PCV93
COST BENEFITS OF INCORPORATING LEVOSIMENDAN INTO CARDIAC SURGERY PRACTICE: GERMAN BASE CASE
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OBJECTIVES: To evaluate the cost-effectiveness of using levosimendan compared with dobutamine, in the perioperative treatment of patients undergoing cardiac surgery who require inotropic support. **METHODS:** A two-part Markov model was designed to simulate health state transitions of patients undergoing cardiac surgery, and estimate the short- and long-term health benefits of treatment. Hospital length of stay (LOS), mortality, medication and adverse events were key clinical and cost inputs. Treatment cost-effectiveness was evaluated in terms of costs, incremental cost per Life Years (LYs), and incremental cost per Quality-Adjusted Life Years (QALYs) gained within the German healthcare system. Drug prices were calculated from the German Drug Directory (€/2014) and published literature, with a 3% yearly discount rate applied. The base case analysis was for a one year time horizon. **RESULTS:** The use of levosimendan versus dobutamine was associated with cost savings of €4787 per patient from the German hospital perspective. These cost savings were due to reduced adverse events and shorter hospital LOS, leading to increased bed capacity and hospital revenue. Excluding revenue gains, the incremental cost per LY was €9115 and incremental cost per QALY was €11,919 for levosimendan versus dobutamine. Levosimendan was 95% to 100% likely to be cost-effective at a willingness to pay threshold of €20,000 to €40,000 per QALY. Probabilistic sensitivity analyses demonstrated that results were robust to parameter changes. **CONCLUSIONS:** The use of levosimendan in patients undergoing cardiac surgery who require inotropic support is cost-effective and potentially cost-saving compared with dobutamine.

PCV94
COST-EFFECTIVENESS ANALYSIS OF ALTERNATIVE STRATEGIES OF MONITORING FOR AMIODARONE-RELATED THYROID TOXICITY IN UK PRIMARY CARE
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OBJECTIVES: Thyroid function testing during amiodarone therapy is recommended every 6 months in order to control for the risk of hypothyroidism and thyrotoxicity, although evidence of the effect of regular monitoring on the risk of amiodarone-related ADEs, cost and utility is sparse. This study investigated the cost-effectiveness of alternative frequency of monitoring amiodarone therapy in UK general practice. **METHODS:** A cost-effectiveness analysis compared alterative frequency of monitoring (once in 6 months (recommended frequency), less than once in 6 months (less frequent), more than once in 6 months (more frequent)). A Markov model with cycle length of 90 days and 5 year horizon simulated progression through the ADE pathway (hypothyroidism, thyrotoxicity, cardiac complications). Treatment effect of monitoring on risk of ADE was estimated from UK GP and hospital observational data. Propensity score weights were used to control for non-random assignment. Probabilities, utilities and costs were derived from literature on amiodarone-related toxicity, with priority given to UK based-studies. Cost and utility was assessed from the perspective of NHS England and discounted at 3.5% per annum. A probabilistic sensitivity analysis (PSA) estimated the effect of parametric uncertainty on incremental cost and effect. **RESULTS:** Recommended frequency monitoring was the dominant strategy. Mean incremental QALYs: 0.036 (95%CI -0.066,0.075), 0.039 (-0.068,0.085); mean additional cost: -£6 (-283,272), -£61 (-360,238) vs. less frequent and more frequent monitoring, respectively. However, due to small differences in QALY and cost generated and significant uncertainty in model parameters, the probability of cost-effectiveness was 41% at £20,000/QALY threshold. **CONCLUSIONS:** The analysis supported the current recommendation for 6-monthly monitoring of thyroid function in amiodarone therapy, although the confidence in this conclusion was low due to poor evidence on the risk of amiodarone-related thyroid ADEs and their economic effect. Additional investigation of amiodarone monitoring is needed in order to justify its application in primary care.

PCV95
A COST-EFFECTIVENESS ANALYSIS OF NOVEL ORAL ANTICOAGULANTS FOR ACUTE TREATMENT AND SECONDARY PREVENTION OF VENOUS THROMBOEMBOLIC DISEASE
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OBJECTIVES: This study estimated the cost-effectiveness of novel oral anticoagulants for (i) acute treatment and (ii) secondary prevention, of VTE from the perspective of the NHS. **METHODS:** Secondary prevention:A Markov model was developed to evaluate cost-effectiveness of aspirin, rivaroxaban, dabigatran, warfarin (INR 2-3), apixaban 2.5mg and apixaban 5mg, compared to "no pharmacotherapy". Acute treatment: A decision tree model for short term outcomes, followed by the secondary prevention model for long-term consequences, was used to evaluate cost-effectiveness of dabigatran, rivaroxaban, apixaban and edoxaban, compared with warfarin (INR 2-3). All interventions were considered at the licensed dose(s). Efficacy and safety parameters were informed by network meta-analyses and longitudinal studies were used to parameterise the long term follow up. The models had a life time horizon with costs and QALYs discounted at 3.5%. **RESULTS:** All results are presented at a £20,000 willingness to pay per QALY threshold Acute treatment:Apixaban showed the highest expected QALYs (12.02) and was the most cost-effective intervention with an incremental net monetary benefit of £645 (£-1,274 to £2,100) compared to Warfarin. Rivaroxaban also had a positive incremental net benefit (£167); all other comparators had a negative incremental net monetary benefit compared with warfarin. Secondary prevention:Although aspirin has a higher risk of recurrent VTE compared to the anticoagulants it had the highest incremental net monetary benefit compared with warfarin; £596 (£-6,494 to £4,524). This was due to the low cost and risk of adverse events of aspirin. All other comparators had a negative incremental net monetary benefit compared with warfarin. **CONCLUSIONS:** For acute treatment, apixaban had the highest probability (57%) of being cost-effective at a willingness to pay threshold of £20,000 for acute treatment. Novel oral anticoagulants are unlikely to be cost-effective for long term use in secondary prevention.

