

# Cost-effectiveness analysis of Taptest and Continuous lumbar drainage in comparison to the standard of care in patients with suspected idiopathic normal pressure hydrocephalus from the perspective of the Brazilian Unified Health System.

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## OBJECTIVES:

To predict Idiopathic normal pressure hydrocephalus (iNPH) patients will benefit from shunt surgery, the tap test (TT) or continuous lumbar drainage (CLD) may be employed. This study's goal is to **evaluate the cost-effectiveness of TT and CLD in comparison to the standard of care**, in which all patients with suspected iNPH underwent shunt surgery.

## METHODS:

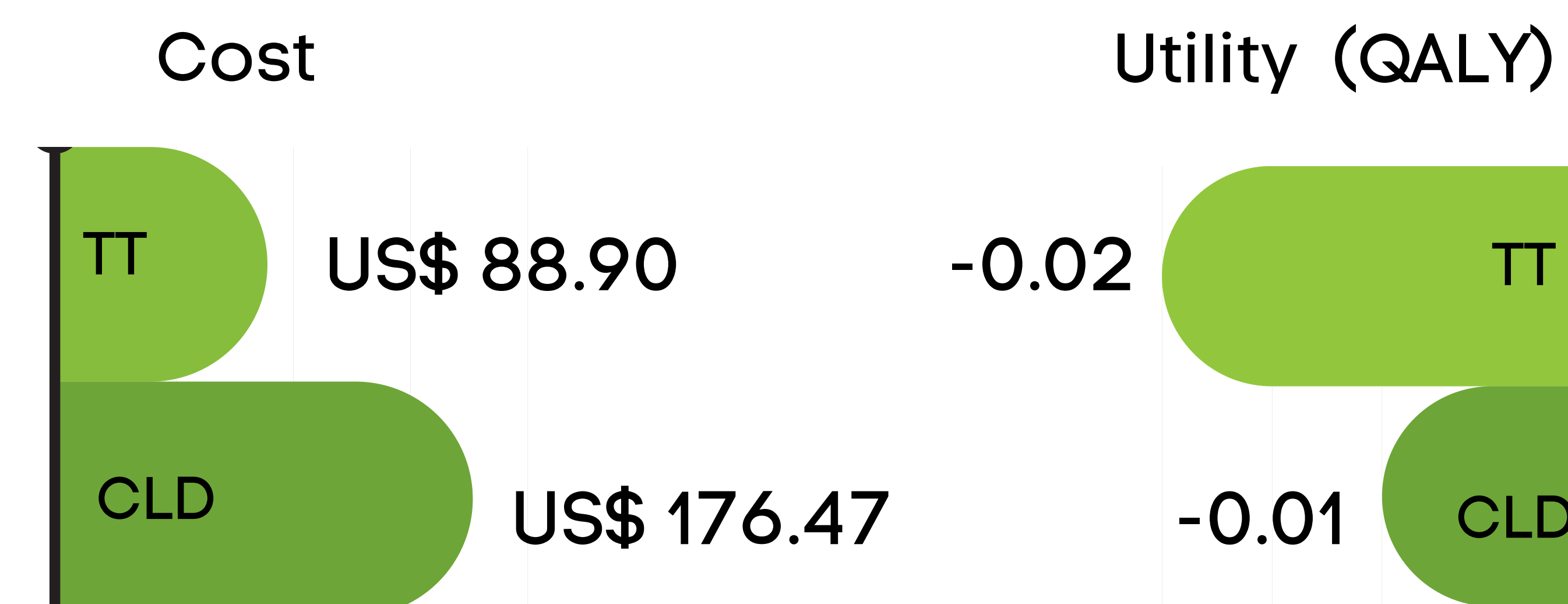
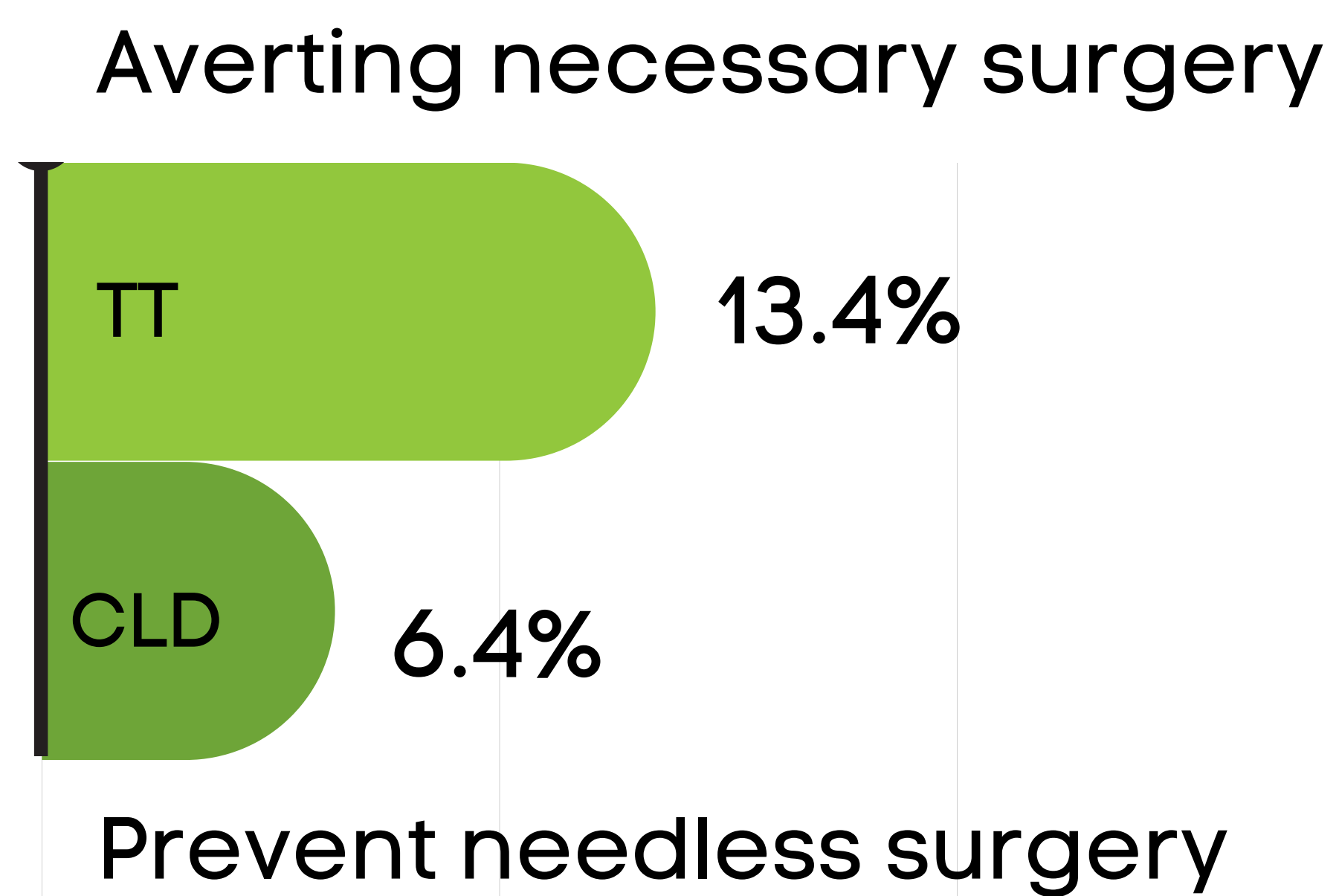
A decision-tree model was developed considering:

