvement project consisting of 736 audits was performed to evaluate a collaborative skin assessment intervention between respiratory therapists and registered nurses. Respiratory therapists and nurses partnered up to perform skin assessments to look under respiratory care devices. The WOCN counsel, in collaboration with the CNS, participated in developing an evidenced-based guideline for treatment and prevention of skin alterations found under respiratory care devices. Collaborative skin assessments between the RN and RT were difficult to perform because of timing and
competing tasks. The CNS-led multidisciplinary team was effective collaborating among the disciplines for laying the groundwork for awareness of how respiratory care devices can cause pressure injuries. This study is useful in creating collaboration between nurses to perform skin assessments. Based on the Johns Hopkins evaluation table, this quality improvement project is rated Level V A.

According to Edsberg et al. (2022) pressure injuries develop when tissue loading and or duration of tissue loading exceeds individual tissue tolerance. The development of pressure injuries is impacted by the presence of several risk factors including mobility, activity limitations, skin status, perfusion, circulation, moisture, age, and nutrition. A study was conducted to evaluate the implementation of pressure injury prevention strategies in the adult acute care setting using the data from the 2018/2019 International Pressure Ulcer Prevalence (IPUP) study. The study sample comprised of 296,014 patients hospitalized in 1801 acute care facilities in the United States. The mean age of the participants was 64.29 years. The study was an observational, cohort study with cross-sectional data collection and retrospective data analysis. The data from the 2018/2019 IPUP was analyzed to evaluate the implementation of prevention strategies including repositioning, support surface use, head-of-bed elevation, heel elevation, moisture management, minimizing linen layers, and nutritional support. The study found that there were substantial compliance rates to pressure injury strategies. This study supports the project because it is useful for the development of pressure injury prevention guidelines based on best practices. Based on the Johns Hopkins evaluation table, this study is given a rating of Level III A.
Lin et al. (2019) suggests that pressure injuries are potentially preventable but frequently occurring events in hospitalized patients. Pressure injuries can occur because of prolonged pressure, intense pressure, and or pressure in combination with shear and friction forces. Pressure injuries can have a negative impact on a patient’s quality of life. Pressure injuries can also increase financial burden and hospital length of stay, and increase morbidity and mortality. A systemic review was conducted to evaluate the effectiveness of prevention programs on the reduction of pressure injury prevalence and incidence in the adult intensive care population. The study consisted of 21 peer reviewed papers of which 12 were quality improvement projects and 9 were research papers from 8 studies. The study found that 2-11 components were commonly implemented. The study suggested that care bundles were more effective than single component interventions. The majority of the quality improvement projects and research studies implemented a comprehensive pressure injury prevention program which were based on the recommendations by international clinical practice guidelines. The study calls for future high-quality research such as randomized controlled trial to test the effectiveness of multicomponent interventions and implementation strategies. The study is useful in selecting an intervention care bundle. Based on the Johns Hopkins evaluation table, this study is rated Level III A.

The bedside nurse is responsible for assessing the patient’s skin status and implementing interventions. Wild and Flynn (2022) noted that COVID 19 created new challenges for pressure ulcer prevention. The stressors created from caring for this patient population cannot be overlooked. This study consists of a quality improvement project in a 16-bed intensive care unit. This article discusses the key role played by critical care
nurses in reducing hospital acquired pressure injuries during the COVID 19 pandemic. The article also discusses the challenges over the use of pressure injury prevention at the bedside and the evidence-based HAPI prevention by European Pressure Ulcer Advisory Panel (EPUAP) and the National Pressure Injury Advisory Panel (NPIAP). The study was over a 4-month period which had seen 125% increase in the previous 4 months. The study found a lack of education on the use of best practices. This was perceived as having resulted from high staff turnover rate and stress related to the COVID 19 pandemic which resulted in pressure injury prevention practices receiving less priority. Staff turnover remained a challenge. The study found that even during times of stress, empowering staff, providing resources, and providing assistance with HAPI prevention strategies helped to keep the patients safe. This study supports the project because it is useful for addressing education of best practice interventions utilizing “just in time” training. This performance improvement project is rated Level V B, based on the Johns Hopkins evaluation table.

The evidence supports the processes of improving documentation. For this project this will occur through the use the LDA avatar. The evidence also supports the use of a two-person skin assessment for early identification of skin alterations. Skin buddies will be assigned before the start of shift to support this process. The evidence also supported early escalation of identified skin changes. For this project early escalation includes early implementation of skin bundle interventions and escalation to the wound nurse.

**Rationale**

Change is common in all businesses and organizations that handle change well will thrive. Lewin’s Change Management Model is a framework used to humanize the
change management process. This model can help to understand and promote change within the organization. Lewin’s Change Management Model is a comprehensive model aimed at helping with understanding why change occurs and what must be done to deliver change in the most effortless way possible.

According to King et al. (2019) Lewin’s Change Management Model involves three phases: unfreezing, moving, and refreezing. In the unfreezing stage, motivation to change is created and knowledge and awareness of the problem is identified. In the moving phase trial and error learning occurs and new concepts are acquired. The third and final phase is refreezing. In this phase, processes are internalized and become part of the culture. The third face is difficult and there is a chance that things may return back to the way they were before. This phase is important because if it is not recognized, the project runs the risk of failure. Change is never simple. People are afraid of change and can be resistant to change. Therefore, a thoughtful and purposeful leader is an important factor in successful change.

