Evaluating the Efficacy of a Co-Designed Hospital-Acquired Pressure Injury (HAPI) Prevention Bundle: A Quality Improvement Project

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Introduction & Background

- HAPIs impact a patient's care plan including increased length of stay, increased risk of infections, and increased discomfort to the patient *(Al-Mansour et al., 2020).*
- As many as 2.5 million patients in acute care facilities are treated for HAPIs *(Berlowitz, 2020b).*
- The estimated annual total cost exceeding 26.8 billion dollars *(Padula & Dearmente, 2019).*
- Bundles (3-5 interventions) have been effective in the prevention of HAPIs *(Institute for Healthcare Improvement [IHI], 2020);Lin et al., 2020).*
- The co-design approach allows end-users to apply research to real life situations *(Slattery et al., 2019).*

Purpose & Aims

Purpose: To develop, implement, and evaluate the effects of a HAPI prevention bundle created by the staff (nursing and clinical technicians) using the co-design approach.

Aim 1: To develop a co-designed evidence-based HAPI prevention bundle and processes for implementation.

Aim 2: Assess staff's barriers and attitudes with respect to the current HAPI prevention bundle, as well as after the implementation of co-designed bundle.

Aim 3: To assess staff's utilization and perception of the co-designed HAPI prevention bundle during the implementation phase.

Aim 4: To evaluate the effect of a co-designed evidence-based HAPI prevention bundle on the number of HAPI cases/incidence through the implementation phase.

Methods

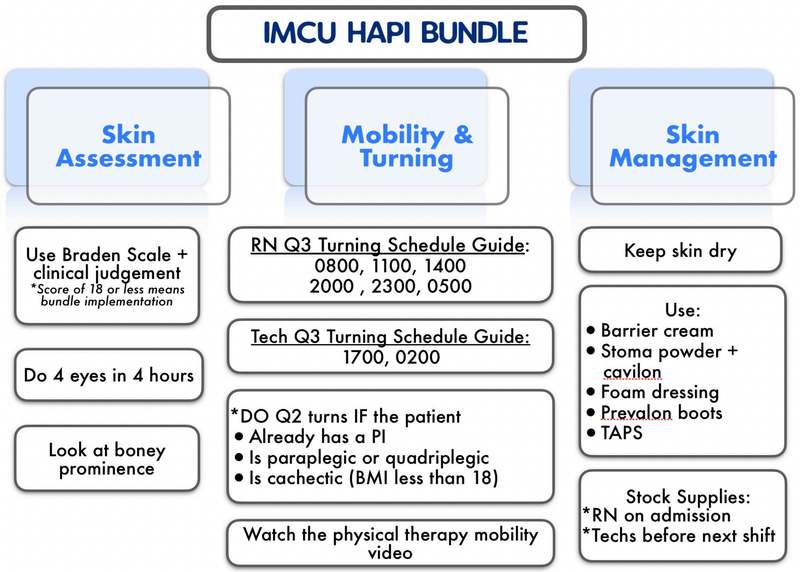
Design: Pre- and post- intervention QI project
Setting: Academic medical center located in Mid-Atlantic, US
Patient Sample Inclusion: All adult patients
Patient Sample Exclusion: An existing unstageable pressure injury
Staff Sample Inclusion: RNs & clinical technicians on the unit
Staff Sample Exclusion: None

References & Acknowledgments

A special thank you to the staff that participated in this project and my organizational mentor.

Results

Aim 1: Staff's Co-Designed HAPI Bundle



Aim 2: Staff's Pre/Post Attitude & Barriers

Quantitative Data

Pre (n=33) Post (n=11)		Mean	SD	p
Attitudes & Barriers Block of Questions	Pre	30.83	5.92	
	Post	32.09	4.28	0.69
	Difference	1.22	8.36	
Current Practice Block of Questions	Pre	11.19	2.94	
	Post	10.73	1.56	0.85
	Difference	0.91	1.92	
Bundle Usage Question	Pre	2.68	1.32	
	Post	1.91	0.54	0.10
	Difference	-0.64	1.29	
Engagement Block of Questions	Pre	8.15	1.42	
	Post	7.18	1.25	0.04
	Difference	-0.73	1.56	

Qualitative Data

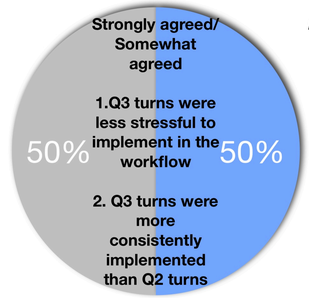
Overall barrier theme: Lack of resources

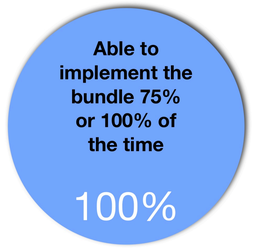
Aim 3: Utilization Unit Audit

Bundle Components *n=10*	% of Patients Needing Components	% of Patients with Implemented Component
Turning Q3	70%(7)	14%
Turning Q2	20%(2)	0%
TAPS	90%(9)	33%
Boots/heel foam	90%(9)	33%
Barrier cream	60%(6)	50%
Sacral foam	70% (7)	71%
One layer of chucks	100%(100)	50%

Aim 3: Perception Survey

n=4





Aim 4: Pre/Post Number of HAPI Cases

	Pre Intervention 2020 N=5		Post Intervention 2021 N=5	
	#	%	#	%
October	0	0%	0	0%
November	2	40%	2	40%
December	3	60%	3	60%
January[a]	0	0%	0	0%

a = Pre intervention 2021 & Post intervention 2022

Conclusions

- 90% of respondents in pre/post surveys agreed that they are more likely to be engage in process they helped create
- Staff identified lack of resources (including staffing, supplies, education, and time) as a significant barrier to implementing the HAPI bundle.
- Additional support is needed for steady bundle implementation.
- The results support the literature: staffing, leadership, workload, and culture affect engagement in QI projects *(Alexander et al., 2021).*