PCV96
COST-EFFECTIVENESS OF COMBINED TREATMENT WITH ALTEPLASE (RT-PA) AND CEREBROLYSIN IN ACUTE ISCHEMIC HEMISPHERIC STROKE IN AUSTRIA
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OBJECTIVES: Worldwide, stroke is the third most common cause of death in developed countries with declining death rates. In Austria the incidence rate of stroke is 2.1 – 2.3 per thousand annually. Cerebrolysin prevents acute neuronal damage and accelerates recovery after stroke. The purpose of this analysis was to determine costs of stroke for Austria in general and to estimate the cost-effectiveness of Cerebrolysin in combination with alteplase compared to alteplase alone. The analysis should assess health economic advantages in the acute care due to a faster improvement in neurological impairment and for rehabilitation in early post-acute phase and quantify the correlated reduced resource use in the health care and social system. **METHODS:** A Markov-model was developed based on the mRS states 90 days after stroke to simulate consequences over a 10-year time-horizon. Consequences include recurrent stoke, deteriorated mRS, death due to recurrent stroke or other reasons. Health benefits were measured in quality-adjusted life years (QALYs) and life years (LYs). Monte-Carlo-simulation accounted for uncertainty. Probabilities were derived from RCTs and open-label studies; direct costs (2014) were derived from published sources from the payer's perspective. QALYs, life years and costs were projected over a 10 year time-horizon. Costs and outcomes were discounted according to the national guidelines **RESULTS:** Austrian costs associated with Cerebrolysin amount to € 61,468.67 and generate 3.77 QALYs and 6.70 LYs. Costs without Cerebrolysin amount to € 62,257.88, achieve 3.75 QALYs and 6.70 LYs. The treatment strategy with Cerebrolysin dominates the strategy without Cerebrolysin. Assessing the disaggregated costs it becomes apparent that costs savings are due to lower acute stroke costs (€-493.29) and nursing-home costs mainly after first stroke (€-250.88). **CONCLUSIONS:** From a health economic perspective, Cerebrolysin is a cost-effective therapy; it mainly reduces event costs due to early remobilization and, in addition, rehabilitation and nursing-home cost.

PCV97
COST-EFFECTIVENESS OF A NOVEL PHARMACIST GUIDED WARFARIN PHARMACOGENETIC SERVICE
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OBJECTIVES: A novel pharmacist guided pharmacogenetic service (PGx) for patients newly started on warfarin has been implemented at the University of Illinois Hospital & Health Science System (UI-Health). Although the PGx service was found to be more effective in reducing bleeding and thrombosis related hospitalizations at 90 days post warfarin initiation compared to usual care, the cost of the genotype test and the PGx consult service warrants economic evaluation beyond 90-days of follow-up. The objective of this study was to evaluate the long-term cost-effectiveness of this novel pharmacist guided warfarin PGx service compared to usual care. **METHODS:** A cost-effectiveness model was developed in TreeAge Pro 2014, Williamstown, MA, USA. Patients in either the PGx or the usual care cohort followed by UI-health were included as comparators and costs and QALYs were estimated over a 5 year horizon. Warfarin related (i.e., bleeding or thrombosis) readmissions at 30 and 90 days were modeled in a decision tree. Patients in the model without a fatal event within 90 days transitioned to a Markov model with a 3-month cycle. For patients with venous thromboembolism, the Markov states included well, post intracranial hemorrhage (ICH), post thrombotic syndrome, and dead, whereas those with atrial fibrillation included well, post ICH, post stroke, post myocardial infarction and dead. Utilities, cost inputs and transition probabilities were taken from the literature and an annual 3% discount rate was used. **RESULTS:** At 5 years, patients managed by the PGx service had expected costs of $7412 and gains of 4.41 QALYs whereas those who received usual care had expected costs of $7926 and gains of 4.39 QALYs. **CONCLUSIONS:** A novel pharmacist guided warfarin pharmacogenetic service was projected to be cost-saving and to result in similar or higher QALYs by reducing hospitalizations due to warfarin related adverse events.

PCV98
IS EDOXABAN A COST-EFFECTIVE ALTERNATIVE TO VENOUS THROMBOEMBOLIM PATIENTS TREATED WITH VITAMIN K ANTAGONISTS IN SPAIN?
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OBJECTIVES: To assess the cost-effectiveness of edoxaban versus standard therapy (low molecular weight heparin overlapped and followed by acenocoumarol) in patients with venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism (PE). **METHODS:** A Markov model was developed to describe the management and consequences of VTE for Spain. We defined a cycle's length of 2 weeks and different health states to simulate the natural history of VTE patients after suffering DVT and/or PE. Patients were treated with edoxaban or standard therapy for 3, 6 and 12 months, 12 month treatment period being our base case scenario. We used the HOKUSAI study and related literature to obtain