

THE NATIONAL COST OF HOSPITAL-ACQUIRED PRESSURE INJURIES IN THE UNITED STATES

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BACKGROUND

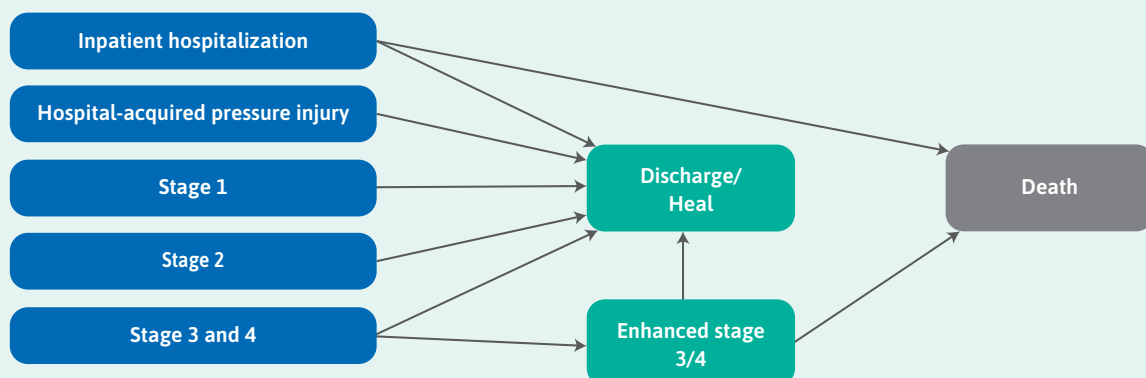
Hospital-acquired pressure injuries (HAPIs) are preventable, but 2.5 million U.S. patients develop HAPIs in acute care facilities each year. HAPIs occur most often in elderly, malnourished patients for whom hospitalization has been a prolonged affair, and they can be especially dangerous given their propensity for causing chronic wounds. HAPIs lead to as much as 60,000 deaths every year.

Healthcare systems experience excessive financial strain due to HAPIs and their treatment, with annual national cost estimates ranging from US\$3.3 billion to US\$11 billion. A single incidence of HAPI can cost from US\$500 to over US\$70,000, and since the US Centers for Medicare and Medicaid Services (CMS) have reduced reimbursement for such hospital-acquired conditions, financially burdening the individual hospital system.



OBJECTIVES AND METHODS

Given the burdensome nature of HAPI care, Padula and Delamente established a Markov simulation model to examine the issue from the perspective of the hospital, estimating the price of staged pressure injuries obtained during hospitalization. To accomplish this, the Markov model took into consideration only the costs a hospital would accrue during the inpatient care of such pressure injuries. Acutely ill, hospitalized adults analyzed in cycle periods of 1 day until all were either terminated due to discharge or death. In this way, the staged pressure injury patients potentially advanced from Stage 1 to Stage 4 after a period of 4 days. Additional costs were added for Stages 3 and 4 due to the severity of the wounds, as they would necessitate more extensive treatment requirements. Costs in 2016, according to this model, estimated to potentially surpass US\$26.8 billion.



Markov model of transitioning health states between hospitalization, discharge, death, or a staged pressure injury. Pressure injury staging begins with early Stage 1 symptoms and can then advance to ulcerated and wound stages (Stages 2, 3 or 4). Some Stage 3 and 4 wounds may require extensive care in addition to standard nursing and monitoring.

RESULTS



HAPI care can be costly to hospitals in the United States as the US CMS has reduced reimbursements for hospital-acquired conditions. Studies have provided estimates of patient-level costs attributable to HAPIs, but none have recently quantified the annual national cost of HAPI treatment in hospitals.



HAPIs contribute significantly to the overall cost of hospitalization with a substantial portion of the incremental cost associated with the length of stay attributable to distinct stages of HAPIs. The following breakdown provides insights into the distribution of costs across various stages of pressure injuries, helping in understanding the economic impact and resource allocation associated with managing these conditions during hospitalization.

1. Average Inpatient hospitalization cost.

• Total cost: \$11,887 • HAPIs attributable cost: \$867 (7.3%)

2. Average Cost HAPI Care:

• Cost: \$10,708

3. Incremental cost due to Excess length of stay (LOS) attributable only to HAPIs:

• Stage wise breakdown: • Stage 1: \$893 of incremental cost (8%) • Stage 2: \$3,560 of incremental cost (33%) • Uncomplicated Stage 3 & 4: \$2,995 of incremental cost (31%) • Complicated Stage 3 & 4: \$3,260 of Incremental cost (28%)



A sizable portion, 59% of the costs is associated with advanced stages (3 and 4) of wounds. Targeting initial stages 1 and 2 shows a substantial impact on overall cost reduction.

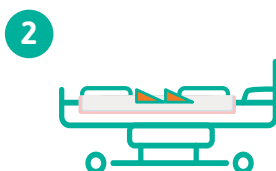
CONCLUSION

There are no easy answers to the complicated questions surrounding HAPIs and their care. The CMS reduced reimbursement policy for HAPIs should be enough to drive hospitals to make greater efforts where prevention and harm reduction strategies are concerned; but as Padula and Delamente demonstrated, monetary penalizations have been heretofore insufficient. Thus, the authors hypothesized that payers including, but not limited to, CMS may consider a risk model that is equal-sided, one that rewards hospital systems for notable HAPI reduction and penalizes others for lackluster performance. Regardless, the authors urge to action in light of the staggering costs to hospital finances and human life. A final note, stage 3 and 4 HAPIs alone represent 59% of associated costs even though they are rare.

APPLICATION FOR PRACTICE



Prevention efforts and early interventions may be the most cost-effective for hospitals



Provide safety devices that allow for positioning and repositioning and offloading



Provide ongoing training and reinforcement of practice for staff using a multi-prong approach, use a protocol valued by clinicians, raise staff awareness about early identification of at-risk patients

Note: This clinical summary is written as an abbreviated version by clinicians at Ansell Healthcare Products, LLC. Please refer to the full text version for complete information.

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