Moving to a Culture of Safety:

An Organizational Decision to Convert to a Medical – Surgical Bed with Smart Bed Technology*.

WASHINGTON COUNTY HOSPITAL

Ann Roney RN, BSN, MS, CHCNS, CWOCN Genoveffa I. Devers RN, BSN, MS, CCRN

Purpose Statement:

The participant should be able to:

- Describe how standardizing a bed fleet can improve care, decrease barriers in providing care to patients, and improve staff satisfaction.
- Identify how the use of a bed system with "smart technology" can improve the incidence of patient falls as well as potential staff/patient injuries.
- Explain the purpose and rationale for use of a non-powered elastomer support surface and its role in pressure redistribution and reduction of pressure ulcers.

Problem:

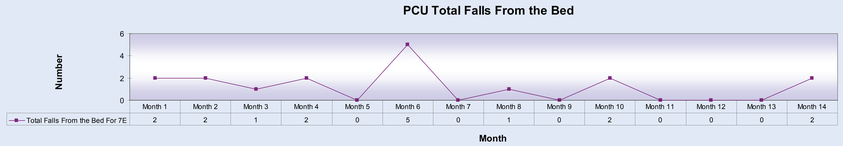
After experiencing an increase in falls and falls with fractures, a root cause analysis was completed which disclosed the fact that there were eight different styles of beds with varying degrees of technology and functionality. Staff could potentially be required to work with multiple different beds within an assignment. Because of the increased prevalence of falls, a decision was made to rent "low beds" for those patients identified at risk for falls. We quickly discovered that patients at risk for falls were also often at risk for skin breakdown. We also discovered that when these patients were placed in the low bed, on a specialty low air loss overlay, the falls again increased necessitating discontinuance of the specialty mattress. This left the clinician with an ongoing dilemma – patient safety vs. the maintenance of skin integrity in addition to navigating several models of beds with varying technologies.

Rationale:

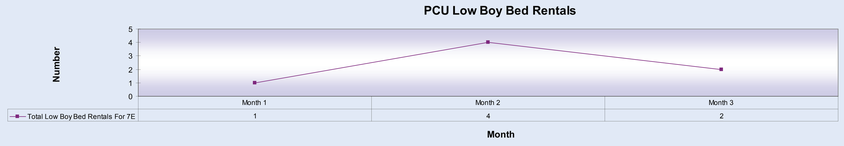
We required a bed system which would keep our patients safe, both from falls and skin breakdown, and provided the nursing staff with a means of communication that would interface with our nurse call system.

Methodology:

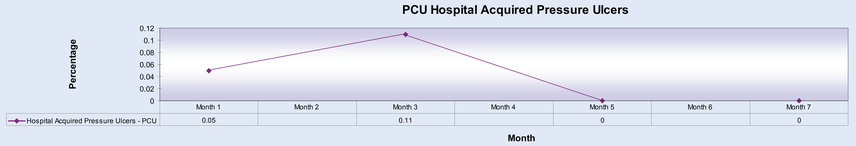
A six month trial of a bed with "smart bed" technology and a non-powered elastomer pressure redistribution support surface was implemented. Patients were monitored for falls, pressure ulcer development and comfort. The bed was connected to our nurse call system. Nurses were notified via pager when bed parameters were compromised.



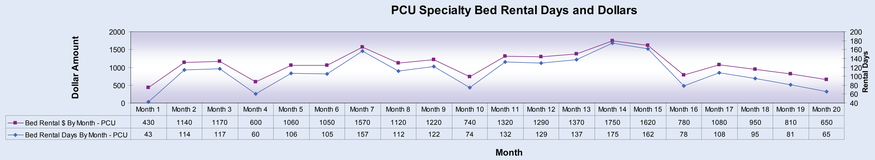
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14
Total Falls From the Bed For 7E	2	2	1	2	0	5	0	1	0	2	0	0	0	2



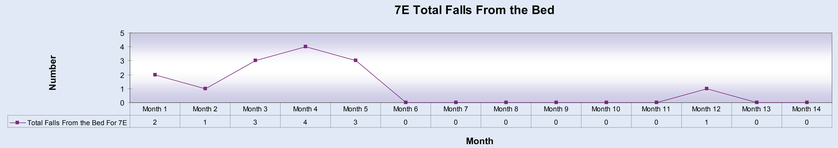
	Month 1	Month 2	Month 3
Total Low Boy Bed Rentals For 7E	1	4	2



