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Hospital Acquired Pressure Injury Prevention:

A Quality Improvement Project

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Abstract

Hospital Acquired Pressure Injuries (HAPI) can be costly for the hospitals and devastating for the patients. Most pressure injuries are considered preventable, but despite that a lot of Americans die from pressure injury related complications each year. Hospitals spend billions of dollars on pressure injuries which can be used for other treatments. A quality improvement project was created to address these concerns and improve patient care. There were 5 cases of HAPIs on the telemetry/stroke unit prior to the start of this project. Interventions were created to improve the outcome. After careful review of the related literature, HAPI prevention bundle was implemented on the telemetry/stroke unit. The bundle included: skin assessment every shift and a double RN skin check for every patient upon admission and transfer to and from the unit; wound care consult; skin picture upon admission and uploaded in patients' hospital record; repositioning every two hours and the use of waffle cushion for all patients at risk for skin injuries. The staff were educated on the HAPI bundle and audits were performed to check effectiveness. The project was carried out over 6 months. The results supported a decrease in the number of HAPIs by more than 50% during the implementation of this project. Furthermore, there was only 1 case of HAPI on the telemetry/stroke unit after implementing the project. The data identified opportunities for improvement and the project showed the impact of the HAPI prevention bundle on preventing HAPIs on the telemetry/stroke unit.

Hospital Acquired Pressure Injury Prevention

Introduction

Hospital Acquired Pressure Injury (HAPI) formerly known as a pressure ulcer is a localized injury to the skin and/or underlying tissue identified during an inpatient hospital stay. In clinical assessment of the patients it is noted in practice that the additional terms for pressure injuries include pressure sores, decubitus ulcers, and bedsores. Hospital acquired pressure injury is a pressure injury that develops after the patient admission to the hospital. Pressure injury is called hospital acquired when noted 24-hours or more after hospital admission (Sving, Idvall, Hogberg, & Gunningberg, 2014). According to the National Pressure Ulcer Advisory Panel (NPUAP), the leading scientific authority on pressure injury prevention and treatment, “a pressure injury is localized damage to the skin and underlying soft tissue usually over a bony prominence or related to a medical or other device” (Pettinichi, 2018). Pressure injury can be present on intact skin or an open ulcer and usually occurs over a bony prominence. The National Pressure Ulcer Advisory Panel recently changed the terminology to “pressure injury” from the former “pressure ulcer”. It gives the ulcers more accurate description because not all presentations are open ulcers, but all can be classified as tissue injuries (Pettinichi, 2018).

The prevention of pressure injuries is significant due to the cost of approximately \$9.1-\$11.6 billion per year in the United States. Cost of individual patient care ranges from \$20,900 to \$151,700 per pressure injury (Pettinichi, 2018). The average court settlement for hospital acquired pressure injury is \$250 thousand or more per settlement. HAPIs are so common that they are currently the second most common hospital billing claims (NPUAP, 2017). Most pressure injuries are considered preventable, but despite that about 60,000 Americans die from pressure injury related complications each year (Bauer et al., 2016).

As this author evaluated the telemetry/stroke (tele-stroke) unit microsystem for opportunities to improve, a project emerged that would align with the organization's mission to provide high-quality care and to improve the health of the members. According to the unit manager there has been an increase in HAPIs on the tele/stroke unit. Management wants to work on reducing the incidence and support the Clinical Nurse Leader (CNL) to initiate this project.

The microsystem for this project is a tele/stroke unit consisting of 26 beds in a Northern California Acute Care Medical Center. The patient population includes adults over 18 years of age. The patients' diagnosis comprises of stroke, myocardial infarction, congestive heart failure, pacemakers, atrial fibrillation, dementia, diabetes and gastrointestinal bleed. The patient caregiver team consists of doctors, nurses, patient care techs, patient care coordinator, social worker, and a unit assistant. Most of the staff members have been working on this unit for many years and have routinized their own ways of delivering care. The focus of this project will be the nurses who provide direct care and patient care techs who function as the primary caregivers at the patients' bedsides to address holistic patient needs.

The information found in the review of literature, and evidence-based practice data and the microsystems assessment at the Acute Care Medical Center led to the determination that there is a need to educate nursing staff on hospital acquired pressure injury prevention. After careful review of the related literature, it is determined that an initial start would be directed at teaching the staff about the HAPI prevention bundle which is not currently being followed on the unit. The HAPI bundle includes the following components: skin assessment every shift and a double RN skin check for every patient upon admission and transfer to and from the unit; wound care consult; skin picture upon admission and uploaded in patients' hospital record; repositioning

every two hours and the use of waffle cushion for all patients at risk for skin injuries. A Braden Scale of less than 18 is considered at risk for all patients.

