



There is minimal data evaluating the financial impact of adding MALDI-TOF for rapid organism identification and dedicating pharmacy stewardship personnel time, on the total hospital costs” Patel et al (2016).

Abstract:

BACKGROUND: Studies evaluating rapid diagnostic testing plus stewardship intervention have consistently demonstrated improved clinical outcomes for patients with bloodstream infections. However, the cost of implementing new rapid diagnostic testing can be significant, and usually does not generate additional revenue.

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There is minimal data evaluating the financial impact of adding MALDI-TOF for rapid organism identification and dedicating pharmacy stewardship personnel time, on the total hospital costs.

METHODS: A cost analysis was performed utilizing patient data generated from the hospital cost-accounting system, plus including additional costs of MALDI-TOF equipment, supplies and personnel, and dedicated pharmacist time for blood culture review and making

interventions to antimicrobial therapy. The cost analysis was performed from a hospital perspective for 3-month blocks before and after implementation of MALDI-TOF plus stewardship intervention.

RESULTS: A total of 480 patients with bloodstream infections were included in the analysis: 247 in the pre-intervention group and 233 in the intervention group. Thirty-day mortality was significantly improved in the intervention group (12% vs. 21%, $p < 0.01$), and mean length of stay was numerically shorter although not statistically significant (13.0 ± 16.5 days vs. 14.2 ± 16.7 days, $p = 0.44$). The total hospital cost per bloodstream infection was lower in the intervention group (\$42,580 vs. \$45,019). Intensive care unit cost per bloodstream infection accounted for the largest share of the total costs in each group, and were also lower in the intervention group (\$10,833 vs. \$13,727).

CONCLUSION: Implementing MALDI-TOF plus stewardship review and intervention decreased mortality for patients with bloodstream infections. Despite the additional costs of implementing MALDI-TOF and dedicating pharmacy stewardship personnel time to intervene, the total hospital costs decreased by \$2,439 per bloodstream infection, for an approximate annual cost savings of \$2.34 million.

Reference:

Patel, T.S., Kaakeh, R., Nagel, J.L., Newton, D.W. and Stevenson, J.G. (2016) Cost Analysis of Implementing MALDI-TOF plus Real-time Antimicrobial Stewardship Intervention for Bloodstream Infections. *Journal of Clinical Microbiology*. October 19th. .

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