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Impact of the genomic signature of 70 genes for breast cancer in the public system and in supplementary health care in a country of medium socioeconomic development

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Objective: This study aimed to evaluate the financial viability of using the MammaPrint™ (MP) genetic signature in a public and private system in a country with a medium socioeconomic development index. **Methodology:** A pharmacoeconomic trial with a cost-benefit analysis evaluating the reduction in costs of chemotherapy, support drugs, and materials used during chemotherapy infusion in high-risk hormone receptor-positive (HR+) breast cancer patients submitted to analysis using the MP™ genetic signature. **Results:** The value of using MP in the Unified Health System (SUS) would bring an additional cost of US$ 1334.56 per patient in the over-50-year age group. In private medicine, the use of MP in the same population would result in cost savings ranging from US$ 2422.53 to US$ 9989.95 per patient. **Conclusion:** The use of MP in RH+ breast cancer patients with high clinical risk and low genomic risk in Brazil leads to significant savings in resources when applied to supplementary healthcare. In the SUS, reducing the costs of MP for large-scale use could make its application viable. These values need to be re-evaluated in each institution, using the methodology applied in the trial, adjusting according to costs, to obtain a result that reflects its reality.

Keywords: breast cancer; genomic profile; genetic test; pharmacoeconomics.