Lewin’s Change Theory will help guide this project. The first phase of the project is the unfreezing phase. This phase of the process involves everything that is required to become ready and willing to make the change. In this phase, the problem is identified and an explanation is given to the staff as to why the change needs to occur and an assessment of the staff’s educational needs also needs to take place. For example, the problem on 1 West is that the incidence of HAPI increased 100% compared to the previous year. The goal of this project is to reduce HAPIs on 1 west. The project leader developed an educational needs assessment of the staff’s education standings on the topic.
Interventions were developed based on the findings of the assessment. To plan for the change, poster boards were created.

The proposed change was then introduced to the staff during huddles and staff meetings as well as one-on-one sessions for those who needed additional educational support. The goal was for everyone to feel confident and comfortable with the change. In order for the interventions and the change to be successful, it was also important to get feedback from the staff, sponsors, and leadership.

To make a convincing argument and create urgency for change, a real case scenario was introduced. The scenario was introduced as a story to persuade by emotion. The story was that of an individual who arrived to the hospital for minor surgery and ended up with a pressure ulcer. The impact on his quality of life was highlighted for emotional effect. Wound pictures were shown and the staff were asked to imagine how they would feel if this happened to their loved one.

The second phase is the moving phase. In this phase the project leader needs to identify driving forces, restraining forces, set up goals, and implement strategies to make sure the driving forces exceed restraining forces. Goals and interventions are set in this phase. This project focuses on 3 interventions: early escalation, skin buddy, and use of the LDA Avar for documentation.

Weekly reviews of the interventions occurred to ensure the information reached everyone. Audits were done regularly to ensure compliance. Follow up was done in the form of one-on-one discussions to address fallouts because in order to accept change and to make it successful staff need to understand the benefits of their actions. Time and communication were key to making the change successful. People need time to
understand the change. This stage can also be called a transition period as people transition from the old way of doing things to the new way of doing things and can require a lot of time and energy from the project leader (King et al., 2019).

Communication is important during all phases but more specifically during the moving phase. Staff need to hear that their efforts are paying off. The project leader can satisfy these needs by celebrating short wins. For example, celebrating the time period with no HAPIs can improve morale and compliance with the interventions. Frequent communication will also help prevent descent and rumors. Feedback relating to the project can help deal with immediate problems and identify the potential need to modify interventions.

The third phase is the refreezing phase. Once changes take shape and people begin to embrace the new ways of working, refreezing can occur. Once refreezing occurs, the organization has internalized the changes. In this phase, employees will feel comfortable and confident with the new way of working. Again, successes need to be celebrated as this helps people find closure and it is a way of thanking them for participating and enduring what could be a difficult time.

Once refreezing occurs it important that vigilance still continues for some time, perhaps several months to ensure people do not revert back to old behaviors. To ensure the changes are anchored into the team’s culture it is important to identify barriers to sustaining the change, establishing a feedback system, and continue to keep everyone informed of the ongoing outcomes (King et al., 2019).
**Specific Project Aim**

The specific aim of this project is to reduce hospital acquired pressure ulcers by 25% from a baseline of 0.67 per month to 0.5 per month by May 30, 2023 for the population on a medical surgical, telemetry, COVID unit.

**Context**

The microsystem assessment was done for a 52-bed medical surgical, telemetry, COVID-19 unit. The unit is regularly filled at 81% capacity. The unit exists as an overflow unit and it is linked to other units to support care along the care continuum. Review of the microsystem assessment identified the patient population on the unit is of average age of 65 years old. Sixty percent of the population identified as female and 40% as male. Seventy percent were married or once married. Common admitting diagnosis included COVID-19, CHF, diabetes complications, GIB, ETOH withdrawal, delirium, cardiac infarctions, general surgeries, and failure to thrive. Ninety five percent of the patients were admitted through the emergency department and 5% were transferred from other units including ICU, the cardiac stepdown unit, and the stroke unit. The unit is staffed with 112 employees that include nurses, patient care technicians, unit assistants, assistant nurse managers, a manager, and a secretary.

The IHI culture assessment tool is utilized to assess organizational culture. The goal of the tool is to help organizations support respect and communication after an adverse event (IHI, n.d.). The tool is used to assess the organization in the following categories: internal culture safety, malpractice carrier, policies, guidelines, procedures, training, disclosure process in place, the disclosure, ongoing support, resolution, and learning. The tool assessment revealed there is work to be done in several of the areas.
assessed. The main items that stood out were the lack of support for the individual at the sharp end of an incident, the lack of a communication plan or policy when a crisis occurs, and the lack of training for disclosures. On the other hand, the organization scored well on fast resolution, grounding of core values of compassion and respect, ongoing honest and transparent communication, support for the team preparing to disclose, and having mechanisms in place to ensure learning.

An organizational Strength, Weakness, Opportunity, and Threat (SWOT) analysis was performed, see Appendix D. The strengths identified were HAPI data that support the need for the project, staff willingness to learn, staff knowledge in the subject matter, the availability of a designated COVID area, the availability of the LDA Avatar for documentation, the availability of a bed rental system for ordering specialty beds, leadership support, and support from Quality and Risk Management. The weaknesses were the availability of multiple places to document, inconsistent use of the LDA Avatar, staffing concerns, inconsistent documentation of the two-nurse skin assessment, multiple new staff, and multiple travel nurses on the unit. Opportunities included the patient population, regional finances, COVID, and nursing shortages. The threats identified were a reputational threat, COVID pandemic, patient population with multiple risk factors and comorbidities, patients that refuse care, the potential for litigation cases, the potential for reimbursement loss, and the potential for cost increase of care.