All improvement efforts begin with an aim statement after learning the need for change according to the Agency for Healthcare Research & Quality. The rate of HAPI will be reduced by 50% on the tele/stroke unit by 7/30/2019. This will be accomplished by educating the staff on the HAPI prevention bundle.

Problem Description

According to the unit manager there has been an increase in HAPI on the tele/stroke unit. There were total of 5 hospital acquired pressure injuries on the tele/stroke unit in 2018. A gap of knowledge was identified in the prevention of hospital acquired pressure injuries. Hospital management wants to work on reducing the incidence and supported the Master student RN to initiate the CNL project. With a foundation of evidenced-based practice and clinical expertise and knowledge of the nurses to support the following: pattern of occurrence, potential to work with nurses and observe assessments while adhering to the evidence-based change package or the HAPI bundle contributing to the incidence of pressure injuries which are increasing. In discussions with the manager, it was concluded that skin assessment is not complete, pictures are not uploaded in the patient's electronic medical record and turning/repositioning is not consistently performed or documented. The plan is to educate the staff on pressure injury prevention bundle to decrease the rate of HAPI by 50% on the tele/stroke unit by 7/30/2019. The clinical focus aligns with the facilities and the unit-based priority to improve HAPI outcomes. By decreasing the rate of HAPI will also save lives from pressure injury complications. The project will require the involvement of the entire team to be effective and improve outcomes.

Available Knowledge

The PICO statement guide literature searches by identifying the primary patient problem, intervention, comparison or control, and outcomes (Polit & Beck, 2013). The PICO statement: In patients on the tele/stroke unit (P), how does the pressure injury prevention bundle (I), compared to current practice (C), affect the rate of hospital acquired pressure injuries (O), over the course of the hospital stay (T)? The PICO statement was used to search the evidence using CINAHL and PubMed database with review of literature which supports the rationale for this project.

Evidence based practice and nursing research supports the use of HAPI bundle to prevent hospital acquired pressure injuries. According to Zuo & Meng (2015), a care bundle refers to the collection of care management ideas that can be implemented among different healthcare disciplines for promoting the clinical practice. These authors concluded that effective execution of care bundle, a health care nursing team should be given the appropriate education and training to execute the care bundle. Staff compliance is important for the care bundle to be successful. The staff on the tele/stroke unit includes the frontline nurses, patient care techs, unit management team and the wound care nurses.

According to the Agency for Healthcare Research & Quality (2014), the use of care bundle has been successful in preventing pressure injuries. The care bundle incorporates the best practices that lead to better outcome. It is a way of taking the best practices and putting them together to achieve the desired outcome (AHRQ, 2014). The bundle should be individualized and unique for the specific unit so it will work for the specific population. An individualized HAPI bundle was created for the tele/stroke unit to achieve the desired outcome.

A research study by Fiona et al. (2015) was conducted to test the skin integrity bundle, the InSPiRE protocol for reducing pressure injuries in critically ill patients. The study method used was before and after design. Total of 207 patients were enrolled, 105 in the intervention group and 102 in the control group. Most of the patients were men with the mean age of 55 years old. In conclusion, the intervention group receiving the InSPiRE protocol had lower and less severe pressure injuries over time. The authors included ongoing assessment of patient's skin for risk pressure injuries and implementation of prevention measures are the key to preventing pressure injuries. For this project, weekly skin assessments on all patients will be performed by two RNs.

A qualitative descriptive study by Roberts et al. (2016) was conducted to assess the nurses' perceptions of the usefulness and the impact of a pressure ulcer prevention care bundle on clinical practice. Eighteen nurses from four Australian hospitals were interviewed. Overall, nurses found the care bundle feasible and acceptable. The benefits from the bundle included improved communication, awareness and participation in pressure ulcer prevention care among patients and staff.

A quality improvement projects utilized a cluster-randomized trial study for process evaluation of interventions to provide insight into why they work or fail and how they might be improved for patient care (Roberts et al., 2017). Quantitative and qualitative data were collected to evaluate recruitment, reach, intervention delivery and response to intervention. Total of 799 intervention patients were included in the trial. Patients and nurses both accepted the care bundle and it was found to be easy to understand and deliver. The process evaluation found no major failure in implementation of the care bundle. The authors concluded the care bundle to be an effective way to engage patients in pressure ulcer prevention care and promoting evidence-based practice.

In summary of the evidence shows that HAPI bundle is very effective in reducing hospital acquired pressure injuries. It should be individualized to the patient population and carried out by the entire care team. I believe once the staff accepts the change and find it useful then it will be carried out effectively. As listed above, studies show that nurses find the care bundle feasible and acceptable.

