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EE465

SACUBITRIL/VALSARTAN VS ENALAPRIL USE IN THE OUTPATIENT FACILITIES SETTING IN SPAIN

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INTRODUCTION

- Heart failure is a highly prevalent pathology that greatly affects the survival and quality of life of patients.
- Despite sacubitril/valsartan (sac/val) has demonstrated its effectiveness versus enalapril among patients with heart failure with reduced ejection fraction (HFrEF) in the clinical trials, its prescription remains restricted due to being more expensive than other treatment alternatives like the ACE inhibitors.

OBJECTIVE

The objective of the present study was to assess the cost-effectiveness in outpatient settings of sacubitril/valsartan in patients with HFrEF from the Spanish Health System perspective.

METHODS

- A 5-state Markov model was used to compare the cost-effectiveness of sac/val versus enalapril in HFrEF patients over a lifetime horizon (30 years was assumed).
- Patient cohorts transition between the following health states: inpatient; 1, 2 and >2 months after HF-hospitalization and Death.
- It was also assumed that, in the >2 months after HF-hospitalization health state, patients could suffer an event that generated an emergency visit or a hospitalization due to another cause (non-HF hospitalization).

Figure 1. Markov model structure
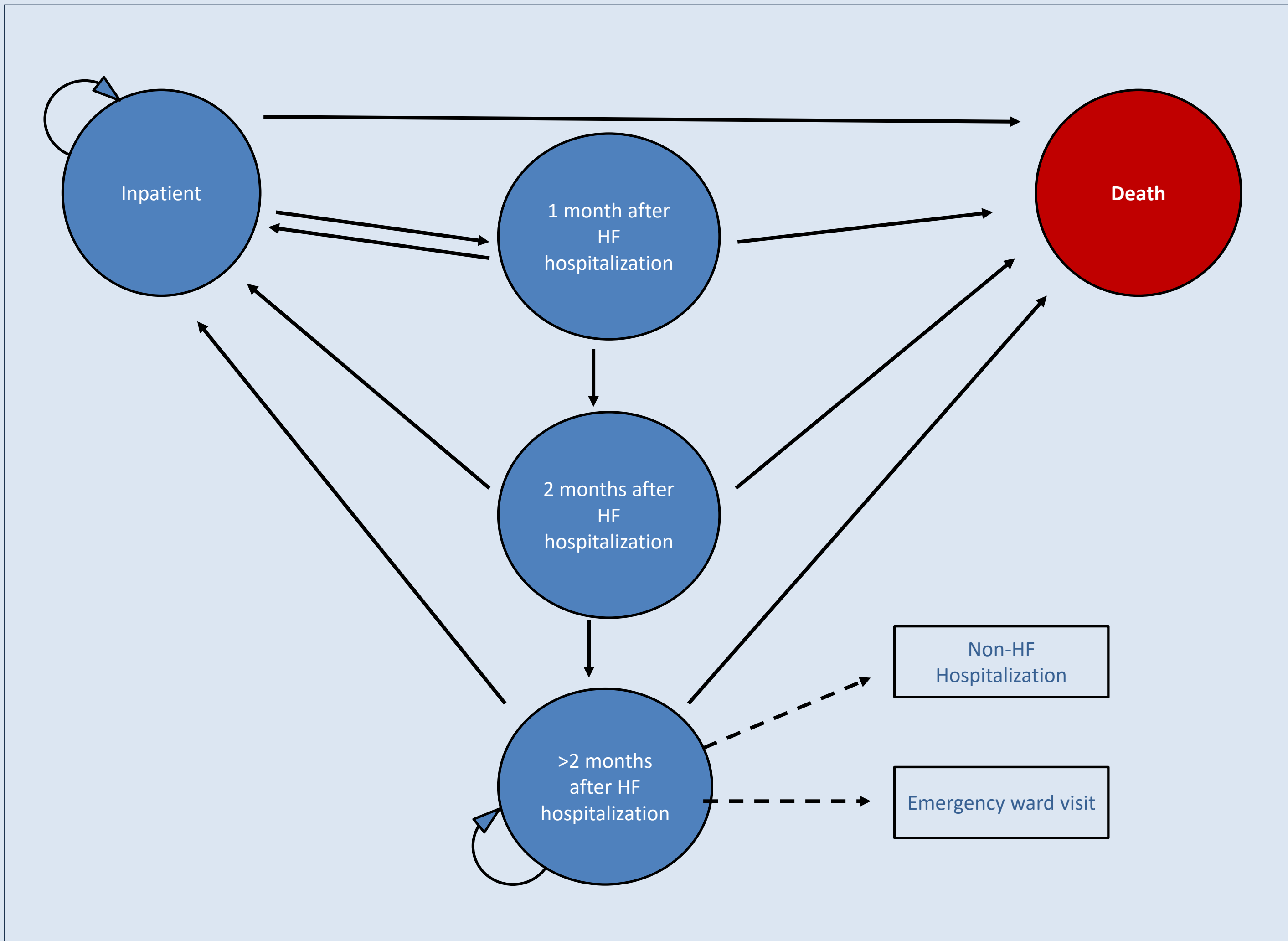
- The two treatment alternatives compared were treating with sac/val after discharge vs. Treating with enalapril.
- Transition probabilities for each 1-month cycle were obtained from PARADIGM-HF[1] study.
- Direct health-care costs (€2022) were obtained from national databases and time-dependent utilities from a mixed model analysis of PARADIGM-HF from literature[2].
- A set of mathematical distributions were developed using these data to describe patients characteristics.
- Future costs and effects were discounted at a 3% rate.
- 9 One Way Sensitivity Analysis (OWSA) were performed to determine the model strength.
- Additionally, a Probabilistic Sensitivity Analysis (PSA) was carried out.

