Budget Impact of Icosapent Ethyl in Patients with Recent Acute Coronary Syndrome in Catalonia

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BACKGROUND

- Cardiovascular diseases (CVD) are among the leading causes of morbidity and mortality worldwide[1-2]. Among patients with cardiovascular (CV) risk factors who are receiving treatment for secondary prevention, the rates of CV events remain high[3-5].
- Statins are a cornerstone of secondary prevention, effectively lowering low-density lipoprotein cholesterol (LDL-C) levels. However, even in patients receiving appropriate treatment with statins, a substantial residual CV risk remains, particularly in those with elevated triglyceride (TG) levels[6-12].
- Icosapent ethyl is indicated to reduce the risk of CV events in adult statin-treated patients at high CV risk with elevated TG (TG ≥150 mg/dL) and established CVD, or diabetes and at least one other CV risk factor[13]. The efficacy and safety of icosapent ethyl have been demonstrated in the REDUCE-IT trial, a randomized, double-blinded clinical trial controlled with placebo (representing best supportive care [BSC]), with significant reductions in ischaemic events compared to placebo, including a decrease in CV death[14]. These findings were particularly notable in patients with a history of myocardial infarction (MI)[14].
- Patients who have experienced a recent (<12 months) acute coronary syndrome (ACS) are at a very high risk of future CV events. In a post hoc analysis of REDUCE-IT trial[15], considering statin-treated adult patients with established CVD and a recent ACS, icosapent ethyl significantly lowered the risk of ischemic CV events compared with placebo (absolute risk reduction [ARR] of 9.3%, number needed to treat [NNT] of 11 vs. ARR 4.8%, NNT of 21) in high-risk patients treated with statins who had experienced a recent ACS (<12 months before randomization), without excess bleeding[15].

OBJECTIVE

To determine the budget impact of introducing icosapent ethyl as an alternative to treatment BSC in statin-treated adult patients with established CVD and recent ACS (defined as events occurring within 12 months prior to receiving icosapent ethyl or placebo) from a Catalonian healthcare perspective over a five years' time horizon.