- Costs: Tests, medical assistance, and surgery;
- **Accuracy** of the TT and CLD;
- **Success rate** of the shunt surgery;
- **Risks**: Stroke, bleeding, and meningitis;
- **Utilities** of iNPH patient

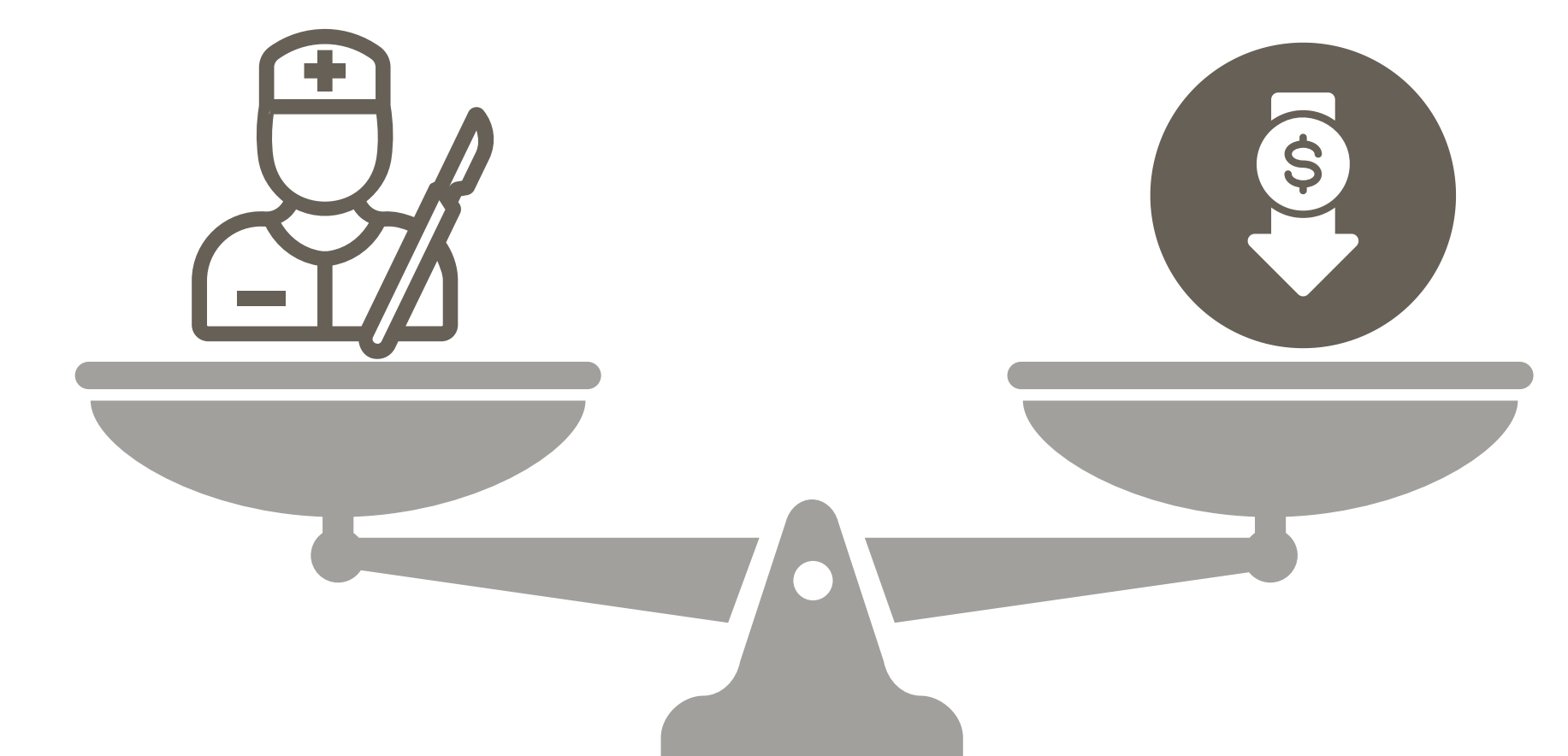
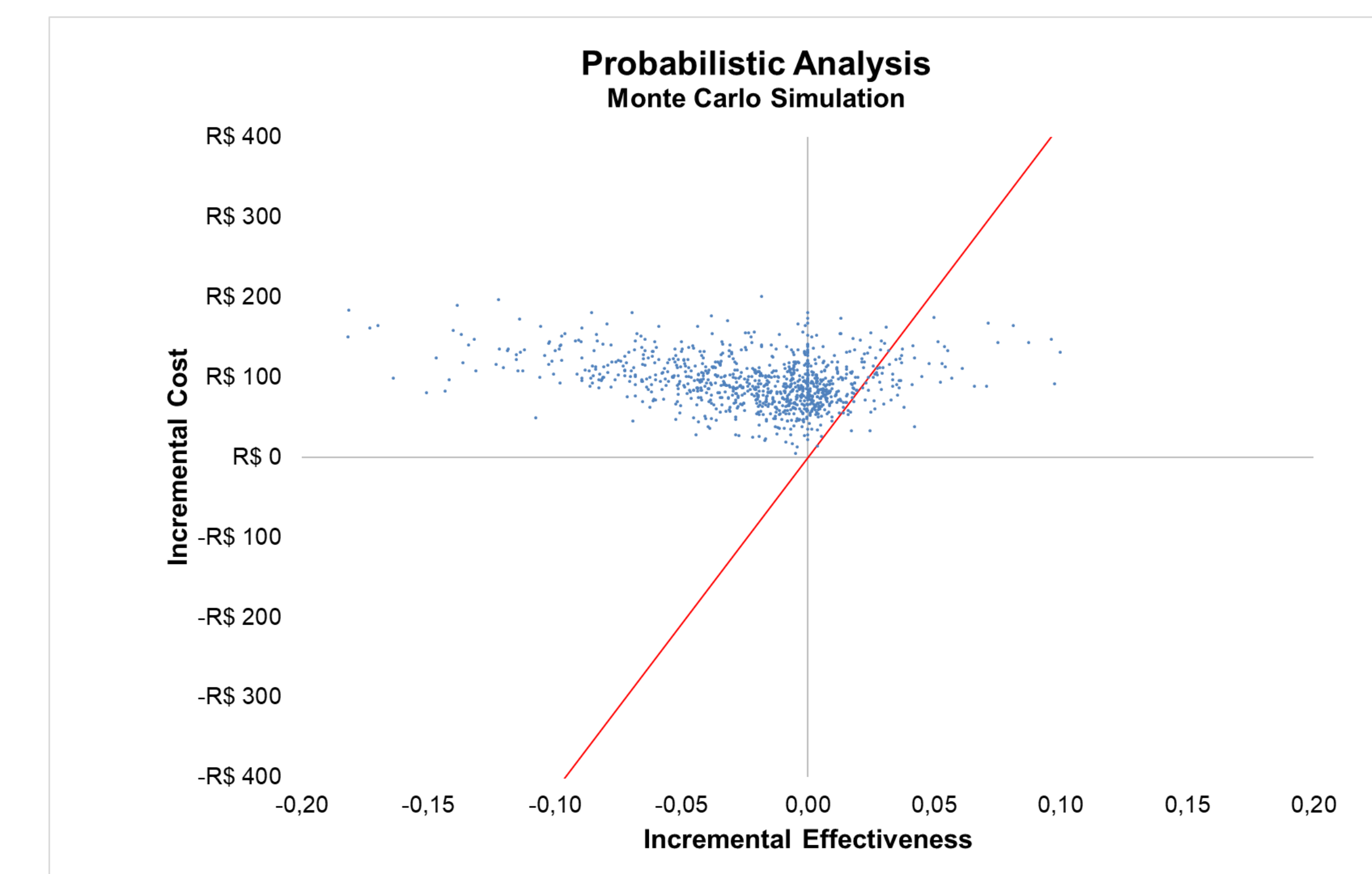
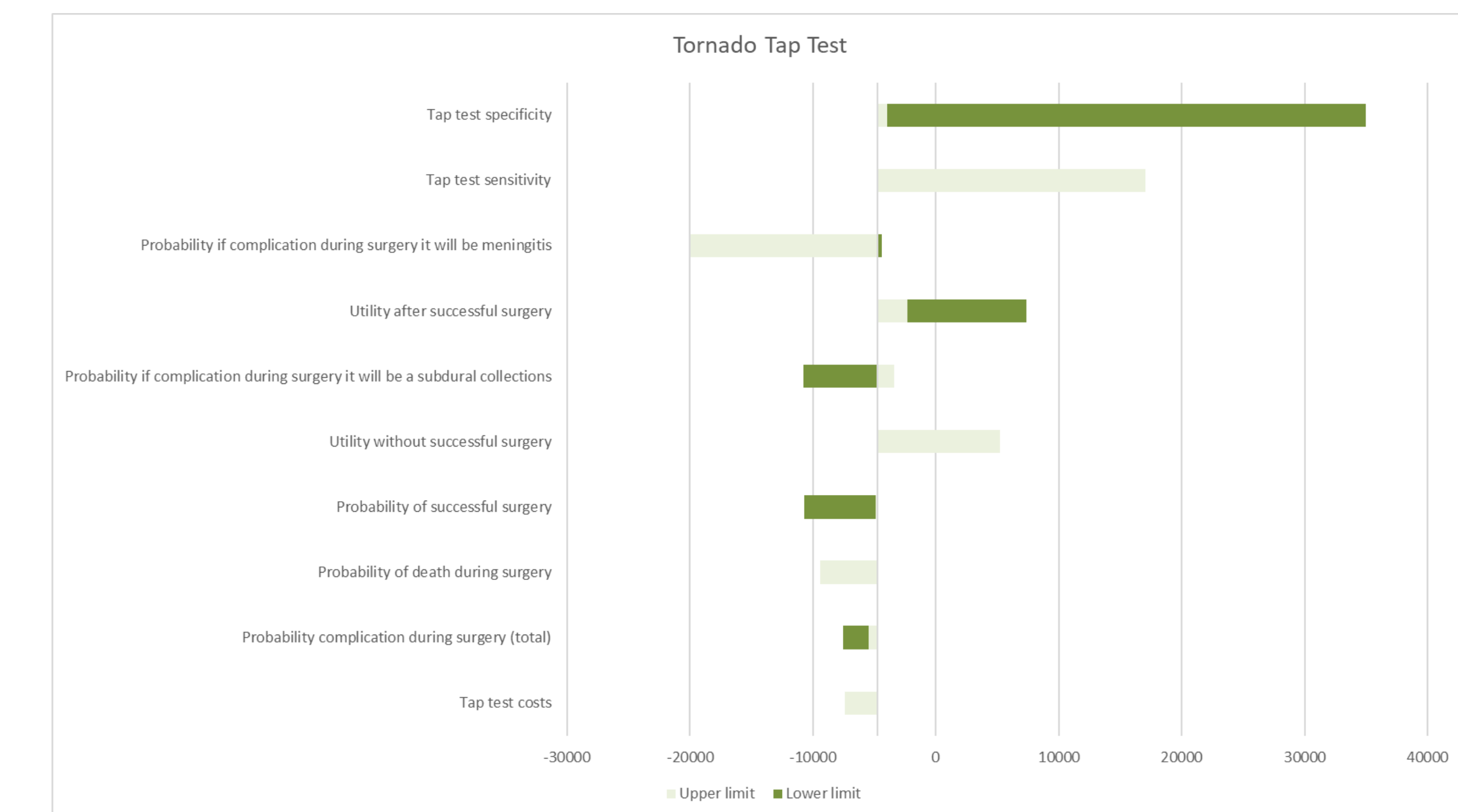
## RESULTS:

