Abstracts

PCVS1

dose-specific efficacy of SPAA at reducing systolic blood pressure and total cholesterol were drawn from published clinical trial data (RESPOND), while costs were sourced from Korean pharmaceutical pricing lists. SPAA comprised weighted average doses of the fixed-dose combinations of amlodipine 5 mg/atorvastatin 10 mg and 5 mg/20 mg, based on market distribution in Korea. A 20% price reduction after one year was implemented to reflect patent expiry. Costs of CVD were derived from 2008 Korean Health Insurance Review and Assessment Service (HIRA) estimates. Utility values for CVD were obtained from published literature based on 2005 KNHANES data. RESULTS: Compared to placebo (no treatment), the incremental cost-effectiveness ratios associated with SPAA were 1,428,681 Korean won (KW)/QALY and 1,989,858 KW/QoL. (One thousand KW equates to approximately one US dollar.) Sensitivity analyses indicated these results to be robust. CONCLUSIONS: SPAA represents a cost-effective strategy for the primary prevention of CVD in Korea.

PCVS2

COST-UTILITY ANALYSIS OF HOME TELEMONITORING IN ELDERLY PATIENTS WITH CHRONIC HEART FAILURE

Stafylas P1, Dafoulas G2, Aletras VH3, Lashos V4, Raptis O2
1AHEPA University Hospital, Thessaloniki, Greece, 2Telecare Center: Municipality of Trikala, Trikala, Greece, 3University of Macedonia, Thessaloniki, Greece, 4General Hospital of Trikala, Trikala, Greece

OBJECTIVES: Chronic heart failure (CHF) is associated with a substantial clinical and economic burden that impacts significantly on health care systems. The objective of this study is to assess the cost-utility of a new home telemonitoring (HTM) project in elderly CHF outpatients. METHODS: This prospective, 6-month, randomised trial was designed to compare the cost-effectiveness of a HTM project versus usual care (UC) in elderly patients with CHF; receiving optimal treatment and counselling. A total of 24 patients (aged 66–92 years) were assigned randomly to HTM or UC. At baseline and at the end of the study, all patients had a complete cardiologist’s assessment, including quality of life. The evaluation of the cost of HTM includes the cost of drug therapy, monitoring, treating side-effects, hospitalizations and devices. All costs were calculated from a third-party payer perspective, in 2007 Euros. RESULTS: The mean duration of the follow-up was similar for the two groups (136.92 ± 36.65 days, P > 0.05). There was a non-statistically significant reduction in hospital readmissions, hospitalisation days, physicians’ visits, laboratory tests and total costs (P > 0.05) for HTM group. However, HTM was associated with a significant improvement in the QoL measured with the generic health-related EQ-5D questionnaire (10.00 ± 7.24, P < 0.001) and a small incremental gain of 0.13 ± 0.24 quality-adjusted-life-years (QALYS) over UC. The analysis showed that the average incremental cost of HTM was €12,909 ± €33,313/QALY gained. CONCLUSIONS: HTM is likely to be a cost-effective intervention compared with UC in elderly CHF outpatients in Greece. However, further studies with more patients and longer duration are needed to confirm these results.

PCVS3

DECISION ANALYTIC MODEL FOR GENETIC TESTING IN THE MANAGEMENT OF WARFARIN ANTICOAGULATION TREATMENT FOR HOSPITALIZED PATIENTS

Moriarty J1, Daniels P2, Manning D2, McBane R4, Naessens J1
1Mayo Clinic, Rochester, MN, USA

OBJECTIVES: To investigate the potential benefit of adding genetic testing to a pharmacist-managed anticoagulation service for hospitalized patients on warfarin. METHODS: Using decision analytic modeling we constructed a decision tree model. The decisions used were treat-all and a treat-none approach. The outcome of interest was minimizing the number of adverse events (bleeding or thrombotic event). Model parameters were primarily based on institutional data. Additional information from the literature or expert opinion was used if needed. One-way sensitivity analyses were performed on unknown parameters to determine decision thresholds. Two parameters, percentage of patients benefiting from testing and rate of reduction of adverse event rates due to genetic test results, were given special attention as no prior information is available. Probabilistic sensitivity analysis was also conducted. A willingness-to-pay of $35,000 per avoided adverse event was used as the decision threshold. RESULTS: Sensitivity analysis showed the decision choice to be affected by the values of both parameters of interest (20% prevalence and 8% reduction respectively). Baseline analysis resulted in the treat-all approach to cost an additional $102 per patient on average and avoid 8 adverse events per 10,000 patients. Probabilistic analysis determined the point at which each decision was equally likely to be optimal was at a willingness-to-pay of $140,000. Holding the reduction rate constant the rate of patients benefiting from the test would need to be as high as 40% before the treat-all approach becomes optimal. Similarly, the reduction rate would need to be as high as 16% for the treat-all approach to be optimal. CONCLUSIONS: The percentage of patients that would benefit from testing, as well as the reduction in adverse event rates due to testing, influence the decision of treatment approach. The addition of testing all patients could potentially be cost-effective with sufficiently high enough prevalence and adverse event reduction rates.

