“gold standard”, were set at 100%, while ranges for sensitivity and specificity for MRA were drawn from literature and used for sensitivity analysis. Analyses performed for a hypothetical population of 91,665 (US diabetics with PAD who are eligible for treatment in 2000) included: one-year total health care costs, total Quality Adjusted Life Year Gained (QALYG; the increase in quality of life after treatment), cost per QALYG, incremental cost per QALY, and cost of accurate and inaccurate planning with medical management, PTA, bypass, and amputation.

RESULTS: In the base-case scenario, with MRA sensitivity and specificity at 98% and 83% respectively, the one-year per patient total health care costs in the diabetic PAD population was $20,176 for patients receiving an MRA versus $21,996 for those receiving a DSA for treatment planning. The total QALYG was higher in the MRA cohort than in the DSA cohort, 0.11 versus 0.07 respectively. Therefore, the total cost per QALYG was $106,948 higher for patients who received a DSA ($190,697 vs. $297,645). MRA dominates the DSA in incremental cost/QALY with savings of $57,060, due to a lower risk of complication and the resultant greater increase in QALYG and lower cost of treatment. CONCLUSION: This model demonstrates that MRA as a treatment-planning tool, with lower risk of complication, could substantially reduce the cost and cost per quality-adjusted life years for peripheral arterial disease in diabetic patients.

PCV19

COST COMPARISON OF DIFFERENT TREATMENTS FOR DEEP VEIN THROMBOSIS PROPHYLAXIS DURING ABDOMINAL SURGERY

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OBJECTIVES: Nearly 600,000 patients are diagnosed with Deep Vein Thrombosis (DVT) in US every year. One in every 100 patient dies due to pulmonary embolism developed as a later complication. DVT during abdominal surgery is a frequent problem & therefore prophylaxis is a compulsion. The objective of this study was to identify the least costly prophylactic treatment taking into account DVT complications from the health care payer perspective. METHODS: Cost comparison was done using a decision tree. The probabilities and costs for postoperative DVT was obtained from clinical trial studies and other published sources. Prophylaxis during surgery was considered to be for 9 days whereas treatment for postoperative DVT was assumed to be for 5 days. Total cost included drug acquisition cost, hospitalization costs for DVT. Expected value was computed at each chance nodes. RESULTS: Fondaparinux sodium has the least probability (0.042) for postoperative DVT complications whereas Enoxaparin sodium & unfractionated heparin (UFH) have higher probabilities of 0.048 & 0.11 respectively. The drug acquisition cost for prophylaxis was highest with fondaparinux sodium (2.5 mg) at $36.69, enoxaparin sodium (40 mg) at $24.74 & UFH ($000 IU) at $3.06 per single dose. Low molecular weight heparins were given once daily while UFH was given twice daily. Expected value was found to be $1129.728, $1133.590 & $2256.730 for fondaparinux sodium, enoxaparin sodium & UFH respectively. Sensitivity Analysis showed that the model is somewhat influenced by adverse events & costs. CONCLUSION: Fondaparinux sodium has been found to have the least costly prophylactic treatment. Although the acquisition cost is the highest, it is offset by the low probability of developing DVT complications and later hospitalization costs. UFH even though having the lowest acquisition cost, has high rate of DVT complications & higher hospitalization cost due to frequent administration procedures & continuous monitoring requirement.

PCV20

A COST-EFFECTIVENESS STUDY COMPARING IVABRADINE WITH STANDARD CARE IN STABLE ANGINA PECTORIS IN THE NETHERLANDS

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OBJECTIVES: To compare the costs resulting from a treatment with ivabradine, a new medication for stable angina pectoris patients, with standard care for those patients who cannot be appropriately treated with standard medication in The Netherlands in 2006. METHODS: A decision analytic model was used to estimate the cost-effectiveness of ivabradine in patients with stable angina pectoris, who cannot be appropriately treated with standard medication and are therefore currently candidates for revascularisation (ESC guidelines 2006 on the management of stable angina pectoris). Therefore ivabradine is compared with standard care consisting of revascularization (CABG or PTCA). The study was performed within the society perspective, which included costs of medication and revascularisation procedures. The data sources included published literature, the ivabradine clinical trials, the Euro Heart Survey for stable angina, which provided data from daily practice, and official price/tariff lists and national population statistics. RESULTS: Treatment with ivabradine results in 77% reduction in revascularisation and leads to a cost saving of $7028 per patient compared with revascularisation during the first year of treatment. Sensitivity analyses showed that extrapolation beyond one year leads to further cost savings. Another sensitivity analysis on the probability of revascularisation showed that cost savings vary from $2882 to $9102. CONCLUSION: This model showed that the use of ivabradine compares favourably with revascularisation in treatment of stable angina pectoris in The Netherlands from a budgetary and health economic perspective: the total costs are substantially lower, whereas the effectiveness is at least similar. Consequently ivabradine can be considered a cost-effective treatment being dominant over standard care.

