ISPOR 2026
Sunday, May 17 - Wednesday, May 20

Cost Minimisation Model of POHERDY® for the Treatment of Early and Metastatic HER2-Positive Breast Cancer

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INTRODUCTION

- In 2022, an estimated 2.3 million new cases of female breast cancer were diagnosed globally, representing 11.6% of all cancer cases.[1] Brazil is the country with the 4th highest incidence of breast cancer.[2]
- It is estimated that 13% of breast cancer cases are HER2-positive(HER2+).[3] HER2+ breast cancer, once associated with poor prognosis, has been transformed by trastuzumab and further improved with pertuzumab, particularly in high-risk patients.
- However, the high cost of biologic agents, including pertuzumab and trastuzumab, places significant strain on healthcare budgets—particularly within the Brazilian healthcare system—highlighting the need to optimize cost savings when clinically equivalent treatment options are available.

OBJECTIVE

- This cost-calculator model aims to evaluate the cost differences across therapeutic options in the treatment of metastatic HER2 positive breast cancer across patient subgroups from the perspective of a public healthcare system, using Brazil as a base case.

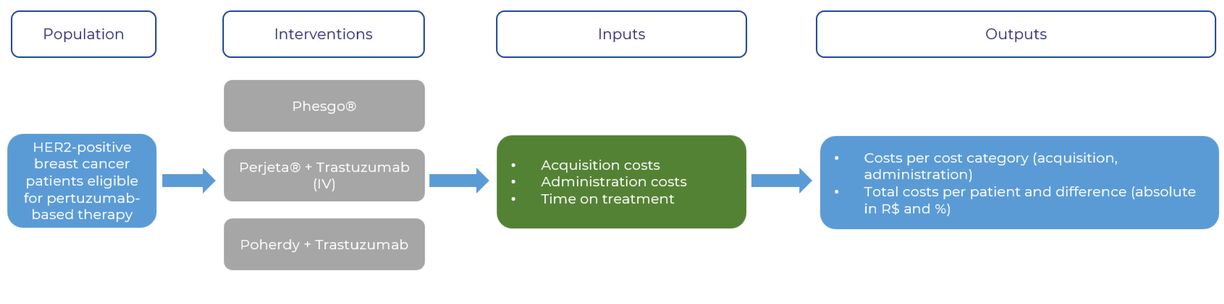
METHODS

- A cost-calculator tool was developed using a cost-minimization framework, assuming bioequivalence between interventions and comparators.[4,5] PICOS criteria (Table 1) were applied within the model framework (Figure 1).

PICOS Criteria	
Population	Patients with HER2-positive breast cancer eligible for pertuzumab-based therapy, as per the approved label (i.e., high-risk early-stage patients receiving neoadjuvant/adjuvant treatment and patients with previously untreated metastatic disease).
Intervention	The intervention is POHERDY® , an IV recombinant humanized monoclonal antibody that targets the HER2 receptor. POHERDY® is a pertuzumab biosimilar. **POHERDY®** (R$ 29.15/mg) **+ Trastuzumab** (R$ 38.78/mg) **(IV)**
Comparators	The comparators included are different combinations of pertuzumab and trastuzumab. These include originator products, and formulations that allow different routes of administration, consistent with current treatment practices for HER2-positive breast cancer. **Phesgo®** (R$ 42.10/mg, R$ 55.64/mg; loading & maintenance dose, respectively*) Pertuzumab + trastuzumab + hyaluronidase (SC)* **Perjeta®** (R$ 36.44/mg)**+ Trastuzumab** (R$ 38.78/mg) *Pertuzumab + trastuzumab (IV)*
Outcomes	• Costs per cost category (acquisition, administration) • Total costs per patient and difference (absolute in R$ and %)
Study design	• Perspective: The analysis adopt the perspective of the Brazilian healthcare system • Time Horizon: Costs are estimated exclusively over patients' time on treatment.

- Trastuzumab dosing was assumed to be weight-based. The model allows selection of a population average (Federica trial),5 predefined weight bands, or a user-specified weight.

