## **Poster Tour Guide Packet**

Acceptance Code:	EE111
Board Number:	1A
Abstract Title:	Cost-Effectiveness of Sodium-Glucose Cotransporter-2 Inhibitors in Patients With
	Chronic Heart Failure Irrespective of Left-Ventricle Ejection Fraction in the Netherlands
Presenting Author:	Cornelis Boersma

### Abstract Body:

OBJECTIVES: Sodium-glucose cotransporter-2 inhibitors (SGLT2i) have been found to be an effective treatment for patients with type-2 diabetes. Two clinical studies have now shown the efficacy of the SGLT2i empagliflozin in patients suffering from chronic heart failure with left-ventricle ejection fraction (LVEF) being either reduced (rEF) or preserved (pEF). This study aims to estimate the cost-effectiveness of empagliflozin added to standard-of-care (SoC) compared to SoC in adult patients suffering from chronic heart failure with either rEF or pEF.

METHODS: A Markov-model was build using the New-York Heart Association (NYHA) classification of states I, II and III/IV, paired with states for hospitalisation due to heart failure, mortality due to heart failure or other causes. Transition probabilities, time-to-event data and utilities for the NYHA states along with disutility's for the clinical events were sourced from the EMPEROR-Reduced and -Preserved trials for rEF and pEF, respectively. Costs were included to represent the Dutch setting from a societal perspective with a willingness-to-pay threshold of €50,000. The deterministic results of the two models were tested using a probabilistic sensitivity analysis (PSA) with 1,000 repetitions.

RESULTS: Deterministically, the utilisation of empagliflozin in the treatment of patients with rEF resulted in a dominant incremental cost-effectiveness ratio (ICER), whereas the ICER for the pEF setting was determined to be €5,606 per quality adjusted life year. Especially, the management costs, productivity losses and informal care prevented through less hospitalisations are key drivers in both ICERs. PSA results were confirmed, with the likelihood of empagliflozin to be cost-effective being equal to 97% and 99% for rEF and pEF, respectively.

CONCLUSIONS: Empagliflozin is a highly cost-effective intervention, preventing hospitalisations due to heart-failure in patients with suffering from chronic heart-failure. This is the case irrespective of the level of LVEF, which is used to subgroup patients in the guidelines of the European Society of Cardiology.

Tour Guide's Questions for Starting Q&A (Each poster will have ~5 minutes for Q&A with attendees/Tour Guide)

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## **Poster Tour Guide Packet**

Poster Session:	In-Person and Virtual Poster Session 4
Tour Name:	Cardiovascular & Diabetes/Endocrine/Metabolic
	Disorders
Tour Date/Time:	Tuesday, 8 November 2022, 2022, 17:45 - 18:30
Tour Area:	Area A, Hall X2, Level -2

Acceptance Code:	EE577
Board Number:	2A
Abstract Title:	Cost-Consequence Analysis of EPTFE Vascular Grafts With Heparin End Point Covalent
	Bond Compared to Standard EPTFE Vascular Grafts in Below-Knee Surgical Bypass for
	Critical Limb Ischaemia Pad Patients in Portugal
Presenting Author:	Kashfa Iqbal
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### Abstract Body:

OBJECTIVES: Peripheral arterial disease (PAD) is mainly caused by atherosclerosis that reduces blood flow to the limbs. CLI is an advanced stage of PAD, with 33% of patients needing a major amputation within one year of diagnosis. Mortality rates after amputation rise from 48% in year one to 71% in year three. Providing care and rehabilitation after amputation has significant healthcare costs. This study assessed the economic value to payers over three years, of adopting the GORE® PROPATEN® Vascular Graft with Heparin end point covalent bond (G-PVG) compared to standard ePTFE grafts (S-VG).

