

## TotalCare® Bed System

WellStar Cobb Hospital, Austell, Georgia and Kennestone Hospital, Marietta, Georgia

### STUDY RESULTS

#### FOCUS – PDCA

Quality improvement initiatives have risen to the forefront of health care delivery systems in today's dynamic market. JCAHO and other regulatory agencies mandate demonstration of measurable progress. WellStar, a multi-facility health system with 1,250 acute care beds began a FOCUS quality initiative in 1997 to decrease the prevalence of hospital acquired pressure ulcers. This method included:

- **F**ind the opportunity
- **O**rganize the approach
- **C**larify current knowledge
- **U**nderstand the variables
- **S**elect the action

Then the Plan Do Check Act (PDCA) process begins with each action.

#### FIND THE OPPORTUNITY

With the recent merger of five hospitals, the lack of standardization throughout WellStar was apparent. Simultaneously, the nursing staff expressed concern about a potential increased incidence of pressure ulcers. Gayle Jameson, the Director of the WOCN department, and staff determined that system-wide standardization was necessary due to variations in equipment, products, and process. In the beginning, her objective was to displace eggcrate and foam overlays through the purchase of new mattresses. Additionally, she wanted to ensure that rental of low-airloss surfaces/beds was appropriate.

#### ORGANIZE THE APPROACH

Establishing a multi-disciplinary team was imperative in organizing the approach. This team consisted of members from:

- Nursing
- Physicians

- Infection Control
- Dieticians
- Biomedical/Engineering
- Environmental Services
- Management/Administration
- Support Services/Materials Management

#### CLARIFY CURRENT KNOWLEDGE

Assessment of current practice relative to skin care was essential. Initial findings revealed that WellStar:

- was using in excess of 20 vendors for wound care products
- bed inventory included 14 various models from 5 different vendors
- had a 16.4% nosocomial prevalence compared to a national average of 10.3<sup>1</sup>
- lacked a consistent risk assessment and protocol
- was spending in excess of \$60k in single use overlays
- was spending in excess of \$86k in low airloss rental therapy
- lacked staff education

#### UNDERSTAND VARIATION

Literature review and updated industry practice patterns demonstrated that WellStar was taking a much less proactive approach to prevention:

- with the recent Agency for Health Care Policy and Research (AHCPR) guidelines
- with lack of standardization throughout System
- with no consistent internal monitoring
- with inadequate documentation to identify

<sup>1</sup> Hill-Rom National Prevalence Data Base; n=1,960 facilities surveyed; 245,440 patients.

patients at-risk

## SELECT THE ACTIONS

“Device technology must prove clinical efficacy with the ability to show a measurable benefit to patient outcome, or impact length of stay or show reduction of total costs to the patient.”<sup>2</sup> WellStar chose to implement the following strategies:

- Change focus from treatment to prevention
- Replace 400+ older beds with TotalCare® frames with Zoned Treatment Surfaces from Hill-Rom®.
- Re-allocate newer model frames to the outlying tertiary facilities
- Replace standard mattresses with the Hill-Rom® Comfortline™ to displace eggcrates and overlays
- Standardize products for skin and wound care
- Educate the staff
- Implement risk assessment on admission

- Evaluate the financial impact

## END RESULTS

### Clinical Outcomes

- 70% improvement in overall Pressure Ulcer Prevalence rate (from 21.1% to 6.4%)
- 89% improvement in nosocomial Pressure Ulcer Prevalence rate (from 16.4% to 1.7%)
- 65% improvement in nosocomial pressure ulcer patients (from 78% to 27%)

### Financial Outcomes

- 83% reduction in low airloss rental therapy in year one
- 100% reduction in low airloss rental therapy in year two
- \$1.6mm savings in associated nosocomial pressure ulcer treatment costs

