were driven by the lower costs of oral administration relative to subcutaneous injection and a lower rate of long-term complications. A number of one-way sensitivity analyses showed that the model was robust. CONCLUSIONS: Rivaroxaban dominates enoxaparin as prophylaxis against VTE following THR and TKR in Korea, reducing overall costs and improving health outcomes.

OBJECTIVES: To evaluate the cost-effectiveness of dabigatran etexilate (DGB) compared to enoxaparin in the prevention of venous thromboembolism (VTE) following total hip replacement (THR) or total knee replacement (TKR) from the perspective of the Portuguese NHS. METHODS: DGB (220 mg once daily) was compared to enoxaparin (40 mg once daily) in patients undergoing THR (prophylaxis 28–35 days) and TKR (6–10 days). A decision tree was used to model the ten week post-surgery acute phase. A Markov process modelled long-term events such as recurrent VTE, post-thrombotic syndrome and intracranial hemorrhage for patient’s remaining lifetimes. Relative risks for VTE and bleed events were derived from the DGB phase III trials, RE-NOVATE and RE-MODEL which compared DGB with enoxaparin 40 mg once daily. Published longitudinal studies were used to estimate the probabilities of long-term events. Resource use associated with administration of the prophylaxis and the management of clinical events was obtained from a national multi-centre prospective study involving 50 patients. Unit costs were taken from national sources. Utility weights were taken from published international literature. RESULTS: VTE and bleeding rates were similar for DGB and enoxaparin. DGB was marginally more expensive than enoxaparin in TKR but less costly in THR, since no nursing staff were required for administration of treatment is required in hospital or following discharge. The probabilistic analysis estimated that DGB cost an additional €11 per patient in TKR (ICER €2,848/QALY) and saved €253 per patient in THR. The probability of DGB being cost-effective was 79% in TKR and 99% in THR at a willingness to pay threshold of €20,000 per QALY. Results proved to be robust across a wide range of sensitivity analyses. CONCLUSIONS: DGB is cost-saving in THR compared to enoxaparin and non-inferior in terms of efficacy or safety. Thus, DGB is cost-effective for the prevention of VTE in patients undergoing THR.

OBJECTIVES: To evaluate the incremental cost-effectiveness of four angiotensin receptor blockers in hypertension patients in a US managed care population. METHODS: A decision analytic model was developed to estimate costs to reach JNC-VII blood pressure (BP) goal for four ARBs: olmesartan (OLM), valsartan (VAL), irbesartan (IRB), and losartan (LOS). Study period was 5/91 to 12/31/06. Patients were 218 years, have 22 claims for the index ARB, a medical claim for HTN (ICD-9 codes 401.xx-404.xx), and minimum 6 months pre- and 9 months post-index eligibility. Outcomes were all-cause and HTN-attributable actual plan costs to achieve JNC-VII goal (<140/90 mmHg). Costs were calculated for over 120,000 eligible patients receiving ARBs in the plan. BP goal attainment was determined from 1293 medical charts and linked to costs in the claims database. Model robustness was tested using Monte Carlo simulation and probabilistic sensitivity analysis (PSA). RESULTS: 121,472 patients met inclusion criteria. Mean age was 53.2 years, 22% had DM. ARB cohorts were (n) OLM (19,525); VAL (59,176); IRB (78,225) and LOS (25,546). OLDM was found more effective in achieving JNC 7 goal, and to incur lower all-cause and HTN-attributable costs, dominating other options. The CE ratios per percent of patients to reach HTN goal for OLM were $8,964 (all-cause costs) and $2,704 (HTN-attributable costs), compared to the ratios for LOS ($10,848 and $3,291), VAL ($10,537 and $3,577) and IRB ($13,397 and $4325). (All costs adjusted to 2006 CPI). Monte Carlo and PSA results were consistent with the baseline analysis. CONCLUSIONS: Compared to VAL, IRB and LOS, OLM was found to be the most cost-effective of the four ARBs for the treatment of hypertension in a large US managed care population.

OBJECTIVES: To evaluate the cost-effectiveness of each public health strategy of increasing tobacco taxes or implementing smoking bans in public venues as a strategy for tobacco control. METHODS: Quit and mortality rates for smokers and nonsmokers were estimated from ex-smoker published literature and incorporated into a Markov Chain Monte Carlo model. The model included the public policies of taxes or bans accounting for the incidence of acute myocardial infarction (AMI) and related mortality. The model incorporated the value of statistical life, and medical and hospital costs with AML RESULTS: The expected life years under conditions of taxes, bans, or neither (base case) were similar at 60.23, 60.25, and 60.37 per smoker respectively. Implementation of bans resulted in net societal losses of $4176 and taxes $984 per smoker over the “no policy” condition. Costs were lowest under the strategy of

ADHERENCE TO GUIDELINES FOR SENSITIVITY ANALYSIS: COST-EFFECTIVENESS ANALYSIS OF DUAL ORAL ANTIPLATELET THERAPY

OBJECTIVES: Cost-effectiveness analyses of new treatments for cardiovascular disease frequently require input parameters whose values are known with uncertainty due to limited data. The objective of this paper is to determine the extent to which published sensitivity analyses adhere to Health Technology Assessment (HTA) guidelines. METHODS: We performed a systematic review of published cost-effectiveness analyses for an example drug treatment scenario, dual oral antiplatelet therapy compared with aspirin alone following acute coronary syndromes (ACS) and/ or percutaneous coronary intervention (PCI). We searched for articles published in English from 1997 to mid 2018 in PubMed, Cochrane Collaboration, EMBASE, and Health Economic Evaluation Database (HEED). A total of 216 articles were identified: PubMed, 40; Cochrane, 27; EMBASE, 114; HEED, 53. Of these, 106 articles were unique, and 16 were included in this review; all selected articles compared clopidogrel plus aspirin versus aspirin alone for patients with ACS and planned PCI. We created evidence tables to show the sensitivity of the cost-effectiveness estimates to changes in the input parameter values, as well as the data sources used for the reference-case and alternative estimates for different input parameter values. We also examined the extent to which the sensitivity analyses adhered to HTA guidelines. RESULTS: Cost-effectiveness ratios were most sensitive to changes in the efficacy of dual antiplatelet therapy and reference-case model assumptions about costs beyond the trial period. Although the alternative analyses in the sensitivity analyses were based on observed ranges or distributions, the alternative values tested for many other input parameters were assumed without justification. CONCLUSIONS: The sensitivity analyses of the cost-effectiveness studies of dual oral antiplatelet therapy were not fully adherent with HTA guidelines. In particular, long-term costs and benefits were not always included in the reference case and justification of the alternative parameter values was not always provided.