

# Use of a Positive Air Displacement Safe Patient Handling System to Reduce Facility Acquired Pressure Ulcers



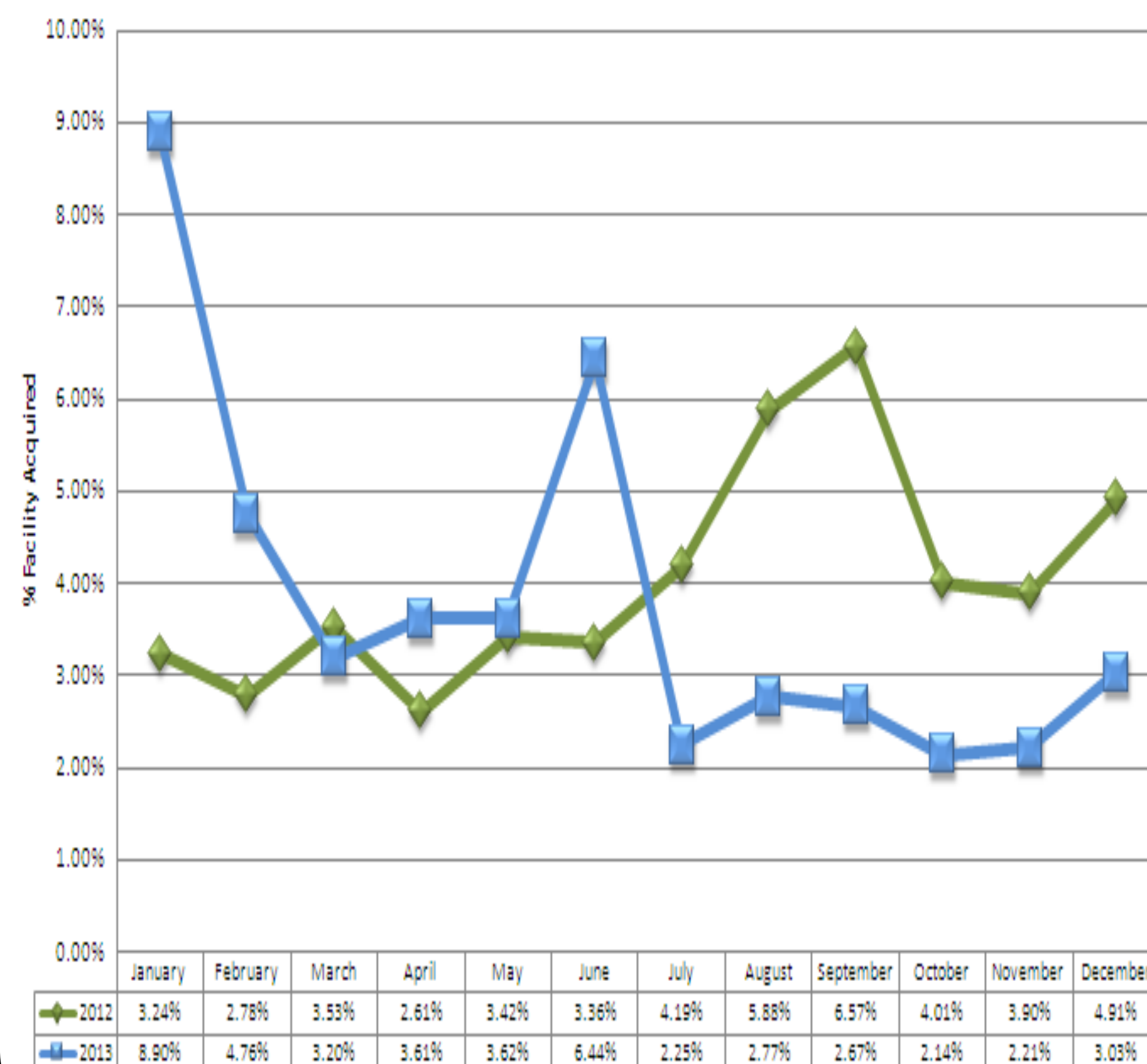
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## Introduction