METHODS: A Markov model was developed to measure costs and clinical consequences over three years of treating patients with G-PVG compared to S-VG. Clinical outcomes, including occlusion, amputation and mortality rates were based on a meta-analysis of clinical publications. Procedures unit costs were sourced from Portuguese APR-DRG rates and other public databases, costs of post-amputation rehabilitation care were sourced from published literature. Patient treatment pathways in Portugal were verified by Portuguese KOL survey. The healthcare payer perspective was used.

RESULTS: At the end of three years the average treatment costs (per patient) were 35% lower for G-PVG, €16,081, compared to €24,672 for S-VG, delivering savings of €8,591. Over 50% of the savings came from preventing amputations and subsequent cost of care and rehabilitation. Modelling a cohort of 100 patients in each arm, compared to S-VG, the G-PVG arm had 36% fewer revision procedures (76 vs. 117) and 28% more patients had amputation free survival (55 vs. 43). The results were sensitive to clinical performance rates.

CONCLUSIONS: Adopting G-PVG grafts could save to payers €8,591 per patient in treatment costs and improve patient outcomes by reducing revision procedures and amputations. In this study, GORE<sup>®</sup> PROPATEN<sup>®</sup> Vascular Graft with heparin end point covalent bond demonstrates proven clinical outcomes and measurable economic value.

Tour Guide's Questions for Starting Q&A (Each poster will have ~5 minutes for Q&A with attendees/Tour Guide)

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## **Poster Tour Guide Packet**

Poster Session:	In-Person and Virtual Poster Session 4
Tour Name:	Cardiovascular & Diabetes/Endocrine/Metabolic
	Disorders
Tour Date/Time:	Tuesday, 8 November 2022, 2022, 17:45 - 18:30
Tour Area:	Area A, Hall X2, Level -2

Acceptance Code:	EE668
Board Number:	3A
Abstract Title:	Empagliflozin for the Treatment of Adult Patients With Symptomatic Chronic Heart Failure With Reduced Ejection Fraction (HFREF): A Cost-Effectiveness Analysis From the Italian NHS Perspective
Presenting Author:	Stephan Linden

### Abstract Body:

OBJECTIVES: Empagliflozin is recently reimbursed in Italy for the treatment of adult patients with symptomatic chronic heart failure with reduced ejection fraction. Hence, a cost-effectiveness analysis was developed to demonstrate the empagliflozin health economic value.

METHODS: A Microsoft Excel<sup>®</sup>-based Markov model was developed from the perspective of the Italian NHS with a lifetime time horizon. The model estimated the cost-effectiveness of empagliflozin in addition to SoC, compared to SoC alone, based on clinical efficacy and safety outcomes collected in the EMPEROR-Reduced clinical trial, and assessing health-related quality of life, as well as key cost elements for the treatment of patients with HFrEF. The model was developed to simulate patients' progression through health states based on KCCQ-CSS (Clinical Summary Score) quartiles over time. Costs included direct medical costs for treatment acquisition (ex-factory gross price), costs for the management of clinical events, adverse events (AE) and disease management. All costs were extrapolated from the Italian national tariffs. Utilities were accrued based on time spent in each KCCQ-CSS quartile, adjusted for disutilities associated to HF-related hospitalisations and AEs. A 3% annual discount rate was applied to costs and health outcomes. Deterministic and probabilistic sensitivity analyses were run to assess the robustness of results.

RESULTS: Over the lifetime horizon, patients treated with empagliflozin as an add on to SoC experienced lower rates of hHF (hospitalization Hearth Failure) and CV (cardiovascular) death compared to SoC alone. Considering the incremental total costs and QALYs, an ICER of €6,689 per QALY was demonstrated, thus significantly below the willingness-to-pay threshold of €30.000 - €60.000, defined acceptable for the evaluation of the cost effectiveness in Italy. The robustness of results was confirmed by sensitivity analyses.

CONCLUSIONS: The results clearly indicate that empagliflozin is a new cost-effective therapeutic option for the Italian NHS in the treatment of HFrEF patients on top of standard therapy.

