

Budget Impact Analysis Shows that 3M™ DuraPrep™ Surgical Solution Provides Cost Savings Compared with Two Leading Surgical Prep Products

A budget impact analysis (BIA) of three surgical preparation solutions demonstrated that DuraPrep Surgical Solution provided the most overall cost savings relative to both povidone-iodine scrub paint (PI) and Chloraprep® Patient Preoperative Skin Preparation (Chloraprep). The results of the BIA, which was funded by 3M, were recently presented during a poster session at the Society for Health Epidemiology of America (SHEA) Fifth Decennial International Conference on Healthcare-Associated Infections.

“There is more scrutiny than ever on the impact of surgical site infections (SSIs) on a hospital’s bottom line and the model demonstrated that in this scenario, DuraPrep Surgical Solution could save an institution more than \$100,000 in incremental costs from treating surgical site infections,” said Angie Carlson, PhD, professor in the College of Pharmacy at the University of Minnesota, director of Data Intelligence, at Data Intelligence Consultants, LLC, and lead researcher on the analysis. “The BIA model we created is simple for any institution to implement and can provide important insight for decision makers who need to optimize costs without sacrificing patient safety or quality.”

The analysis showed that while PI had the lowest product per unit cost (\$1.71), the preparation protocol took almost three times longer than either DuraPrep Surgical Solution or Chloraprep, resulting in large surgical time expenditures. Although Chloraprep required less prep time than PI, the cost per unit (\$7.08) was 1.7 times more expensive than DuraPrep Surgical Solution (\$4.27) and 4 times more expensive than PI. DuraPrep Surgical Solution, as a mid-priced product, demonstrated overall cost savings. As a paint-on application, DuraPrep Surgical Solution may require less preparation time than both PI and Chloraprep, which are both scrub-on applied products.

BIAs evaluate budget expenditures within individual organizations, and help decision makers assess new technologies or re-examine existing, comparable ones. The model developed by Dr. Carlson is designed to adapt to the individual time and cost variables in each facility. The BIA was completed using the International Society of Pharmacoeconomics and Outcomes Research (ISPOR) and Canadian guidelines and it pooled data from the following sources:

DuraPrep Surgical Solution, Chloraprep and PI costs from current market sources.
Rates of SSIs from published clinical studies and incremental costs to treat SSIs from literature. Costs were adjusted to U.S. dollars using the medical component of the Consumer Price Index.
Surgical skin preparation time estimates through product literature and costs calculated based on per minute surgical suite charges from seven Midwest hospitals. Total cost per 100 surgeries was calculated using the following formula:

[antiseptic cost per one unit + costs of surgical preparation + incremental costs to treat SSIs (SSI rate x 100 x average cost to treat SSI)].

The number of units may be modified to reflect a difference in the number required to prepare a similar skin surface area as coverage may vary by product. Typically, it would take approximately 2.5 Chloraprep (26mL) applicators to 1 DuraPrep Surgical Solution (26mL) applicator or 4 ounces of PI to cover the same surface area.

“The goal of a BIA is not to assess the clinical benefit of the technologies, but rather review criteria that determine time and cost savings, and evaluate which technologies may provide a better ratio,” continued Dr. Carlson. “The operating room is the most expensive environment in healthcare and BIAs can help decision makers identify the most cost-effective solutions for the institution.”

To receive a copy of the BIA model, please contact your 3M representative or call the 3M Healthcare helpline at 1-888-364-3577.

Angie Carlson is a paid consultant of 3M.

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