

Length of Stay: Reducing a “Weighty” Problem in Wound Care Saving Time and Improving Outcomes

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BACKGROUND:

Skin breakdown accounts for numerous painful dressing changes, hours of medical personnel time, increased healthcare cost and increased length of stay (LOS). It is estimated that skin breakdown affects 1.7 million persons per year and cost approximately 3.1 billion dollars.¹

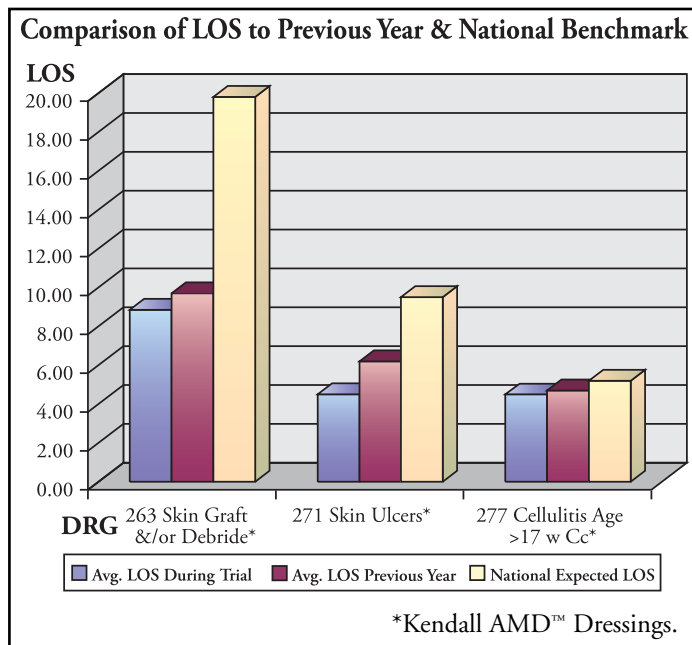
One large metropolitan hospital instituted an effort to decrease LOS and cut costs for fiscal year 2006. The wound care nurse developed a quality improvement project to decrease length of stay, improve wound care and decrease cost. Three diagnosis related groups (DRG) that reflect skin and woundcare were selected to monitor (Code 263, 271 & 277).

METHODOLOGY:

Wound care protocols were reviewed and new antimicrobial dressings* were introduced in place of standard dressings. The selected antimicrobial dressings were proven to prevent bacterial penetration through and inhibited growth within the dressing. It was hypothesized that the dressing could help control bacteria and provide a better wound healing environment thus reducing the average LOS. The dressings were utilized exactly as the standard dressings had been and no other changes in woundcare protocol were implemented at this time.

RESULTS:

After six months the data was compared to the previous year results and a national database. Also, six sigma analysis tools were utilized to understand statistical significance of the data. A total of 119 patients were monitored during the study.



CONCLUSIONS:

During the second year the hospital’s cumulative average LOS for three DRGs showed a 10% reduction compared to the previous year; also the facilities LOS was 38% better than the national expectation. LOS avoidance was 68 days versus prior and 375 lower than the national benchmark. This information is statistically significant: DRG codes 263 and 271 showed a 1 in 1000 probability that the difference was due to chance; for DRG code 277 there was a 1 in 100 probability that the difference was due to chance. While it is understood that many factors impact healing and LOS, initial results of controlling the antimicrobial environment are encouraging. Further research is warranted.

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ADDENDUM:

Detailed Calculations

One-Sample T: Skin Graft &/Or Debride (263)

Test of mu = 19.8 vs < 19.8 (National average expected)

Variable	N	Mean	StDev	SE Mean	95% Upper Bound	T	P
Skin Graft &/Or Debride (263)	20	8.85000	5.68724	1.27171	11.04895	-8.61	0.000

Less than 1 in 1000 chance that the difference was due to chance

One-Sample T: Skin Ulcers (271)

Test of mu = 9.5 vs < 9.5 (National average expected)

Variable	N	Mean	StDev	SE Mean	95% Upper Bound	T	P
Skin Ulcers (271)	20	4.50000	2.68524	0.60044	5.53824	-8.33	0.000

Less than 1 in 1000 chance that the difference was due to chance

One-Sample T: Cellulitis Age >17 w Cc (277)

Test of mu = 5.2 vs < 5.2 (National average expected)

Variable	N	Mean	StDev	SE Mean	95% Upper Bound	T	P
Cellulitis Age >17 (277)	79	4.49367	2.72158	0.30620	5.00338	-2.31	0.012

Less than 1 in 100 chance that the difference was due to chance

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