Financial Impact of Surgical Site Infections on Hospitals: The Hospital Management Perspective

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IMPORTANCE: Surgical site infections (SSIs) may increase health care costs, but few studies have conducted an analysis from the perspective of hospital administrators.

OBJECTIVE: To determine the change in hospital profit due to SSIs.


SETTING: The study was performed at 4 of The Johns Hopkins Health System acute care hospitals in Maryland: Johns Hopkins Bayview (560 beds); Howard County General Hospital (238 beds); The Johns Hopkins Hospital (946 beds); and Suburban Hospital (229 beds).

PARTICIPANTS: Eligible patients for the study included those patients admitted to the 4 hospitals between January 1, 2007, and December 31, 2010, with complete data and the correct International Classification of Diseases, Ninth Revision code, as determined by the infection preventionist. Infection preventionists performed complete medical record review using National Healthcare Safety Network definitions to identify SSIs. Patients were stratified using the All Patient Refined Diagnosis Related Groups to estimate the change in hospital profit due to SSIs.

EXPOSURE: Surgical site infections.

MAIN OUTCOMES AND MEASURES: The outcomes of the study were the difference in daily total charges, length of stay (LOS), 30-day readmission rate, and profit for patients with an SSI when compared with patients without an SSI. The hypothesis, formulated prior to data collection, that patients with an SSI have higher daily total costs, a longer LOS, and higher 30-day readmission rates than patients without an SSI, was tested using a nonpaired Mann-Whitney U test, an analysis of covariance, and a Pearson χ2 test. Hospital charges were used as a proxy for hospital cost.

RESULTS: The daily total charges, mean LOS, and 30-day readmission rate for patients with an SSI compared with patients without an SSI were $7493 vs $7924 (P = .99); 10.56 days vs 5.64 days (P < .001); and 51.94 vs 8.19 readmissions per 100 procedures (P < .001). The change in profit due to SSIs was $2 268 589.

CONCLUSIONS AND RELEVANCE: The data suggest that hospitals have a financial incentive to reduce SSIs, but hospitals should expect to see an increase in both cost and revenue when SSIs are reduced.