Good Samaritan Hospital Medical Center is a 437 Bed Acute Care Facility on the south shore of Long Island. Good Samaritan, a not for profit community hospital, was not consistent in remaining below National Benchmark levels for facility acquired pressure ulcers. Rates for 2012 had fluctuated and facility acquired pressure ulcers are often seen as an indicator of quality for acute care facilities (Lyder, 2003). The rate associated with each facility can impact with regard to patient choice and risk of litigation. Although they are often unavoidable for patients, pressure ulcers have multiple negative implications for patients as well as a sizable financial impact for organizations (Rastinehad, 2006) (Richardson, Gardner, & Frantz, 1998). Currently, the nursing intervention after identification of patients at risk for skin breakdown is often the placement of a low air loss surface (Lyder, 2003). Could the placement of an ergonomic Positive Air Displacement positioning system reduce the incidence of facility acquired pressure ulcers?

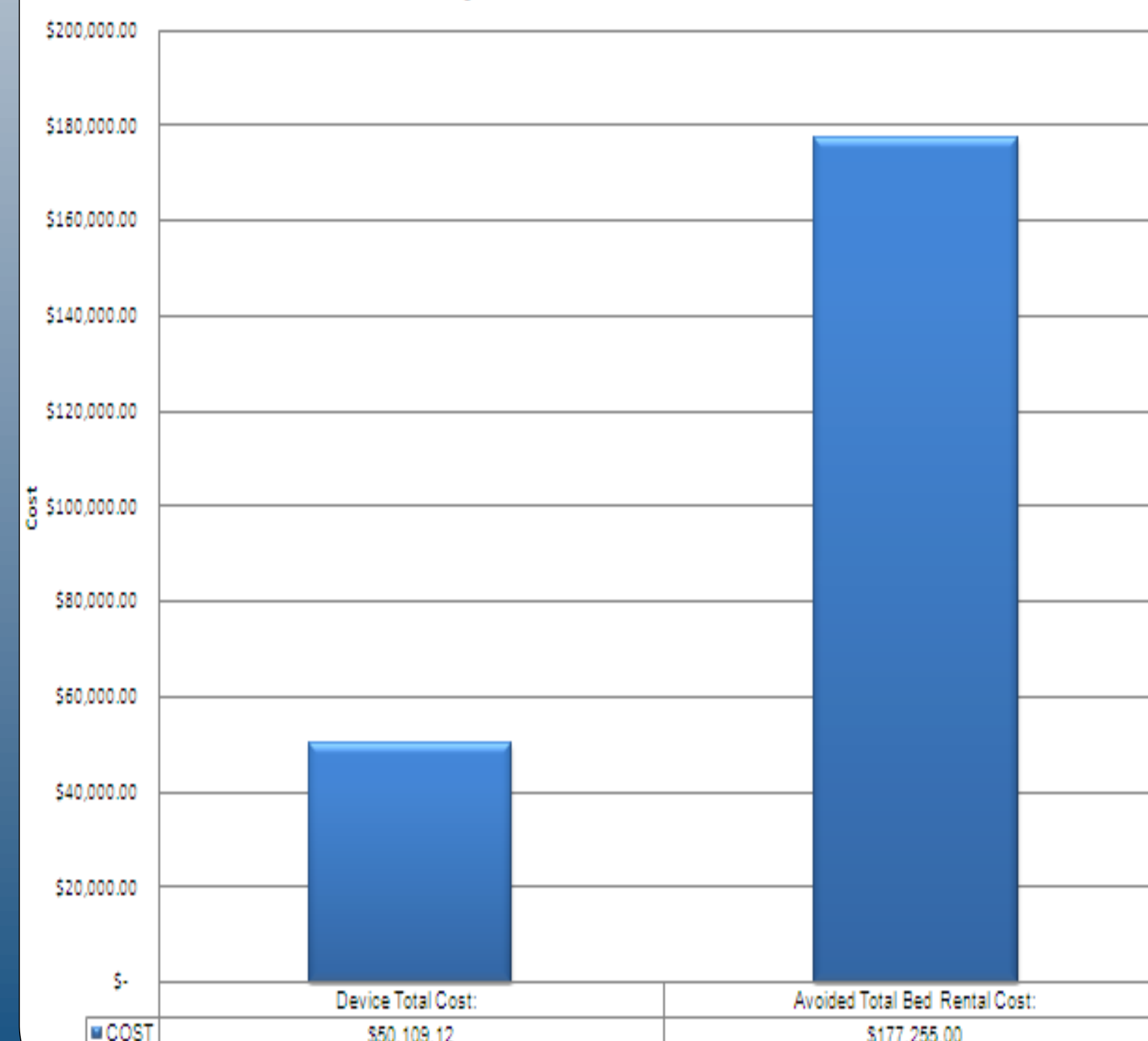
% Facility Acquired Pressure Ulcers  
2012 Compared To 2013



