

# Increasing Pressure Injury Awareness in the Emergency Department

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## Introduction

Evidence Based pressure injury prevention guidelines have been in place since 1994, however, 60,000 Americans die from the complications from Pressure Injury (PI) annually.

According to Chou et al., 3 million Americans are impacted annually.

The cost of treating one patient with a PI is between \$37,800 – 70,000.

- Emergency Department (ED) utilization has increased by over 15% from 1993 – 2006. (Schuur & Venkatesh, 2012)
- Pressure Injury may occur in 1-2 hours and patients may wait for 4-6 hours on a flat immobile surface for an inpatient bed.

## Purpose

The purpose of this quality improvement project is to expand the current inpatient pressure injury prevention protocol to include the emergency department; with a focus on adult patients 80 and older admitted to a medical surgical unit, and to promote pressure injury (PI) education amongst the ED registered nursing team.

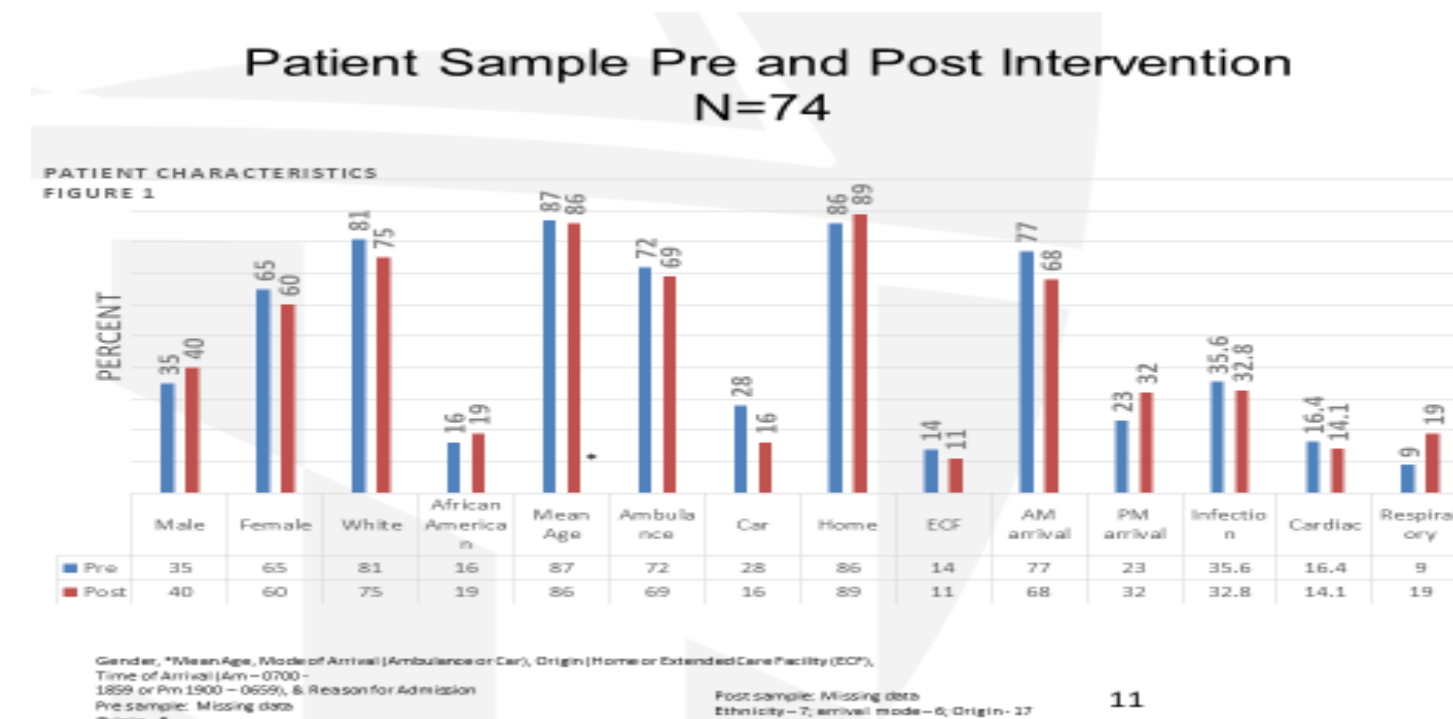
## Methods

- Convenient patient and RN sample
- Power - 80% and alpha - 0.5 a priori
- Patient sample for power – 67 – therefore powered at 74 pre and post sample
- RN sample for power – 86 – therefore not powered at 51
- Implementation of PI prevention protocol a) **ED skin assessment; b) application of sacral prophylactic dressing; c) Wound Ostomy Continence Nurse Consult (WOCN)**
- Education of ED RNs on the PI protocol and PI prevention, classification, and identification
- Educate using National Pressure Ulcer Advisory Panel (NPUAP) power point – “*Pressure Injury Definitions and Stages, 2016.*”
- Test knowledge of education pre and post using 14 NPUAP PI pictures. The PI pictures are Stages I – IV, Unstageable, and Deep Tissue Injury
- Evaluate the change in PI incidence pre and post education and protocol intervention

## Results

Table 1. Demographic of Registered Nurse Study Sample (n = 51)

	n (%)
<b>Gender</b>	
Female	48 (94.1)
Male	3 (5.9)
<b>RN experience in years n=49(%)</b>	
0-2	8 (15.7)
3-5	18 (35.3)
6-10	9 (17.6)
11-15	6 (11.8)