A power interest grid is utilized to manage stakeholders. It is a useful tool to assess how different people contribute to a project’s success. The power interest grid can help in recognizing each stakeholder’s level of influence and their interest in the project (Guthrie, 2021). People with high power but low interest do not need frequent updates
and may not be interested in details of the project. In the interest of this project, that will be the CNE. High power, high interest groups are influential and want to be kept informed. In the interest of this project, that will be the unit manager and the adult services director. People like the staff, have low power but high interest and should be kept informed. They are deeply invested and their concerns should be carefully addressed. Low power, low interest groups are mostly hands-off. This group should be monitored to ensure problems do not arise. This group can include all other disciplines that visit the unit. It can also include the patients.

Stakeholder communication is important throughout the project. The stakeholders include the management team, nurses, unit assistants, and leadership. Stakeholder communication with the preceptor and management team occurred on a biweekly basis. Project communication with the frontline staff occurred weekly via start of shift huddles, a non-mandatory staff meeting, and one-one discussions.

**Intervention**

A literature review was completed. A process map was done to identify the current HAPI prevention process, see Appendix E. A root cause analysis was done with the FMEA team to identify gaps in care, see Appendix F. The team found that the wound flowsheet was not initiated in a timely manner. The wound documentation was not consistent with the wound picture and the staff were confused regarding the use of the LDA Avatar for wound documentation. Our recommendations included educating staff on the use of the LDA Avatar. According to Monfre et al. (2022) documentation should be of high quality, relevant, consistent, thoughtful, timely, and reflective of the nursing process. The second gap identified was the lack of early escalation. According to Edsburg et al.
(2022) studies show that although there seems to be substantial compliance with prevention strategies there is still potential for improvement in the implementation of the most basic pressure ulcer prevention strategies such as heel elevation and repositioning. An early escalation algorithm was developed and taught to the staff, see Appendix G. The algorithm guided the user down a decision path that included when to notify the wound nurse, ANM, and when to implement the skin prevention bundle. The last gap identified was the lack of a timely 2 nurse skin assessment, recognition, and documentation of the presence of pressure areas which also led to the prevention bundle not being implemented during the early stages. According to Mahramus and Penoyer (2019) collaborative skin assessments help improve the assessment process. According to the root cause analysis, the nurses struggled to find a second nurse to assist with skin assessments. Our third process was to assign a skin buddy to assist with skin assessments at the time of admitting or transferring to the unit. The assistant nurse manager (ANM) was tasked with placing symbols on the assignment board to match nurses. The symbols used included, stars, circles, or squares of matching colors that were placed next to the nurse’s names. The team created a story board to use for education during huddles. Huddles are a quick way to introduce topics to a captive audience in short informative bouts. Several champions were selected to for peer support and to participate in the dissemination of information. In addition, a slide presentation was done during a monthly staff meeting. Periodic check ins with the staff were done during huddles as well as one on one discussions. The cost of implementing this project was estimated to be $12,382.50. The return on investment or cost avoidance for this project was estimated at $147,6170.50, see Appendix H.
Study of the Intervention

The IHI model for improvement framework was applied to this project to guide the improvement work. The tool is helpful in accelerating the improvement (IHI, 2023). The model was developed by the Associates in Process Improvement. The three questions that guided this model included:

1) What are we trying to accomplish?

The aim of this project is to prevent the development of pressure injuries. The first phase of this project consisted of education and training of the staff on early escalation, the use of a skin buddy, and use of the LDA Avatar. Implementation of the HAPI prevention interventions started after the education and training.

2) How will we know if the change is an improvement?

Close continuous monitoring by observation and auditing took place during every stage of the project. The interventions were tested using the Plan Do Study Act (PDSA). The PDSA cycle provides a means to test a change by planning the change, trying out the change, studying the results, and refining the change based on what was learned.

3) What changes can we make that will result in improvement?

The PDSA cycle results and the results of the analysis will determine if the different phases of the project showed improvement.

The steps of the IHI (2023) Model of Improvement were followed and used to guide this project from the start to completion. The steps include introduction, forming the team, setting aims, establishing measures, selecting changes, testing changes,
implementing changes, and spreading changes. The fundamentals of the model were used to test changes using the PDSA cycle. The PDSA cycle was vital in this project, see Appendix E.

The PDSA cycle provides a way to test a change. Going through the four steps guides the thinking process into breaking down the steps, evaluating the outcome, improving the outcome, and then testing it again (AHRQ, 2020). Three PDSA cycles were selected at the initiation of the project. Figure 1 shows the four steps of the PDSA cycle. The Plan phase was done pre implementation of the project. The Do phase is next after a plan is developed. In this phase, action steps are developed such as education or training. The Study phase includes evaluation of data that has been collected throughout the project. This phase determines actions to take for the next phase. The Act phase concludes the cycle. In this last phase, the project manager along with the team, decide on the next steps of the project and whether to modify, adopt, or abandon an action, see Appendix I.
The first PDSA cycle was used to introduce the escalation algorithm. (P) the staff were surveyed on current knowledge of the escalation process. (D) the escalation algorithm was introduced during huddles and a staff meeting. (S) the staff were asked about their knowledge and charting audits were performed. (A) the escalation algorithm was adopted.

The second PDSA cycle was used to introduce the buddy system. (P) audits revealed staff did not consistently perform a 2-nurse skin assessment on admission or transfer of a patient. (D) the ANM assigned the nurse’s skin buddy at the start of the shift on the assignment board. (S) nurses did not consistently utilize the assigned skin buddy and ANMs did not consistently assign the skin buddy at the start of the shift on the assignment board. Sometimes this was done on paper only and the staff did not have
access to this. (A) the process of assigning the skin buddy on the board where it is visible to all was clarified.

The third PDSA cycle was used to educate staff on the use of the LDA Avatar for wound documentation. (P) auditing of documentation revealed minimal use of the LDA Avatar for wound charting. (D) the nurses were educated on when and how to use the LDA Avatar. (S) audits revealed an increase in use of the LDA Avatar for non-blanching and stage 2 or above pressure injuries. (A) use of the LDA Avatar was adopted.