Rationale

Hospital acquired pressure injuries are very common and costly to the hospitals. The Agency for Healthcare Research & Quality (AHRQ, 2014) estimates that more than 2.5 million individuals in the United States develop pressure injuries annually. The national incidence rate for development of pressure injury is approximately 2.5% of inpatient stays. There are many factors that pose a risk for developing pressure injuries. Some of the risk factors include diabetes mellitus, cerebral vascular accident and sepsis. The physiological factors include impaired mobility, history of pressure injuries, malnutrition, and incontinence. The pressure injuries usually do not cause death, but the complications developed with the pressure injuries can lead to death.

In assessment of the microsystem, data was gathered through the electronic medical health records. The data was taken from initial skin assessment with 2 RN verification, photo upload in the health connect, turning every 2 hours, skin assessment every shift, and wound care consult. These chart audits were performed by the assistant nurse manager. The data was shared with the wound care nurses, management team, and the staff on the unit. The root cause of increased rate in HAPI occurrences were assessed by completing a SWOT analysis and fishbone diagram. To identify the strengths, weaknesses, opportunities for growth, and treats to the project, a SWOT analysis (see Appendix A) was completed. A fishbone diagram (see Appendix B) was used to

define potential causes in order to identify the root causes. The findings included: staff did not perform skin assessment upon admission and transfer, pictures were not taken and uploaded in the patient's electronic medical record, and turning/repositioning was not performed or documented, and waffle cushion was not utilized for patients at risk.

Specific Project Aim

The aim of this project was to improve the rate of HAPIs on the tele/stroke unit. The process begins with evaluating the current HAPI prevention practices with the frontline staff. The process ends with implementing the evidence-based practice HAPI prevention bundle. The HAPI prevention bundle includes the following components: skin assessment every shift and a double RN skin check for every patient upon admission and transfer to and from the unit; wound care consult; skin picture upon admission and uploaded in patients' hospital record; repositioning every two hours and the use of waffle cushion for all patients at risk for skin injuries. By implementing this process, staff awareness will increase regarding HAPI rate on the unit and staff will be educated regarding HAPI prevention bundle to decrease the rate of HAPIs on the tele/stroke unit.

The implementation and improvement of change starts at a microsystem level by employing an initial assessment and comparative reassessment over time. Clinical nurse leaders can implement quality improvement strategies based on current evidence (AACN, 2013). The CNL leads teams and guides them to think big but start small to introduce incremental test of change and optimize outcomes. It is imperative that the entire team is invited and engaged in patient care and organizational quality initiatives. This project will involve a team: the unit manager/assistant manager, nurses, patient care techs, wound care nurses, nurse champions from each shift, and the clinical nurse leader. For this project, performance measures will be used to

improve and assess the care delivery of evidence-based practices and promote higher value care outcomes (AACN, 2013).

Methods

The aim of the project is to improve the process of care delivery by implementing evidence-based change. The proposed solution is to implement the use of HAPI prevention bundle on the tele/stroke unit. The HAPI prevention bundle includes the following components: skin assessment every shift and a double RN skin check for every patient upon admission and transfer to and from the unit; wound care consult; skin picture upon admission and uploaded in patients' hospital record; repositioning every two hours and the use of waffle cushion for all patients at risk for skin injuries. The plan is to educate the staff on pressure injury prevention bundle to decrease the rate of HAPI by 50% on the tele/stroke unit by 7/30/2019. Staff will be educated on the HAPI prevention bundle and chart audits will be performed to make sure bundle is implemented on all patients. There will be weekly skin rounds on the unit to assess all patients. That would require two extra RNs for 4hour shifts once a week. Wound care nurses will be available for support and questions during this project. By reducing the HAPI rates, the associated cost related to treating wound infections will also decrease. Furthermore, severe infections such as sepsis will be prevented, thereby decreasing patient's length of stay. The average cost of treating a pressure injury is \$43,180 per hospital stay (Ballesteros, 2017). Successful implementation of the project will meet the following objectives:

1. Improve patient safety and prevent harm decreasing hospital acquired pressure injury by 50% from the current rate with use of HAPI bundle.
2. Decrease the associated medical cost of treatment from hospital acquired pressure injury by \$43,180 per case in three months as a result of reduction in pressure injury.

3. Increase bed availability by decreasing the length of hospital stay.

Market Analysis

The Acute Care Medical Center is one of the largest hospitals serving over million members. The hospital's mission is to improve the health of all members and the communities it serves. Due to the recent expansion of coverage by Covered California, the current patient volume has risen. Acute Care Medical Center serves a diverse multicultural community and is expected to expand. As the membership has grown so has the high prevalence rate of diabetes, stroke and obesity. Importantly, each of the diagnosis are high risk factors associated with HAPI.