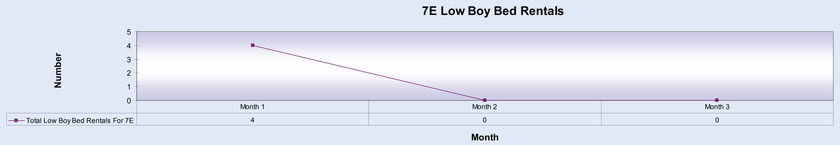
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7
Hospital Acquired Pressure Ulcers - PCU	0.05		0.11		0		0



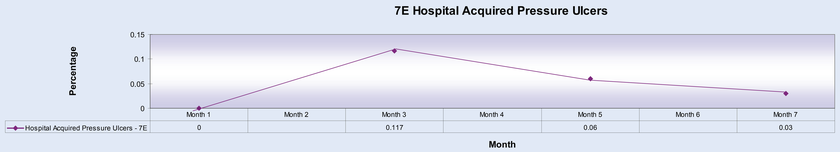
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20
Bed Rental $ By Month - PCU	430	1140	1170	600	1060	1050	1570	1120	1220	740	1320	1290	1370	1750	1620	780	1080	950	810	650
Bed Rental Days By Month - PCU	43	114	117	60	106	105	157	112	122	74	132	129	137	175	162	78	108	95	81	65



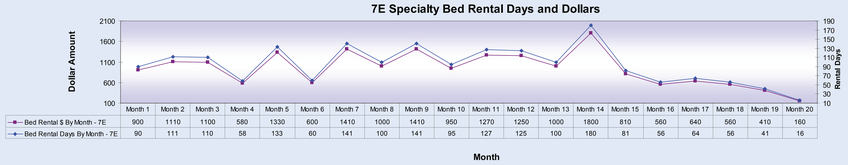
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14
Total Falls From the Bed For 7E	2	1	3	4	3	0	0	0	0	0	0	1	0	0



	Month 1	Month 2	Month 3
Total Low Boy Bed Rentals For 7E	4	0	0



	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7
Hospital Acquired Pressure Ulcers - 7E	0		0.117		0.06		0.03



	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20
Bed Rental $ By Month - 7E	900	1110	1100	580	1330	600	1410	1000	1410	950	1270	1250	1000	1800	810	560	640	560	410	160
Bed Rental Days By Month - 7E	90	111	110	58	133	60	141	100	141	95	127	125	100	180	81	56	64	56	41	16

Results:

There has been a decrease in falls, rental of low beds, specialty mattresses, and hospital acquired pressure ulcers. Wounds present on admission did not progress. Patient satisfaction has improved significantly. This bed system was purchased and placed on two high risk units.

Conclusion:

Utilization of a bed system with "smart technology" provided a more time efficient, cost effective, safe method of management for our high risk patients. This system has allowed staff to focus their time and energy on their ultimate priority- caring for patients.

References:

American Hospital Association, Modern Health Magazine, January 2006.

Jackson, Stuart and Jeffrey Stevens, "The Future of Wound Care." Business Strategies for Medical Technology Executives, January/February 2006.

MHA Safe Patient Lifting Resource Guide November, 2007

MHA, Safe Patient Lifting Work Group. Department of Veterans Affairs Developing a No-Lift Policy

Stevens JA, Corso PS, Finkelstein EA, Miller TR. The costs of fatal and nonfatal falls among older adults. Injury Prevention 2006;12:290–5.

Roudsari BS, Ebel BE, Corso PS, Molinari, NM, Koepsell TD. The acute medical care costs of fall-related injuries among the U.S. older adults. Injury, Int J Care Injured 2005;36:1316-22.

The New England Journal of Medicine, Nonpayment for Performance? Medicare's New Reimbursement Rule, Meredith B. Rosenthal, Ph.D., October 18, 2007

** Secure II with iBed awareness technology is manufactured by Stryker Corporation*