RESULTS

- Sac/val was associated with an average increment of 0.95 quality-adjusted life years (QALY) and an additional cost of €17,363/patient.
- The average incremental cost-utility ratio (ICUR) was 18,352 €/QALY (table 1).

**Table 1. Base-case costs and effects results**

|	Enalapril	Sac/val	Difference
Costs per patients (€)	28,793 €	46,156 €	17,363 €
Effects			
LYG	7.06	8.22	1.16
QALY	5.56	6.50	0,95
ICER		14,980	€/LYG
ICUR		18,352	€/QALY

- Regarding the 9 OWSA, the model behaves in a stable way with few variations in the results (the probabilities of death before and after 2 months after admission for sac/val treatment are the variables that can produce the most variation).
- In relation to the PSA, after running a thousand simulation. Considering a €30,000 threshold, sac/val was dominant or cost-effective in 95.80% of simulations. This descends to 86.40% if the threshold considered €25,000 per QALY(Figure 2).

Figure 2. Cost-effectiveness Plot (a thousand simulations)
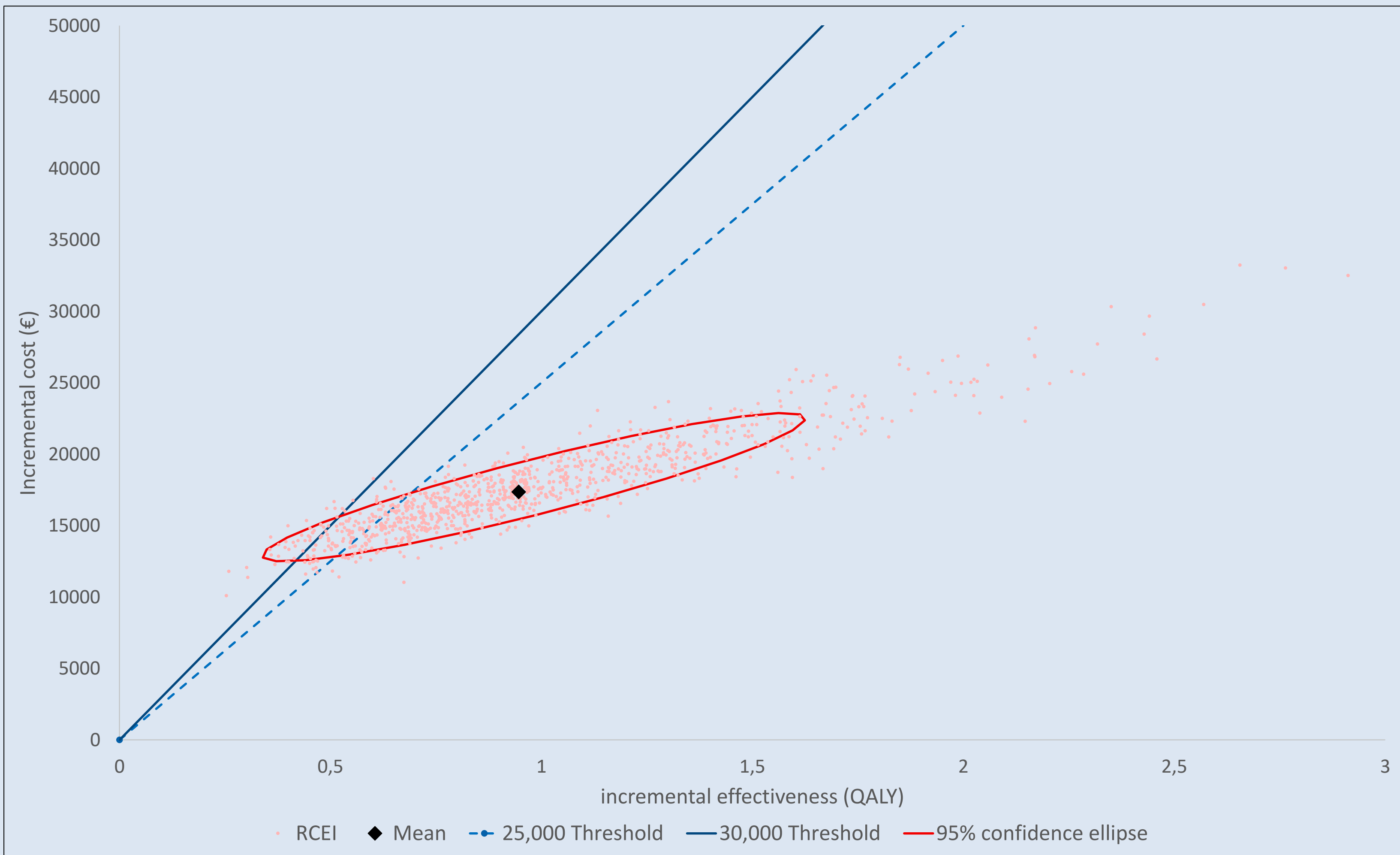
- The cost-effectiveness acceptability curve (CEAC) is Shown in Figure 3.

