PCV120

**Cost-effectiveness of edoxaban compared with warfarin for the prevention of stroke and systemic embolic events in the UK**

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OBJECTIVES: To assess the cost-effectiveness of edoxaban 60mg versus warfarin for the prevention of stroke and systemic embolic events among patients with non-valvular atrial fibrillation (NVAF) in the UK, from the perspective of the NHS. METHODS: A Markov model was developed to simulate the course of disease in hypothetical cohorts of patients with NVAF and to assess the cost-effectiveness of edoxaban versus the current UK standard of care, warfarin. The model used data from the ENGAGE study, and was based on patients with CHA2DS2-VASC ≥ 2. Utilities were derived from EuroQol 5D-3L and costs were extracted from the literature and the NHS reference cost database; both were discounted at 3.5% per annum. Health outcomes were assessed in quality-adjusted life years (QALYs), and evaluated over a lifetime time horizon. Deterministic and probabilistic sensitivity analyses that accounted for uncertainty in input parameters on the results. RESULTS: In the base case analysis (CHA2DS2 ≥ 2), the incremental cost-effectiveness ratio (ICER) for edoxaban compared with warfarin was £12,883 per QALY gained. At a threshold of £20,000 per QALY, the net monetary benefit associated with edoxaban was £1,406. Edoxaban was also cost effective compared with warfarin in higher risk (CHA2DS2 ≥ 3) and higher anticoagulant control (CHADS2-VASc=6) subgroups (ICER £7,012 and £20,576 per QALY, respectively). Separate deterministic and probabilistic sensitivity analyses of these findings are robust to alternative assumptions about model inputs. Starting age, edoxaban cost, monitoring costs and mortality due to non-ICH major bleeds are the drivers of the results. PSA indicates that 82% of simulations are in the north-east quadrant of the cost-effectiveness plane for this comparison, and that the probability that edoxaban is cost-effective versus warfarin is more than 50%. CONCLUSIONS: Compared with warfarin, edoxaban represents a cost-effective alternative for stroke prevention in UK patients with NVAF.

PCV121

**Cost-utility Analysis of Chocolate Consumption for Prevention of Cardiometabolic Disease**

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OBJECTIVES: Randomized controlled trials have shown favorable effects of polyphenols and flavonoids found in chocolate on various cardiometabolic risk factors, including inflammatory markers, blood pressure, lipids, and insulin sensitivity. Epidemiologic studies suggest chocolate produce risks of cardiometabolic diseases. This study aims to assess the cost-utility of chocolate consumption from a US health system perspective. METHODS: A cohort life-table analysis was developed to model life years (LYs) and quality-adjusted life years (QALYs) of chocolate consumption versus non-consumption over a lifetime horizon in US adults. Age- and sex-specific disease incidence and mortality rates were used to model outcomes of cardiometabolic diseases, including coronary heart disease, stroke, and diabetes. Relative risks of cardiometabolic disease associated with chocolate consumption were obtained from meta-analyses of prospective cohort and cross-sectional studies. Utility weights, baseline healthcare costs, and attributable disease costs were obtained from the Healthcare Cost and Utilization Project (HCUP) database, the US Census and the National Health Expenditures Database. Costs of chocolate were estimated based on “high” cost of $8,931 for females. In the PSA chocolate consumption had a 97.8% and 0.99 years and discounted QALYs by 0.54 and 0.45 years for males and females, respectively. CONCLUSIONS: Chocolate consumption may be a cost-effective means to reduce the risk of cardiometabolic disease. Given the limitations of observational study data, further research is warranted to confirm these findings.

