

Potential budget impact of Iodophor impregnated incise drape versus clear incise drape in cardiac surgery across selected countries in Latin America

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Background and Aim

- In cardiothoracic surgery, SSI is a complication associated with increased morbidity and mortality, the need for reoperation, prolonged antibiotic treatment, and increased hospital stay¹
- The objective of this study was to estimate the direct medical cost savings related to the care of a SSI by using an iodine-impregnated incise drape* compared to a clear incise drape for patients undergoing cardiovascular surgery.

Methods

- A previously published economic model² was used to calculate the potential budget impact for 1000 patients, based on cost and risk of surgical site infection (SSI) from the perspective of private health care in Brazil and public health care in Mexico, Colombia, and Chile.
- The model considered an SSI risk of 1.9% for the iodine-impregnated incise drape and 6.6% for the clear incise drape (p=0.001).³ Local material costs have been applied.
- A micro-costing methodology was used for Brazil, Colombia, and Chile.
- For Mexico, applicable diagnosis-related groups (DRGs) have been used for SSI cost estimation. The difference between GRD 229 (other cardiothoracic procedures with complications) and GRD 230 (other cardiothoracic procedures without complications and/or major comorbidities) was considered.
- A probabilistic sensitivity analysis was performed to characterize uncertainty of SSI risk and cost of SSI. All calculations have been performed in local currency and have been translated to US dollar.

Results and Conclusion

- The micro-costing method provides an SSI cost of \$4,395 (3.680.358 CLP) for Chile (**Figure 1**), \$5,098 (20.077.213 COP) for Colombia (**Figure 2**), and \$9,768 (55.188 BRL) for Brazil (**Figure 3**). The SSI cost for Mexico was \$3,279 (69.906 MXN) (**Figure 4**).
- The corresponding total cost reduction for 1000 patients using iodine-impregnated incise drapes was \$197,215 (163.8M CLP, 64%) for Chile, \$252,285 (939.5M COP, 68.7%) for Colombia, \$460,177 (2.6M BRL, 68.2%) for Brazil and \$154,784 (3.3M MXN, 69.5%) for Mexico.
- The probabilistic sensitivity analysis demonstrated a 100% probability of cost saving for all countries.
- The use of iodine-impregnated incise drapes compared with clear incise drapes in cardiac surgery is likely to be cost saving for hospital budgets for all countries included in this analysis. Savings are also expected in countries like Mexico, where the micro-costing approach provided a relatively low SSI cost.**

Fig. 1
Chile

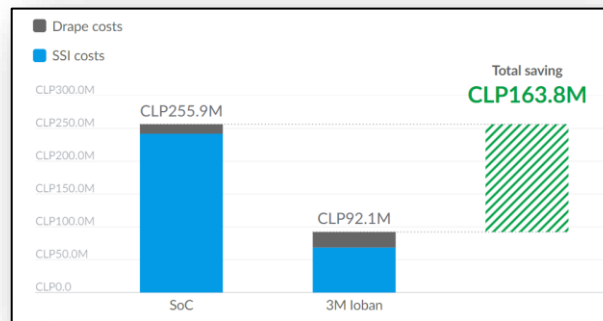


Fig. 2
Colombia

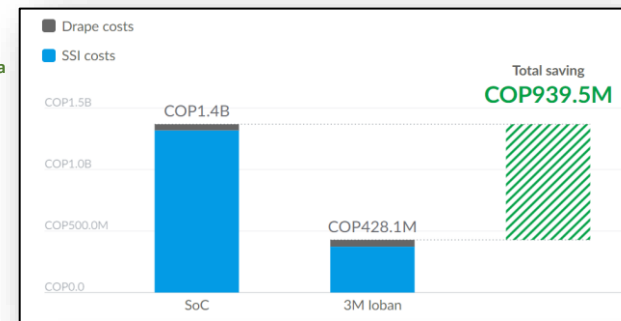


Fig. 3
Brazil

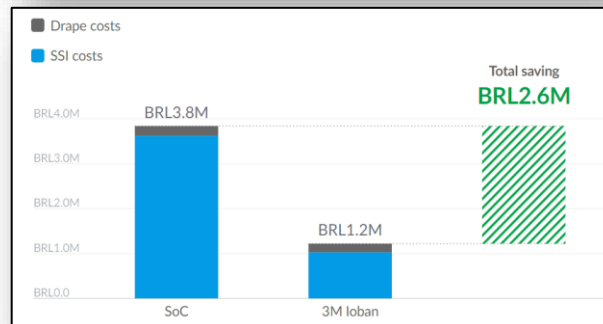
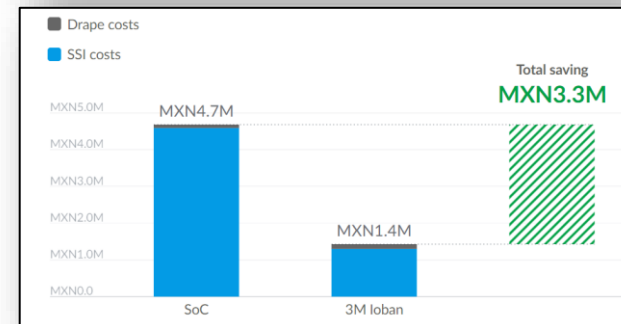


Fig. 4
Mexico



References

- Figuerola-Tejerina A, Rodríguez-Caravaca G, Bustamante-Munguira J, et al. Epidemiological Surveillance of Surgical Site Infection and its Risk Factors in Cardiac Surgery: A Prospective Cohort Study. *Rev Esp Cardiol (Engl Ed)*. 2016 Sep;69(9):842-8
- Poku EN, Thokala P, Siddall I, et al. Effectiveness of iodine-impregnated drapes preventing or reducing surgical site infection in patients with clean or clean contaminated wounds: a systematic mapping review and cost-consequence analysis. *JPP, article in press*
- Bejko J, Tarzia V, Carrozzini M, et al. Comparison of Efficacy and Cost of Iodine Impregnated Drape vs. Standard Drape in Cardiac Surgery: Study in 5100 Patients. *J Cardiovasc Transl Res* 2015; 8:431-7.
- GRD - IMSS: 2012. Grupos Relacionados con el Diagnóstico: Producto hospitalario [Biblioteca CIESS catalog](#) . [Details for: GRD - IMSS: 2012. Grupos Relacionados con el Diagnóstico: Producto hospitalario](#)