PCVS4

A EUROPEAN MULTI-COUNTRY COMPARISON OF THE COST-EFFECTIVENESS OF IODIXANOL VERSUS IOHEXOL BASED ON THE RESULTS OF THE NEPHRIC CLINICAL TRIAL

Patel P1, Zyczynski T2, Beard S3, Earnshaw SR4, McDade CL4, Zimovetz E1
1GE Healthcare, Barrington, IL, USA, 2GE Healthcare, Princeton, NJ, USA, 3RTI Health Solutions, Manchester, UK, 4RTI Health Solutions, Research Triangle Park, NC, USA

OBJECTIVES: Contrast-induced adverse drug reactions (ADRs), including contrast-induced nephropathy, are common among high-risk patients undergoing angiography (e.g., patients with diabetes mellitus and renal impairment). These ADRs cause extended hospital stays and additional medication use, leading to increased cost. We examine the cost-effectiveness of the use of 2 contrast media, in patients at high risk of contrast-induced ADRs, from the perspective of 5 European countries (Germany, Italy, Spain, Sweden, and UK). METHODS: A multi-country decision-analytic model was constructed to estimate the cost-effectiveness of an isosmolar contrast agent (iodixanol) compared to a low-osmolar contrast medium (iohexol). The emphasis of the model was to consider differences in the incidence of severe ADRs in patients at high risk of contrast-induced nephropathy. The analysis was based on a European randomised controlled trial (NEPHRIC), in which patients receiving angiography with iodixanol had statistically fewer severe ADRs than those with iohexol. Patients in the study were 18 years of age or older, referred for coronary or aortofemoral angiography, and had diabetes with stable serum creatinine concentrations (men: 1.5 to 3.5 mg/dL; women: 1.3 to 3.5 mg/dL). ADRs considered included acute renal failure, arrhythmia, cardiovascular events, pulmonary edema, and multiple-organ failure. Resource use, including hospital days, medical visits, contrast medium, medications, laboratory tests and hospital procedures, were obtained from the NEPHRIC clinical data (RESPOND), while costs were sourced from Korean pharmaceutical pricing lists. SPAA comprised weighted average doses of the fixed-dose combinations of amlodipine 5 mg/atorvastatin 10 mg and 5 mg/20 mg, based on market distribution in Korea. A 20% price reduction after one year was implemented to reflect patent expiry. Costs of CVD were derived from 2008 Korean Health Insurance Review and Assessment Service (HIRA) estimates. Utility values for CVD were obtained from published literature based on 2005 KNHANES data. RESULTS: Compared to placebo (no treatment), the incremental cost-effectiveness ratios associated with SPAA were 1,428,681 Korean won (KW)/QALY and 1,989,858 KW/QoL. (One thousand KW equates to approximately one US dollar.) Sensitivity analyses indicated these results to be robust. CONCLUSIONS: SPAA represents a cost-effective strategy for the primary prevention of CVD in Korea.
PHARMACOECONOMIC EVALUATION OF TREATMENT WITH PROCORALAN® PREPARATION COMPARED TO INVASIVE TREATMENT
Filipiak KJ, Jaworski R
Medical University of Warsaw, Warsaw, Poland

OBJECTIVES: To determine economic impact of Procoralan® therapy in stable angina patients as compared to invasive PCI/CABG therapy. METHODS: A cost-minimisation, probabilistic model performed from a third party payer perspective in Poland. Costs calculations were based on the National Health Fund rates. Invasive therapy cost was assumed to be a weighted average of PCI/CABG, according to Poland-specific proportions. Clinical assumptions and risk profiles were derived from the Euro Heart Survey. The economic impact was calculated for the patients not qualified for invasive therapy or maintenance therapy with beta-blocker due to contraindications or intolerance. Both one-way (drug cost) and multi-way (revascularisation risk, reimbursement level) sensitivity analyses were performed. RESULTS: The incremental costs per patient per year were as follows: €747.82–743.34 for Procoralan® 5 mg/7.5 mg therapy respectively; €3879.88 for CABG, €2265.88 for PCI. The reduction in payer’s expenditure in the range of €1918.32–1922.81 per patient per year was demonstrated as a result of the application of Procoralan® 5 mg/7.5 mg therapy instead of the invasive therapy. The obtained result applies to the case of the whole Procoralan® price borne by the payer (100% reimbursement). In the case of 70% and 50% reimbursement rates savings amounted to €2112.09–2115.23 and €2248.05–2250.20 depending on dose of the drug. The sensitivity analyses showed that change of the Procoralan® treatment cost (+/-50%), wide range of changes in the risk of a secondary revascularisation and the reimbursement level did not influence the ultimate interpretation of the results. CONCLUSIONS: Third party payer’s benefits related to Procoralan® may apply to all patients suffering from angina symptoms having contraindications or intolerance to beta-blocker. The greatest savings concern patients not qualified for invasive therapy as no alternative treatment is effective in this group, but in all scenarios the Procoralan® therapy was proven to be cost-saving for public payer.