The Agency for Healthcare Research and Quality (2014), reports 2.5 million patients develop a HAPI at some point during hospitalization. Regrettably, approximately 60,000 of these patients will suffer mortality each year as a direct result of HAPIs. Despite evidence-based practice and research, the National Pressure Ulcer Advisory Panel (NPUAP), reports that HAPIs continue to occur at a national incidence rate of 5% (Kirkland-Walsh & Teleten, 2016).

The current rate of increase in HAPIs at the Acute Care Medical Center needs to be addressed. Last year alone there were total of 5 hospital acquired injuries on the tele/stroke unit. Each hospital acquired pressure injury requires immediate attention in order to keep in alignment with the hospital mission statement. The increase in the incidence rates of HAPIs are also associated with the extreme financial burden for the organization. The hospital is expected to absorb the cost for hospital acquired pressure injuries. The hospital is also expected to pay the penalty cost of \$43,180 per occurrence (Ballesteros, 2017). The hospital may also have to pay in the event of litigations related to HAPIs. The Agency for Healthcare Research and Quality reports that HAPI associated lawsuits are equal to more than 17,000 each year (Kirkland-Walsh & Teleten, 2016).

By implementing the HAPI bundle, hospital can continue to invest in its members and decrease the rate of HAPIs on the tele/stroke unit. Patients will receive the exceptional care and the organization will decrease the length of stay per patient and avoid extra costs. Members will be happy with the care received and the hospital metrics will increase.

The strengths and opportunities of the proposed project are as follows:

1. Decrease the rate of hospital acquired pressure ulcers
2. Reduce cost
3. Decrease the length of stay
4. Improve patient safety and satisfaction

The weaknesses and threats identified includes:

1. An individual nurse's willingness or readiness to change

Budget Analysis

The resources needed for this project includes leadership support, staff education and training, working cameras for pictures, and waffle cushions for each patient. The wound care nurse is needed for staff support during this project and two nurses for 4 hours a week for skin check rounds. Hospital currently have 3 full time wound care nurses and they are available for support. The hourly salary for nurse will be \$77 according to the acute care medical center.

Education will start at the morning huddle. The HAPI bundle will be introduced and explained in detail. Once the nurses are familiar with the HAPI bundle then one on one teaching will be implemented with each nurse. Education will start with assessment of patient, how to take picture of a wound, how to send wound care consult and how to properly document and upload the pictures in the patients' medical health record and the use of waffle cushion for patients at risk. Nurses will be explained why these steps are being done and how they will help

with preventing hospital acquired pressure injuries. Evaluation will be done by teach back method. Staff will be observed in performing each of these tasks. It will take about 2 hours to provide education to each nurse.

Table 1

Estimated cost for the project:

<u>Material and Labor</u>	<u>Detailed cost</u>	<u>Total cost per year</u>
Wound care nurse	Already available for support (hospital has couple of wound care nurses)	\$0
Education	2 hours education for total of 70 nurses, \$77 per hour (140 hours X 77)	\$10,780
Camera for pictures	No cost- camera are available	\$0
Skin rounds by RN	Skin rounds by 2 RNs 4hours per week for 3 months (77 X 4)	\$7,392
Total cost:		\$18,172

Financial Analysis

Cost-benefit analysis will be used to implement this project and is outlined in Appendix C. The initial cost for this project will be staff education about the HAPI bundle and skin rounds every week for 3 months. Cameras for pictures and waffle cushions are already available in the hospital. The average penalty cost for HAPI per occurrence is \$43,180. Last year the hospital had total of 5 hospital acquired pressure injuries. It is estimated a total saving for \$111,368 if minimum of 3 HAPIs are prevented over one-year time period.

Saving for every 3 HAPI cases averted per year (\$43,180 per case):	\$129,540
Cost for education and weekly rounds:	<u>\$18,172</u>
Estimated savings per year:	\$111,368

Implementation

Change is very difficult but necessary in order to produce better outcome. It is very important for CNL's to understand the change theories in order to implement new changes to improve patient care. The change theory that CNL plans to utilize for this project is called the Lewin's change theory. Kurt Lewin, a German-American Psychologist developed a change theory in the 1940's called the Kurt Lewin's change theory. This theory model is based on the 3-step process (Unfreeze-Change-Refreeze) that provides a high-level approach to change. It gives a manager or other change agent a framework to implement a change effort, which is always very sensitive and must be made as seamless as possible (Morrison, 2014). Lewin change theory can help leaders/managers make a radical change, minimize the disruption of the structure's operations, and make sure the change is adopted permanently.