## Methods

A nursing intervention was implemented consisting of the placement of a positive air displacement-safe patient handling system with a fluidized positioning device under patients identified at risk for skin breakdown. The device, a positive air displacement pad with a separate fluidized positioning device, was able to provide clinicians with the ability to place patients in positions to off-load the sacrum and trochanter of patients and maintain these patients in the position desired. Patients were assessed using the total Braden score as an indicator of risk for skin breakdown and specifically the mobility sub score as a specific indicator for placement of the positioning system. Inclusion criteria also consisted of patients admitted with current skin breakdown or a history of pressure related skin breakdown. The monthly facility data collection of Pressure Ulcer Prevalence was utilized to monitor facility acquired pressure ulcers. An initial three month trial of 101 patients' facility wide was conducted. The trial identified that 49% of patients would have been appropriate for upgrade to a low air loss rental surface. Consistent decline of facility acquired pressure ulcers was noted during the three month trial.

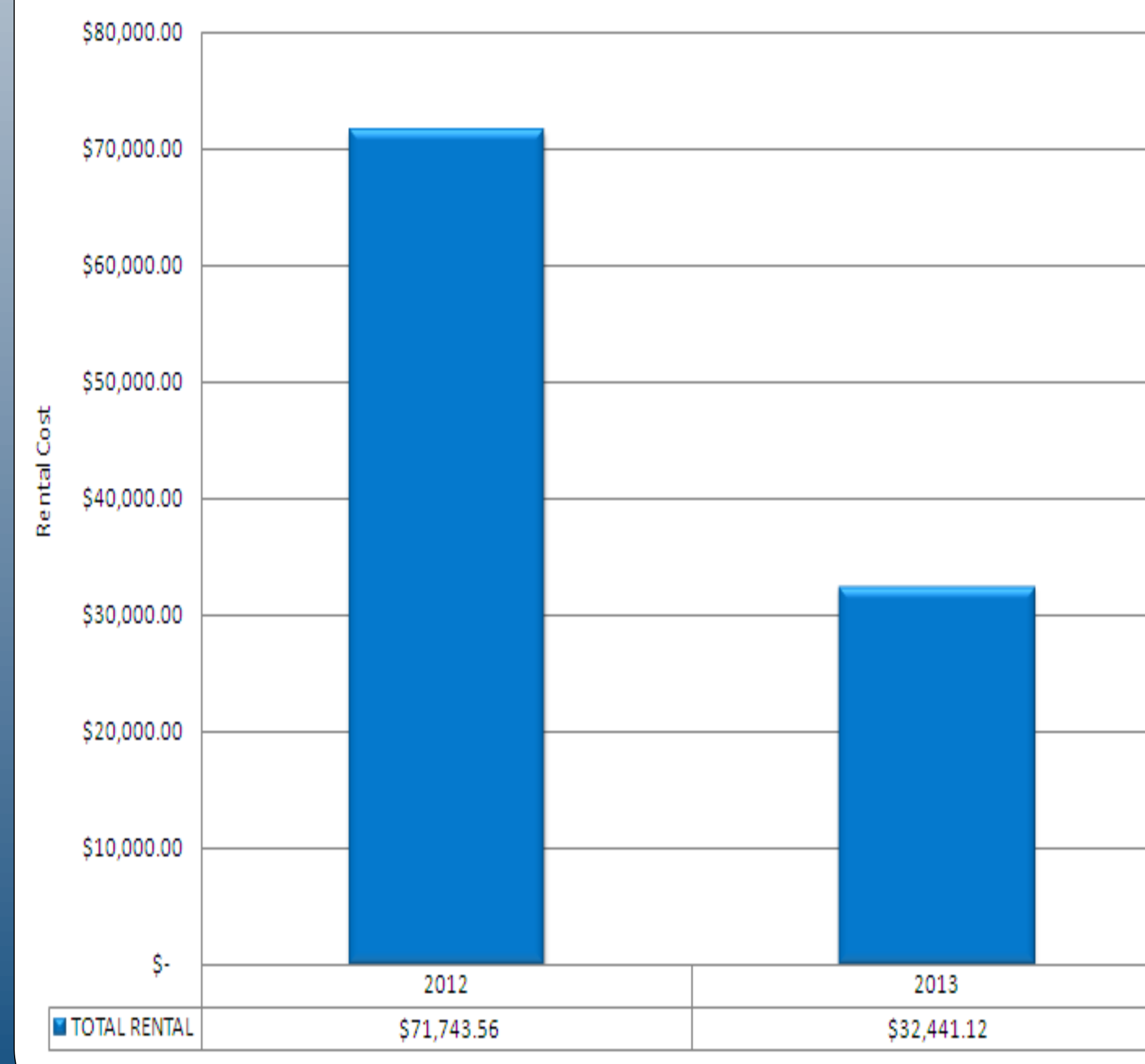
6 Month Device Cost Compared to Avoided Bed Rental Cost  
July 2013-December 2013



## Results

The introduction of the positive air displacement positioning system as a nursing intervention provided Good Samaritan Hospital Medical Center with a consistent and sustainable decline of facility acquired pressure ulcers. This was a significant intervention which gave our facility the ability to be below and remain below