The Critical Need for HAPI Prevention in the SDU of Our Hospital

Daniel O'Leary

RN-BSN San Mateo Cohort

Samuel Merritt University

The Critical Need for HAPI Prevention in the SDU of Our Hospital

Problem Identification

According to internal hospital metrics Hospital acquired pressure injuries (HAPI's) are increasing in occurrence in the SDU of a major academic hospital in Northern California. "These are preventable conditions deemed never events by the National Quality Forum and Agency for Healthcare Research and Quality". (AHRQ, 2018). "The occurrence of a HAPI has a negative impact on a patient's quality of life, increases facility length of stay, interferes with recovery, and causes additional pain or infections." (AHRQ, 2018).

Background

HAPI can be defined as localized damage to the skin and/or underlying soft tissue usually over a bony prominence or related to a medical or other device. "The injury can present as intact skin or an open ulcer and may be painful. The injury occurs as a result of intense and/or prolonged pressure or pressure in combination with shear." (Edsberg et al., 2016). This is not a unique problem that our hospital faces. "HAPI occurrence is a national problem with more than 2.5 million patients affected each year in the United States at the cost of $9.1-$11.6 billion annually." (AHRQ, 2014). Hospitals are attempting to reduce the incidence of HAPI in order to achieve optimal patient outcomes; there is also a financial incentive as well. "In 2014, the Patient Protection and Affordable Care Act (Rosenbaum, 2011) further incentivized the prevention of Hospital Acquired Pressure Injuries with reimbursement penalties levied against health care organizations with the highest rates of Hospital Acquired Conditions."

Our own intra hospital metrics show an increase of 28% in HAPI in the SDU department from January 2018 to December of 2018. To understand the magnitude of the problem and prevent the occurrence of HAPI we must start with our patient population. Patients in our SDU unit are of higher acuity with multiple high-risk factors for occurrence of HAPI. This includes low Braden scale scores, patient obesity, mechanical ventilation, patient sedation, exposure to hospital devices, and the patient's own co-morbidities. Despite a vast array of prevention strategies, hospital-acquired pressure injuries (HAPIs) continue to occur, especially in critical care. "Rates of such injuries have been reported to range from 2.8% to 53.4% in critical care units, compared with 2.0% to 8.3% in medical-surgical units." (Pitman et all., 2019).

Understanding how to prevent HAPI is crucial if we are to reduce its prevalence and incidence. Steps we have taken so far include staff education, collaboration with the wound care team (CWOCN), purchasing overhead lifts to

facilitate turning our patients, utilization of special beds for at risk patient populations, and the use of barrier devices placed over patients' bony prominences.

Literature Review

In order to truly understand HAPI and reduce its occurrence in our units it is important to understand the literature about this topic. Nurses play a major role in HAPI prevention as an indicator for quality nursing care. First, we must look towards possible nursing impediments that can increase the risk of HAPI occurrence and mitigate them. "Preventive interventions may be missed by nurses due to competing patient care needs, lack of resources, poor communication, lack of clear expectations of task responsibilities, or a misunderstanding of the evidence related to HAPI" (NDNQI: A Press Ganey Solution, 2017). HAPI prevention takes a team effort in order to be effective. Research shows the importance of both bedside nursing and management interventions in reducing HAPI. "In 2014, a group of 55 pressure ulcer experts found the success of a pressure injury prevention programs rested in part on frontline staff engagement and administrator leadership." (Creehan et al., 2016). Our goal is to reduce HAPI in order to have better patient outcomes and reduce patient morbidity and mortality related to HAPI. "Approximately 1 in 30 patients develop a hospital-acquired pressure injury (HAPI) each year, and roughly 60,000 deaths are related directly to pressure injuries." (Englebright et al., 2018). There is a financial incentive for hospitals to reduce HAPI as well regarding Medicare and Medicaid reimbursement. "In 2008, the Centers for Medicare & Medicaid Services (CMS, 2008) began denying reimbursement for stage III/IV hospital-acquired pressure injuries, deeming them preventable and classifying them as never events." Literature shows there is no silver bullet to prevent HAPI occurrence. "Pressure injury prevention programs should be developed using a multi-faceted approach that addresses the patient's individualized risk factors and needs." (NPUAP et al., 2014). Understanding this is essential in order to have success in our approach to the prevention and reduction of HAPI in our medical center.