According to Hussain, Lei, Akram, Haider, Hussain & Ali (2016), change is crucial for organizations in growing highly competitive business environments. Theories of change describe the effectiveness with which organizations are able to modify their strategies, processes, and structures. Lewin's theory of change can be used to implement the evidence-based practice to reduce the HAPI on the tele/stroke unit (see Appendix D). The three stages of Lewin's theory; unfreeze, change, and refreeze will be used to guide the change. The significance of being able to unfreeze staff and support preparation and acceptance of change was necessary to reduce the number of HAPIs on the unit. Current data on HAPI incidences will be shared with the staff and the need for change will be reiterated. Education about the HAPI prevention bundle will be

provided to implement the change. Audits will be performed on skin assessment, turning every two hours, wound care consult, and skin pictures upon transfer and admission. The rate of HAPI will be tracked and results will be shared with the staff to monitor the progress on the change.

The significance of the results and the education of the nursing staff and the health team supported the positive results and inclusion of all staff on this project. These members include the management team, staff nurses and patient care techs. Indeed, change will not be easy, but it is possible and will require a lot of effort from all members involved. Manager on the unit is very supportive of this change. Staff nurse champions from each shift will be involved to help implement this change process.

Timeline

This project will occur over 6 months and the timeline is outlined in Appendix E & F. For the first week, CNL will focus on unfreeze; Current HAPI rate will be shared with staff and compared with the previous year to show the increase in numbers. This will be done in huddles, 1:1 information session with staff, and the unit staff meeting. The impact that HAPI has on patients and the organization will be discussed to allow the staff to understand why change is necessary. During the next two weeks, the focus will be on change; The frontline staff (staff nurses and patient care techs) will be educated on HAPI prevention according to the evidence-based practice. The patient care techs are very important part of this team since they provide daily care for each patient. This project will require a team effort. The Clinical Nurse Leader will educate according to the evidence-based practice about the benefits of turning and assessment for wound prevention. The research articles will be made available to the staff. Clinical Nurse Leader will spend 1:1 time with the new staff on proper skin assessment, how to take pictures and upload in the medical health record, how to order wound care consult, and the

importance of using the waffle cushion for risk patients. It will take about 2 weeks to educate all staff. Wound care nurse specialist and educators will be involved in the education process. Once everyone is educated, the staff will be required to follow the HAPI prevention on each patient on the unit. The last step of Lewin's theory is refreeze; Audit's will be performed after the three weeks to check that HAPI bundle is implement on each patient on the unit. Audits will include turning patient every 2 hours, proper skin assessment and sent wound care consult/uploaded pictures. During this time the rate of HAPI will be tracked and shared with the staff. The frontline staff will be given the recognition for implementing the change to improve patient outcome. The goal is for this change to show improvement in the rate of HAPI on the tele/stroke unit.

Study of Interventions

Evaluation is a very important component of the quality improvement project. To check the progress of a project evaluation should be done before, during and at the end of the project. The aim of the evaluation is to monitor the success of project over time and to identify issues or concerns as they arise so that actions can be taken to change or redesign the project (Harvey & Wensing, 2003). The Key performance indicators will be used to determine the effectiveness of this project. Key performance indicators serve an essential role in measuring the success or failure of the project activities (Alexander, 2016). The objectives for this project include the number of staffs utilizing the HAPI bundle and the number of HAPI on the unit during this test of change. The evaluation of this project will be done through conducting unit observation and audits (Appendix G). It is very important to involve the staff in order to sustain the change. Staff interviews will be conducted to receive any input from the frontline staff regarding this

change and how to improve the process. A project is more likely to be sustained if the individuals involved feel a sense of ownership and value what the project achieves.

Ethical Consideration

The project was reviewed and determined to qualify as an evidence-based change in practice project. Evidence-based change of practice project checklist was completed (Appendix H) and determined does not require institutional review board approval. The project was approved as a quality improvement project by the facility.

Patient privacy was taken into consideration during all patient assessments and during pictures of the skin. All pictures were uploaded into the electronic medical records by the hospital provided camera which is allocated for hospital use only. Patient were explained the importance of assessments and pictures as a part of the routine care.

Results

After implementing the hospital acquired pressure injury bundle there was a decrease in the rate of HAPI on the tele/stroke unit. The project started in February 2019 with staff education and ended in July 2019 with a great success. Once education was completed, audits were done on daily bases to assess the compliance with HAPI bundle by all staff on the unit. Staff feedback were taken into consideration for project improvement. Staff awareness and education continued throughout the project. After implementing the project, unit saw a decrease in the rate of HAPI by more than 50% which is considered a success for this project. There was only 1 case of hospital acquired pressure injury in April. As the rate of HAPIs decrease, the cost savings increases for the hospital. Furthermore, these funds can be used on other treatment plans that are needed for the patients.