**Family of Measures**

The most important measure for this project was the reduction in HAPI. One outcome measures included the staff use of the LDA Avatar to document wound assessment at the time of discovery. Another measure was to designate a second nurse or “nurse buddy” to perform the skin assessment at the time of admission and transfer to the unit and for all patients with a Braden of 18 or less. A third measure was aimed at ensuring early wound escalation and implementation of the skin bundle. The balancing measure was to track the quantity of bed rental usage to identify possible rental bed increase which would increase the cost associated expense.

**Ethical Considerations**

The aim of this project is to prevent unnecessary harm and suffering to patients. The Jesuit Value of Cur a Personalis means to “care for the person”. This means having authentic concern for the whole person and a true desire to dedicate oneself to promoting human dignity. That is the intention of this project. The American Nurses Association (ANA) Code of Ethics describe nurses’ responsibility to patients and their outcomes (King et al., 2019). As such, it is a nurse’s professional responsibility to advocate for
patients especially in the face of disparities. The ANA Code of Ethics Provision 5 note that it is the nurse’s responsibility to promote health and safety (King et al., 2019). The fundamental aim of this project is such. By preventing pressure injuries, this project is honoring both Cura Personalis and the ANA Code of Ethics. This Project has been approved as a quality improvement project by faculty using QI review guidelines and does not require IRB approval see Appendix B.

**Outcome Measure Results**

After implementing the early escalation algorithm, skin buddy, and LDA Avatar interventions, there was a decrease in HAPI on 1 West, telemetry, medical surgical, COVID unit. The project started in January 2023 with staff education. The project ended in May 2023 with great success. The aim of the project was to decrease HAPI on the unit by 25%. However, HAPI reduction occurred at a rate of 80%. Only one stage 2 pressure injury occurred in January. Due to the success of the project, leadership spread the project to the remaining inpatient units on June 2, 2023. Once education was completed, audits were done regularly to assess and address compliance. Staff awareness and education continued throughout the project. HAPI reduction equals cost savings for the organization. Incidence per 1000 patient days decreased below the projected goal and surpassed the Regional Quality Goal of incidence per 1000 patient days. At the start of the project the unit’s incidence per 1000 patient days was 0.83. By the end of the project the incidence rate per 1000 patient days dropped to 0.26 which according to the FMEA indicates a 66% improvement, see Appendix J. The results of the project were better than expected. The results far exceeded the expected rate reduction.
Summary

The process measures implemented on 1 West included a process for early escalation, assignment of a skin buddy, and use of the LDA Avatar. The project manager audited these three measures over the span of 4 months. The audits provided essential information about gaps in practice, proper escalation of at-risk patients, and knowledge related to the processes. The gaps are critical in addressing the need for a standardized process.

The primary outcome measure was to reduce HAPI on 1 West by 25% from a baseline of 0.67 per month to 0.5 per month by May 30, 2023. The Evidence Based Practice (EBP) project manager conducted the data collection for the primary outcome on a weekly basis through the months of February, March, April, and May.

The results of auditing wound escalation revealed good compliance with early escalation. The audits indicated wound escalation occurred 94% of the time. Appendix K indicates the overall data collected and includes a monthly breakdown. This process was followed closely to ensure deviation from practice did not occur.

The next process under review was the assignment of Skin Buddy. The ANM was tasked with assigning the nurses a skin buddy to ensure a second nurse was available to perform the 2-nurse skin assessment as per hospital policy. This process was the most challenging. ANMs consistently forgot to do this as the start of the shift, despite frequent reminders from the EBP project manager. They related the omission of this process to the busyness of change of shift and the multitude of staffing issues and calls that occur at this time. Often times, they designated the skin buddy after the start of shift when the nurses had left the area to begin report and start their workday. Due to the lack of compliance,
this process was considered for abandonment. Appendix L reflects the designation of Skin Buddy by the ANM before the start of shift and breaks down the total through the months of February to May. The data indicated the ANM pre assigned the skin buddy only 62% of the time over the four months of auditing. The graphs show the consistent low compliance rates with this process.

The PDSA for this process was modified and rolled out again to include re-education of the value added by this process for both ANMs and nurses. The process was reframed to include verbiage that having that second nurse could also be utilized at a resource buddy for support needs besides skin checks. However, when surveyed, the nurses did not find value in having the designated second nurse as they preferred their current practice of finding whoever they trust or whoever was available at the time of their need. The nurses were surveyed about their preference, Appendix M indicates their responses. The nurses were asked “do you find the process (skin buddy) helpful?” and 16 nurses responded “yes” while 26 responded “no”. The results indicated that only 38% of the nurses found this process helpful. The nurses were also asked “are you utilizing the designated 2nd nurse for skin checks?”. The results indicated only 14 nurses utilized the designated second nurse to perform the skin assessments and 29 did not. The data showed that overall, only 33% of nurses utilized the designated second nurse.

The third process reviewed consisted of nursing use of the LDA Avatar to document wounds at the time of discovery. A wound must be identified and documented within a specified time from admitting to prevent the designation of hospital acquired. Therefore, it is imperative that wounds are identified early into the hospitalization. Not doing so could cost the hospital thousands of dollars and it can impact its reputation. The
LDA Avatar is a documentation tool available in Epic for wound documentation. The use of the tool prior to this project was 13% according to data from the FMEA. The nurses were not aware of its availability. Even the wound nurses were unfamiliar with it. Appendix N depicts the use of the LDA Avatar use total and on a monthly basis after education to the staff was provided. Post education data indicated good use of LDA Avatar to document time of discovery of wounds unstageable and above. Chart audits revealed the LDA Avatar was utilized 79% of the time to document wounds at the time of discovery. During this chart audit if a nurse was identified as not having used the LDA Avatar to document the wound, a one-on-one session was done to educate the nurse regarding its use.

