#UnderPressure: University of North Carolina (UNC) Children's Hospital Hospital-Acquired Pressure Injury (HAPI) Prevention

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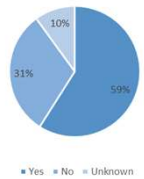
Background & Problem

- 150 bed southeastern children's hospital
- In scope units: Inpatient Acute Care, Intermediate Care, Pediatric Cardiac Intensive Care (PCICU) and Pediatric Intensive Care (PICU)
- Purpose: Reduce patient harm through the decrease of hospital-acquired pressure injuries (HAPI)
- Multidisciplinary workgroup (Nursing, Physician, Certified Wound Ostomy Care Nurse (CWOCN), Products, Respiratory Therapy, Physical Therapy and Occupational Therapy (OT))
- Braden QD scores of patients who had documented pressure injuries over a 24 month period were reviewed; the scores did not align with a high-risk result per the screening tool
- Devices are a leading cause of HAPIs in younger pediatric patients,[1] and device-specific practice changes have been associated with lower rates of pediatric HAPIs.[2]
- Prevention of hospital-acquired pressure injuries (HAPI) in the pediatric population requires a specialized approach.[1]
- The use of tools and pathways to identify patients at risk of HAPI and mitigate risk factors is key to HAPI prevention.[3]

Goals & Metrics

- In FY20, UNC Children's patients had 127 hospital-acquired pressure injuries (HAPI) (all stages), a rate of 2.84 pressure injuries/1000 patient days
  - Devices accounted for 59% of FY20 HAPIs
  - 55% of these were in the PICU/PCICU
- True North: Reduce the rate of HAPIs to ZERO

UNC Children's Hospital Device-related HAPIs in FY20



Methods & Approach

A3 Lean and Six Sigma Methodology

- Multidisciplinary Purple Belt team
- Defined in scope and out of scope patients
- Identified current state and target state
- Developed a future state process map resulting in a gap analysis that identified root causes
- Determined solution approaches and experiments to better align with best practice
- Outlined a completion plan and defined metrics

Box 2. Current State & Box 3. Future State - True North Metrics

TNM	Metric	Unit	Current	Target
	Number of pressure injuries in Children's hospital per year	#	127	95
	Number of device related pressure injuries in Children's hospital per year	#	76	57
	Process for patient review with WOCNs in ICU settings	Y/N	No	Yes
	Range of Braden QD scores for patients case study	#	10	Decrease

Experiments, Interventions and Education

Experiments and Interventions

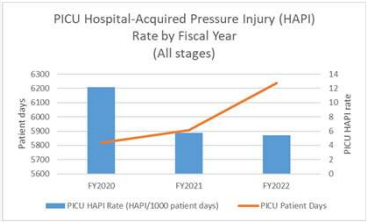
- Developed standardized interventions for patients scoring at low, moderate, and high risk for HAPIs such as q2 hour turning, padding devices, family involvement, removing hair accessories, consulting PT/OT for mobility, considering specialty beds and fluidized positioners, etc.
- Created a moderate risk category based on the Braden QD scores of UNC Children's Hospital patients who developed HAPIs
- Identified unit champions
- PICU/PCICU ECMO Pressure Injury Prevention Bundle
- "Device Advice" QR code for supply rooms
- Weekly bedside rounding in the PICU/PCICU with clinical leader and CWOCN

Education

- Presentation of updated guidelines to nursing, physician and leadership
- Real time training and audits for bedside nurses and physicians
- Braden QD QR code for staff computers
- Partner with families - Family awareness flyers
- Safety huddle flyer
- Resources website
- MDI Board

Results & Findings

- From FY20 to FY22 a reduction of 55% in HAPI rate per 1000 patient days in the PICU/PCICU was observed



Conclusions & Next Steps

- Standardized scoring of patients with guidance for HAPI prevention is necessary
- Braden QD scoring has been defined to better capture at risk patients
- Early intervention is the best way to prevent injury
- Education to prevent pressure injuries and utilizing the Braden QD scoring system is completed during new nursing orientation
- A CWOCN and a clinical leader in the PICU/PCICU perform weekly bedside rounds to assess high risk patients
- UNC Children's is working towards ensuring and assessing monthly compliance with the Solutions for Patient Safety (SPS) HAPI prevention bundle

References

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2. Freundlich K. Pressure injuries in medically complex children: a review. *Children*. 2017;4(4):25. https://doi.org/10.3390/children4040025
3. Rowe AD, McCarty K, Huett A. Implementation of a nurse driven pathway to reduce incidence of hospital acquired pressure injuries in the pediatric intensive care setting. 2018;41:104-109. https://doi.org/10.1016/j.pedn.2018.03.001