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STARTS WITH SACUBITRIL/VALSARTAN IN THE INPATIENT VS OUTPATIENT SETTING IN SPAIN

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INTRODUCTION

- Sacubitril/valsartan (sac/val) showed a significant benefit in patients with heart failure with reduced ejection fraction (HFrEF), either hospitalized or ambulatory in clinical trials, but as earlier it started greater the benefit was.
- Despite the fact that sac/val has more benefits starting just from hospitalization, it is not always implemented.

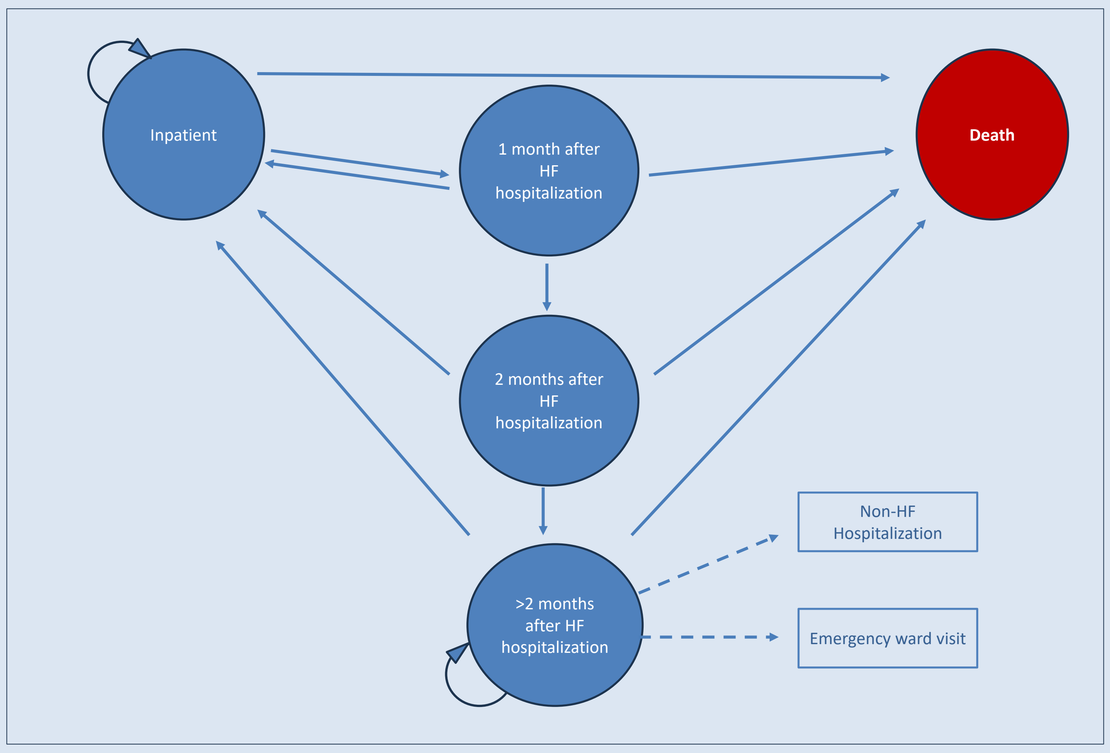
OBJECTIVE

This study aims to evaluate the cost-effectiveness of the treatment with sac/val either in an inpatient or outpatient setting in patients with HFrEF from the perspective of the Spanish Health System.

