effectiveness research has focused on the payer and health system perspectives, this study investigates the societal impact. The study utilizes a Markov Cohort simulation of a US population with pre-existing cardiovascular disease (CVD), starting at age 60. A 30-year time horizon was applied, with 1 year cycles, and a 3% discount rate on costs and utilities. The health states modeled were myocardial infarction, stroke, angina pectoris, coronary revascularization including PCI and CABG, and deaths due to all events, as well as background death. Inputs for event rates were derived from the phase 3 clinical trial FOURIER and the Framingham Heart Study, cost data was derived from the VA, HCUP, and literature, and quality of life inputs were from literature. **RESULTS:** The deterministic result, focusing on the US secondary-treated coronary heart disease population, shows that evolocumab is incrementally more expensive at $169,334 and increases quality of life by 0.30, producing an ICER of $570,585. Univariate sensitivity analysis showed the findings were robust. Threshold analysis showed that an annual cost of $3,075 for evolocumab, or a 77% decrease from list price, would result in a cost-effective treatment, assuming a $150,000 per QALY willingness to pay threshold. Probabilistic Sensitivity Analysis shows that evolocumab would be more cost effective than standard of care 50% of the time above $590,000 per QALY and would be the outright preferred treatment at a willingness to pay above $1,525,000. **CONCLUSIONS:** Evolocumab is not considered cost-effective at standard willingness to pay thresholds at its current list price. Similar results are likely for the other PCSK-9 inhibitor, alirocumab.

PCV47

EXTENDED THROMBOPROPHYLAXIS WITH BETRIXABAN IS COST-EFFECTIVE IN ACUTELY ILL MEDICAL PATIENTS

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OBJECTIVES: The APEX trial demonstrated that prophylaxis of venous thromboembolism (VTE) with betrixaban from hospital admission through post-discharge (35-42 days) in acutely ill medical patients reduced VTE events without significant increase in major bleeding vs standard-duration prophylaxis (6-14 days) with enoxaparin. Here, we analyzed the cost-effectiveness of this new thromboprophylaxis regimen with betrixaban versus standard-duration enoxaparin. **METHODS:** We adopted our previously published decision-tree model to compare two thromboprophylaxis strategies from a US health care provider perspective among a hypothetical cohort of 10,000 acutely ill medical patients who are at risk of VTE: betrixaban (160 mg loading dose followed by 80 mg once daily for 35 days; $396) versus enoxaparin (40 mg daily for 9 days; $284). To estimate VTE-related deaths within 35 days that might have been averted by thromboprophylaxis, the model incorporated a clinical care path, including primary and secondary VTE prophylaxis as well as treatment of thromboprophylaxis-related adverse events. Parameter values and costs were estimated for each node in the decision tree based on publically available health data. All costs were converted to 2017 USD based on the US medical care consumer index. **RESULTS:** For the base-case scenario, among a hypothetical cohort of 10,000 acutely ill medical patients at increased VTE risk, betrixaban was estimated to reduce risk of death by 0.16% and save nearly $1.8M (or $178.27 per patient treated). One-way sensitivity analyses indicated that betrixaban would dominate enoxaparin assuming: a) the cost of 35-day betrixaban was <$15.94 per dose (<$574 per 36 doses); b) the clinically relevant recognized bleeding rate was ≤3.8% or c) the VTE rate was ≤7.2%. **CONCLUSIONS:** Based on the rates of clinical events reported in the APEX study, thromboprophylaxis with betrixaban from admission through post-discharge in acutely ill medical patients is likely to prevent additional deaths and reduce costs compared with standard-duration thromboprophylaxis with enoxaparin.

PCV48

A DISCRETE EVENT SIMULATION MODEL FOR A PHARMACOGENOMICS TEST FOR STATIN-INDUCED MYOPATHY IN PATIENTS INITIATING A STATIN IN SECONDARY CARDIOVASCULAR PREVENTION

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OBJECTIVES: Statin therapy is the mainstay of dyslipidemia treatment and reduces the risk of a cardiovascular event (CVE) up to 35%. Adherence to statin therapy, however, is poor. One reason patients discontinue statin therapy is musculoskeletal pain and the associated risk of rhabdomyolysis. Research is ongoing to develop a pharmacogenomics (PGx) test for statin-induced myopathy as an alternative to the current diagnostic method, which relies on creatine kinase levels. The potential economic value of a PGx test for statin-induced myopathy is unknown. **METHODS:** We developed a lifetime discrete-event simulation (DES) model for patients aged 65 years old initiating a statin after a first CVE consisting of either an acute myocardial infarction or a stroke. We estimated the model time-to-event functions using published Kaplan-Meier graphics in cardiovascular (CV) studies. We have assessed the model over the whole spectrum of test sensitivity and specificity. **RESULTS:** Our model showed that a strategy with a perfect PGx test is cost-effective at all conventional payer willingness-to-pay (WTP) thresholds, with an incremental cost-utility ratio of $4,273 CAD per quality-adjusted life year (QALY). The probabilistic sensitivity analysis shows that when the payer WTP per QALY reaches $12,000, the PGx strategy is favored in 90% of the model simulations. The scenario analyses on the test parameters show that a totally imperfect test (false positive and negative rates of 100%) would still yield a positive net incremental monetary benefit with a payer WTP per QALY of $50,000. **CONCLUSIONS:** We found that a strategy favoring patients staying on statin therapy is cost-effective even if patients maintained on statin are at risk of rhabdomyolysis. Our results are explained by the fact that statins are highly effective in reducing the CV risk in patients at high CV risk, and this benefit largely outweighs the very low risk of rhabdomyolysis.