AN ECONOMIC ANALYSIS OF INDUCTION OF LABOR AND EXPECTANT MANAGEMENT IN WOMEN WITH PREGNANCY-INDUCED HYPERTENSION OR PREECLAMPSIA AT TERM (HYPITAT TRIAL)
Vijgen SM1, Opmeer BC1, Mol B1, Bijlenga D1, Burggraaf JF2, van Loon AJ1, Huisjes AJ1, Roumen FJ1, Papatsionis DN3, van Pampus MG2
1Academic Medical Centre, Amsterdam, The Netherlands, 2Scheper Hospital, Emmen, The Netherlands, 3Martini Hospital, Groningen, The Netherlands, 4Gelse Hospital, Apeldoorn, The Netherlands, 5Atrium Medical Center; Heerlen, The Netherlands, 6Amphia Hospital, Breda, The Netherlands, 7University Medical Center, Groningen, The Netherlands

OBJECTIVES: To compare the costs of induction of labor with the costs of an expectant management strategy in women with pregnancy-induced hypertension (PIH) or preeclampsia (PE) at term. METHODS: The Hypertension and Preeclampsia Intervention Trial At Term (HYPITAT) was a multicentre randomized controlled clinical trial conducted in The Netherlands between October 2005 and April 2008. Women diagnosed with PIH or PE at ≥36 weeks of gestation were randomly allocated to either induction of labor or expectant management. The study showed that induction of labor reduced both maternal complications as well as the caesarean section rate as compared to expectant management. The economic analysis was performed from a societal perspective. Resource utilization was documented by specific items in the Case Report Forms (CRF) and additional questionnaires. For most medical unit costs, we used estimates provided by the financial and economic departments of two participating hospitals (one academic and one general hospital). For non-medical costs and primary care costs Dutch standardized prices were used. Sensitivity analyses were performed to explore the impact of different assumptions and cost estimates on the results of the costs analysis. RESULTS: Data of 756 women were analyzed. Mean costs per patient were €5400 for induction and €6025 for expectant management (difference €625). This 10% difference predominantly originated in the ante partum period: per patient €977 for induction versus €1929 for expectant management. Comparable costs were found for delivery (€761 versus €790 per patient). No substantial differences were found in the post partum period. CONCLUSIONS: In women with PIH or PE at term, costs associated with induction of labor are considerably lower as compared to expectant management. This cost reduction is mainly due to differences in resource utilization in the ante partum period.

ESTIMATING THE NUMBER AND COST OF CARDIOVASCULAR EVENTS AVOIDED BY TREATING TO ALTERNATIVE LDL-C TARGETS: IS LOWER BETTER?
Kingslake SL
AstraZeneca UK Ltd, Luton, UK

OBJECTIVES: To estimate the number and cost of cardiovascular (CV) events avoided over five years by treating with statins to alternative low-density lipoprotein cholesterol (LDL-C) targets of <3.0 mmol/L and <2.0 mmol/L, based on 1000 patients with established cardiovascular disease (CVD) or diabetes from an NHS perspective. METHODS: Proportional effects per mmol/L LDL-C reduction for non-fatal myocardial infarction (MI), coronary revascularisation and stroke were taken from a meta-analysis of 14 randomised controlled trials of statin therapy. Absolute risk reductions (ARR) between control and treatment arms were calculated. Baseline LDL-C value of 3.6 mmol/L (SD 1.27) was taken from the Health Survey for England 2003 and 5000 LDL-C values ≥3.0 mmol/L and ≥2.0 mmol/L were randomly generated from this distribution giving mean baseline LDL-C values of 4.24 mmol/L and 3.86 mmol/L respectively. Absolute LDL-C reductions needed to meet the alternative targets were calculated and ARR in CV event incidence applied. The % reduction in CV events for 1000 patients was used to estimate number of CV events avoided; costs of events avoided were calculated using the National Tariff 2007–08. RESULTS: ARR between control and treatment arms was 1.8%, 1.8% and 0.6% for MI, coronary revascularisation and stroke respectively. Absolute reduction required to meet the LDL-C target of <3.0 mmol/L was 1.24 mmol/L resulting in 51 CV events avoided (22 MIs; 22 CABG/PTCAs; 7 strokes), with a total cost saving of £220,714 (MI = £70,158; CABG/PTCA = £130,368; stroke = £20,188). The 1.86 mmol/L required to meet the LDL-C target <2.0 mmol/L resulted in the 77 CV events avoided.