Balancing measures enable a system to monitor any unintended consequences good or bad of the improvement effort. These determine whether changes designed to improve one part of the system are causing new problems in other parts of the system (Preston, 2020). Bed rental usage was monitored to track the use of these specialty beds. The use of specialty beds was recommended based on the early escalation algorithm. The tracking system was faulty. The system was dependent upon the unit assistants tracking the bed rental receipts for each bed delivered. On two occasions several slips were discarded by unit assistants floating into the unit, unaware of the EBP. While some data was collected, its accuracy is limited. Furthermore, the slips are a faulty indicator for the actual costs because the bed day usage varies by patient stay in the hospital. Nonetheless, this tracking system was the best available at the time. Audits of the bed rental receipts indicated there were 30 beds rented in February. In March, 102 beds were rented. 99 specialty beds were rented in April. In May, 70 beds were rented. There was no unit data
available for the months of January and before because these receipts are discarded regularly. The EBP project manager attempted to obtain information from the finance department and the unit manager’s financial report. Unfortunately, none could provide actual numbers. However, a discussion with the hospital interim CNE identified a significant increase in hospital wide bed rental cost. She stated that in the year 2021, the hospital wide billing for bed rental was at $200,000. She identified a cost increase to $2 million dollars within the 2022-2023 fiscal year. She stated that at the time, the organization was not concerned about the cost increase and the units could continue renting specialty beds. She also pointed out that 1 West was the highest user of rental specialty beds.

Key findings of this project included the dramatic decrease in the rate of HAPI after the implementation of the early escalation algorithm, skin buddy, and LDA Avatar. In 2022, the telemetry, medical surgical, COVID unit had 8 cases of HAPI which has been reduced to 1 in 2023. For reduction of HAPI, we achieved and surpassed our goal to decrease the rate of HAPI by 25%. HAPI reduction was decreased by 83%. Staff education of the early escalation algorithm, availability of a second nurse for skin checks “skin buddy”, and the use of the LDA Avatar for documentation of date of discovery increased staff awareness and engagement which together contributed to the improvement of patient outcomes. Weekly process and chart audits were performed to ensure compliance. The unit now has a structured plan in place to ensure continued reduction in the rate of HAPI occurs. The project was spread to the remaining inpatient units due to its success in preventing HAPI.
One lesson learned during this project was the importance of staff involvement, both frontline and management. Without everyone’s involvement, success would not have been achieved. Frequent consultations with quality, FMEA lead, and leadership occurred giving the EBP project manager an opportunity to ask questions. Staff were regularly kept informed of the project’s progress through daily huddles and one on one sessions. Staff were given opportunities to ask questions and give feedback.

Another lesson learned was the importance of consistent and timely tracking of data. On the week that collection of bed rental receipts was overlooked, a float unit assistant tossed all the receipts collected for one entire week.

A third lesson learned during project implementation included the importance of being prepared to present up to date project performance to staff and leadership. Leadership abruptly decided to disseminate the project throughout the hospital’s inpatient units. I was given a 2-hour notice to present the project and findings to the hospital’s leadership, ANMs, and managers. The presentation included a question-and-answer portion from the audience. Fortunately, I had a suitable power point presentation previously used to present the project to the unit’s staff.

**Conclusions**

Hospital pressure injuries occur in inpatient hospital settings. HAPIs are costly and not reimbursable. Hospitals must have an action plan in place to prevent the development of HAPIs. The current practice of HAPI prevention on 1 West was not effective and change was necessary and urgent. The improvement efforts began following recommendations from the hospital’s FMEA committee and after careful review of literature and evidence-based practices. Three processes were selected and included: early
escalation algorithm for early implementation of skin buddy interventions and referral to the wound nurse; the designation of a dedicated skin buddy to act as the second nurse for the 2-nurse skin check upon admission and transfer to the unit; and use of the LDA Avatar for documentation of wound appearance and date of discovery. The aim of the project was to decrease the rate of HAPI by 25% by 5/30/2023. Lewin’s change theory was utilized for this project to implement the change on 1 West. After implementing the project, a HAPI rate reduction of 80% occurred. The project was successful. During the months of January to May, only one stage 2 HAPI occurred in January. Due to the project’s success, the interventions were disseminated throughout the inpatient units.

The unit now has a structured plan for HAPI prevention in place. To ensure sustainability of the interventions, close monitoring will continue for the next 6 months. The EBP manager will continue to observe practices, give staff updates during huddles, perform one-on-one sessions, and audits. The EBP project manager recommended discontinuation of the skin buddy as data showed low compliance and staff perception of low added value. Ultimately, the decision was made to roll out the interventions as done for 1 West. The possibility exists that other managers will struggle with the process of assigning a skin buddy as was the case on 1 West. Managers have been encouraged to audit, provide regular feedback to staff, and remove barriers to ensure success on their respective units. Implications for others who may want to undertake a similar project include: expect employee pushback and consider availability of resources. Leadership support is a must. Collaboration with the quality and risk department in the early stages of the project will prove to be beneficial.
References


Balancing%20measures%20determine%20whether%20changes,satisfaction%20but%20decrease%20patient%20satisfaction%3F

https://doi.org/10.4037/ccn2022315
Appendices

Appendix A  Project Charter

Reduce hospital acquired pressure ulcers on a medical surgical, telemetry, COVID unit

Global Aim:

To standardize implementation of the use of “skin buddies”, LDA Avatar, and timely escalation practices, to reduce the rate of pressure injuries by March 2023 as recommended by the Northern Sacramento Kaiser FMEA.