Figure 2. Cost-effectiveness acceptability curve
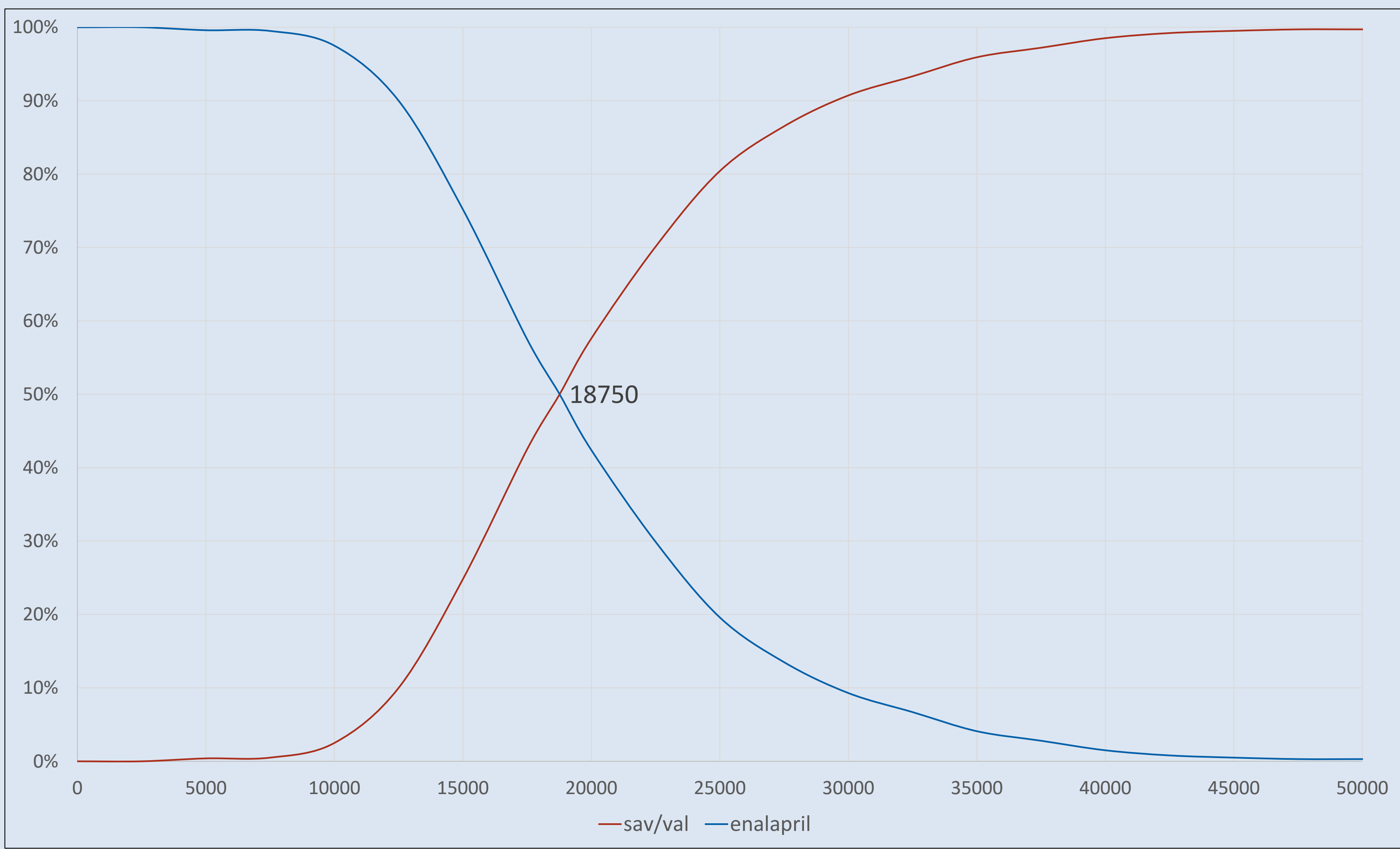
CONCLUSION

With the premises considered in this study, sacubitril/valsartan in HFrEF patients could be considered cost-effective from the Spanish Health System perspective.

REFERENCES

1. McMurray JJ et al. Angiotensin-neprilysin inhibition vs enalapril in heart failure. N Eng J Med. 2014; 371(11):993-1004.
2. Gaziano TA et al. Cost-effectiveness Analysis of Sacubitril-Valsartan vs Enalapril in Patients with Heart Failure and Reduced Ejection Fraction. JAMA Cardiol. 2016; 1(6):666-672.

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