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

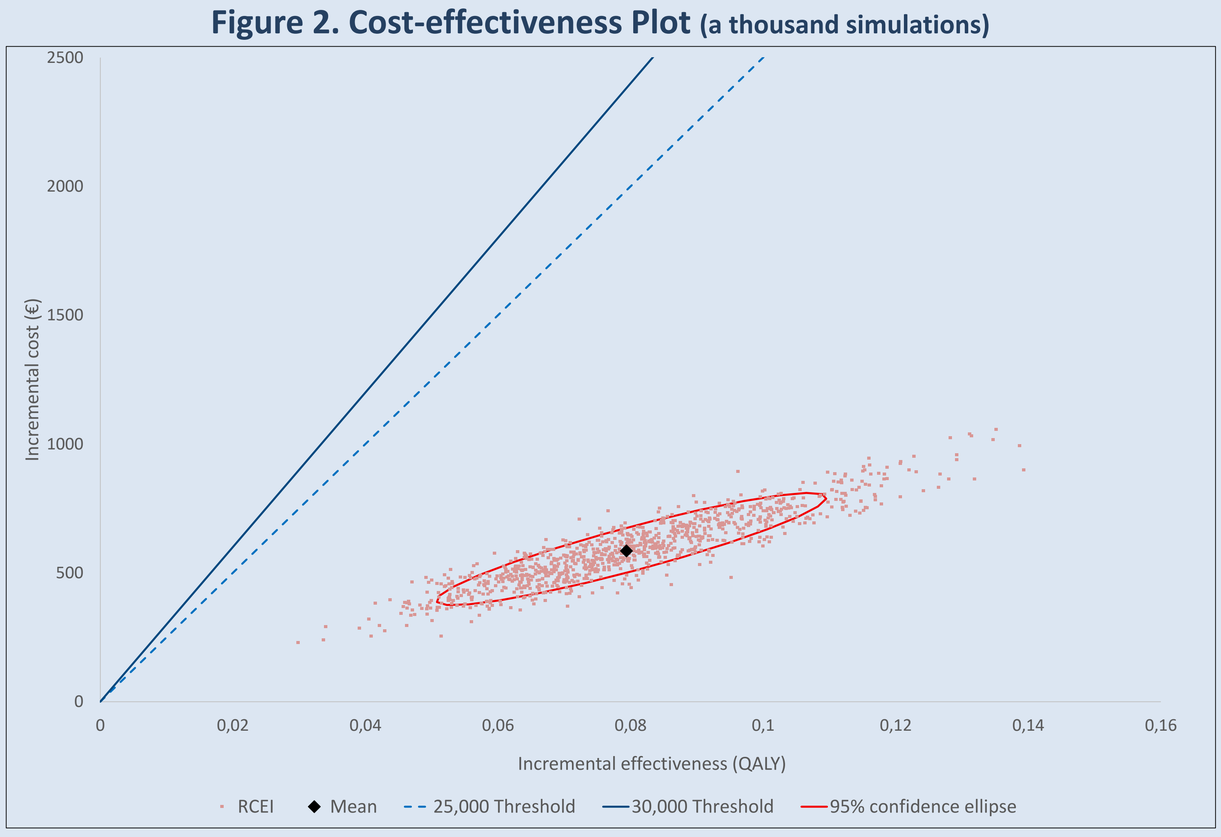


- The two treatment alternatives compared were treating with sac/val after discharge vs. Treating with enalapril.
- Transition probabilities for each 1-month cycle were obtained from PARADIGM-HF[1] and PIONEER-HF[2] studies.
- Direct health-care costs (€2022) were obtained from national databases and time-dependent utilities from a mixed model analysis of PARADIGM-HF from literature[3 & 4].
- 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 0.08 quality-adjusted life years (QALY) and an additional cost of €585/patient.
- The average incremental cost-utility ratio (ICUR) was 7,372 €/QALY (table 1).
- Regarding the 9 OWSA, the model behaves in a stable way with few variations in the results. The probabilities of death before 2 months after admission for inpatient treatments (enalapril or sac/val) 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 100% of simulations. This remain in 100% 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

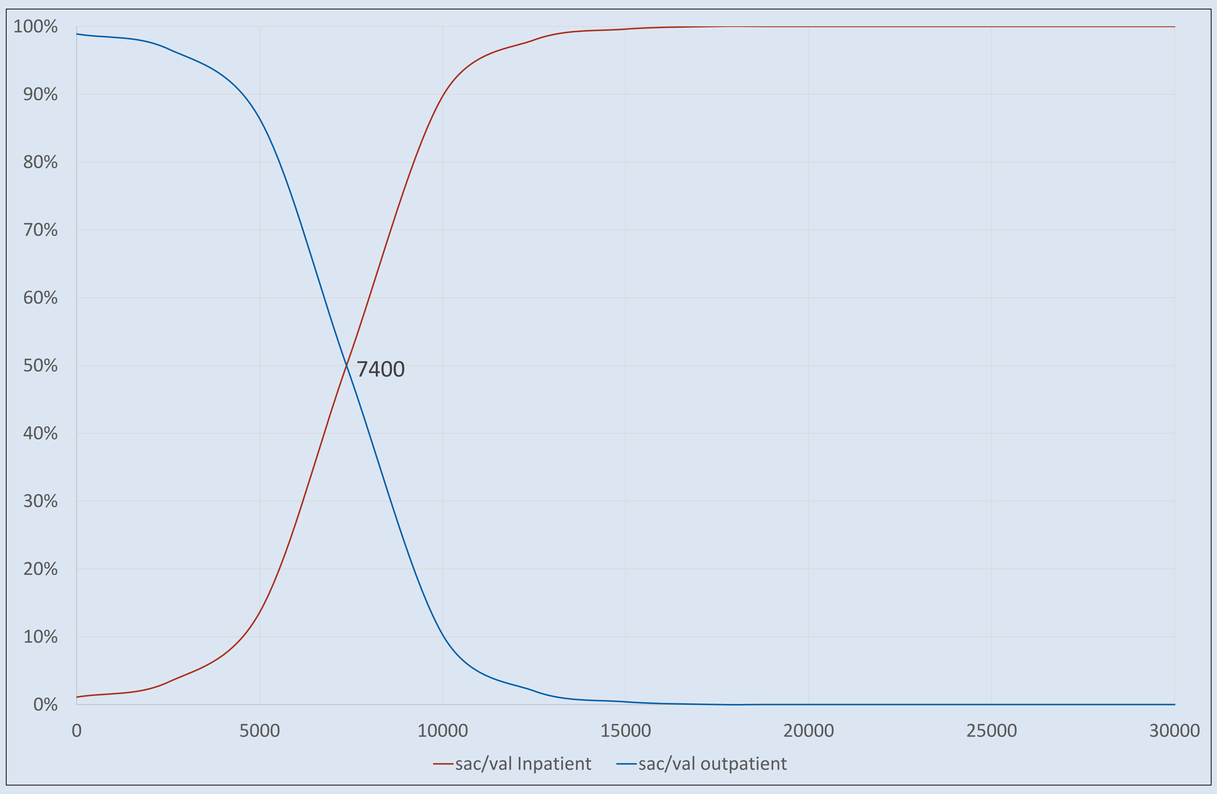


Table 1. Base-case costs and effects results

	Sac/val outpatient	Sac/val inpatient	Difference
Costs per patients (€)	46,156 €	46,741 €	585€
Effects			
LYG	8.22	8.31	0.10
QALY	6.50	6.58	0,08
ICER		5,864	€/LYG
ICUR		7,372	€/QALY

CONCLUSION

Apart from the clinical benefit, starting with sac/val in hospitalized patients versus outpatients seems to be cost-effective from the Spanish Health System perspective. Sac/val should be started at the moment of hospitalization in terms of efficiency.

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