PCV7 TOTAL COSTS AND OUTCOMES OF DRUG-ELUTING STENT PLACEMENT WITH INTRAVASCULAR ULTRASOUND (IVUS) COMPARED WITH ANGIOGRAPHY: A COST-EFFECTIVENESS ANALYSIS FROM THE PERSPECTIVE OF THE ITALIAN HEALTH SYSTEM

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OBJECTIVES: Intravascular ultrasound (IVUS) allows physicians to generate a superior image of coronary arteries during percutaneous coronary interventions (PCI), providing a 360-degree view of the arterial wall from the inside, which allows for a more accurate and complete assessment than is possible with angiography. The purpose of this study was to understand the cost-effectiveness of IVUS compared with traditional angiography techniques in drug-eluting stent (DES) implantation, from the perspective of the Italian health system. METHODS: A Markov model was developed to extrapolate the costs and outcomes of a theoretical population of 1000 patients undergoing DES implantation with traditional angiography alone, or in conjunction with IVUS. The model assesses cardiac events, including revascularisations and myocardial infarctions from a health system perspective. Outcomes with and without IVUS were based on a meta-analysis by Zhang et al. (2013). Because of limited clinical evidence to inform the long-term outcomes of IVUS compared with angiography, the model either assumes the benefit of IVUS is comparable to that of DES only in the first year of treatment, or that the benefit is maintained permanently. RESULTS: Using IVUS during PCI cost an average of €542 per patient, and yields an additional 0.02 quality adjusted life years (QALYs) per patient. In a population of 1,000 patients, IVUS led to a reduction of 6.7 revascularisations and 5.9 myocardial infarctions (MI) over the lifetime of a patient. When the revascularisation and MI benefit of IVUS is assumed to extend for the patient’s lifetime, angiography with IVUS costs €38 per patient and yields an additional 0.09 QALYs over the lifetime of a patient, avoiding 13.4 myocardial infarctions and 1.4 procedure-related events. Germany was chosen as the country of analysis because of its unique DRG for the LAAC procedure. Direct costs were taken from the Berlin Acute Stroke Study. Indirect costs are not taken into account because the patients were of retirement age (62.5 years old). As a result of the calculations it was found, that antplatelet therapy with clopidogrel is more expensive and more effective (2 additional lives saved per 1000 patients over 1.91 years) compared with ASA. Due to the additional costs to pay for 1.91 years (e142 to e144, or 1 QALY, use of clopidogrel as antiplatelet agent in patients with cardiovascular disease is economically profitable for Ukraine. CONCLUSIONS: The use of clopidogrel as an antiplatelet agent in patients with cardiovascular disease to prevent nonfatal stroke compared to the ASA is economically profitable for Ukraine.

PCV7 AN ANALYSIS OF THE COST EFFECTIVENESS OF LEFT APPENDAGE CLOSURE FOR THE PREVENTION OF STROKE IN PATIENTS WITH ATRIAL FIBRILLATION AND ABSOLUTE CONTRAINDICATIONS TO WARFARIN THERAPY

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OBJECTIVES: Stroke and its associated disability costs the European Union an estimated €62 billion per year. Warfarin is the mainstay for stroke prevention in atrial fibrillation (AF), but many patients have absolute contraindications to this drug. The WATCH study compared left atrial appendage closure (LAAC) vs warfarin for stroke prevention in AF patients with contraindications to warfarin. This analysis sought to estimate the cost-effectiveness of treating warfarin-ineligible AF patients with LAAC as compared to standard aspirin therapy. METHODS: A Markov model was developed to compare clinical outcomes and total costs between patients treated with LAAC or aspirin over 5 and 10 years based largely on clinical outcomes from the Aspirin and Plastry Register (ASAPLE) and ACTIVE trials. Clinical events included ischemic stroke, TIA, intracranial hemorrhage, and other procedure-related events. Germany was chosen as the country of analysis because of its unique DRG for the LAAC procedure. Acute costs were taken from German DRG and long-term costs were calculated from the Berlin Acute Stroke Study. Indirect costs were not taken into account because the patients were of retirement age (62.5 years old). As a result of the calculations it was found, that antplatelet therapy with clopidogrel is more expensive and more effective (2 additional lives saved per 1000 patients over 1.91 years) compared with ASA. Due to the additional costs to pay for 1.91 years (e142 to e144, or 1 QALY, use of clopidogrel as antiplatelet agent in patients with cardiovascular disease is economically profitable for Ukraine. CONCLUSIONS: The use of clopidogrel as an antiplatelet agent in patients with cardiovascular disease to prevent nonfatal stroke compared to the ASA is economically profitable for Ukraine.

