

## Pressure Ulcers: Impact on Hospital Costs and Length of Stay

**Gina Pugliese, RN, MS**  
**Martin S. Favero, PhD**

Allman and colleagues from the University of Alabama at Birmingham conducted a study to determine whether the development of a stage II or greater nosocomial pressure ulcer in-hospital is associated with increased hospital costs and length of stay after adjusting for admission severity of illness, comorbidities, nosocomial infections, and other hospital complications. The study included 286 patients identified within 3 days of admission, age 55 or greater, expected to be confined to bed or chair or with a hip fracture and expected to remain in hospital at least 5 days. Weekly skin assessments were performed by study nurses to document the development of pressure ulcers. Medical-record reviews, patient examinations, and physician and nurse interviews were used to obtain base-

line demographic, medical, functional, nutritional, and global measures of disease severity. The incidences of nosocomial infections and other hospital complications were monitored by medical-record reviews. Hospital costs were estimated using category-specific cost-to-charge ratios.

Incident pressure ulcers were associated with significantly higher mean unadjusted hospital costs (\$37,288 vs \$13,924,  $P=.0001$ ) and length of stay (30.4 vs 12.8 days,  $P=.0001$ ). Patients who developed pressure ulcers also were more likely to develop nosocomial infections (45.9% [17/37] vs 20.1% [50/249],  $P=.001$ ) and other hospital complications (86.5% [32/37] vs 43.0% [107/249],  $P<.001$ ). After adjusting for only the admission predictors of costs and length of stay by multivariable analyses, hospital costs and length of stay for those who devel-

oped pressure ulcers remained significantly greater than for those who did not develop pressure ulcers (\$14,260 vs \$12,382,  $P=.03$ , and 16.9 vs 12.9 days,  $P=.02$ , respectively). The differences in costs and length of stay for those with and without incident pressure ulcers were even greater when adjusted for admission predictors and also the occurrence of nosocomial infections and other complications (\$29,048 vs \$13,819,  $P=.002$ , and 20.9 vs 12.7 days,  $P=.0001$ , respectively). The authors concluded that incident pressure ulcers are associated with substantial and significant increases in hospital costs and length of stay.

FROM: Allman RM, Goode PS, Burst N, Bartolucci AA, Thomas DR. Pressure ulcers, hospital complications, and disease severity: impact on hospital costs and length of stay. *Adv Wound Care* 1999;12:22-30.