

# Standardizing Practice to Decrease Hospital-Acquired Pressure Injuries (HAPIs) in an Acute Care Facility

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## Background



**1 in 10** adult patients admitted to hospitals globally develop a pressure injury.

### Annually:

- Pressure injuries affect **2.5 million Americans**
- Cost between **\$9.1 to \$11.6 billion dollars**
- Attribute to **60,000 deaths**
- Impact **penalties on reimbursement**

- Benchmark per Magnet report under NDNQI: **5 out of the 8 quarters**
- Implementation site **local Data: 2 out of the last 8 quarters**



## Aims of the Project

To determine the impact of a 12-week evidence based HAPI education on:

- Aim 1:** medical-surgical nurses by measuring the improvement of **HAPI prevalence rates** pre and post-implementation of education.
- Aim 2:** improving **documentation compliance of the 4 eyes within 4 hours** intervention of medical-surgical nurses by measuring the documentation compliance rate pre and post-intervention with a goal greater than **10%** above the baseline compliance.
- Aim 3:** increasing **knowledge of pressure injury prevention** of medical-surgical nurses using a modified version of the knowledge assessment instrument **PUPKAI** pre and post-intervention.
- Aim 4:** improving **adherence to pressure injury prevention strategies** of medical-surgical nurses using the adherence assessment instrument **QARPPU** pre and post-intervention.

## Intervention

- Visual skin assessment (VSA)** is the method used by all acute care facilities when performing a comprehensive skin assessment, a subjective technique whose specificity and sensitivity is considered to be low.
- To effectively impact HAPI rates, efforts focusing on enhancing effective VSA training / education, standardizing documentation expectations and on proper identification of avoidable and unavoidable risk factors were the focus of QI project.
- With the goal of improving interrater reliability for VSA findings, a targeted intervention called for two nurses, instead of one, to perform the initial head to toe assessment for admitted patients to the unit referred to as the **4 eyes within 4 hours**.

## Methods

### Design:

Pre and post intervention design

### Setting:

31-bed medical-surgical unit at Johns Hopkins Bayview Medical Center, a teaching medical center in the mid-Atlantic region

### Sample:

Convenient sample of registered nurses who were:  
1. permanent staff of the medical-surgical unit  
2. work at least 1 shift/week  
3. internal short-term agency nurses  
4. willing to participate in the project