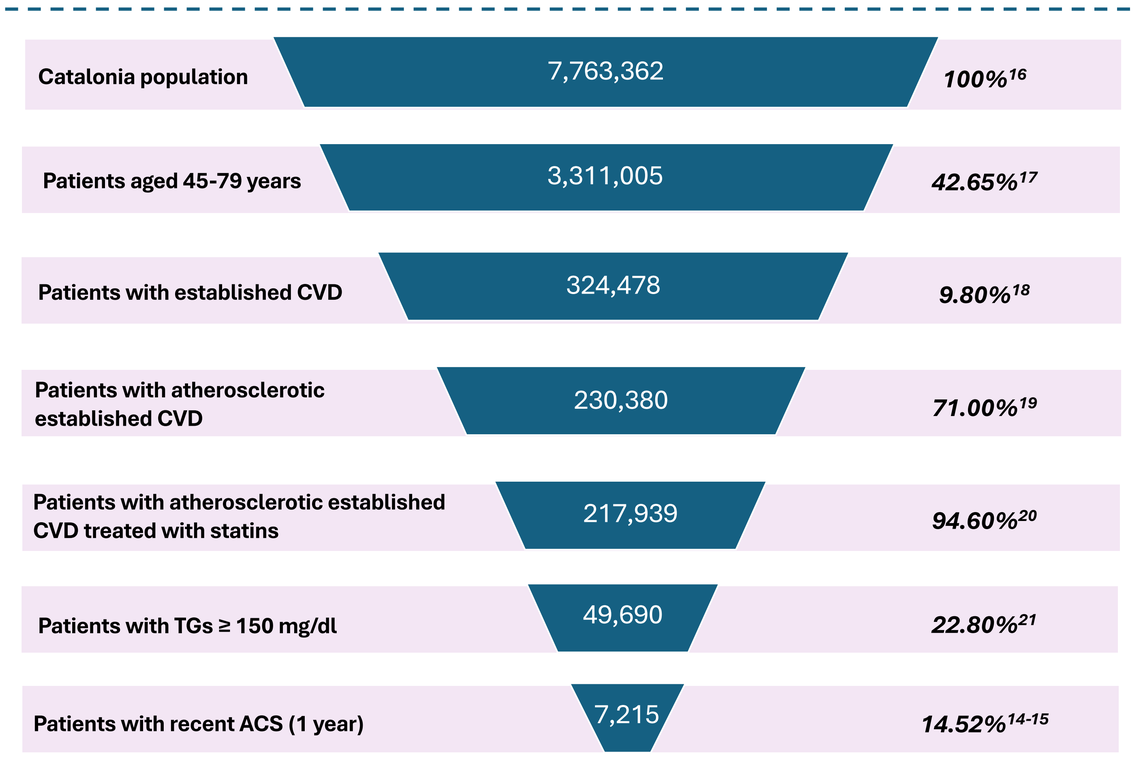
METHODS

- The budget impact (BI) analysis was added to an existing cost-effectiveness model (CEM). For the CEM, an established partitioned survival model structure with disease-specific health states was created to capture the long-term risk of major CV events through these health states: CV event-free, first CV event, post-first CV event, second CV event, post-second CV event, third or more CV events, post-third or more CV events, and death.
- The BI analysis studied the management, treatment and the associated costs of statin-treated adult patients with established CVD and recent ACS, between the current scenario and the potential scenario where icosapent ethyl is introduced. A Catalonian healthcare perspective and a five-year time horizon were considered.
- The target population was estimated according to the literature[16-21] (Figure 1). This resulted in 7,215 patients eligible for treatment with icosapent ethyl in year 1, as shown by the population funnel in Figure 1. The number of eligible patients in years 2 to 5 was derived by applying the Spanish population growth rate (0.40%)[22]. Additionally, the market share distribution was based on estimates provided by Amarin (Table 1)[23].
- In the BI analysis, the proportion of patients in each health state for both treatment arms was taken from the CEM traces at yearly intervals from year one through to year five. The REDUCE-IT trial is the only trial which provided clinical effectiveness and safety data for icosapent ethyl and placebo treated patients in the population of interest[14-15]. The REDUCE-IT trial was therefore used to inform the clinical effectiveness and safety of icosapent ethyl and BSC in the economic model[14-15].
- The primary endpoint of the REDUCE-IT trial was used to inform the clinical effectiveness of icosapent ethyl and placebo in the economic model. Data associated with each treatment arm from the recent ACS subgroup of the REDUCE-IT trial was extrapolated using parametric survival methods[14-15].
- Drug acquisition and clinical event costs were obtained from published sources and Spanish databases[24-28]. All unit costs were reported in 2023 EUR[29].

RESULTS

- To calculate the BI in Catalonia, efficacy and cost inputs were applied to the prevalent population of statin-treated adult patients with established CVD, elevated TGs and recent ACS.
- The net budget impact of introducing icosapent ethyl is €130,013 in year one, increasing to €1,696,789 by year five (Figure 2). Despite this, the BIM showed that the introduction of icosapent ethyl would lead to a saving of €4,244 in health state costs in Year 1, increasing to €908,360 in Year 5 (Figure 3).
- Budget impact analysis showed positive results for treatment with icosapent ethyl in patients with CVD and recent ACS. Given the projected uptake, the total five-year accumulated budget impact was estimated to be €4.6 million, with an annual average budget impact over 5 years of €924,459.

Figure 1. Catalonia population funnel (year 1 of the analysis)



ACS – Acute coronary syndrome; BSC – Best supportive care; CVD – Cardiovascular disease; TG – Triglyceride

Figure 2. Total net budget impact for introducing icosapent ethyl (€)