PCV49

COST-EFFECTIVENESS OF RIVAROXABAN VERSUS WARFARIN FOR TREATMENT OF NONVALVULAR ATRIAL FIBRILLATION IN PATIENTS WITH WORSENING RENAL FUNCTION

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OBJECTIVES: Nonvalvular atrial fibrillation (NVAF) is highly prevalent and increases the risk of cardiovascular events significantly, leading to decreased quality of life and increased healthcare costs. In a recent subgroup analysis, treatment response was shown to vary for patients exhibiting worsening renal function (WRF) on-treatment. It is important to understand the cost-effectiveness of novel oral anticoagulant (NOAC) use in this population. **METHODS:** A cost-effectiveness analysis (CEA) was conducted using a semi-Markov decision model with inputs from the medical literature. Input parameters were sourced from published clinical literature including a multicenter clinical trial and relevant subgroup analysis. Clinical assumptions were validated across other published CEA studies and with expert clinical opinion. The baseline population of interest was elderly US male patients at increased risk for stroke (CHADS2 score ≥2) undergoing treatment for electrocardiographically documented NVAF and exhibiting WRF. Rivaroxaban 20mg daily was compared to warfarin treatment with target international normalized ratio (INR) of 2.0-3.0. The main outcome measure of interest was incremental net monetary benefits (INMB) of rivaroxaban treatment versus warfarin. **RESULTS:** Remaining lifetime use of rivaroxaban is associated with 5.69 QALYs at a cost of $66,075 per patient, while use of warfarin produced 5.22 QALYs with costs of $78,504 per patient. At a willingness-to-pay (WTP) of $150,000 per QALY, incremental net monetary benefits (INMB) per patient are $83,590. These results were shown to be highly robust through deterministic and probabilistic sensitivity analyses. In the male WRF population, treatment of NVAF with warfarin was dominated by treatment with rivaroxaban in 99.4% of 10,000 simulations. **CONCLUSIONS:** Rivaroxaban is a dominant treatment over warfarin in elderly US male NVAF patients exhibiting WRF, providing increased QALYs at a decreased overall cost. Application of these findings may require healthcare providers to successfully predict which patients are likely to exhibit WRF prior to treatment initiation.

PCV50

GLOBAL COST EFFECTIVE ANALYSIS OF APIXABAN VERSUS WARFARIN FOR THE PREVENTION OF STROKE AS A RESULT OF ATRIAL FIBRILLATION: A SYSTEMATIC REVIEW

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OBJECTIVES: To evaluate published cost-effective analyses (CEAs) of apixaban compared with warfarin for prevention of stroke in patients with atrial fibrillation (AF). **METHODS:** A systematic review of original CEA analyses was conducted using MEDLINE, EMBASE, Cochrane Library, and CINAHL. Studies were included if they were original CEA analyses that compared to apixaban to warfarin for prevention of stroke in patients with AF. **RESULTS:** The seven studies included represent data from four countries. To compare estimates of the overall cost and quality adjusted life years (QALYs) from treatment with apixaban versus warfarin, each study utilized the Marcov model. The clinical efficacy and safety data that was input into the model was derived from the AVERROES and/or ARISTOTLE trial. Although ARISTOTLE data was used in each of the studies, their incremental cost effectiveness ratios (ICERs) vastly differed. ICER calculation differences were attributed to the studies' hypothetical population, the number of health states included in the model, and the sources of utility that were used to calculate QALYs. With a willingness-to-pay (WTP) threshold of $50,000, apixaban was found to be cost-effective (CE) in five studies and cost-saving in one study. The ICERs ranged from $13,801/QALY-$93,063/QALY **CONCLUSIONS:** The studies evaluated showed apixaban to be a CE alternative to warfarin in the prevention of stroke in patients with AF.

PCV51

ECONOMIC EVALUATION OF HUMAN URINARY KALLINDINOGENASE FOR PATIENTS WITH ACUTE ISCHEMIC STROKE IN CHINA

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OBJECTIVES: In China, both human urinary kallindinogenase (HUK) and 3-n-butylphthalide (NBP) were recommended for clinical use to improve cerebral blood circulation during an acute ischemic stroke (AIS). The objective of this study was to evaluate the economic value of HUK versus NBP for patients with AIS. **METHODS:** An economic evaluation based on data of patients who have been treated with either HUK (N=885) or NBP (N=488) from a prospective, phase IV, multicentre, clinical registry study (Chinese Acute Ischemic Stroke Treatment Outcome Registry, CASTOR) was conducted to analyse the cost and effectiveness of HUK versus NBP for AIS in China. Before the analysis, the patients were matched using propensity score. Both a cost-minimisation analysis and a cost-effectiveness analysis were conducted to compare the matched pairs. A bootstrapping exercise was also conducted for the matched arms to demonstrate the probability of one intervention being cost-effective over another for a given willingness-to-pay for an extra quality-adjusted life-year (QALY). **RESULTS:** After propensity score matching, 465 pairs were matched. The overall medical cost in NBP arm is CNY 23074.37, while it in HUK arm is CNY 18617.24, indicating HUK is preferred with cost-minimisation analysis. Although the QALY gained in NBP arm (0.69170) compared with it in HUK arm (0.68223) is statistically insignificant (p=0.4632), we conducted a cost-effectiveness analysis as exploratory analysis to learn that NBP is not cost-effective compared with HUK under a 3-time-GDP threshold, with the incremental cost and QALY of NBP over HUK