Tour Guide's Questions for Starting Q&A (Each poster will have ~5 minutes for Q&A with attendees/Tour Guide)

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Poster Session:	In-Person and Virtual Poster Session 4
Tour Name:	Cardiovascular & Diabetes/Endocrine/Metabolic
	Disorders
Tour Date/Time:	Tuesday, 8 November 2022, 2022, 17:45 - 18:30
Tour Area:	Area A, Hall X2, Level -2

Acceptance Code:	EE224
Board Number:	4A
Abstract Title:	Cost-Effectiveness Analysis of Real-Time Continuous Glucose Monitoring (RTCGM) vs Self-Monitoring of Blood Glucose (SMBG) in Patients With Type 1 Diabetes in the Netherlands
Presenting Author:	Stephane Roze

### Abstract Body:

OBJECTIVES: Randomized controlled trials have shown the effectiveness of rtCGM in improving glycemic control and reducing risk of severe hypoglycemia in patients with type 1 diabetes (T1D). We aim to study the cost-effectiveness of rtCGM for T1D patients in the Netherlands.

METHODS: The analysis was conducted using the IQVIA Core Diabetes Model. Clinical efficacy data was extracted from the DIAMOND trial of adults with T1D on multiple daily injections of insulin. The baseline mean age (SD) of the cohort was 47.6 years (12.7) and proportion of female 56%. Mean baseline HbA1c for the cohort was 8.6% (70 mmol/mol). HbA1c reduction was -1.0 and -0.4 for rtCGM and SMBG, respectively. An additional utility benefit of 0.03 for avoidance of finger sticks was assigned to rtCGM patients. Annual costs of Dexcom G6 rtCGM of €2,912 was used vs €503.7 for SMBG. Direct medical costs were sourced from the published literature and inflated to 2021. The analysis was conducted from the Netherlands payer perspective over a lifetime horizon.

RESULTS: RtCGM was associated with a 2.12 incremental gain in quality-adjusted life years (QALYs) compared with SMBG (mean±SD 15.67±3.37 versus 13.54±3.0 QALYs). The total direct costs were €128,846 and €102,402 for rtCGM and SMBG, respectively. The incremental cost-effectiveness ratio (ICER) was €12,470/QALY. The likelihood of rtCGM being cost-effective under €30,000 willingness to pay threshold (WTP) was 99.9%. Main drivers of cost-effectiveness of rtCGM identified include HbA1c reduction, utility for avoidance of finger sticks, and costs of rtCGM. RtCGM remained cost-effective under €30,000 WTP even after reducing HbA1c effect by 30% (ICER:15,938), decreasing utility by 50% (ICER: 18,280), and increasing its cost by 50% (ICER: 19,310).

CONCLUSIONS: Our analysis shows that rtCGM is cost-effective in patients with T1D in the Netherlands. This study provides payors and policy makers with economic evidence to widen access to rtCGM.

Tour Guide's Questions for Starting Q&A (Each poster will have ~5 minutes for Q&A with attendees/Tour Guide)

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## **Poster Tour Guide Packet**

Poster Session:	In-Person and Virtual Poster Session 4
Tour Name:	Cardiovascular & Diabetes/Endocrine/Metabolic
	Disorders
Tour Date/Time:	Tuesday, 8 November 2022, 2022, 17:45 - 18:30
Tour Area:	Area A, Hall X2, Level -2

Acceptance Code:	HTA131
Board Number:	5A
Abstract Title:	An Early Health Technology Assessment of Non-Invasive Fractional Flow Reserve Versus
	Standard Diagnostics in Patients with Stable Chest Pain in the Netherlands
Presenting Author:	Iris Boot

### Abstract Body:

OBJECTIVES: The introduction of fractional flow reserve derived from coronary computed tomography (FFRct) could provide a noninvasive alternative to current diagnostics in patients with stable chest pain in The Netherlands. The aim of this study was to assess the healthcare costs and effects of Hemolens' FFRct guided diagnostics compared to standard diagnostics.