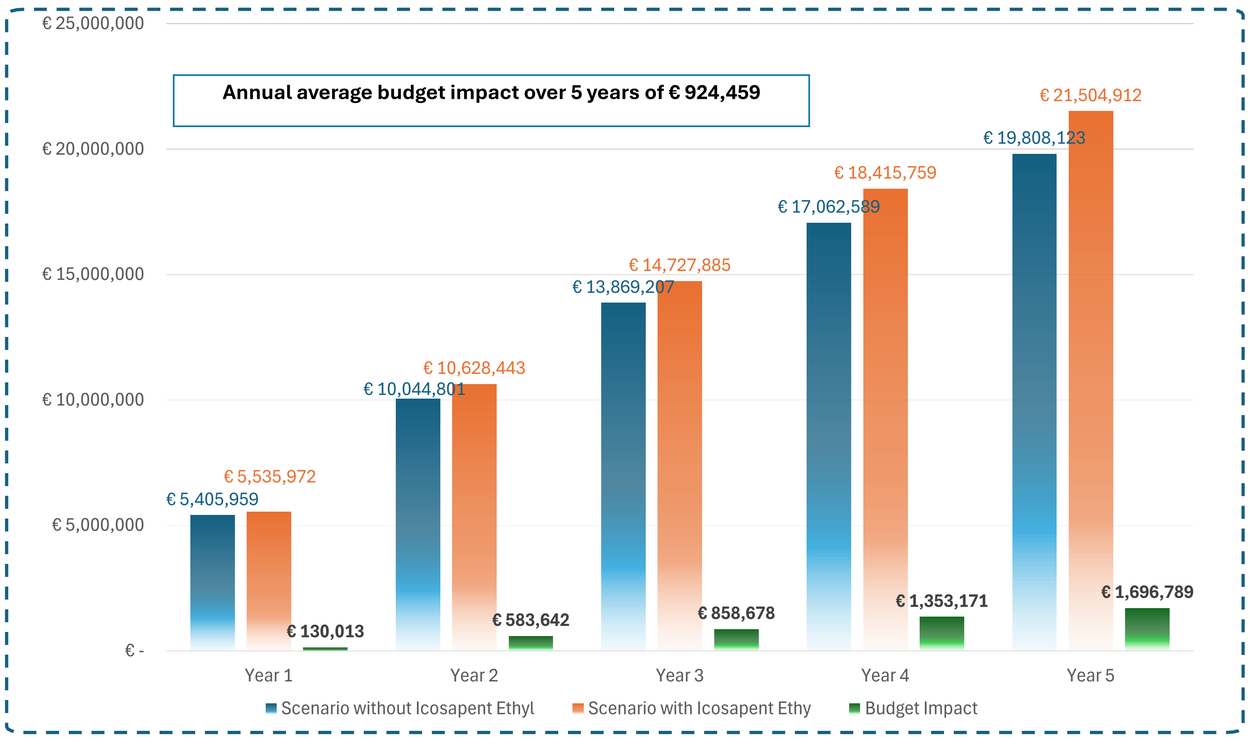
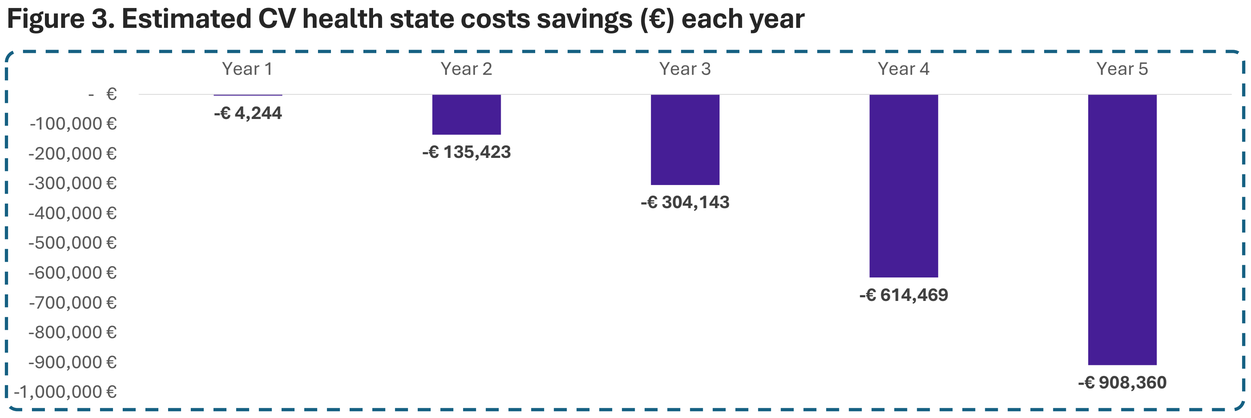


Table 1. Market shares

	Year 1		Year 2		Year 3		Year 4		Year 5	
	Current scenario	Potential scenario	Current scenario	Potential scenario	Current scenario	Potential scenario	Current scenario	Potential scenario	Current scenario	Potential scenario
BSC	100.0%	99.0%	100.0%	94.6%	100.0%	91.2%	100.0%	85.0%	100.0%	80.0%
BSC + Icosapent Ethyl	0.0%	1.0%	0.0%	5.4%	0.0%	8.8%	0.0%	15.0%	0.0%	20.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	80.0%

BSC, Best supportive care.

Figure 3. Estimated CV health state costs savings (€) each year



CONCLUSIONS

This budget impact analysis would predict a low annual average budget impact of less than €1 million for the studied population from the CatSalut's perspective. Likewise, the BIM showed that the introduction of icosapent ethyl would lead to a saving of €4,244 in health state costs in Year 1, increasing to €908,360 in Year 5 (Figure 3).

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