

This study estimates annual HAI hospital costs in the US avoided through use of health care antiseptics (health care personnel hand washes and rubs; surgical hand scrubs and rubs; patient preoperative and preinjection skin preparations)” Schmier et al (2016).

Abstract:

OBJECTIVES: Health care-associated infections (HAIs) pose a significant health care and cost burden. This study estimates annual HAI hospital costs in the US avoided through use of health care antiseptics (health care personnel hand washes and rubs; surgical hand scrubs and rubs; patient preoperative and preinjection skin preparations).

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METHODS: A spreadsheet model was developed with base case inputs derived from the published literature, supplemented with assumptions when data were insufficient. Five HAIs of interest were identified: catheter-associated urinary tract infections, central line-associated bloodstream infections, gastrointestinal infections caused by *Clostridium difficile*, hospital- or ventilator-associated pneumonia, and surgical site infections. A national estimate of the annual potential lost benefits from elimination of these products is calculated based on the number of HAIs, the proportion of HAIs that are preventable, the proportion of preventable HAIs associated with health care antiseptics, and HAI hospital costs. The model is designed to be user friendly and to allow assumptions about prevention across all infections to vary or stay the same. Sensitivity analyses provide low- and high-end estimates of costs avoided.

RESULTS: Low- and high-end estimates of national, annual HAIs in hospitals avoided through use of health care antiseptics are 12,100 and 223,000, respectively, with associated hospital costs avoided of US\$142 million and US\$4.25 billion, respectively.

CONCLUSION: The model presents a novel approach to estimating the economic impact of health care antiseptic use for HAI avoidance, with the ability to vary model parameters to

reflect specific scenarios. While not all HAIs are avoidable, removing or limiting access to an effective preventive tool would have a substantial impact on patient well-being and infection costs. HAI avoidance through use of health care antiseptics has a demonstrable and substantial impact on health care expenditures; the costs here are exclusive of administrative penalties or long-term outcomes for patients and caregivers such as lost productivity or indirect costs.

Reference:

Schmier, J.K., Hulme-Lowe, C.K., Semenova, S., Klenk, J.A., DeLeo, P.C., Sedlak, R. and Carlson, P.A. (2016) Estimated hospital costs associated with preventable health care-associated infections if health care antiseptic products were unavailable. *ClinicoEconomics and Outcomes Research*. 8, p.197-205. eCollection 2016.

doi: 10.2147/CEOR.S102505.

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