Discussion

Key findings of this project include the dramatic decrease in the rate of HAPI after the implementation of the HAPI bundle. In 2018, the tele/stroke unit had 5 HAPI cases which has been reduced to 1 in 2019. For reduction of HAPI, we achieved our initial goal to decrease the rate of HAPI by 50% on the tele/stroke unit. Staff education and the introduction of HAPI bundle increased staff awareness and everyone contributed to improve patient outcome. Weekly skin rounds and chart audits were performed. The unit now has a prevention plan in place to ensure continued reduction in the rate of HAPI on the tele/stroke unit. In future, implementation of the project over the course of 1 to 2 years would provide more information.

One lesson learned during this project is the importance of frontline staff involvement in achieving success. Wound care nurses were consulted when needed to answer any staff questions. Daily huddles were held to keep the staff up to date on the progress of this project. Overall the staff involvement and motivation made this project a success for the unit.

Conclusion

Hospital acquired pressure injuries are very common for inpatient hospital settings. They can be very costly for the hospitals. It is very important for the hospitals to have an action plan in place to improve patient outcome. The current practice of HAPI on the tele/stroke unit was not effective and change was necessary. All improvement efforts began after careful review of literature and evidence-based practice. Hospital acquired pressure injury prevention bundle was implemented which included: skin assessment every shift and a double RN skin check for every patient upon admission and transfer to and from the unit; wound care consult; skin picture upon admission and uploaded in patients' hospital record; repositioning every two hours and the use of waffle cushion for all patients at risk for skin injuries. The aim of the project was to decrease the

rate of HAPI by 50% on the tele/stroke unit by 7/30/2019. Lewin's change theory was utilized for this project to implement the change on the tele/stroke unit. After implanting the project, there was a decrease in the rate of HAPI by more than 50% on the tele/stroke unit. The project success was achieved and once HAPI rate decreased the staff took the ownership for this achievement. The next step would be to implement the project hospital wide to achieve greater success in reducing patient harm and cost savings for the hospital.