**Slight QALYs losses and cost increases**, usual care dominated both strategies. Biggest effects on ICER: Success rate of the shunt surgery, Surgery costs and iNPH utility.

Disregarding the modest magnitude of losses in QALYs and the small rise in expenses, there is still a trade-off in using TT and CLD to indicate shunt surgery for patients with suspected iNPH.



Those strategies can **prevent unnecessary surgeries** in elderly, but shunt procedure may not be performed in others who would benefit from it.





# Cost-effectiveness analysis of Liposomal amphotericin B versus Isavuconazole for treating mucormycosis in the consolidation phase from the perspective of the Brazilian Unified Health System

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## OBJECTIVES:

Mucormycosis is a invasive fungal infection with high lethality, affecting mainly patients with hematological neoplasia, decompensated diabetes, and covid-19 infection.

## METHODS:

A decision tree model was built.

The analysis considered:

- Costs of the treatment over a six-month.
- Hospitalization during the entire course of Amphotericin B treatment
- Expenditures related to complication like dialysis, occurring in 5% (3%–6%) of cases treated with the Amphotericin B.
- Appointments with specialists Isavuconazole arm;
- Amphotericin B was used if the patient failed to respond to isavuconazole.
- Utility of the patient with mucormycosis, cured and with renal failure was estimated.

Uncertainties were assessed through probabilistic and deterministic sensitivity analyses.

## RESULTS:

In deterministic sensitivity analysis, the probability of dialysis was the variable with the greatest impact.

In probabilistic analysis, the ICER is distributed in the right and left lower quadrant, the acceptability curve for all the scenarios analyzed is favorable for isavuconazole.

The budget impact suggests a potential savings of between R\$ 350 million and R\$ 415 million over five years. In Brazil, the formulation of posaconazole approved is inadequate for treating mucormycosis during the consolidation phase, therefore isavuconazole is the single oral drug available.

The treatment of mucormycosis during the consolidation phase with isavuconazole represents a lower cost, besides the convenience of oral treatment and reduced incidence of severe adverse events, with mortality similar to the amphotericin B arm.

	Cost	Utility (QALY)
Amphotericin B	R\$ 1,099,599.37	0.479
Isavuconazole	R\$ 583,079.44	0.480

Incremental Cost: R\$ -516,519.92

Incremental Effectiveness: 0.0008

ICER: **Dominant**

R\$ -684,494,237.19



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