



Budget impact of switching to biosimilar denosumab for the prevention and management of skeletal-related events in Brazil

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A full switch to biosimilar denosumab would release R\$36.8 million over five years — around 7% of the SRE prevention and management budget — enough to fund treatment for 481 more patients

INTRODUCTION

Bone metastases occur in approximately 20% of patients with cancer in Brazil.¹ They are common in solid tumours — including lung, breast and prostate cancer — and in haematological malignancies such as multiple myeloma, and they place patients at risk of skeletal-related events (SREs): pathological fracture, spinal cord compression, and radiotherapy or surgery to bone.

Denosumab is a standard-of-care option for preventing SREs. Its acquisition cost is a substantial and growing component of supportive care budgets in the Brazilian supplementary healthcare system.

Biosimilar denosumab offers efficacy and safety comparable to the reference product² at a lower acquisition cost, giving payers a route to reduce expenditure without changing the standard of care.

OBJECTIVE

To estimate the five-year budget impact of switching from reference denosumab to biosimilar denosumab for the prevention and management of SREs, from the perspective of a private health plan in Brazil.

METHODS

Model Budget impact analysis; private payer perspective; five-year horizon (2025–2029).

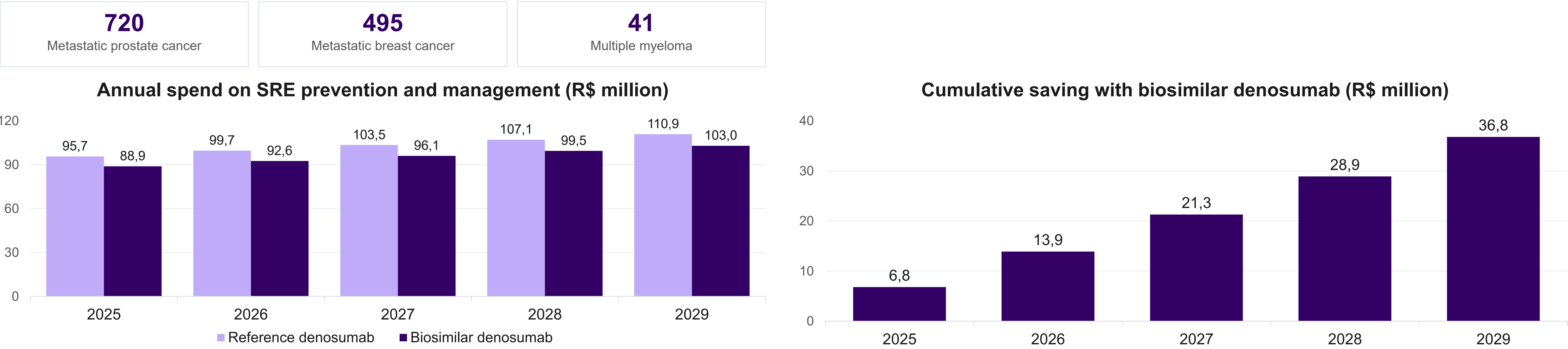
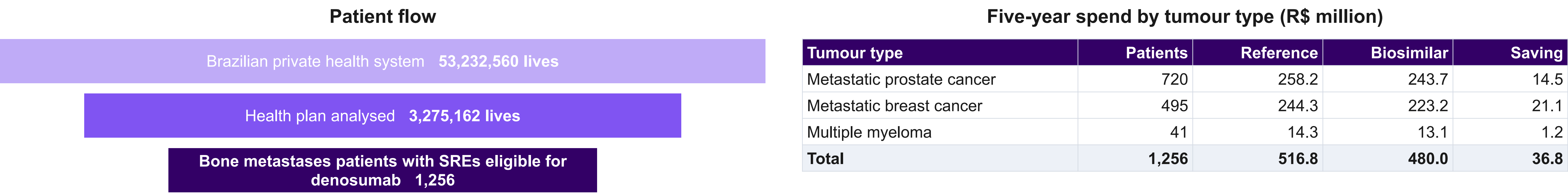
Population Patients with bone metastases from the primary tumours accounting for most bone metastases in Brazil, within a health plan of 3,275,162 beneficiaries.

Intervention Denosumab 120 mg subcutaneously every four weeks. Base case: full switch from the reference product to the biosimilar.

Costs Drug acquisition (CMED price list, November 2025); administration; SRE management. Biosimilar priced at a 25% discount to the reference product. Values projected using Central Bank of Brazil market expectations.

Outputs Annual and cumulative expenditure under each scenario; net savings; and additional patients treatable with the released budget, at an average annual treatment cost of R\$76,000 per patient.

RESULTS



CONCLUSION

- For a private health plan covering 3.3 million lives in Brazil, a full switch to biosimilar denosumab is projected to release R\$36.8 million over five years around 7% of the budget allocated to preventing and managing SREs.
- Because biosimilar denosumab offers comparable efficacy, immunogenicity and safety, to the reference product, these savings are achieved without any change to the standard of care.
- Reinvested, they would fund treatment for an estimated 481 additional patients, giving payers a practical means of expanding access within a fixed budget.

LIMITATIONS

- The base case assumes an immediate and complete switch; real-world uptake would be gradual, so early-year savings are likely to be overestimated.
- A fixed 25% discount was assumed; realised discounts will depend on negotiated pricing.
- Epidemiological and cost inputs were drawn from published national sources rather than plan-level data.
- Lung cancer was not among the modelled tumour types, although bone metastases develop in approximately 30–40% of patients with non-small cell lung cancer.³
- [Sensitivity analyses to be confirmed by the study team.]

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AI use No AI tool was used to develop this model or any of the calculations.

ABBREVIATIONS

ANS, Agência Nacional de Saúde Suplementar; BIA, budget impact analysis; BRL, Brazilian real; CMED, Câmara de Regulação do Mercado de Medicamentos; INCA, Instituto Nacional de Câncer; NSCLC, non-small cell lung cancer; SRE, skeletal-related event.