Figure 1. Cost-Calculator Model Structure



RESULTS

Neoadjuvant + adjuvant – high-risk early breast cancer: Total difference vs POHERDY® + Trastuzumab		
Weight band	**Perjeta® + Trastuzumab**	**Phesgo®**
45kg-54kg	-R$ 11,508.80	-R$ 22,461.45
55kg-64kg	-R$ 11,508.80	-R$ 13,996.61
65kg-74kg	-R$ 11,508.80	-R$ 6,951.83
75kg-84kg	-R$ 11,508.80	R$ 83.11
85kg+	-R$ 11,508.80	R$ 13,614.14

Cost-savings in favour of POHERDY ® are displayed in green

- POHERDY® resulted in cost savings compared to Perjeta® + Trastuzumab in all scenarios.
- POHERDY® resulted in cost savings compared to Phesgo® in the lower 3 weight bands**.**
- Using individual weights, **80kg** is the threshold at which Phesgo® becomes cost saving over POHERDY ® +Trastuzumab

Neoadjuvant + adjuvant setting(Population average weight distribution):

- POHERDY® + trastuzumab resulted in the lowest total cost (R$ 101,696.74) compared with both alternatives.

Adjuvant only setting (Population average weight distribution):

- POHERDY® + trastuzumab shows the lowest total cost (R$ 288,742.71).

First-line metastatic or unresectable recurrent breast cancer (Population average weight distribution):

- POHERDY® + trastuzumab remains the most cost-saving option (R$591,128.61)

Figure 2: Cost per patient: Neoadjuvant + adjuvant – high-risk early breast cancer (40kg-55kg)

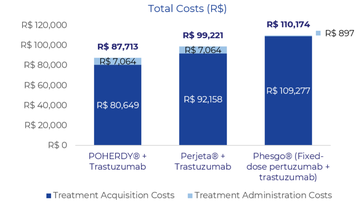


Figure 3: Cost per patient: Neoadjuvant + adjuvant – high-risk early breast cancer (65kg-75kg)

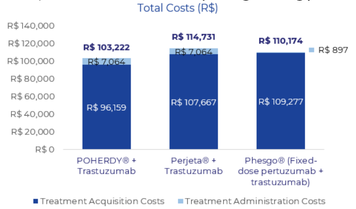
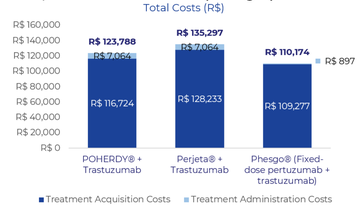


Figure 4: Cost per patient: Neoadjuvant + adjuvant – high-risk early breast cancer (85kg+)



DISCUSSION & CONCLUSIONS

- The cost-calculator results demonstrate that **treatment selection based on patient characteristics, particularly weight, can lead to meaningful cost savings**, with POHERDY® + trastuzumab providing the greatest savings across most weight bands.
- For patients at or above the threshold where PHESGO® becomes cost-saving (≥80kg), **treatment decisions should be guided by clinical considerations rather than cost**, given the potential risk of reduced efficacy associated with underdosing in fixed-dose regimens.[6]
- Biosimilars offer substantial cost savings compared with originator therapies while maintaining comparable efficacy, safety, and immunogenicity.
- Beyond direct economic benefits, they expand clinical and patient choice, foster competition, and increase diversification of supply, reducing reliance on single manufacturers.
- Together, these factors underline the value of pertuzumab biosimilars as effective, cost-efficient treatment options that support long-term healthcare system sustainability

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DISCLOSURES

- Brian Seagrave is an employee of Amaris Consulting, which received professional fees from ORGANON & Co,. for the study and has also received fees for projects outside the present study. Ricardo Bueno, Yohanna Ramires, Nanci Utida, Cassaundra Johnson, Susana Guitar Jiménez, Delphine Dioudonnat are employees of ORGANON Farmacêutica Ltda.
- Poherdy is currently under review by ANVISA, it is not an approved product or available for sale in Brazil, and it is not available for sale in the US.
- Poster is not for any commercial or promotional initiatives.

Presented at: ISPOR 2026; 17-20 May 2026; Philadelphia, PA, USA