### Sample Size:

Estimated sample size of 32, targeted

### Ethical Approval Plan:

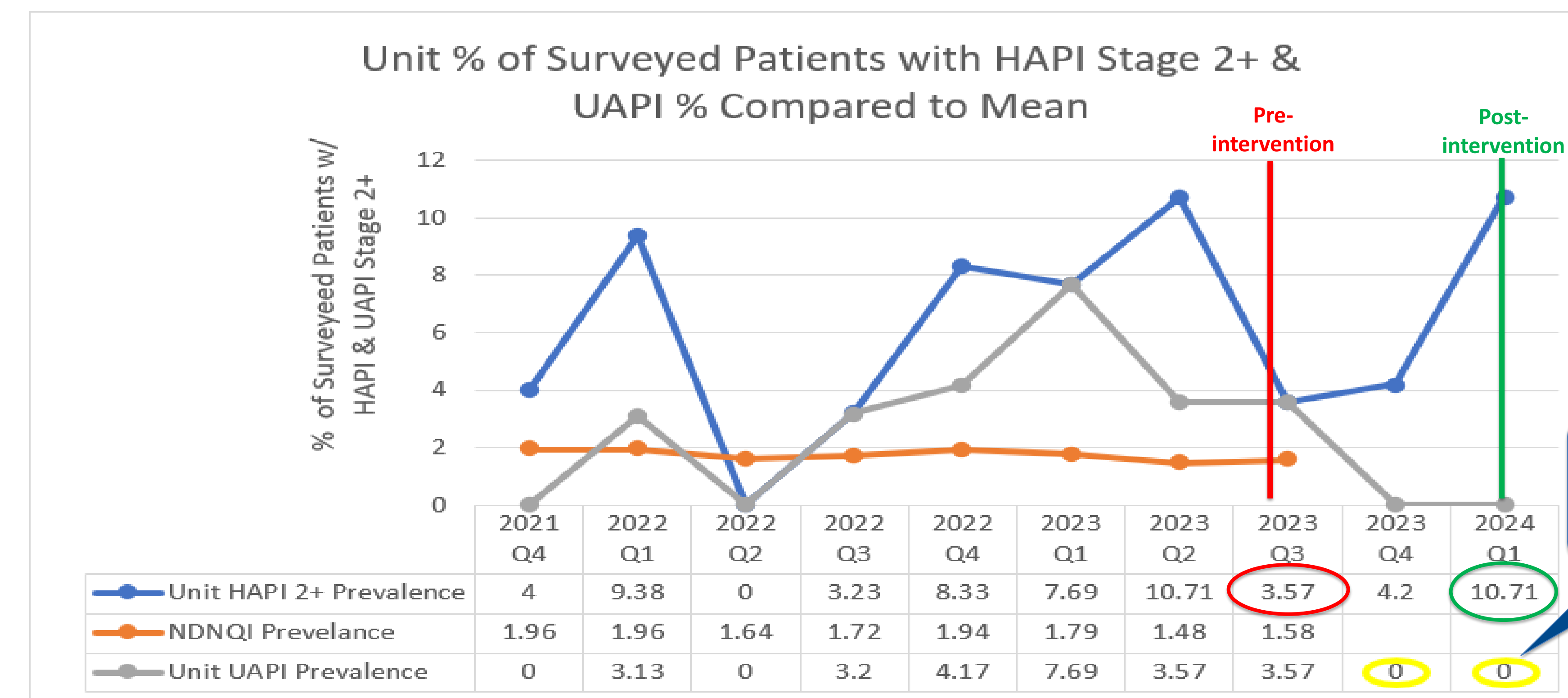
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## Results

### Characteristics of Registered Nurses

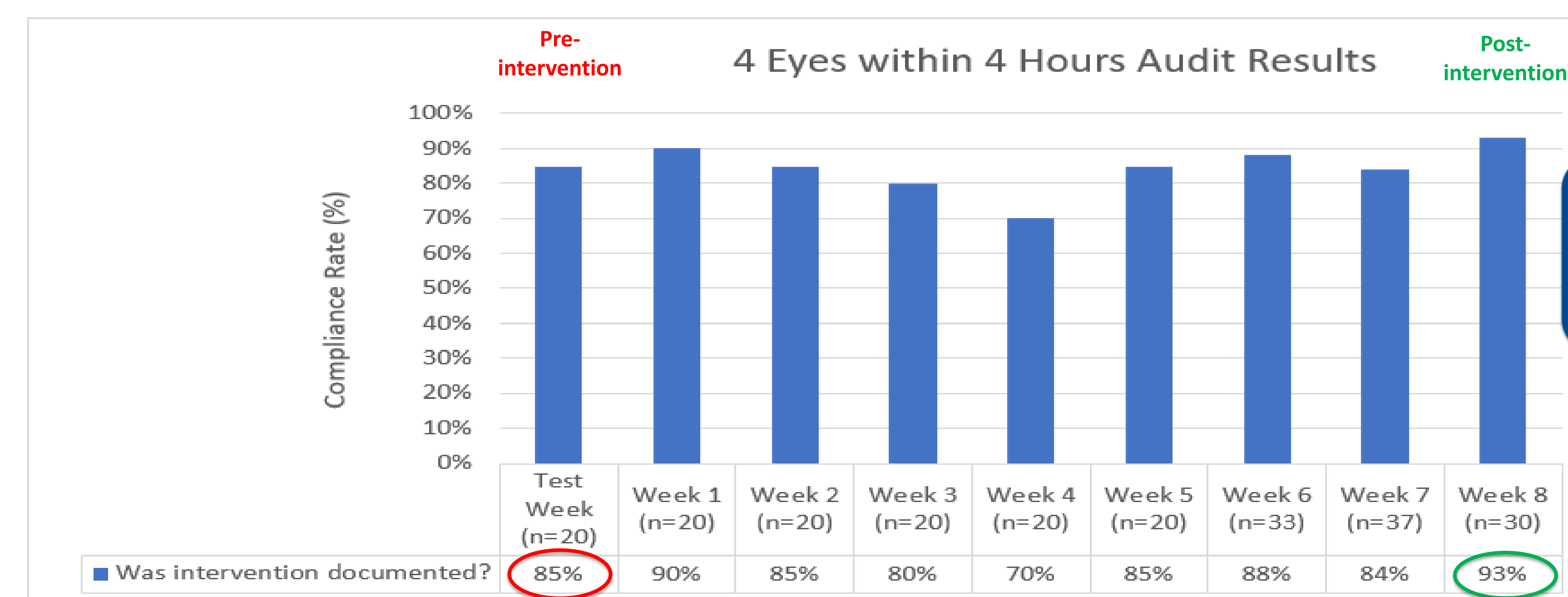
N	Mean Age (SD)	Sex (%)	Race/Ethnicity (%)	Years of Experience	Degree	Education < 1yr	A little additional training needed on:	
19	36-40 yrs. (1.3)	78.9% (female)	42.1% black or African American	31.6% with 20+	78.9% BSN degree	68%	Prevention & early detection 47.4%	EHR documentation 52.6%