PCV8 COST-EFFECTIVENESS OF RIVAROXABAN IN THE PREVENTION OF STROKE IN NON-VALVULAR ATRIAL FIBRILLATION PATIENTS IN ITALY

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OBJECTIVES: Apixaban, dabigatran (150 mg BID and 110 mg BID) and rivaroxaban are three novel oral anticoagulants (NOACs) currently approved for stroke prevention in AF patients with contraindications to warfarin. Cost offsets achieved with LAAC become considerably more pronounced over time. This analysis highlights the importance of considering the lifetime costs of stroke prevention in AF, especially as the probability of both stroke and bleeding increases with patient age.

RESULTS: In the base case, rivaroxaban showed to be cost-effective compared to VKA with an incremental cost-effectiveness ratio (ICER) of €12,154.6/QALY. Rivaroxaban gained, respectively. Extensive sensitivity analyses indicated that results remained robust across a wide range of inputs. CONCLUSIONS: Based on the results of this analysis, apixaban can be a cost-effective alternative to warfarin and aspirin for the management of VKA-unstable and VKA-unsuitable patients with NVAF, respectively, in Greece.

PCV81 MACROECONOMIC EVALUATION ACCEPTABILITY OF CLOPIDOGREL VERSUS ACETYLSALICYLIC ACID IN PATIENTS WITH CARDIOVASCULAR DISEASE FOR STROKE PREVENTION IN UKRAINE

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OBJECTIVES: The results of many clinical trials demonstrate the benefit of long-term antplatelet therapy in reducing the risk of cardio- and cerebrovascular complications. Both acetylsalicylic acid (ASA) and clopidogrel are effective, but have potentially serious side effects, and clopidogrel is more expensive than ASA. The purpose of the study is to evaluate the macroeconomic acceptability of clopi-dogrel versus ASA in patients with atherothrombotic vascular disease manifested as either recent myocardial stroke, recent myocardial infarction, or symptomatic peripheral arterial disease to prevent non-fatal stroke and death rate according to the clinical trial CAPRIE from Ukrainian perspective. METHODS: Outcomes of the clinical trial CAPRIE, nonmajor bleeding events, and costs were used. RESULTS: The results of the clinical trial CAPRIE study showed, that clopidogrel is more effective versus ASA for reducing the risk of nonfatal stroke: absolute risk reduction is 2.7%. Model “decision tree” was built using the probabilities of events (nonfatal stroke and death) from the study CAPRIE. Direct costs were calculated taking into account the costs of antplatelet therapy, of nonfatal stroke treatment (drugs, diagnosis, patient’s stay in hospital) and the cost of rehabilitation after stroke. Indirect costs are not taken into account because the patients were of retirement age (62.5 years old). As a result of calculations it was found, that antplatelet therapy with clopidogrel is more expensive and more effective (2 additional lives saved per 1000 patients over 1.91 years) compared with ASA. Due to the additional costs to pay for 1.91 years (e142 to e144, or 1 QALY, use of clopidogrel as antiplatelet agent in patients with cardiovascular disease is economically profitable for Ukraine. CONCLUSIONS: The use of clopidogrel as an antiplatelet agent in patients with cardiovascular disease to prevent nonfatal stroke compared to the ASA is economically profitable for Ukraine.
ICER of €11,000/QALY which is below the threshold deemed acceptable from Italian payers (~€5,000–8,000). In the subgroup analysis, rivaroxaban was estimated to be a dominant strategy (more effective and less costly). Sensitivity analyses showed the robustness of the results.

CONCLUSIONS: Rivaroxaban is a cost-effective alternative to VKA and is cost-saving for the SSN in the treatment of NVAF patients at highest unmet medical need.

PCV8

COST-EFFECTIVENESS OF DABIGATRAN EXETILATE FOR THE SECONDARY PREVENTION OF RECURRENT DEEP VEIN THROMBOSIS AND PULMONARY EMBOLISM IN THE UNITED KINGDOM

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OBJECTIVES: To estimate the cost-effectiveness of dabigatran etexilate (dabigatran) for the secondary prevention of deep vein thrombosis (DVT) and pulmonary embolism (PE) from the perspective of the UK National Health Service.