PCV21

ECONOMIC EVALUATION OF EPLERENONE COMPARED WITH PLACEBO IN PATIENTS WITH MYOCARDIAL INFARCTION COMPLICATED BY LEFT VENTRICULAR SYSTOLIC DYSFUNCTION AND HEART FAILURE IN MEXICO

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OBJECTIVES: In Mexico in 2005, there are more than 250,000 patients in secondary prevention. One of the most serious and frequent consequences of survivors of acute myocardial infarction (AMI) is heart failure, which is associated with a 55% greater risk of dying and 2.15-times greater risk of death or recurrent AMI at 30 days. The purpose of this study was to evaluate the cost-effectiveness of eplerenone compared with placebo from the Mexican health care payer’s perspective. METHODS: We used a three-year analysis model to estimate costs and effectiveness. Effectiveness measures were the number of life-year gained (LYG) and quality-adjusted life-years (QALYs). Effectiveness data was obtained from the Eplerenone Post-Acute Myocardial Infarction Heart Failure Efficacy and Survival Study (EPHESUS). Survival beyond the trial period (16 months) was estimated from data from the Framingham Heart Study. The estimation of resource use was performed employing local expert opinion surveys and they included hospitalization, emergency room visits, outpatient services and medication. Costs and life expectancy differences were discounted 5% annually. Threshold sensitivity analysis was performed and acceptability
curves were constructed. RESULTS: Eplerenone added incremental benefit on mortality and morbidity above placebo. Costs was $US1279.70 higher in the eplerenone treatment (CI 95%, $US604-1992) because of the drug cost. For eplerenone versus placebo, the incremental cost—effectiveness ratio (ICER) was $US13,169.8 per LYG and $US19,753.4 per QALY gained. Using a willingness-to-pay threshold of $US20,000 per LYG or QALY gained, 64.3% of estimates fell below this threshold.

CONCLUSION: Eplerenone compared with placebo in the treatment of heart failure after AMI is effective in reducing mortality and is cost—effective with a threshold of $US20,000 per LYG in Mexico. These results should be taken into account by Mexican decision makers and clinicians in the management of patients with left ventricular systolic dysfunction and heart failure following AMI.

PCV22

A CARDIOVASCULAR DISEASE COST-EFFECTIVENESS MODEL BASED ON CTT META-ANALYSIS
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OBJECTIVES: To evaluate the cost-effectiveness of lipid-lowering therapy for cardiovascular disease based upon the event risk and LDL-C reduction relationship observed in the Clinical Treatment Trialists (CTT) meta-analysis. METHODS: A simple Markov model comparing the incremental cost-effectiveness for two lipid-lowering therapies was developed using TreeAge® software. The addition of ezetimibe to simvastatin 40 mg was compared to doubling the simvastatin 40 mg dose from the UK health plan perspective. Patients enter the model as a primary or secondary CHD prevention patient. Patients experience a fatal or non-fatal CHD event, die from another cause, or remain event-free in each annual cycle. Transition probabilities were determined by a patient’s baseline risk, age and LDL-C reduction. Lipid therapy was assumed to provide a 23% reduction in major coronary events for 1 mmol/L reduction in LDL-C. Costs and utilities for health states were adapted from the NICE report on statin therapies and were discounted at 3.5%. Base case analyses were performed for a 55 year old individual, with or without a history of CHD, annual CHD risk of 3%, and a baseline LDL-C value of 4 mmol/L. Probabilistic sensitivity analysis (PSA) was performed and acceptability curves were generated. RESULTS: The incremental cost per QALY gained of simvastatin/ezetimibe co-administration was estimated at ≤14,618 and ≤18,549 for those with and without a history of CHD, respectively. PSA based upon 10,000 iterations suggest that the ezetimibe co-administration was below a threshold of ≤30,000/QALY gained in over 95% of the simulations. Additional analyses suggest that cost effectiveness of the addition of ezetimibe improves relative to doubling of statin dose with increasing baseline CHD risk and/or LDL-C levels. CONCLUSION: The model developed provides a simple method to compare two treatments based on their effects on LDL-C. Although the model has several simplifying assumptions it provided results consistent with other CHD models.