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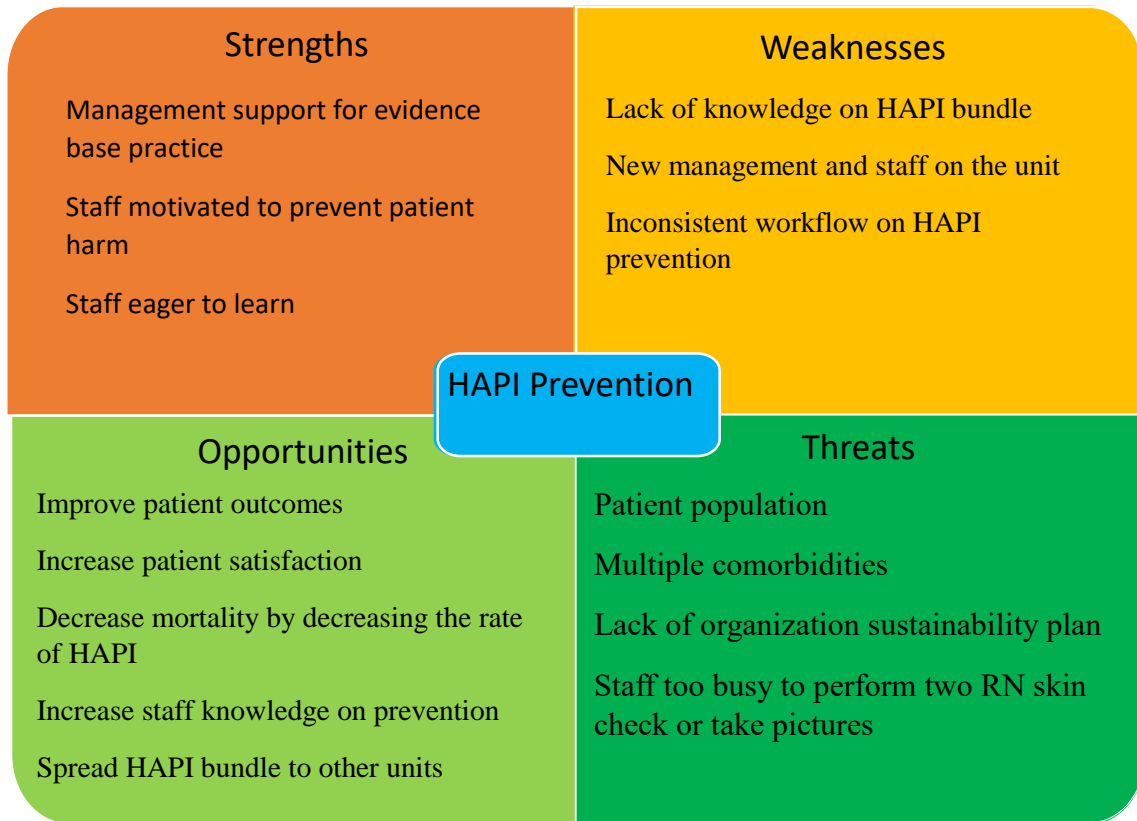
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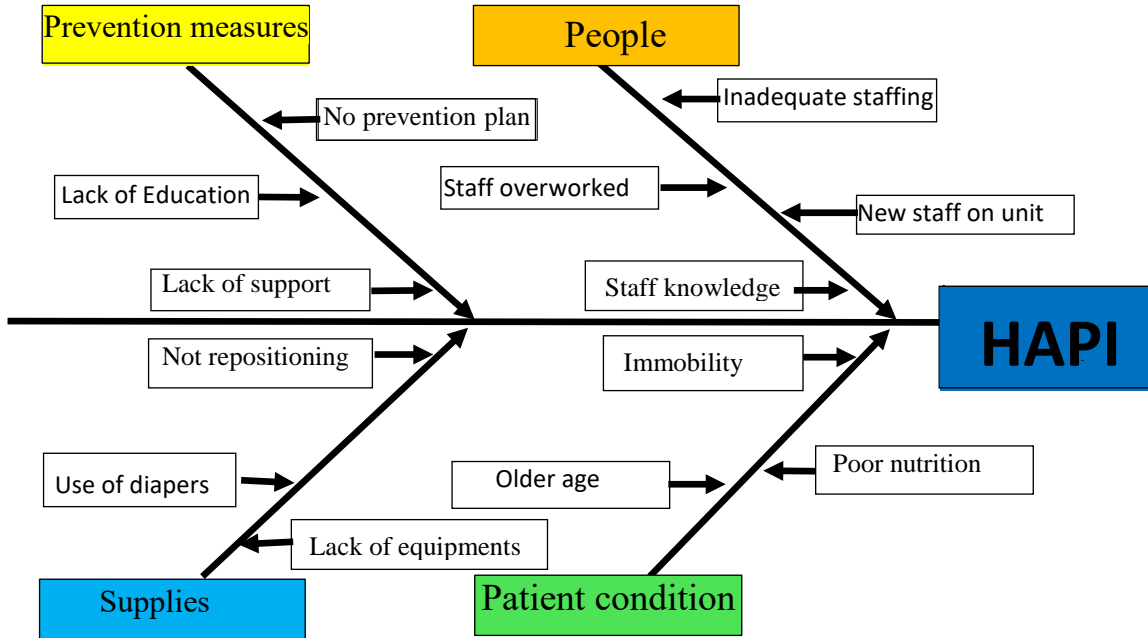
International Journal of Nursing, 2, 340-347.

