

# ECONOMIC EVALUATION OF TRIFLURIDINE AND TIPIRACIL HYDROCHLORIDE IN THE TREATMENT OF METASTATIC GASTRIC CANCER (MCG) IN THE BRAZILIAN PRIVATE

Festa de Vasconcellos J.<sup>1</sup>, Albuquerque S.<sup>1</sup>, Mardegan L.<sup>1</sup>

<sup>1</sup>Laboratórios Servier do Brasil Ltda., Rio de Janeiro, RJ, Brazil

## BACKGROUND

- Gastric Cancer is the 6<sup>th</sup> most incident type of cancer in Brazil and ranks 5<sup>th</sup> in mortality<sup>1</sup>.
- Trifluridine/ Tipiracil Hydrochloride was approved in Brazil as a single option in the treatment of third line metastatic Gastric Cancer<sup>2</sup>.
- Evaluating the cost-effectiveness of the inclusion of this new therapy is fundamental to guarantee access to therapeutic options and the viability of the Brazilian Private Health System<sup>3</sup>.

## INTRODUCTION

Gastric Cancer (GC) is a lethal neoplasm with high mortality mainly due to late diagnosis. Worldwide, it is an important cause of morbidity and mortality in different regions, and the total number of new cases and deaths has registered significant increases. In Brazil, 21,480 new cases of GC are estimated for 2023-2025 triennium<sup>4</sup>. Most cases of gastric cancer are diagnosed in advanced stages of the disease, 50.6% are classified as metastatic (mCG) at the time of diagnosis, due to its asymptomatic initial features.<sup>5,6</sup>

The Brazilian Private Health Care Sector has first and second-line mGC treatment options using traditional chemotherapy and targeted therapy<sup>7</sup>. Recently, trifluridine and tipiracil hydrochloride (FTD/TPI) was approved in the third-line treatment and is the only treatment option to patients for the Brazilian private patients<sup>1</sup>. FTD/TPI demonstrated a statistically and clinically significant overall survival benefit in a global phase III study for patients with mCG who were previously treated with two prior systemic treatment regimens, showing a 31% reduction in the risk of death when compared to placebo. Nearly half of all patients alive at 6 months (47% vs. 33%) and over 20% alive at 1 year (21% vs. 13%)<sup>8</sup>. Clinically relevant data for a setting of patients with short life expectancy<sup>9</sup>.

## OBJECTIVE

Our objective was to evaluate the cost-effectiveness of FTD/TPI in patients with mCG, including gastroesophageal junction adenocarcinoma, who have received at least two prior therapies for metastatic disease and are eligible for third-line treatment, from the perspective of Private Health Care Sector in Brazil.

# **METHODOLOGY**

A partitioned survival model was constructed for this analysis over a 5-year time horizon. Best supportive care (BSC) was set as comparator. Efficacy, safety data and utility values were extracted from published studies. Resource consumption data were obtained from local experts and was combined with unit costs obtained from official sources. Primary outcomes were patients' life years (LYs), quality-adjusted life years (QALYs), total costs and incremental cost-effectiveness ratios (ICERs) per QALY and LYs gained. Both cost and outcomes were discounted at 5% per year.