METHODS: A Markov model was developed to estimate costs and outcomes over the lifetime of a cohort of patients receiving either dabigatran (150mg given orally, twice daily) or warfarin for the prevention of recurrent DVT or PE. Modeled events included recurrent DVT or PE, major bleeding (including long-term disability from intracranial haemorrhage), clinically relevant non-major bleeding, myocardial infarction, unexplained angina, pulmonary hypertension, severe post-thrombotic syndrome, and death. Efficacy and safety parameters were based on the RE-SONATE study; the period of follow-up was 6 months with an extension to 18 months. Probabilities of recurrent DVT and PE after failure of dabigatran during the first year were assigned based on the percentage of patients who developed a recurrent event within the first year. Sensitivity analyses were performed.

RESULTS: The total mean QALYs gained was 13.089 for dabigatran and 13.070 for warfarin. Dabigatran was dominant; the ICER was €40,000/QALY gained. Sensitivity analyses showed that dabigatran was likely to be cost-saving compared to placebo for the secondary prevention of DVT and PE in the UK.

PCV8B

A HEALTH ECONOMIC EVALUATION OF FENOFIBRIC ACID IN COMBINATION WITH STATINS IN THE PREVENTION OF CARDIOVASCULAR DISEASE IN TAIWAN: THE MMID-PHILIDIA PATIENTS

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OBJECTIVES: The aim of this study is to evaluate the cost-effectiveness of fenofibric acid (FA) in combination with statins in the primary prevention of cardiovascular disease (CVD) in Taiwan. FA is an established treatment for the management of dyslipidemia patients, and has shown benefits in patients with type 2 diabetes. The study compared the cost-effectiveness of a 2-year treatment with FA combined with statins versus statins alone in a subpopulation of patients with recently diagnosed diabetes.

METHODS: A Markov model was developed to estimate costs and outcomes over the lifetime of a cohort of patients with type 2 diabetes in Taiwan. The model was based on the FA in Combination with Statins in New Patients with Type 2 Diabetes (FACTOR-T2D) trial. The model used an 18-month Markov cycle length and a lifetime horizon. The primary outcome measure was the incremental cost-effectiveness ratio (ICER) of the intervention compared to the control group.

RESULTS: The total mean QALYs gained was 0.29 QALYs for the intervention group and 0.14 QALYs for the control group. The ICER was €20,338/QALY gained. Sensitivity analyses showed that the intervention was cost-saving compared to the control group.

CONCLUSIONS: The results indicate that FA in combination with statins is a cost-effective treatment for the primary prevention of cardiovascular disease in patients with type 2 diabetes in Taiwan.

PCV85

PERSONALIZED TREATMENT IN HEART FAILURE DISEASE MANAGEMENT IMPROVES OUTCOMES AND REDUCES COSTS

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OBJECTIVES: The study aimed to evaluate the cost-effectiveness of personalized treatment in heart failure (HF) patients in terms of improving outcomes and reducing costs.

METHODS: A decision-analytic model was used to simulate the outcomes of HF patients receiving personalized treatment compared to usual care. The model accounted for different treatment strategies, including medication optimization, lifestyle interventions, and hospitalization. The primary outcome was total cost, and the secondary outcome was QOL.

RESULTS: Personalized treatment led to a significant reduction in hospitalization costs and an improvement in QOL, resulting in a cost-effectiveness ratio of €57,169/QALY gained. Sensitivity analyses showed that the results were robust to variations in input parameters.

CONCLUSIONS: Personalized treatment in heart failure can improve outcomes and reduce costs, making it a cost-effective strategy.

PCV86

THE COST-EFFECTIVENESS OF DABIGATRAN AND THE OPPORTUNITY COST OF DELAYED SUBSIDISED ACCESS IN AUSTRALIA

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OBJECTIVES: To assess the cost-effectiveness of dabigatran in the treatment of new diabetes patients in the Netherlands using various decision analysis models.

METHODS: A Markov model was constructed to simulate the lifetime costs and outcomes of patients treated with dabigatran compared to warfarin. Sensitivity analyses were performed to assess the robustness of the results.

RESULTS: The results showed that dabigatran was cost-effective compared to warfarin, with a mean QALYs gained of 0.29 QALYs and a cost of €20,338/QALY gained. Sensitivity analyses confirmed the robustness of the findings.

CONCLUSIONS: Dabigatran is a cost-effective alternative to warfarin in the management of new diabetes patients in the Netherlands.

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