Appendix A

Swot Analysis



Appendix B
Fishbone Diagram



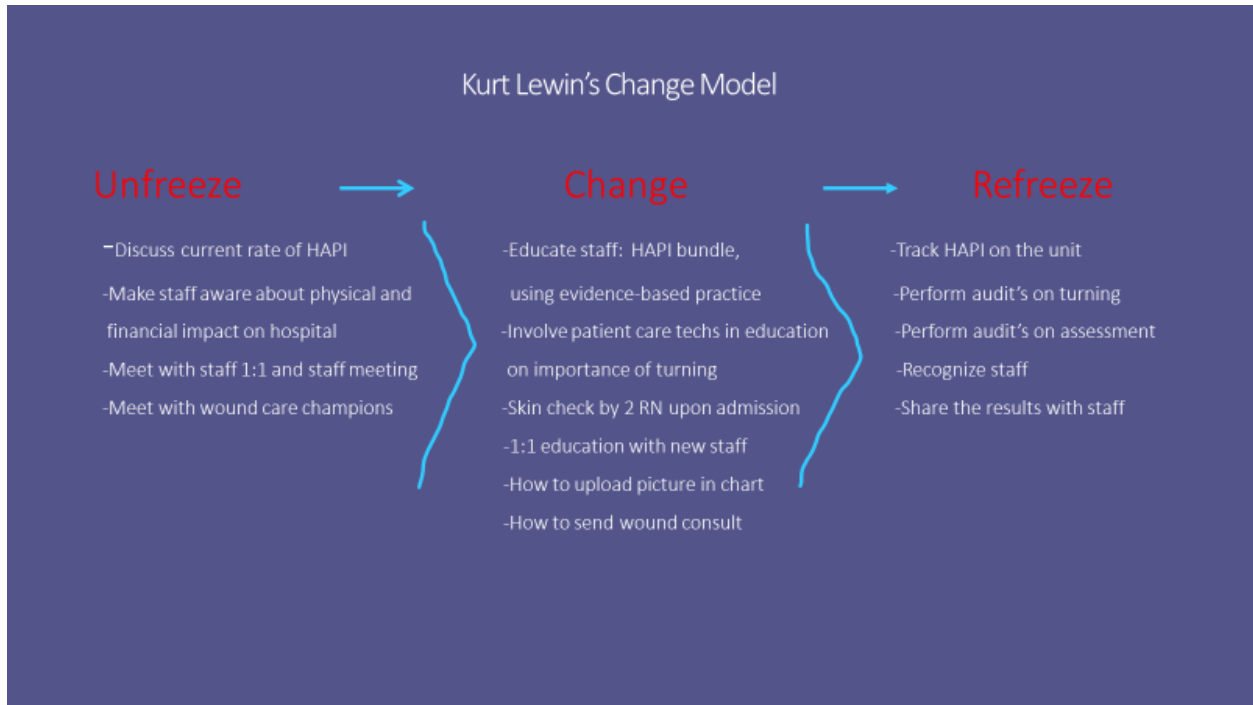
Appendix C

Cost-benefit analysis for implementation of HAPI bundle

Cost Description	2019	2020	2021	Total Cost (3 years)
Wound care nurse	0	0	0	0
Education on HAPI bundle (for 70 RN's) 2hours each.	\$10,780	\$10,780	\$10,780	\$32,340
Cameras for pictures (already available)	0	0	0	0
Skin rounds by 2 RN's	\$7392	\$7392	\$7392	\$22,176
Total Cost	\$18,172	\$18,172	\$18,172	\$54,516
Benefits				
Saving for 3 HAPI cases per year (\$43,180 per case)	\$129,540	\$129,540	\$129,540	\$388,620
Net Benefits	\$111,368	\$111,368	\$111,368	\$334,104
Benefit-Cost Ratio (B/C Ratio)	7.1	7.1	7.1	7.1

Appendix D

Implementation of HAPI bundle on the tele/stroke unit



Appendix E

Action Plan for implementation of HAPI bundle

Lewin’s Change Theory	Timeline for change	Specific Change Actions
<p>Step 1-Unfreeze (Get ready for change)</p>	<p>Week 1</p>	<p>Meeting with staff (staff meeting, huddles, 1:1 meeting with staff): Provide current data on Hospital Acquired Pressure Injury (HAPI) and the impact it has on patients and the hospital. Acknowledge the need for change.</p> <p>Meeting with stake holders: meet with manager, assistant manager, educator, wound care nurse and nurse champions from each shift-to discuss the change process and current evidence-based practice.</p>
<p>Step 2- Change (Implementation)</p>	<p>Week 2 to 3</p>	<p>Educate staff on HAPI prevention according to evidence-based practice.</p> <p>Introduce the HAPI bundle- turning patients every 2 hours, wound care assessment every shift and two RN skin assessment upon admission/transfer to unit, picture upload upon admission/transfer, and wound care consult.</p> <p>Include Patient Care Tech’s as a part of this project- educate them to notify RN if they see any skin concerns on patients, reiterate the importance of turning every two hours.</p> <p>Ask for feedbacks from bedside RN’s and PCT’s during this education to clarify process and to reduce anxiety/frustration.</p>

		<p>(It is very import to have a buy in from the frontline staff).</p> <p>Meeting with the project team every week to discuss any barriers.</p>
<p>Step 3- Refreeze (Making it Stick)</p>	<p>Week 4 and ongoing</p>	<p>Perform audit on HAPI bundle-turning every two hours, two RN skin assessment upon admission/transfer to the unit.</p> <p>Rate of HAPI on the tele/stroke unit will be tracked. Staff will be informed of the progress.</p> <p>Meetings with project team: continue to have meetings with the team to go over progress and discuss barriers or concerns from the staff.</p> <p>Provide staff recognition for implementing the change to improve patient outcome.</p> <p>The goal is for this change to show improvement in the rate of HAPI on the tele/stroke unit.</p>

Appendix G

Audit Tool

Patient Name: _____

Date: _____

Hospital Acquired Pressure Injuries Audit Tool		
Admission skin assessment done within 8 hours of admission	Yes	No
Was the 2 nd RN verification and head to toe assessment documented	Yes	No
Are photos taken and uploaded	Yes	No
Was patient turned every two hours in the last 24 hours	Yes	No
Was the wound care consult requested for skin alteration	Yes	No
Waffle cushion used for patient at risk (braden scale of less than 18)	Yes	No

Comments:

Appendix H

EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST *

STUDENT NAME: Sukhjit Dhillon

DATE: 3/1/2019

SUPERVISING FACULTY: Acute Care Facility

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

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