old of £30,000. CONCLUSIONS: At a willingness-to-pay threshold of £20,000 per QALY, NOACs are cost-effective compared with warfarin. There is considerable uncertainty between the different NOACs, but apixaban (5mg bd) had the highest expected incremental net benefit and the highest probability (60%) of being most cost-effective first line anticoagulant for the prevention of stroke in AF, primarily due to the treatment of intracranial haemorrhage, other clinically relevant bleeding, and myocardial infarction.

PCV104
IS EDOXABAN COST-EFFECTIVE FOR NON-VALVULAR ATRIAL FIBRILLATION PATIENTS TREATED WITH VITAMIN K ANTAGONISTS IN SPAIN? Lekuona I1, Anguita M2, Zamorano JL3, Barja P4, Rodríguez JM4, Pérez-Alcántara F5 Patiño A3.

METHODS: To evaluate the cost-effectiveness of edoxaban versus acenocoumarol (VKA treatment) in the prevention of stroke and systemic embolic events in patients with non-valvular atrial fibrillation (NVAF) in Spain. OBJECTIVES: To assess the cost-effectiveness of edoxaban versus acenocoumarol (VKA treatment) in the prevention of stroke and systemic embolic events in patients with non-valvular atrial fibrillation (NVAF) in Spain. METHODS: A Markov model was developed and adapted to the Spanish setting to simulate the evolution of NVAF patients treated with VKA or edoxaban. The Markov model was the Spain 2012 Utility Life Table. The following health states were included: non-disabled and incapacitated, and dead. The study included a 1-year analysis horizon, with a 1-year transition period and a 0.5-year discount rate. All costs were expressed in Euros and a 2012 reference year.

RESULTS: Edoxaban resulted on average with 0.337 quality-adjusted life-years (QALYs) gained with non-valvular atrial fibrillation (NVAF) in Spain. (VKA treatment) in the prevention of stroke and systemic embolic events in patients with NVAF.

PCV105
COST-EFFECTIVENESS ANALYSIS OF BEMIPARIN USED AS ACUTE TREATMENT FOR DEEP VENOUS THROMBOSIS WITHOUT PULMONARY EMBOLISM Aguirre A1, Carlos F2, Gaica R3, Naranjo M4, Fernandez C5.

OBJECTIVES: Deep venous thrombosis (DVT) and pulmonary embolism (PE) comprise the most common cardiovascular illness after acute coronary syndrome and stroke and a raising public health concern due to its morbidity and mortality and higher costs. Acute and long term treatments help to avoid complications. We assessed the costs and effectiveness of different regimens for the treatment of DVT without PE under the perspective of the Instituto Mexicano del Seguro Social (IMSS). METHODS: A seven-pathway decision tree allowed compariso- of five competing strategies. Acute treatment for 7 days involved bemiparin 115.5UI/kg SC 0.8 ml subcutaneously daily (ENO-OA), enoxaparin 1.0 mg/Kg twice daily (ENO-BID), nadroparin 100UI/Kg twice daily (NAD) or unfractionated heparin administered as 80UI/kg initial bolus followed by continuous infusion at a rate of 18UI/hour/kg (UFH). Local anti-embolism stockings were used if doses of warfarin were not given orally during 83 days (VKA). Direct medical costs included acquisition of medicines, care of further VTE events, and managing of adverse events/complications. Resource use was based on published literature and expert’s opinion. Local unit costs and diagnosis-related groups (DRG) costs were gathered. Effectiveness is expressed in terms of VTE-free patients and deaths avoided per 1000 treated. Deterministic and probabilistic sensitivity analyses were conducted. RESULTS: Acute treatment with BEM was the most effective inter-vention with benefits ranging from 33 VTE-free patients and 7 deaths avoided (Vs. ENO-OA and ENO-BID, respectively) to 64 VTE-free patients and 21 deaths avoided (both Vs. NAD) per 1,000 treated. BEM followed by warfarin was also the less costly regimen leading to overall cost-savings varying between MXN$3,087.626 (Vs. NFH) and MXN$7,084,142 (Vs. NAD) per 1,000 treated. Model results were robust to plausible changes in main parameters. CONCLUSIONS: Bemiparin may present a cost saving of at least 4% over the use of other low molecular weight heparins or UFH as initial therapy for patients affected by DVT without PE.