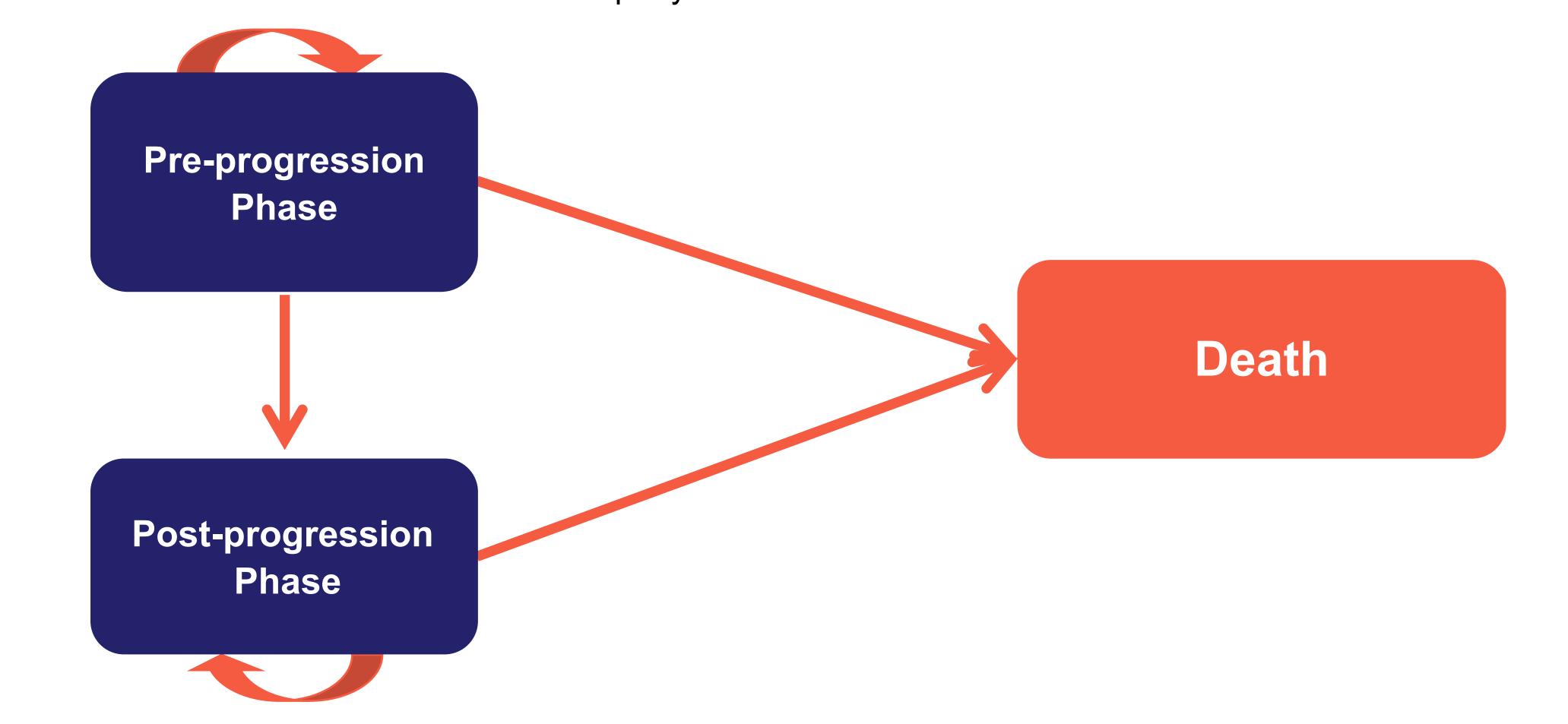


Figure 1: Schematic representation of the possible transitions of health states in the projected model

|          | ITT<br>N = 507 |       |  |
|----------|----------------|-------|--|
|          | Mean           | SD    |  |
| Age      | 62.51          | 10.52 |  |
| BMI      | 1.75           | 0.21  |  |
| Male (%) | 0.73           | 0.01  |  |

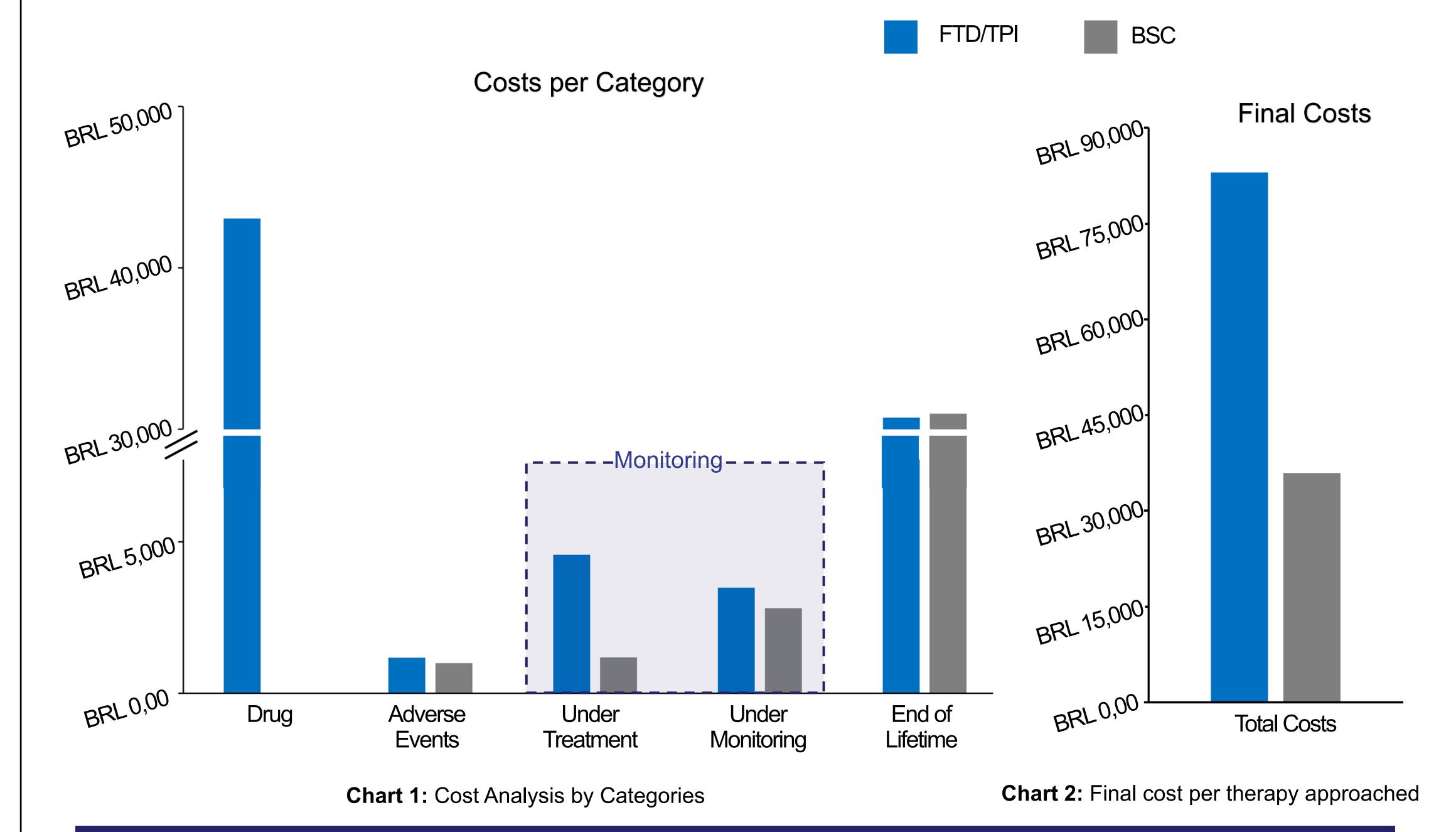
Table 1: Characteristics of the patients used in the model