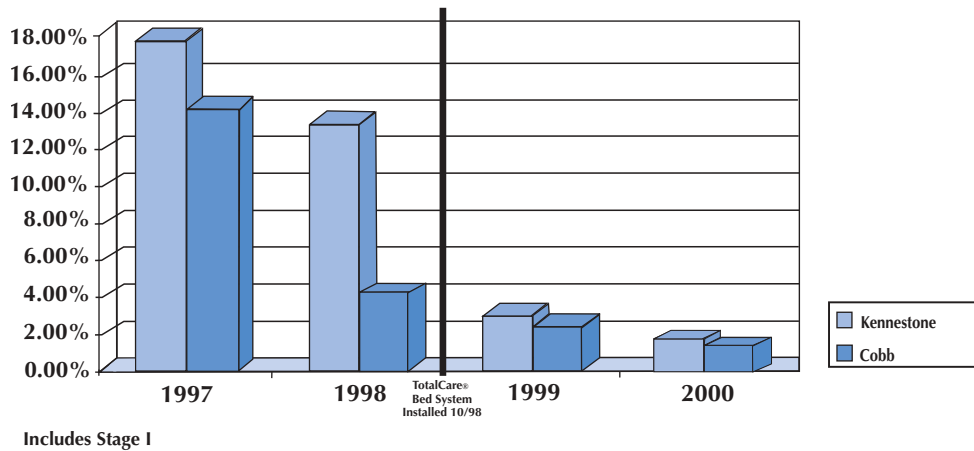
## CONCLUSION

<sup>2</sup> Reprinted from SCCM, ICU Cost Reduction: Practical Suggestions and Future Considerations. Coalition for Critical Care Excellence, 1994

WellStar identified the need to invest in new technologies to incorporate into the patient care process that would positively impact clinical and financial outcomes. The unique combination of WellStar’s committed nursing leadership and their FOCUS quality initiative provided the direction to

substantiate the impact of pressure ulcer prevention. The cost savings achieved from the TotalCare® Bed. project provided a return on investment of 117% and a payback period of less than one year. Through this course of action, WellStar has proven to be a health care provider at the forefront of clinical and technological innovation that is measurable from both a clinical and financial perspective.

## NOSOCOMIAL PREVALENCE



## ESTIMATED AVERAGE TREATMENT COST FOR PATIENTS

### Nosocomial Treatment Costs

#### Including Stage 1s

#### Annual Amounts

	July 1998	July 1999	July 2000
Annual in-patient admissions	36,985	36,985	36,985
Adjustment to remove admissions in no/low risk units (OB, Peds, Psych, etc.)	x 80.00%	80.00%	80.00%
Estimated annual in-patient admissions (excluding OB, Psych, Nursery)	<u>29,588</u>	<u>29,588</u>	<u>29,588</u>
Nosocomial Prevalence Rate	(a) 9.1%	2.6%	1.7%
Estimated annual number of patients with nosocomial pressure ulcers	<u>2,693</u>	<u>769</u>	<u>503</u>
Incremental average cost per case of treating nosocomial pressure ulcer patients	(b) \$627	\$1,606	\$1,373
Annual costs of treating patients with nosocomial pressure ulcers	<u>\$1,688,511</u>	<u>\$1,234,904</u>	<u>\$609,619</u>
<b>Hospital nosocomial treatment savings 97/98 and 98/99</b>		<b><u>\$453,607</u></b>	<b><u>\$544,285</u></b>
<b>Net hospital nosocomial treatment savings</b>			<b><u>\$997,892</u></b>

(a) Hospital Specific Prevalence Information Including Stage 1s.

(b) Hospital Specific Incremental Cost Calculated Based on Severity of Stages, Utilizing Information from Kevin Inman, Dr. Richard Allman, Bain and Associates.

## ACTION PLAN

- Assessment of beds and supplies at all facilities
- Standardize mattresses
- Replaced beds in excess of 12 years old
- Eliminate eggcrates, disposable overlays
- Staff education on prevention/supplies
- OR Education
- Standardized wound/skin supplies
- Braden Scale
- Reallocate best beds allowing upgrade in all facilities

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