PCV122

**Cost-Utility of Ranolazine for the Symptomatic Treatment of Patients with Chronic Angina with Difficulties to First Line Therapy in Greece**

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OBJECTIVES: To conduct an economic evaluation comparing ranolazine plus standard-of-care (SoC) relative to SoC alone, in patients with chronic stable angina who could not be treated satisfactorily by first line therapy, in Greece. METHODS: A decision tree model was locally adapted in the Greek setting to evaluate the cost-utility of comparators during a 6-month period. The analysis was conducted from a payer perspective. The clinical input data were extracted from relevant published literature. The cost inputs considered reflect drug acquisition, hospitalizations, vascular interventions and monitoring of patients. Resource utilization data were obtained from 3 local experts. All costs refer to the year 2014. Cost-effectiveness was assessed at thresholds of 1 and 5 QALYs. The cost-utility values were derived from a literature review. The cost-utility data were modeled using a Markov process that accounted for the probability of ranolazine in each anginal frequency group. Patients who received ranolazine plus SoC and SoC alone gained 0.3155 QALYs and 0.2752 QALYs, respectively. Hence, ranolazine IER to SoC results in an ICER of €4,630 per QALY gained, well below the threshold of €34,000 per QALY gained, that is twice the annual per capita income. The PSA showed that the likelihood of ranolazine plus SoC being cost-effective at the threshold of €34,000 per QALY gained was 100%. CONCLUSIONS: The results suggest that ranolazine as a second-line treatment for patients with chronic stable angina in Greece.

PCV123

**Cost-utility analysis of apixaban in the acute treatment and prevention of venous thromboembolism in France**

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OBJECTIVES: To evaluate the cost-effectiveness of apixaban vs. existing therapeu- tic alternatives (fondaparinux/VKA, LMWH/VKA, rivaroxaban, dabigatran) in the acute treatment and prevention of venous thromboembolism (VTE) from the French National healthcare insurance perspective. METHODS: A cohort of hospitalized patients with VTE were placed on one of five therapeutic strategies for 6-months and tracked over a course of 5-years in a Markov model. Modeled clinical events included recurrent VTE, major bleeding, clinically-relevant non-major bleed, chronic thromboembolic pulmonary hypertension, post-thrombotic syndrome and death. Data on efficacy and safety were derived from a network meta-analysis. Medical costs of clinical events were extracted from a dedicated analysis of French health administrative databases and utility data were derived from literature. To assess the cost utility of each comparator, 12-months and 18-months were examined in scenario analyses. Additionally, probabilistic sensitivity analyses that accounted for uncertainty in model parameters were conducted. RESULTS: Over treatment duration of 6 months at lifetime horizon, apixaban was the dominant (less costly and more effective) alternative (6,573e and 3.38 QALYs) compared to fondaparinux/VKA (6,613e and 3.19 QALYs) and 0.86 and LMWH/VKA (7,377e and 3.73 QALYs) and dabigatran (7,632e and 3.37 QALYs). Probabilistic sensitivity analyses revealed apixaban was more likely to be cost-effective than all other strategies. Considering an extended treatment duration of 12 months, apixaban remained dominant vs rivaroxaban and dabigatran but cost-effective compared to fondaparinux/VKA (ICUR: 3,098e/QALY) and LMWH/VKA (ICUR 2,381e/QALY). Similar results were observed for treatment duration of 18 months with an increase of ICUR to 5,643e/QALY and 5,083e/QALY, respectively. CONCLUSIONS: Apixaban can offer substantial clinical and economic benefits over alternative therapies for acute and extended treatment of VTE.

PCV124

**A Literature Review to Evaluate the Pharameconomic Value of Ranolazine for the Treatment of Symptomatic Chronic Stable Angina**

