

# Cost-Utility of Ribociclib As the First-Line Treatment in Postmenopausal Women with Hormone Receptor Positive and Human Epidermal Growth Factor Receptor-2 Negative Advanced/Metastatic Breast Cancer in Colombia

Gamboa Ó<sup>1</sup>, Díaz Ortega M<sup>2</sup>, Herrera D<sup>2</sup>, Barbosa D<sup>2</sup>, Montenegro E<sup>2</sup>. <sup>1</sup>SIIES, Bogotá, D.C., Colombia, <sup>2</sup>NOVARTIS, Oncology Business Unit, Bogotá, D.C., Colombia. Correspondence: miguel.diaz\_ortega@novartis.com

**Objective:** To estimate the cost-utility of the currently approved Cyclin-Dependent Kinase 4 and 6 Inhibitors (CDK4/6i) as the first-line treatment in postmenopausal women with Hormone Receptor positive (HR+) and Human Epidermal Growth Factor Receptor-2 negative (HER2-) advanced/metastatic breast cancer, from the perspective of the Colombian health system.

## Methods

A partitioned survival model was built with pre-progression, post-progression and death health states, according to the areas under the curve for the survival functions, with a 40-year time horizon. Direct medical costs for medicines and their administration, monitoring, handling of adverse events and terminal care were included. The sources of costs were SISMED, drug pricing regulations, tariff manuals ISS+SOAT and the sufficiency database; a local clinical expert validated resource usage. The probabilities of the events were based on a systematic review and the hazard ratios of survival were estimated with an indirect comparison meta-analysis. Health utility values were extracted from the literature. Health effects were valued as Quality Adjusted Life Years (QALY). A 5% discount rate was applied for costs and outcomes. Uncertainty about cost-effectiveness was evaluated in a probabilistic sensitivity analysis considering a willingness to pay threshold of one-time gross domestic product per capita, year 2020 (COP\$ 21.307.193).

## Results

In the base case, expected average values per patient are: COP\$ 301.531.546 / 3.34 QALY for ribociclib+letrozole, COP\$ 345.366.222 / 3.17 QALY for palbociclib+letrozole and COP\$ 320.666.069 / 3.19 QALY for abemaciclib+letrozole. Among CDK4/6i+letrozole, ribociclib+letrozole is a dominant alternative since it has a lower cost and greater effectiveness. In the sensitivity analysis, the probability that ribociclib+letrozole is cost-effective compared with palbociclib+letrozole and abemaciclib+letrozole is 76% and 53%, respectively.

**Conclusions:** Ribociclib+letrozole is a cost-effective and cost-saving alternative among CDK4/6i+letrozole, as first-line treatment in postmenopausal women with HR+ and HER2- advanced/metastatic breast cancer, from the perspective of the Colombian health system.

**ISPOR 2022**

 **NOVARTIS** | Reimagining Medicine