PCV106
ECONOMIC EVALUATIONS OF NEW ORAL ANTICOAGULANTS FOR THE PREVENTION OF VENOUS THROMBOEMBOLISM AFTER TOTAL HIP OR TOTAL KNEE REPLACEMENT Brockbank J, Woloszczak S

RTI Health Solutions, Manchester, UK

OBJECTIVES: The objectives of this systematic review were to identify published economic evaluations of new oral anticoagulants (NOACs) for primary venous thromboembolism (VTE prophylaxis following total hip replacement (THR) and total knee replacement (TKR) surgeries and to summarise the modelling techniques used and cost-effectiveness results. METHODS: Electronic searches of MEDLINE, Embase, and the Cochrane Library were performed from January 2000 to February 2015 using a combination of Medical Subject Headings and free-text terms that were grouped into the following categories: population (including terms for thromboembolism and orthopaedic surgery), intervention (including terms for apixaban, dabigatran, edoxaban, and rivaroxaban), and study design (including terms for economic analy-ses). RESULTS: Sixteen economic analyses were included; all studies used deci-sion-tree structures to model acute prophylaxis, and 13 included a chronic-phase Markov module to capture long-term complications and recurrent VTE events. The model structures generally captured the important events needed to accurately estimate differences in costs and outcomes between different treatment strate-gies. Seven studies included rivaroxaban, 9 studies included dabigatran, 3 studies included apixaban, and no studies included edoxaban. The analyses that compared a NOAC with low molecular-weight heparin (LMWH) predominantly resulted in the NOAC dominating LMWH for patients with both THR and TKR. The results of analyses that compared NOACs with each other suggested that dabigatran is the least cost-effective option. There is limited evidence directly comparing rivaroxaban with apixaban, but our results suggested that rivaroxaban dominates apixaban for patients with THR in the United Kingdom. CONCLUSIONS: Economic analyses of NOACs for primary VTE prophylaxis following THR and TKR surgeries show reason-a-ble consistency in the model structures used and events captured. The results strongly suggest that NOACs appear to be the least-cost-effective NOAC. However, more research is needed to assess the cost-effectiveness of apixaban and edoxaban.

PCV107
COST-EFFECTIVENESS OF FERRIC CARBOXYMALTOSIDE IN PATIENTS WITH IRON DEFICIENCY AND CHRONIC HEART FAILURE IN AUSTRALIA Walter E, Bauer M, Resil S