21 plus	8 (15.7)
<b>Highest RN Education n=49 (%)</b>	
ADN	29 (60)
BSN	20 (40.8)



### Results:

**AIM 1 PI protocol implementation**

Measure 1a: Skin assessment completion in the ED pre and post intervention  
 Measure 1b: Application of sacral prophylactic dressing pre and post intervention  
 Measure 1c: Wound Ostomy Continence Nurse (WOCN) consult pre and post intervention

	Pre n(%)	Post n(%)
Assessment - Yes	49 (66)	53 (72)
Assessment - No	25 (34)	21 (28)

$\chi^2 (1) = .505, p=0.477$   
6% increase in skin assessment

	Pre n(%)	Post n(%)
Yes	0 (0)	0 (0)
No	49 (100)	53 (100)

Unable to run statistical analysis due to zero in cell frequency

	Pre n(%)	Post n(%)
Yes	0 (0)	0 (0)
No	2 (100)	3 (100)

Unable to run statistical analysis due to zero in cell frequency

### Results

**AIM 2 - Educate ED RNs on the PI protocol and PI prevention, classification, and identification**

Measure 2a: Change in knowledge pre and post education

Table 4. Comparison of RN test scores pre and post education

Pair	Mean difference	N	Std. Deviation	Std. Error of Mean	95% Confidence Interval of the Difference		t	df	Sig 2 tailed
Pre Post Test	3.19608	51	3.06607	.42934	2.33373	4.05842	7.444	50	0.000

P = 0.001

### Results

**AIM 3 - Evaluate the change in PI incidence pre and post educational and protocol intervention**

Measure 3a Cumulative incidence difference in PI

Table 5. Comparison of Cumulative Pressure Injury Incidence: Pre and Post Patient Sample

	n(%)	n(%)
	Pre-intervention	Post-intervention
Pressure Injury (Yes)	19 (26)	9 (12)
Pressure Injury (No)	55 (74)	65 (88)

52.8 % reduction in PI incidence  
 $\chi^2 (1)=4.405, p=0.036$

14  
 All calculations completed with IBM Statistics 25

## Conclusions

- Education on PI prevention, identification, and classification is beneficial for RNS to intervene to prevent PI
- Demand for ED services outweighing the supply and a consequence is increase risk for PI
- Prevention should start with earliest access point to healthcare – the ED
- Healthcare resources must be protected

Chou et al., 2013



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