Identified Community and Stakeholders

The identified community would include our patient population in Santa Clara County. The local community is a blend of ethnicities, socioeconomic status, and ages. Per the United States (U.S.) Census Bureau (n.d.), 21.9% are under age 18, and 13.5% are over 65 years of age. As of 2018, the estimates (in percentage) of the population equate to 53.1% White, 38.3% Asian, 25.3% Hispanic, and 2.8% African American (U.S. Census Bureau, n.d.). It's difficult if not impossible to look at any community and assess risk for potential HAPI development. The most common community risk factor would be older age (> 65 years). "The reason for this finding is likely a

combination of aging-related skin changes (especially loss of elasticity) and the effects of comorbid conditions that more commonly occur among older people." (Alderson, Zhao, et. all). More importantly, risk factors change once a community member is hospitalized. One study shows factors associated with risk for HAPI development in hospitalized patients varied from older age, elevated serum lactate level, decreased oxygenation, and elevated serum creatinine level. (Alderson, Zhao, et. all). Another study showed, "Patients who had a diagnosis of congestive heart failure, longer stays before the HAPI was identified, and a history of a prior pressure injury were more likely to develop HAPI." (Hickman, 2018). The over-all consensus for the number one risk factor of HAPI development in the community is immobility. Therefore, anything that causes the patient to become immobile, i.e. mechanical ventilation, altered mental status, stroke, spinal cord injury, and prematurity of birth are just some examples that increase risk for our community to develop HAPI.

Stakeholders start with the nurses in direct patient care, the nursing administration, and the wound care team (CWOCN). "HAPI prevention must be embraced by administrators and staff as a patient safety priority. Tools and resources should be made available to staff for early risk identification and patient management." (Amon & David, 2019). Managers from the ANM to the hospital's CEO are invested in seeing HAPI be reduced for improved quality scores and costs savings. Ancillary staff have a valuable role to play as well. Nutrition is important to maintain overall health and skin integrity. P.T. and P.C.T.'s are valuable team members as they increase patient mobilization. Pharmacy provides medicated creams, powders, and lotions to optimize skin moisture and integrity.

Data Metrics and Benchmarks

Costs for care of a patient with a HAPI ranges from $20,900 to $151,700 and adds an average $43,180 to a hospital stay; cost of treating a HAPI significantly outweighs the cost of preventing them. (Cyriacks & Spencer, 2018). These costs are attributed to increased length of stay and treatment modalities to treat HAPI. Patients with HAPI experience longer hospital lengths of stay (LOS) of approximately 13 days compared to patients who do not develop HAPI. (Amon & David, 2019). Table 1 demonstrates the costs breakdown by HAPI stages (1-DTI) and the corresponding cost (mean, 50^{th}, 90^{th} percentiles) for the respective treatment. Costs vary from $30,322 to $110,659 depending on stage. Table 2 demonstrates the increased length of stay (LOS) associated with the various stages of HAPI (23 to 100 days). Increased length of stay is not only associated with increased cost but can also lead to poor patient outcomes. Graph 1 using Kaiser internal metrics shows the rate of HAPI occurrence in the SDU for the year

2018 (total of 17 HAPI's). In contrast, the low occurrence of HAPI for department 220 (3 HAPI) is shown in graph 2. Department 220 has won awards from wound care in being the department with the lowest rate of HAPI in 2018. Thus, it is the benchmark the SDU and other departments will use to judge future improvements and setbacks in reducing HAPI occurrence.

Caritas 5 and 7

Caritas process number 7 shares teaching and learning that address individual needs and comprehension styles. (Watson & Sitzman, 2017). "It encourages stepping into the frame of reference of the learner and sharing the teaching/learning experience." (Watson & Sitzman, 2017). In order to make the changes needed to reduce HAPI in the SDU and the hospital, teaching the new HAPI bundle will have to take place. This should be done in a systematic way in order to assure everyone knows what is involved and there is uniformity.

Caritas process number 5 is to promote and accept positive and negative feelings as you authentically listen to another's story. "It is about unbiased listening and creating space for self and others to express feelings without censure." (Watson & Sitzman, 2017). Whenever change is needed it is important to listen to all members of the team that will be involved in the change. Nurses on the front line may feel like they are being singled out for the increase in HAPI. It is paramount that their voices be heard to address any needs they may have and reassure them that nobody is blaming them for the increase in HAPI.

Teamwork

Our group consisted of three scholars, Fern, Carolina, and me. All three of us work in-patient and have experience with HAPI and wound care. Carolina and I have each participated in HAPI prevalence and incidence studies at our respective hospitals. Fern is also a wound care champion for the ICU and participated in "Flashing Fridays", a program developed by management to combat HAPI in the ICU/SDU units. With all of us being familiar with HAPI, we had no problem working together and distributing the workload for the presentation.