Institute for Pharmacoeconomic Research, Vienna, Austria

OBJECTIVES: Iron deficiency (ID) is highly prevalent in chronic heart failure (CHF) patients and imposes a significant disease burden for CHF patients with enormous impacts on society. The purpose of this study was to evaluate the cost-effective-ness of ferric carboxymaltose (FCM) versus iron sucrose (IS) and ferumport (FP) in CHF patients with iron deficiency and/or anemia. METHODS: We developed a Cost-Utility-Model to simulate disease progression in CHF patients using different strategies of iron replacement and modelling techniques. The model estimates CHF disease progression, based on health states, defined by NYHA classes and death. Monte Carlo simulation accounted for uncertainty. The model includes 5 states and monthly transitions. Probabilities were derived from clinical and epidemiological studies and a cohort definition was adapted from the FAIR-HF study. Direct costs (NYHA, inpatient, outpatient and iron treatment costs) from published sources were used and expressed in 2014 Euro from the payer’s perspective. QALYs and total costs were estimated over a 4-year time horizon and discounted at 5% p.a. RESULTS: Over a 4-year timeframe, costs and outcomes associated with FCM would amount to 18,797.39 € and 2.46 QALYs. Costs associated with oral treatment are 17,307.06 € and 2.57 QALYs (ICER per QALY gained: €12,921.62). Costs and outcomes associated with iron sucrose treatment are 17,934.12 € and 2.57 QALYs (ICER per QALY gained: €5,411.23). Due to a delayed disease progression in the FCM group NYHA costs are lower than with oral replacement and no treatment. CONCLUSIONS: IV iron treatment with FCM compared with oral iron in iron deficient CHF patients is below the CE threshold of €22,200/<33.300/QUALY typically used by the UK NICE and hence can be considered a cost effective treatment strategy.
A pharmacoeconomic model of administering actovegin in female patients with chronic venous disease of lower extremities was developed on the basis of clinical data (Uchkin IG et al.). Three strategies of complex therapy were considered in three groups of 100 patients each: 1st group — standard management, 2nd group — standard management + local actovegin, 3rd group — standard management + both subcutaneous and local actovegin. Criteria for inclusion were removal of heavy legs syndrome and wound healing. Costs of drug administration, hospitalization and lab tests were under consideration. The time horizon equaled 1 month. Model outcomes included lives saved, quality-adjusted life years (QALY), direct healthcare costs and incremental cost-effectiveness ratios (ICERs). Resource use was obtained from Diagnosis Related Group legislation data base and an experiment panel of 15 experts included patients with AF and non-AF patients with chronic venous disease. Treatment included 400 mg of dabigatran once daily for 14 days at 895.97, while it constituted 14 € 7,445.87 and 81,967.01 in the second and third groups, respectively. CER values considering the number of patients with wound healing were 39,482.20 for the 1st group, and 26,889.65 and 15,662.87 in the 2nd and 3rd groups, respectively. An increase in the effectiveness of care was considered as a dominant strategy for treatment and secondary prevention of VTE compared to VKAs in the Netherlands. 

**PCV110 CLINICAL AND ECONOMIC ANALYSIS OF EFFECTIVENESS OF FONDAPARINUX SODIUM IN THE TREATMENT OF ACUTE CORONARY SYNDROME**

Krasnova LV, Vorobiev PI, Tyurina IB, Shiganov SV

1Russian Society for Pharmacoeconomics and Outcomes Research, Moscow, Russia, 2First Sechenov Moscow State Medical University, Moscow, Russia

OBJECTIVES: Acute coronary syndrome is a “vehicle diagnosis”, the ambulance service should be within the ambulance network, including — without segment elevation of ST segment. Aim of this study was to conduct clinical and economic analysis of application of fondaparinux sodium and enoxaparin sodium in the treatment of acute coronary syndrome. METHODS: The method of modeling with decision-tree model and “cost-effectiveness” ratio were used. Endpoints were: mortality, the onset of myocardial infarction in the 9th, 30th and 180th day from the start of the study regarding the side effects in patients with acute coronary syndrome. The polypill intervention appeared to be the dominant or cost-effective strategy compared to both CC and NC. A Markov model was used to estimate the health benefits and cost-effectiveness of a polypill intervention (100mg aspirin, 20mg atorvastatin and 10mg ramipril) for the secondary prevention of cardiovascular (CV) events in adults with a history of myocardial infarction (MI) from the perspective of the Spanish health system compared with multiple monotherapy. METHODS: We developed a 1-year Markov model to evaluate the long-term (20 year) outcomes and costs for patients who receive bariatric surgery (gastric bypass or sleeve gastrectomy), CC, or no care (NC), from a German health-care perspective. Body mass index (BMI) change, type II diabetes mellitus (T2DM), stroke, myocardial infarction and cancer were all included; inputs for these were obtained from recent network meta-analyses. Utilities and costs were sourced from the literature and the German DRG tariff. It was assumed that NC patients had no obesity care costs and remained at baseline BMI, blood pressure and cholesterol level. The populations considered were patients with BMI≥40 or BMI>35 with obesity-related comorbidities, and the subpopulation of T2DM patients. Costs and outcomes were discounted at 3% yearly. RESULTS: Compared to those receiving CC and NC, patients undergoing bariatric surgery were found to live longer and have fewer cases of stroke (-11 and -9 cases per 1000 patients, respectively), myocardial infarction (-35 and -41 cases per 1000 patients, respectively) and cancer (-17 cases per 1000 patients for both). The difference between bariatric surgery patients and CC or NC was even greater in patients with T2DM. Bariatric surgery was found to have an ICER of €361 per QALY versus CC (incremental cost €921, QALY gain 2.55) and of €812 per QALY versus NC (incremental cost €2055, QALY gain 2.53). Bariatric surgery was associated with an ICER of less than €30,000/QALY in 100% of simulations versus both CC and NC. CONCLUSIONS: Bariatric surgery improves patient outcomes and is cost-effective in Germany compared to conventional or no care.