#### RESULTS

In terms of health outcomes and over the evaluated time horizon, FTD/TPI was associated with 0.173 increment in LYs compared with BSC. Furthermore, FTD/TPI was associated with 0.114 increment in QALYs compared with BSC, resulting in ICERs of BRL 271,892.32 per LY gained and BRL 413,509.32 per QALY gained versus BSC.

|             | LY    | QALY  | Costs         | ICER/QALY      |
|-------------|-------|-------|---------------|----------------|
| FTD/TPI     | 0.685 | 0.436 | BRL 83,000.46 | _              |
| BSC         | 0.512 | 0.323 | BRL 35,947.71 | -              |
| Incremental | 0.173 | 0.114 | BRL 47,052.74 | BRL 413,509.32 |

Table 2: Results of the cost-effectiveness analysis.



## CONCLUSION

The results presented showed that FTD/TPI provided gains in life-years and QALYs compared to BSC, and sustainable incremental cost for the Brazilian Private Health Care Sector, especially considering that this is a subgroup of patients extremely selected for advanced disease in a cancer of rapid onset and poor prognosis. Thus, FTD/TPI is a therapeutic opportunity for patients with third-line mCG.

### REFERENCES

1. GLOBOCAN. Cancer Today [internet]. International Agency for Research on Cancer. WHO, 2020.; 2. ANVISA APROVA O USO DE TRIFLURIDINA + CLORIDRATO DE TIPIRACILA PARA PACIENTES COM CÂNCER GÁSTRICO METASTÁTICO PREVIAMENTE TRATADOS [internet]. MDHealth, 2021. Available in: ,<a href="https://oncologiabrasil.com.br/anvisa-aprova-o-uso-de-trifluridina-cloridrato-de-tipiracila-para-pacientes-com-cancer-gastrico-metastatico-previamente-tratados/>. Accessed in:20/04/2023.; 3. Jönsson, Bengt, Scott Ramsey, and Nils Wilking. "Cost effectiveness in practice and its effect on clinical outcomes." Journal of Cancer Policy 2.1 (2014): 12-21. 4. Ministério da Saúde (BR). INCA - Instituto Nacional de Câncer José Alencar Gomes da Silva. Estimativa 2023: Incidência de Câncer no Brasil [internet]. Rio de Janeiro: INCA, 2022.; 5. Smyth, E.C.; Moehler, M. Late-line treatment in metastatic gastric cancer: today and tomorrow. Therapeutic advances in medical oncology, 2019, v. 11, p. 1-11.; 6. Carneseca EC, et al. The Hospital de Câncer de Barretos Registry: an analysis of cancer survival at a single institution in Brazil over a 10-year period. BMC Res Notes. 2013;6:141.; 7. Peixoto, R. D. A., Rocha-Filho, D. R., Weschenfelder, R. F., Rego, J. F., Riechelmann, R., Coutinho, A. K., ... & Prolla, G. (2020). Brazilian Group of Gastrointestinal Tumours' consensus guidelines for the management of gastric cancer. ecancermedicalscience, 14.; 8. Shitara K, Doi T, Dvorkin M, Mansoor W, Arkenau HT, Prokharau A, et al. Trifluridine/tipiracil versus placebo in patients with heavily pretreated metastatic gastric cancer (TAGS): a randomised, double-blind, placebo-controlled, phase 3 trial. Lancet Oncol. 2018/10/26. 2018;19(11):1437–48.

9. National Cancer Institute SEER Program. Cancer Stat Facts: Stomach Cancer (2019). Available in: https://seer.cancer.gov/statfacts/html/stomach.html. Accessed in: 20/04/2023.