Cost-Effectiveness of Cdk 4/6 Inhibitors for the Treatment of Postmenopausal Patients with Advanced Breast Cancer HR-Positive, HER2-Negative from the Public Health System's Perspective in Panama.

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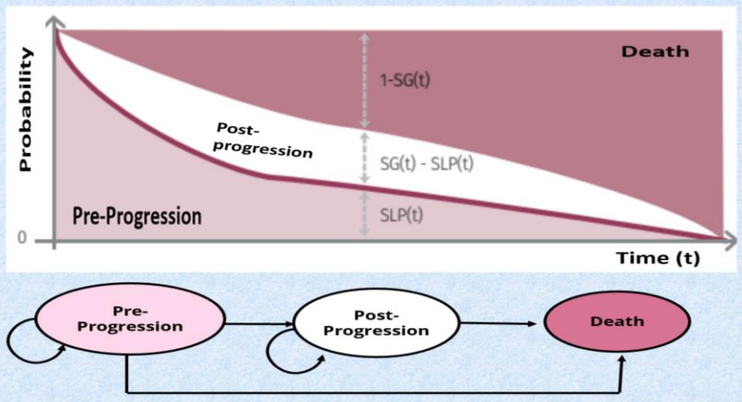
OBJECTIVES

This study aims to estimate the cost-effectiveness of Ribociclib (Kisqali ®) + Letrozole (LZE), Abemaciclib + Letrozole, or ANAS (Anastrozole) versus palbociclib + letrozole in the treatment of HR-positive, HER2-negative advanced breast cancer patients in the first line of treatment from the perspective of the National Cancer Institute of Panama (ION).

METHODS

We developed a cost-effectiveness model studying the area under the curve that considers the health states of progression-free survival, progression, and death (fig N°1). The time horizon was 20 years with monthly cycles, the average age of the cohort was 62 years, and the discount rate for both effects and costs was 3% per year. The MONALEESA-2, MONARCH-2, and PALOMA-2 clinical trial studies obtained the efficacy of treatments through a Matching-adjusted indirect treatment comparison (MAIC). The identification, quantification, and valuation of resources represented the Panamian purchase portal and the ION. Costs of drugs, disease management, and adverse events were considered.

Fig N°1 State transition diagram



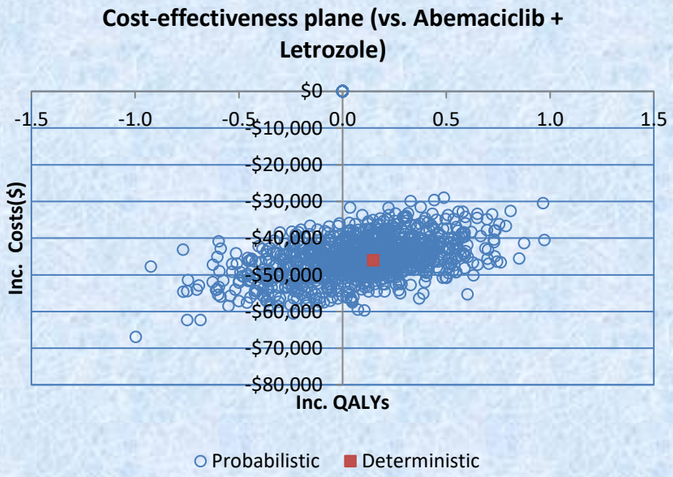
RESULTS

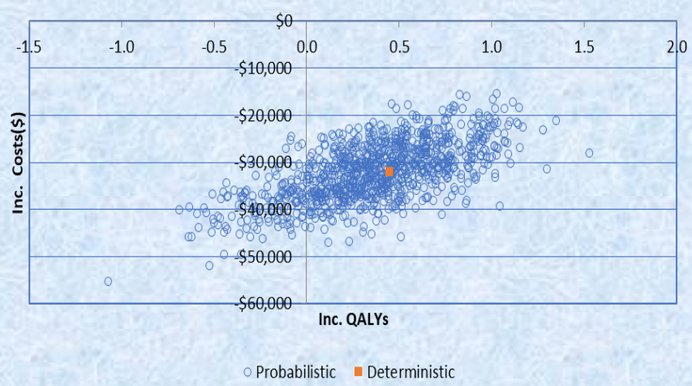
The total expected QALYs for ribociclib + letrozole was 4,121 QALY, on the other hand the total expected QALYs for Abemaciclib + letrozole was 3.891 QALY and for palbociclib + letrozole 3,688 QALY. Ribociclib + letrozole showed dominance over palbociclib + letrozole and Abemaciclib + letrozole.

The total costs for ribociclib + letrozole were estimated at US$116.93, for Abemaciclib + letrozole was estimated at US$162.356, and for palbociclib + letrozole were US$148.756 being a dominant alternative in at least 90% of the scenarios modeled. Table N°1

Table N°1 Cost Effectiveness Analysis

Cost	Cost	Adjusted year per QoL (AVAC)	Delta Cost	Delta AVAC	ICER USD/AVAC
Ribociclib+LZE	$ 116.931	4,121			
Palbociclib+LZE	$ 148.756	3,688	**-$ 31.825**	**0.433**	Ribo + LZE dominant
Abemaciclib+ LZE o ANAS	$ 162.356	3,981	**-$ 45.425**	**0.14**	Ribo + LZE dominant





CONCLUSIONS

Ribociclib + Letrozole reports an average incremental saving of US$31,825 and an average incremental gain of 0,433 QALY compared versus Palbociclib + letrozole, and an average incremental saving of US$45,425 and an average incremental gain of 0,14 QALY compared versus Abemaciclib +Letrozole.