METHODS: A decision-tree model was developed to calculate the costs from the hospital perspective, probability of correct diagnoses, and risk of major adverse cardiac events (MACE) after one year. The costs included were clinician time, disposables, equipment, medications, and treatments. Total costs for 2022 were calculated using a micro costing approach. One-way sensitivity analyses were conducted to determine the main cost drivers. To determine the added price of FFRct analysis (computational analysis only, excluding CT scan) at which point both strategies are equal in costs a threshold analysis was conducted.

RESULTS: The mean one-year costs were €3,479 for FFRct and €3,708 for standard diagnostics. The one-year probability of correct diagnoses was 0.82 and 0.71, respectively. The one-year risk of MACE was 0.0006 for FFRct and 0.01 for standard diagnostics. One-way sensitivity analyses showed that the main drivers of the difference in costs between the strategies were the probabilities and costs of revascularization, and test characteristics of FFRct and coronary computed tomography angiography (CCTA). The threshold analysis indicated that the added price of FFRct analysis should be below €955 per procedure to be considered the least costly option.

CONCLUSIONS: These early HTA findings suggest that FFRct may reduce healthcare spending, probability of an incorrect diagnosis, and MACE compared to current diagnostics for patients with stable chest pain in the Dutch healthcare setting. Future cost-effectiveness studies could determine a value-based pricing for FFRct and quantify the economic value of the anticipated therapeutic impact.

Tour Guide's Questions for Starting Q&A (Each poster will have ~5 minutes for Q&A with attendees/Tour Guide)

## **Poster Tour Guide Packet**

Poster Session:	In-Person and Virtual Poster Session 4
Tour Name:	Cardiovascular & Diabetes/Endocrine/Metabolic
	Disorders
Tour Date/Time:	Tuesday, 8 November 2022, 2022, 17:45 - 18:30
Tour Area:	Area A, Hall X2, Level -2

Acceptance Code:	PCR265
Board Number:	6A
Abstract Title:	Preferences and Needs of Heart Failure Patients Regarding Their Treatment and Care
Presenting Author:	Thomas Desmet

### Abstract Body:

OBJECTIVES: As heart failure (HF) remains a leading cause of morbidity and mortality worldwide, tailoring treatment and care towards patient preferences is becoming increasingly important. This study aimed to explore patient perspectives among HF patients, both with reduced (HFrEF) and preserved ejection fraction (HFpEF), particularly focusing on their preferences regarding treatment and care.

METHODS: This qualitative study consisted of a scoping literature review, recruitment of participants through a cardiologist, semistructured interviews with HF patients (n=14), preceded by an introductory survey, and a descriptive and qualitative thematic analysis of the interviews using the framework method.

RESULTS: In total, 14 HF patients (median age of 72 years, eight patients diagnosed with HFrEF, one with HFmrEF (mildy reduced), and seven with HFpEF) participated in the interviews. Their preferences and needs were assessed regarding information provided, treatment, and care. Participants preferred receiving strictly practical, personalized advice from their physician. In general, improving quality of life was prioritized over increased survival as an endpoint of symptom reduction. Furthermore, the included HFpEF patients seemed to express a greater need for effective treatment than HFrEF patients. Participants emphasized the importance of trust between patients and physicians. Moreover, treatment compliance was considered high by the participants and was further improved by using the home health nursing system. During the attribute grading exercise, the following seven attributes were identified as most important by HF patients: impact on independence, shortness of breath, impaired renal function, survival, fatigue, risk of hospitalization, and communication with and between physicians.

CONCLUSIONS: Preference heterogeneity between HFrEF and HFpEF patients was mainly observed in their treatment needs, which suggests the need to take a more holistic approach in treating HF. Furthermore, this study underscores patients' need for shared decision-making between healthcare providers and HF patients where patients' desired treatment and care outcomes are considered.

Tour Guide's Questions for Starting Q&A (Each poster will have ~5 minutes for Q&A with attendees/Tour Guide)

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