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Budget Impact Analysis of Empagliflozin in Patients with Heart Failure in Sweden

Kristina Karlsdotter[1]; Vasileios Kontogiannis[2]; Ebba Gregory[1]; Claudia Rinciog[2]
[1]Boehringer Ingelheim, Stockholm, Sweden; [2]Symmetron Limited, London, England

OBJECTIVES

The aim of this study was to evaluate the budget impact of empagliflozin for the treatment of patients with heart failure (HF) in Sweden from a payer's perspective over a three-year time horizon.

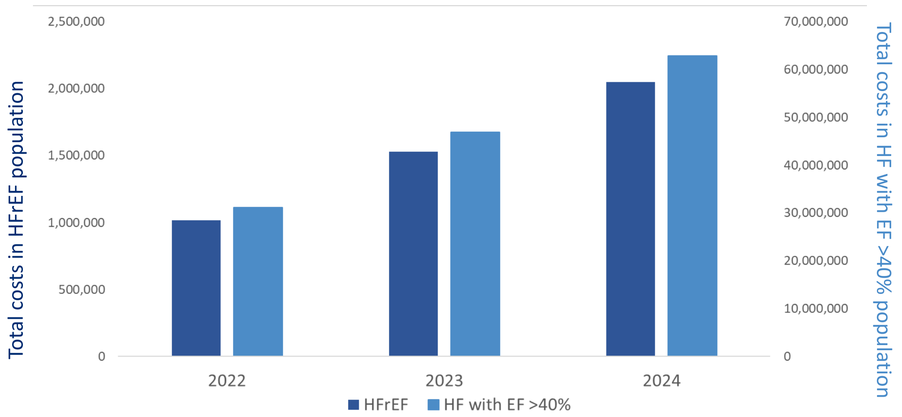
METHODS

- Two populations were considered, one for HF with reduced ejection fraction (HFrEF), and one for HF with ejection fraction (EF) above 40% (HF with EF above 40%).
- Two Microsoft Excel-based budget impact models were developed to compare a scenario with empagliflozin as part of standard of care (SoC) for HF to a scenario without empagliflozin. Sodium glucose co-transporter 2 inhibitors are currently recommended as first line treatment for HFrEF.[1]
- Efficacy and safety outcomes, as well as drug utilisation data, were obtained from the EMPEROR-Reduced[2] and the EMPEROR-Preserved[3] trials.
- Drug acquisition costs were obtained from the Dental and Pharmaceutical Benefits Agency (TLV) price database[4], clinical events and disease management costs were obtained from the Swedish Association of Local Authorities and Regions (SKR)[5] and costs associated with healthcare resource use were obtained from published literature.[6]
- The projected share uptakes for empagliflozin were 10%, 15% and 20% for 2022, 2023 and 2024, respectively.
- Results were reported as total annual and cumulative costs (SEK 2021), as well as number of clinical events experienced over three years.

RESULTS

- Figure 1 illustrates the total costs of adding empagliflozin to SoC across the time horizon for both considered populations.
- The total three-year cumulative budget impact using empagliflozin were estimated to be SEK 4,597,211 for HFrEF, and SEK 140,867,502 for HF with EF above 40%.
- This represents a budget increase of 0.04% and 1.7%, respectively, for HFrEF and HF with EF above 40%, compared to the reference scenario without empagliflozin.
- Table 1 presents the percentage reduction in HF-related hospitalisations, cardiovascular (CV) deaths and various adverse events due to the addition of empagliflozin to SoC when compared to SoC without empagliflozin.

FIGURE 1 – Associated total costs of adding empagliflozin to SoC (SEK)



Abbreviations: HFrEF, heart failure with reduced ejection fraction; HF with EF >40%, heart failure with ejection fraction over 40%; SoC, standard of care.

TABLE 1 – Percentage reduction in number of clinical events when empagliflozin was added to SoC when compared to SoC without empagliflozin (%)

	HF-related hospitalisations	CV deaths	Adverse events		
			Acute renal failure	Hepatic injuries	Hypoglycaemic events
HFrEF	4.3	1	1.4	1.5	0.5
HF with EF >40%	3.6	2	0.8	4	1

Abbreviations: HFrEF, heart failure with reduced ejection fraction; HF with EF >40%, heart failure with ejection fraction over 40%; SoC, standard of care.

CONCLUSIONS

- Although the addition of empagliflozin resulted in higher drug acquisition costs, the overall budget impact in Sweden was estimated to be minimal (0.04% over a three-year time period for HFrEF and 1.7% over the same time period for HF with EF above 40%).
- The modest budget increase highlights that the treatment costs associated with empagliflozin are largely mitigated by fewer HF-related hospitalisations, CV deaths, and AEs.

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