Specific Aim:

To reduce hospital acquired pressure ulcers on 1 west by 25% from a baseline of 1.5 a month by May 2023.

Background:

1 West experienced 8 HAPI in 2022, a 100% increase from the previous year. When a patient acquires a pressure injury it can increase their length of stay by 4.31 days. According to Cyriacks (2019) more than 2.5 million patients develop hospital acquired pressure injuries each year in the United States at a cost of $9.1 to $11.6 billion dollars annually. Pressure Ulcers occur when there is sustained pressure over bony prominences. Unrelieved pressure causes compression of cellular tissue, impaired blood flow, and can lead to tissue damage and eventually cellular death.

Hospital acquired pressure ulcers are considered a significant adverse event or hospital-acquired condition. Most pressure ulcers are preventable. Nursing care is at the cornerstone of pressure ulcer prevention or reduction. According to Polancich et al. (2017) pressure ulcers result from negligent care by the provider and pressure ulcers result in
nonpayment of the cost of treatment from Medicare beneficiaries. Furthermore, the occurrence of HAPI leads to a reduction in quality of life, increased length of stay and causes unnecessary pain.

**Sponsors:**

<table>
<thead>
<tr>
<th>Department Manager</th>
<th>George Tutu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Services Director</td>
<td>Esperanza Chavez</td>
</tr>
</tbody>
</table>

**Goals**

The goal of this charter is to provide standardization in assessment and documentation and a team approach to pressure ulcer identification and prevention.

1. Education of Skin Bundle to improve knowledge of prevention measures
2. Educate nurses on early escalation to improve staff compliance with the use of evidence-based prevention strategies and interventions
3. Designation of “skin buddy” for 2 RN skin check to improve the accuracy of Risk Assessment scoring
4. Education on the use of LDA Avatar for wound documentation to improve documentation for better tracking of existing, emerging, or developing pressure injuries.

**Measures, Outcomes, Processes, and Balancing**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Data Source</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of HAPI reduction</td>
<td>SPI Index Chart Review-Health Connect</td>
<td>0.5 per month</td>
</tr>
<tr>
<td>Process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of pressure ulcers documented using LDA Avatar</td>
<td>Chart Review-Health Connect</td>
<td>75%</td>
</tr>
<tr>
<td>% of new wound timely escalation</td>
<td>SPI index Chart Review-Health Connect</td>
<td>100%</td>
</tr>
<tr>
<td>% skin buddy assignment posted on assignment board</td>
<td>Assignment board ANMs</td>
<td>90%</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-----------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Balancing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bed rental usage</td>
<td>Bed rental tracking binder</td>
<td>No change</td>
</tr>
</tbody>
</table>

**Team**

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD Co-lead</td>
<td></td>
</tr>
<tr>
<td>RN Co-lead</td>
<td>Michael Mamengo</td>
</tr>
<tr>
<td>CNS/Educator</td>
<td>Almaz Haile</td>
</tr>
<tr>
<td>Quality Nurse</td>
<td>Estace Yambot</td>
</tr>
<tr>
<td>Staff Nurse Champion</td>
<td>Zachery Julian</td>
</tr>
<tr>
<td>Pharmacy Champion</td>
<td></td>
</tr>
<tr>
<td>MD champion</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B Statement of Non-Research Determination Form

CNL Project: Statement of Non-Research Determination Form

Student Name: Maria Gonzalez

Title of Project: Pressure ulcer prevention on a medical surgical, telemetry, COVID, unit

Brief Description of Project:

A) Aim Statement: To reduce hospital acquired pressure ulcers by 25% from a baseline of 0.67 per month to 0.5 per month by May 30, 2023 for the population on a medical surgical, telemetry, COVID, unit.

B) Description of Intervention:

Early escalation, includes early implementation of skin bundle, notification to ANM, and wound nurse consult at the time of discovery.

Use of the LDA Avatar for wound documentation.

Use of Skin Buddy for the two-nurse skin assessment.

C) How will this intervention change practice?

Early escalation will help prevent pressure injuries through early implantation of the skin bundle. Early escalation will mobilize the team to ensure the right treatment and the right interventions are in place.

The use of the LDA Avatar will help track the time of discovery will help with tracking progress.

The use of the Skin Buddy will ensure a second nurse is available to assist with the two RN skin assessment.

D) Outcome measurements:
Percent of staff using the LDA Avatar at the time of discovery.
Percent of staff using the assigned skin buddy.
Percent of wounds escalated at time of discovery.

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:

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The specific aim is to improve performance on a specific service or program and <strong>is a part of usual care.</strong> ALL participants will receive standard of care.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>The project is <strong>NOT</strong> 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 <strong>NOT</strong> follow a protocol that overrides clinical decision-making.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>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 <strong>NOT</strong> develop paradigms or untested methods or new untested standards.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does <strong>NOT</strong> seek to test an intervention that is beyond current science and experience.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project has NO funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>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</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
personal research project that is dependent upon the voluntary participation of colleagues, students and/or patients.

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: “This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board.”

**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): Maria Gonzalez**

________________________________________________________________________

Signature of Student: Maria Gonzalez

______________________________________________________DATE 4/26/2023 ___

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

________________________________________________________________________

Signature of Supervising Faculty Member

______________________________________________________DATE __________
Appendix C Evaluation Table

Evaluation Table

PICOT Question: In a Medical Surgical Telemetry COVID unit with a population average age of 65 years old, how does timely escalation, skin buddy, and the use of LDA Avatar compared to the current practice affect the prevention of pressure injuries within 3 months.