Working as a group I learned that group communication and updates were important in finishing the project on time. I learned to value my team members contributions and to utilize their talents to make the best presentation possible. We meet a few times as a group to discuss the project and the presentation, but we mostly used modern technology to stay in touch and share work such as WhatsApp, texting, email, and PowerPoint.

References

Agency for Healthcare Research and Quality (AHRQ). (2014). Preventing pressure ulcers in hospitals. Are we ready for change? Retrieved from http://www.ahrq.gov/ professionals/systems/hospital/press sureulcertoolkit/putool1.html Batalden, P.B. (1992).

Agency for Healthcare Research and Quality (AHRQ). (2018). Never events. Retrieved from https://psnet.ahrq.gov/primers/ primer/3/Never-Events.

Alderson, J., Zhao, Y., Thomas, D., Butcher, R., Gulliver, B., Cummins, M. (Aug 2019). *Outcomes Associated with Stage 2 Pressure Injuries Among Surgical Critical Care Patients: A Retrospective Cohort Study*. Critical Care Nurse Vol 39, No. 4, AUGUST 2019.

Amon, B., David, A., Do, V., Ellis, D., Portea, D., Tran, P., Lee, B. (2019). *Achieving 1,000 Days with Zero Hospital-Acquired Pressure Injuries on a Medical-Surgical Telemetry Unit.* Medsurg Nursing. Volume 28 no. 1.

Centers for Medicare and Medicaid Services (CMS). (2008). *CMS Medicare payment policy for selected hospital-acquired conditions*. Retrieved from https://down loads.cms.gov/cmsgov/archived-down loads/smdl/downloads/smd073108.pdf

Cyriacks, B., Spencer, C. (2019). *Reducing HAPI by Cultivating Team Ownership of Prevention with Budget-Neutral Turn Teams*. Med surge nursing January-February 2019 • Vol. 28/No. 1

Creehan, S., Cuddigan, J., Gonzales, D., Nix, D., Padula, W., Pittman, J., & Wheeler, R. (2016). *The VCU pressure ulcer summit – developing centers of pressure ulcer prevention excellence.* Journal of Wound, Ostomy & Continence Nursing, 43(2), 121-128.

Edsberg, L.E., Black, J.M., Goldberg, M.G., McNichol, L., Moore, L., & Sieggreen, M. (2016). Revised National Pressure Ulcer Advisory Panel pressure injury staging system: Revised pressure injury staging system. Journal of Wound Ostomy Continence Nursing, 43(6), 585-597.

Englebright, J., Westcott, R., McManus, K., Kleja, K., Helm, C., Korwek, K.M., & Perlin, J.B. (2018). *A comprehensive program to reduce rates of hospital acquired pressure ulcers in a system of community hospitals.* Journal of Patient Safety, 14(1), 54-59.

Hickman, R. (Sept 2019). *Evidence-Based Review and Discussion Points*. AMERICAN JOURNAL OF CRITICAL CARE, September 2019, Volume 28, No. 5

Lim, M. L.; Ang, S. Y.; (2017) Wound Practice & Research, 25(1): 42-47. 6p. (Article - research, tables/charts) ISSN: 1837-6304, Database: CINAHL Plus with Full Text

National Pressure Ulcer Advisory Panel (NPUAP), European Pressure Ulcer Advisory Panel, & Pan Pacific Pressure Injury Alliance. (2014). *Prevention and treatment of pressure ulcers: Quick reference guide*. Osbourne Park, Western Australia: Cambridge Media.

NDNQI: A Press Ganey Solution. (2017). *Pressure injuries survey guide*. Retrieved from https://members.nursing quality.org/ndnqipressureulcertraining/ Module3/Intro_1.aspx Osuala, E.O. (2014).

Pittman, J., Beeson, T., Dillon, J., Yang, Z., Cuddigan, J. (September 2019). *Hospital acquired pressure injuries in critical and progressive care: Avoidable versus unavoidable.* AJCC American Journal of Critical Care, Volume 28, No. 5

Rosenbaum, S. (2011). *The patient protection and affordable care act: implications for public health policy and practice.* Public Health Rep., 126 (1)

United States Census Bureau. (2018). Quick facts: Santa Clara County. Accessed at https://www.census.gov/quickfacts/fact/table/santaclaracountycalifornia/PST045218

Watson, J., Sitzman, K. (2017). *Watson's caring in the Digital World*. Springer Publishing Co., LLC. New York, NY.