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OBJECTIVES: A systematic review of the economic evaluation of ranolazine vs standard-of-care (SOC) for the treatment of symptomatic chronic stable angina (CSSA). METHODS: The search strategy included a search of the following databases: Embase, Medline, Cochrane Library and Cost-Effectiveness Analysis Registry without time limits were searched. Articles in English were included with the following keywords: cost, economic, ranolazine, ranexa, angina, cardiovascular disease. The identified studies were independently reviewed by two investigators against pre-determined inclusion and exclusion criteria. The Quality of Health Economic Studies scale was used to assess the quality of the included studies. The data of selected studies were extracted onto a data extraction form and subsequently were synthesized into a cost-effectiveness comparison. RESULTS: A total of 12 studies were included. Patients with symptomatic CSSA, ranolazine was added to SOC compared to SOC alone, using decision tree or Markov models whereas one was a retrospective cost-comparative study. In all studies, patients were stratified according to their angina frequency symptoms. The analysis was conducted from a payer perspective in 4 studies and from the societal perspective in 1 study. The time horizon of analysis did not exceed the 1 year at any study. Ranolazine appeared to be cost-effective since it reduced the number of angina-related hospitalizations and improved quality of life with an Incremental Cost–Effectiveness Ratio (ICER) varying from 4,000 to 15,000 per QALY gained. The ranolazine acquisition cost was the variable that mainly drove the ICER. CONCLUSIONS: The existing evidence showed that ranolazine is cost-effective for the second-line treatment of patients with symptomatic CSSA, added to SOC. Further research is required to confirm the evidence of cost-effectiveness of ranolazine in each angina frequency group.

PCV125

**Cost-Utility of Statin in Secondary Prevention: A Propensity Score Matched Administrative Database**

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OBJECTIVES: Cost-effectiveness analysis for secondary prevention in patients in Brazil. Data were synthetic and obtained from administrative databases and utility values from young populations. Effectiveness from observational database and utility values from a similar population provides real world evidence. The aim of this study is to evaluate the cost-utility of secondary prevention with statins in fatal and non-fatal events based on real world data. METHODS: A cohort markov model
with five states, annual cycle and time horizon (TH) of 10 years, with discount rate of 5% was weighted to account for uncertainty in survival probability when myocardial infarction was derived, a administrative database of a teaching hospital after record linkage with national registry of mortality database and an analysis of propensity score matching. Non-treatment endpoints were derived after a random effect meta-analysis. Utility measures was calculated with a validated model to derive values from published domains. fatal endpoints were derived after a random effect meta-analysis. Utility measures of disease studies was undertaken for the databases Pubmed, Embase, Biosis, Google Scholar and Cochrane. Data was collected for the study type, methods, country and key findings. CVD morbidity and mortality costs. This systematic review comprehensively documented economic models or burden-of-disease studies that adopt a societal perspective.

**PCV129**

**SYSTEMATIC REVIEW OF HYPERKALEMIA DUE TO ANGIOTENSIN ENZYMES CONVERTING INHIBITORS**

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**OBJECTIVES:** Hyperkalemia can develop as a result of treatment with angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs). It is most common in patients with risk factors such as diabetes mellitus, heart failure, chronic kidney disease, or advanced age. The objective of this research was to conduct a systematic review of hyperkalemia caused due to angiotensin-converting-enzyme inhibitors. METHODS: A systematic literature search was conducted to identify studies on hyperkalemia in patients prescribed angiotensin-converting-enzyme inhibitors (ACEIs), angiotensin receptor blockers (ARBs), mineralocorticoid receptor antagonists or renin inhibitors that describe adverse events. The primary finding was a high prevalence of hyperkalemia in patients taking ACE inhibitors, problems in maintaining safe potassium levels, and the increased risk of adverse outcomes. The study concluded that hyperkalemia is a common problem in patients taking ACE inhibitors and ARBs, and that patients should be monitored closely to prevent serious complications.

**RESULTS:** A total of 321 studies were identified and included in the analysis. The prevalence of hyperkalemia in patients taking ACE inhibitors ranged from 0.2% to 5.1%, and in patients taking ARBs from 0.1% to 3.5%. The risk of hyperkalemia was associated with age, renal function, and the use of concomitant medications. The study also found that the risk of hyperkalemia was higher in patients with diabetes and chronic kidney disease. The study concluded that hyperkalemia is a common problem in patients taking ACE inhibitors and ARBs, and that patients should be monitored closely to prevent serious complications.

**CONCLUSIONS:** The study concluded that hyperkalemia is a common problem in patients taking ACE inhibitors and ARBs, and that patients should be monitored closely to prevent serious complications.