**PCV111 THE COST-EFFECTIVENESS OF BARIATRIC SURGERY IN GERMANY**

Belalich AM, Kulse J, Maruszczak M, Slater D, Thomas MC, Martinoti O

1Ethicon SAS, Isy-Le-Moulineaux, France, 2Costello Medical Consulting Ltd, Cambridge, UK, 3Ethicon, part of Johnson & Johnson Medical GmbH, Norderstedt, Germany

OBJECTIVES: The economics of bariatric surgery for obesity in Germany often do not cover this treatment, and sometimes receive no medical care for their obesity at all as the conventional care (CC) of behaviour/activity programmes are not reimbursed by the sickness funds. METHODS: We developed a 1-year Markov model to evaluate the long-term (20 year) outcomes and costs for patients who receive bariatric surgery (gastric bypass or sleeve gastrectomy), CC, or no care (NC), from a German health-care perspective. Body mass index (BMI) change, type II diabetes mellitus (T2DM), stroke, myocardial infarction and cancer were all included; inputs for these were obtained from recent network meta-analyses. Utilities and costs were sourced from the literature and the German DRG tariff. It was assumed that NC patients had no obesity care costs and remained at baseline BMI, blood pressure and cholesterol level. The populations considered were patients with BMI≥40 or BMI>35 with obesity-related comorbidities, and the subpopulation of T2DM patients. Costs and outcomes were discounted at 3% yearly. RESULTS: Compared to those receiving CC and NC, patients undergoing bariatric surgery were found to live longer and have fewer cases of stroke (-11 and -9 cases per 1000 patients, respectively), myocardial infarction (-35 and -41 cases per 1000 patients, respectively) and cancer (-17 cases per 1000 patients for both). The difference between bariatric surgery patients and CC or NC was even greater in patients with T2DM. Bariatric surgery was found to have an ICER of €361 per QALY versus CC (incremental cost €921, QALY gain 2.55) and of €812 per QALY versus NC (incremental cost €2055, QALY gain 2.53). Bariatric surgery was associated with an ICER of less than €30,000/QALY in 100% of simulations versus both CC and NC. CONCLUSIONS: Bariatric surgery improves patient outcomes and is cost-effective in Germany compared to conventional or no care.

**PCV112 COST-EFFECTIVENESS OF THE NON-VITAMIN K ANTAGONIST ORAL ANTICOAGULANTS VS VKA IN THE TREATMENT OF PERI-PROSTHETIC FIBRATION IN PORTUGAL**

Costa J, Fiorentino P, Caillerde D, Inês M, Pereira C, Pinheiro L, Vaz Carneiro A

1University of Groningen, Groningen, The Netherlands, 2Boehringer Ingelheim GmbH, Ingelheim, Germany, 3Boehringer Ingelheim, Allmänna, The Netherlands

OBJECTIVES: Recently, three novel non-vitamin K antagonist oral anticoagulants (NOACs) got reimbursed in Portugal for patients with non-valvular atrial fibril-