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Sample</th>
<th>Outcome/Feasibility</th>
<th>Evidence Rating</th>
</tr>
</thead>
</table>
| Monfre, J., Batchelor, F., & Skar, A. (2022). Improving Skin Assessment Documentation in the Electronic Health Record to Prevent Perioperative Pressure Injuries | Quality Improvement     | 100 bed pediatric Level 1 trauma hospital | The change in documentation allowed the nurses in all areas to transfer information easily from one care area to another  
Useful in providing justification for clear documentation along the care continuum | VA               |
| Mahramus, T.L., & Peneyor, D.A. (2019). Clinical Nurse Specialist-Facilitated Collaborative Skin Assessments for Respiratory Care Devices | Quality Improvement     | 736 audits | Short project of 2 months. Only 30% compliance was found with collaboration of the RN and RT collaborative skin assessment.  
This was in part due to not having a designated area to document RN/RT assessments in the | VA               |
<table>
<thead>
<tr>
<th>Study</th>
<th>Methodology</th>
<th>Sample Size</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cox, J., Koloms, K., &amp; VanGilder-Freese, C.A., (2022). Implementation of Pressure Injury Prevention in Acute Care</td>
<td>Observational, cohort study with cross-sectional data collection and retrospective data analysis</td>
<td>296,014 patients hospitalized in 1801 acute care facilities in the U.S.</td>
<td>The study findings revealed substantial compliance rates for the use of pressure injury prevention strategies. The study used IPUP to evaluate the implementation of best practices. Useful for developing pressure injury prevention guidelines based on best practices.</td>
</tr>
<tr>
<td>Wild, K., &amp; Makic, M.B.F., (2022). Reducing Hospital-Acquired Pressure Injuries During the COVID-19 Pandemic.</td>
<td>Performance Improvement</td>
<td>16-Bed ICU</td>
<td>Reduction of HAPI was significant after education of evidence based HAPI and prevention interventions were put in place. The study considered the impact of COVID-19 on nursing care. Useful for addressing education</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Type</td>
<td>Studies/Projects</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------------------</td>
<td>------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Padula, W.V., &amp; Black, J.M., The Standardized Pressure Injury Prevention Protocol for Improving Nursing Compliance with Best Practice Guidelines</td>
<td>Clinical Guidelines</td>
<td>None</td>
<td>Provides guidelines to develop a standardized pressure injury prevention protocol based on recommendations by the National Pressure Ulcer Advisory Panel (NPAUP).</td>
</tr>
</tbody>
</table>
## Appendix D SWOT Analysis

<table>
<thead>
<tr>
<th>Internal (attributes of the organization)</th>
<th>Favorable/Helpful</th>
<th>Unfavorable/Harmful</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td>- HAPI Data</td>
<td></td>
<td>- Multiple places to document skin assessments</td>
</tr>
<tr>
<td>- Staff willingness to learn</td>
<td></td>
<td>- Lack of use of LDA Avatar</td>
</tr>
<tr>
<td>- Staff knowledge in the subject matter</td>
<td></td>
<td>- Staffing concerns</td>
</tr>
<tr>
<td>- Availability of LDA Avatar</td>
<td></td>
<td>- Inconsistent documentation of 2 Rn skin assessment</td>
</tr>
<tr>
<td>- Availability of bed rental system</td>
<td></td>
<td>- Many new staff</td>
</tr>
<tr>
<td>- Availability of designated COVID area</td>
<td></td>
<td>- Many travel nurses</td>
</tr>
<tr>
<td>- Leadership support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Support from Quality and Risk Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opportunities</strong></td>
<td></td>
<td><strong>Threats</strong></td>
</tr>
<tr>
<td>- patient population</td>
<td></td>
<td>- Reputational threat</td>
</tr>
<tr>
<td>- Nursing shortage</td>
<td></td>
<td>- Patient population: risk factors and comorbidities</td>
</tr>
<tr>
<td>- Regional finances</td>
<td></td>
<td>- Potential litigation cases</td>
</tr>
<tr>
<td>- COVID</td>
<td></td>
<td>- Potential reimbursement loss</td>
</tr>
</tbody>
</table>

External (attributes of the organization)
Appendix E HAPI Prevention Process Map

Process Map with Identified Gaps

Current HAPI Prevention Process Map

- Difficulty finding a bed
- Patient admitted to unit
- Patient admitted not done, missed
- Patient discharged from unit without skin breakdown
- Documentation challenges between departments
- Wound breakdown

Key Gaps & Influences within process:
1. Missed or Inaccurate Skin Scoring
2. Skin breakdown not done, missed
3. Shift Skin Assessment missed
4. Skin breakdown not done, missed
5. Shift Skin Assessment missed
6. New pressure injury in bed
7. Proper Expectation not done
8. Wound Consult not called
9. Wound Consult not sent/done

Features with identifying: Hospital beds

- Skin assessment: Nurse identified, new pressure injury not identified
- Skin assessment: Nurse identified, new pressure injury identified
- Skin assessment: Nurse not identified, new pressure injury not identified
- Skin assessment: Nurse not identified, new pressure injury identified

Features with identifying: Infection

- Infection identified: Wound breakdown
- Infection identified: Wound breakdown
- Infection identified: Wound breakdown
- Infection identified: Wound breakdown

Features with identifying: Hospital beds

- Skin assessment: Nurse identified, new pressure injury not identified
- Skin assessment: Nurse identified, new pressure injury identified
- Skin assessment: Nurse not identified, new pressure injury not identified
- Skin assessment: Nurse not identified, new pressure injury identified

Features with identifying: Documentation

- Documentation challenges between departments
- Documentation challenges between departments
- Documentation challenges between departments
- Documentation challenges between departments
# Appendix F: Gap Analysis