TABLES

Table 1

Cost of HAPI based on stage for mean, 50%, and 90%

HAPI STAGE	BILL SIZE ($)		
	MEAN COST	50TH PERCENTILE	90TH PERCENTILE
1	$30322	$16779	$87050
2	$48917	$40084	$110659
3,4,DTI	$30554	$17403	$80460

Cost of HAPI based on stages. Source: Lim, Ang. (2017)

Table 2

Length of stay in days based on HAPI stage (1-DTI) mean, 50%, 90%

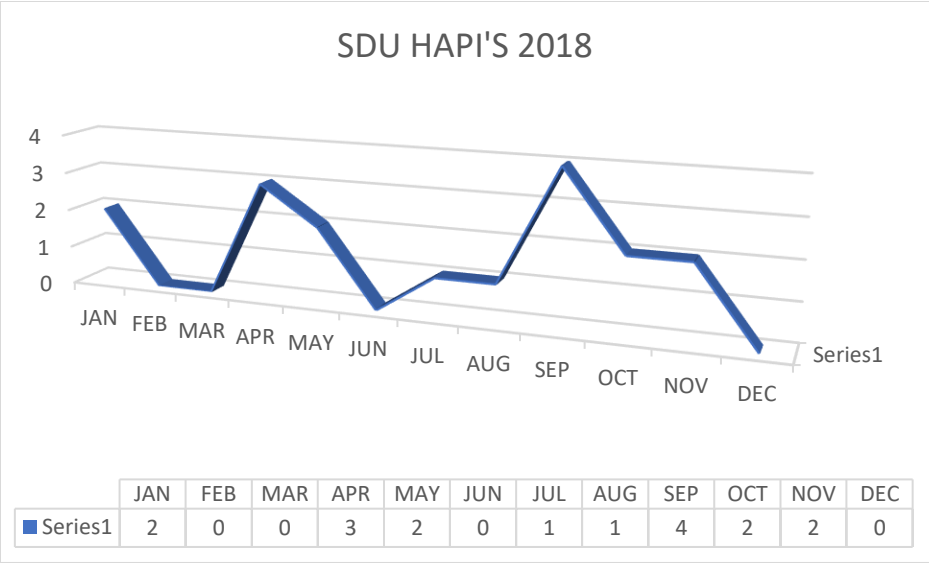
HAPI STAGE	MEAN	50%	90%
1	26	16	67
2	42	34	100
3,4, DTI	23	18	46

LOS of patients with HAPI. Source: Lim, Ang. (2017)

GRAPHS

Graph 1

HAPI occurrence in the SDU for the year 2018

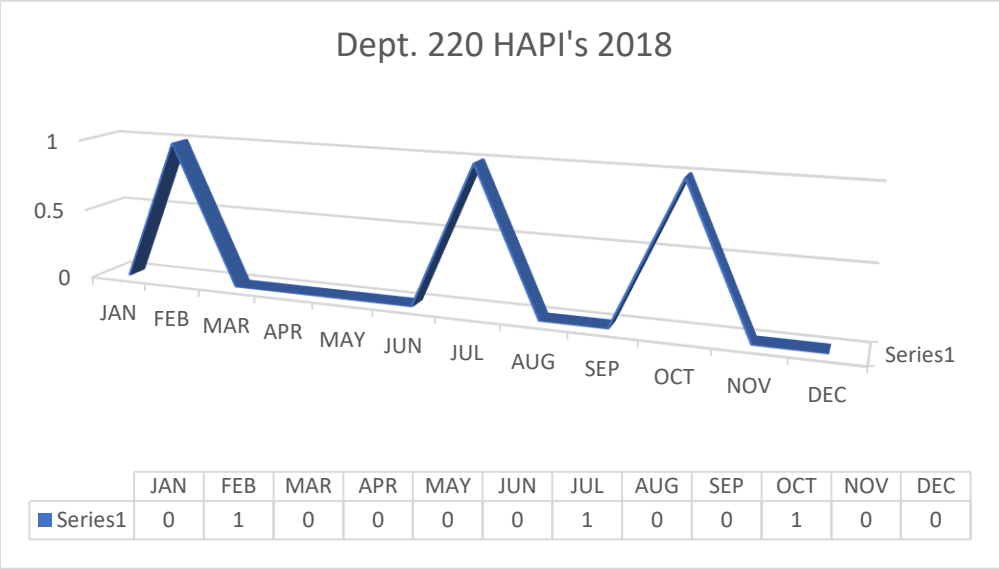


	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Series1	2	0	0	3	2	0	1	1	4	2	2	0

HEROES HAPI Incidence. Source: KP SCL Hospital

Graph 2

HAPI occurrence in Department 220 for the year 2018



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Series1	0	1	0	0	0	0	1	0	0	1	0	0

HEROES HAPI Incidence. Source: KP SCL Hospital