PCV23

EVALUATION OF DYSLIPIDEMIA THERAPIES FOR TREATMENT OF LOW HDL AND HIGH LDL: A COST-EFFECTIVENESS ANALYSIS BASED ON NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY III
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OBJECTIVES: Cholesterol management guidelines recommend management of elevated low-density cholesterol (LDL-C) followed by management of low high-density cholesterol (HDL-C) and elevated triglycerides in patients with dyslipidemia. The objective of this study was to conduct a population-based cost-eficacy analysis of dyslipidemiac agents using data from the National Health and Nutrition Examination Survey III (NHANES III). METHODS: A 6-month, cost-effectiveness analysis, from a MCO perspective, incorporating dose escalation and adverse drug effects (ADEs) associated with pravastatin, simvastatin, ezetimibe/simvastatin, and extended release (ER) niacin/lovastatin was conducted. Patients with high LDL-C and low HDL-C from NHANES III were included to estimate population values for lipids, while product labeling was used for lipid changes. Goals for LDL-C were <100 mg/dL and <130 mg/dL based on cardiovascular risk; and, HDL-C > 40 or 50 mg/dL (males and females, respectively). Medication (WAC), physician office visits, and laboratory costs (Medicare’s allowable fees) were included. Monte Carlo simulations were conducted for probabilistic sensitivity analyses testing key assumptions of drug efficacy, ADEs, and costs. RESULTS: Rates of lipid goal achievement was: HDL-C achieved 100% and LDL-C achievement was a function of sex, age and treatment. Accounting for dosing and ADEs, the lowest cost for 180 days of treatment was ezetimibe/simvastatin ($561), followed by ER niacin/lovastatin ($655), pravastatin ($698), and simvastatin ($742). Attainment of LDL-C and HDL-C goals was highest for ER niacin/lovastatin (77.8%), followed by for ezetimibe/simvastatin (50.1%), simvastatin (44.2%) and pravastatin (29.5%). Cost/patient achieving combined goals was $842 for ER niacin/lovastatin, $1120 for ezetimibe/simvastatin, $1677 for simvastatin, and $2364 for pravastatin. Both pravastatin and simvastatin were dominated by ezetimibe/simvastatin, while the incremental cost-effectiveness for ER niacin/lovastatin at $341 per additional patient reaching goal was on the cost-effective frontier. CONCLUSION: This analysis suggests among patients with high LDL-C and low HDL-C treatment with ezetimibe/simvastatin and ER niacin/lovastatin are cost-effective strategies compared to either pravastatin or simvastatin.

PCV24

USE OF A DECISION ANALYTIC MODEL TO EVALUATE COST PER PATIENT TREATED TO GOAL WITH HIGH POTENCY ANTILIPIDEMICS
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OBJECTIVES: To estimate the cost per patient successfully treated to NCEP ATP-III goal with high-potency statins or statin/combinations. METHODS: We constructed a decision analytic model (from the payer perspective) comparing four statins or statin combinations: atorvastatin (40–80 mg), rosuvastatin (10–40 mg), simvastatin/ezetimibe (Vytorin; 10/10–40/40 mg), and simvastatin 80 mg. Costs were based on best available Military Health System (MHS) prices, and only included drug acquisition costs. Monte Carlo methods were used to generate a distribution of starting LDL values for a hypothetical cohort of 1000 patients. The mean starting LDL was 189.1 (SD = 18.6), with individual patient LDLs normally distributed. The percentage of patients in each NCEP ATP-III risk group was: low risk 41% (LDL goal <100 mg/dl), moderate risk 30% (LDL goal <130 mg/dl), high risk 29% (LDL goal <100 mg/dl). Distributions of efficacy values (% LDL reduction) based on clinical literature were generated for each treatment arm. The primary outcome was the percentage of patients successfully treated to individual NCEP ATP-III goals based on starting LDL