Percent of Surveyed Patients with HAPI Stage 2 and Above on Unit



Note: source for table is NDNQI database, mean comparison of adult medical units in all U.S. facilities. For 2023Q4 and 2024Q1 prevalence data was calculated by organization staff by taking the number of persons with a condition divided by the number of persons in the target population at a particular point in time multiplied by 100.

### Unit Documentation Compliance Audit Results



Note: The compliance percentage rate was calculated by dividing the total number of completed interventions by the total number of patient charts surveyed per week

Wilcoxon-signed ranks test	N	Pre-test (Median)	Post-test (Median)	Z-score	P-value
Knowledge	19	6	7	-1.682 <sup>b</sup>	.093 (P > 0.05)
Adherence	19	79	83	-.404 <sup>b</sup>	.686 (P > 0.05)

**First adherence statement:** To assess the risk of pressure injury forming, I rely exclusively on my clinical judgement as a nurse (without the support of risk evaluation instruments)

- Pre-intervention mean score 2.68:** The majority of participants sometimes adhere to the recommendation of relying exclusively on their individual clinical judgement when assessing patients risks for the formation of pressure injuries.
- Post-intervention mean score 2.37**
- Mean difference: 0.31, a decrease supports a clinically significant impact on the nurses engagement of the targeted quality improvement education, 4 eyes within 4 hours.**

## Education



## Implications for Practice

- To improve the VSA skills with interrater reliability there is a likelihood to improved HAPI rates
- The results of the targeted intervention was not statistically significant on **HAPI prevalence rates**. However, **clinically significant on UAPI prevalence rates**, which is more sensitive to unit specific practices.
- The **documentation compliance** goal increase rate of 10% was not met despite the audit and feedback strategy utilized. **Achieved 8% increase**, which assumes feedback strategy needs to be paired with another intervention.
- The impact on **knowledge** on pressure injury prevention and management was not statistically significant but a one point improvement can be noted when comparing pre and post results. Recommend a higher number of participants to compensate for workload and competing priorities.
- The impact on **adherence** was not statistically significant but clinically significant to the **nurses engagement of the targeted quality improvement education, 4 eyes within 4 hours**.
- The results of this QI project adds to the body of literature on **4 eyes within 4 hours intervention**.

## Limitations

- Nursing assessment was verified through documentation not direct observation, which is the gold standard.
- This study utilized half of the recommended of the sample size to achieve reliability.
- Competing priorities

## Lessons Learned

- Standardization of practice, instruments and tools
- Education has to be frequent and targeted
- Synergy of available interventions to improve knowledge pressure injury and adherence
- Employee meaningful recognition efforts within the organization to improve staff engagement to initiatives
- Timely and objective feedback impacts accountability and adherence to practices

## References