<table>
<thead>
<tr>
<th>Desired State</th>
<th>Current State</th>
<th>Action Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure injuries will decrease by 25% to 0.5 per month.</td>
<td>Inconsistent timely escalation process</td>
<td>The CNL will work with nurses, Manager, and educator to educate nurses on importance of early escalation</td>
</tr>
<tr>
<td>Skin buddy will be utilized for 2 RN skin assessments</td>
<td>Nurses search for any available nurse to assist with 2 RN skin assessment</td>
<td>The CNL will work with ANMs to assign Skin buddy at start of shift</td>
</tr>
<tr>
<td>LDA Avatar will be utilized to document pressure injuries</td>
<td>Minimal use of LDA Avatar</td>
<td>The CNL will develop educate nurses on the use of the LDA Avatar</td>
</tr>
</tbody>
</table>

| xxx                                                                          | xxx                                                                          | xxx                                                                          |
| xxx                                                                          | xxx                                                                          | xxx                                                                          |
| xxx                                                                          | xxx                                                                          | xxx                                                                          |
| xxx                                                                          | xxx                                                                          | xxx                                                                          |
| xxx                                                                          | xxx                                                                          | xxx                                                                          |
| xxx                                                                          | xxx                                                                          | xxx                                                                          |
| xxx                                                                          | xxx                                                                          | xxx                                                                          |


Appendix G Early escalation algorithm

Bedside RN identifies a New Wound or Non-Blanchable Redness (Escalate any newly identified suspected pressure injuries starting from stage II or worse)

- Contact Surgeon, Pediatric, etc. or Contact HBS/Attending MD if Dermatology consult is needed

Is this a surgical wound, or pediatric wounds, etc. or dermatology condition?

- Yes
  - Notify your ANM
  - Is the patient actively dying?
    - No
    - Initiate a wound alert
    - 9am-5pm
    - After 5pm
      - Contact the operator to page out a Wound alert (example: wound alert—HAPU of an inpatient (W. bed ISA) requested by ANM George at 973-1234)
      - Page the attending MD, if appropriate
      - If after 5pm: Take a picture of the wound
        - Clean, dry, protect/cover, and off-load the wound
        - Place a wound consult
    - 1. Place a Wound Consult
    - 2. Clean, dry, protect/cover, and off-load the wound, if needed
    - 3. Review Support Surface (bed) Algorithm and ensure the patient is on the appropriate mattress

- No
  - Is the wound or redness over a bony prominence or potentially related to a medical device?
    - Yes
      - Notify your ANM
      - Does the wound match a category on the Wound Care Treatment Chart?
        - Yes
          - 1. Place a Wound Consult
          - 2. Clean, dry, protect/cover, and off-load the wound, if needed
          - 3. Review Support Surface (bed) Algorithm and ensure the patient is on the appropriate mattress
        - No
          - Follow treatment recommendation on the wound care treatment chart.
    - No
      - Notify your ANM
      - 1. Clean, dry, protect/cover, and off-load the wound
      - 2. Notify MD
      - 3. Follow up with any additional treatments as necessary.
### Appendix H Budget and Return on Investment

**HAPI Prevention on a Medical Surgical Telemetry Unit**

**Budget and Return on Investment**

<table>
<thead>
<tr>
<th>Improvement Revenue Cost Avoidance</th>
<th>Cost per Hospital day</th>
<th>Increase LOS per incident</th>
<th>Incident per month</th>
<th>Cost per month</th>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total HAPI</td>
<td>$5,000</td>
<td>4</td>
<td>0.67</td>
<td>$13,400</td>
<td>$160,000</td>
<td>$160,000</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Costs for training 3 sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Budget x3 meeting</td>
<td>$300</td>
<td>$300</td>
<td>$300</td>
<td>$300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference room</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RN training 120 @$75 + 30% benefits</td>
<td>$11,700</td>
<td>$11,700</td>
<td>$11,700</td>
<td>$11,700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCT training 15 @$35 + 30% benefits</td>
<td>$682.50</td>
<td>$682.50</td>
<td>$682.50</td>
<td>$682.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Costs</td>
<td>$12,382.50</td>
<td>$12,382.50</td>
<td>$12,382.50</td>
<td>$12,382.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project savings/Cost avoidance (ROI)</td>
<td>Reduce 1 HAPI/1HAP per month</td>
<td>Reduce 1HAPI/1HAP per month</td>
<td>$147,617.50</td>
<td>$147,617.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Savings=Cost avoidance - improvement costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

|                      |                      |                           |                    |               |        |        |
Appendix I PDSA

Model for Improvement

<table>
<thead>
<tr>
<th>What are we trying to accomplish?</th>
</tr>
</thead>
<tbody>
<tr>
<td>How will we know that a change is an improvement?</td>
</tr>
<tr>
<td>What change can we make that will result in improvement?</td>
</tr>
</tbody>
</table>

Act | Plan
---|---
Study | Do
Appendix J HAPI incidence per 1000 patient days 1 West

1 West Baseline 0.83 per 1000 patient days

1 West Post implementation of project 0.285 per 1000 patient days
Appendix K Wound Escalation

Figure 2 Wound Escalation-total

wound Escalation-monthly
Appendix L Skin Buddy Auditing Results

Figure 3 Skin Buddy Assignment-total

Skin Buddy Assignment-monthly
Appendix M  *Nursing Questions and responses regarding processes of Skin Buddy use*

**Do you find the process helpful?**

- [ ] Y
- [ ] N

**Are you utilizing the designated 2nd RN for skin checks?**

- [ ] Y
- [ ] N
Appendix N LDA Avatar use audit results