national benchmark percentage levels for pressure ulcer prevalence for ten months out of twelve. The Nursing staff verbalized increased ability to move and position patients safely with the device in place. A significant reduction was noted in number of low air loss bed rentals following the implementation of the nursing intervention. A financial savings was realized based on estimated numbers of patients appropriate for upgrade to low air loss surface, estimated cost of rental surface and patient length of stay.

Total Bed Rental Expenditures  
2012 Compared To 2013



## Conclusions

The addition of the positioning device as a nursing intervention of offloading the patients identified at risk for skin breakdown provided Good Samaritan Hospital Medical Center with a valid intervention to reduce facility acquired pressure ulcers. The positioning system provides patients with a reduction of surface contact with the mattress. Our patients reported overall greater comfort while lying in bed. Staff reported greater ability to turn and position patient's safely off sacrum and trochanter as well as greater staff satisfaction in the ability to maintain these positions with use of the device rather than the use of pillows or bed linens.



## Bibliography

Lyder, Courtney H. Pressure Ulcer Prevention and Management. *JAMA*. 2003; 289(2):223-226. doi: 10.1001/jama.289.2.223

Rastinehad, D, (2006). Pressure Ulcer Pain. *Journal of Wound, Ostomy & Continence Nursing*. 33(3):252-257.

Richardson, G. M.; Gardner, S.; Frantz, R. A. (1998). Nursing Assessment: Impact on Type and Cost of Interventions to Prevent Pressure Ulcers. *Journal of Wound, Ostomy & Continence Nursing*. 25(6):273-280.