ADVISHE: A new tool to report validation of health-economic decision models
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population are 18.5% for males and 9.8% for females. CONCLUSIONS: Random sampling from patients data provided the best approximation of actual NHANES population predicted CVD rates. The cholesery decomposition approach was slightly limited since only continuous variables could be utilized which could explain the deviation from the population predicted CVD rates. Independent sampling underestimates the variability by 20–30%, an interesting finding as many individual simulation models created patients with this approach. Researchers should be cautious in their use of summary statistics when populating individual simulation models.

PRM74
VALIDATION OF THE SPHR DIABETES PREVENTION MODEL
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OBJECTIVES: We have developed a model to evaluate type-2 diabetes prevention interventions. We aimed to validate this model against external data to test the accuracy of the developed model. METHODS: An individual patient simulation was developed to predict long-term trajectories of HbA1c, 2-hr glucose, FPG, BMI, systolic blood pressure, total cholesterol and HDL cholesterol based on statistical analyses of the Whitehall II longitudinal cohort. Criteria for diabetes diagnosis were flexibly specified. Data from a randomized controlled trial were extrapolated to lifetime using Markov models. We assessed the performance of the model in predicting the reduction in the incidence of diabetes. RESULTS: We have estimated a mean decrease in the incidence of diabetes of 12.7% with the intervention. The model accurately classified diabetes incidence in both high and low risk individuals. CONCLUSIONS: The model is suitable for use in health policy decision-making for diabetes prevention strategies.

PRM75
USE OF MODEL AVERAGING TECHNIQUES IN COST-EFFECTIVENESS ANALYSIS IN ONCOLOGY
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OBJECTIVES: Often in cost-effectiveness analysis (CEA) of oncologic drugs, survival data from clinical trials and cost data from the real world are coupled with different types of outcome measures. This requires complex modeling, which can lead to overestimation or underestimation of treatment effects. The purpose of this study was to assess the impact of model selection on cost-effectiveness analysis in oncology. METHODS: A model selection study was performed using the SPHR 2015 oncology model. The model was used to select the best model for a primary endpoint, and the impact of model selection on the results was evaluated. RESULTS: The impact of model selection on cost-effectiveness analysis was significant, with differences in incremental cost-effectiveness ratios (ICER) ranging from 10% to 30%. CONCLUSIONS: Model selection is critical in cost-effectiveness analysis in oncology, and careful consideration should be given to the choice of model.

PRM76
COMPARING THREE DIFFERENT METHODS OF HALF-CYCLE CORRECTION
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OBJECTIVES: To compare three different half-cycle correction methods and their effect on the final results of Markov models. METHODS: To assess the relative performance of the alternatives to the standard half-cycle correction we constructed a 5-state Markov model where the courses of the number of patients in health states follow different shapes to represent the most likely cases in modelling practice. We applied the three different correction methods (standard half-cycle correction, Simpson’s method and using the mid-cycle values) and we also looked at the results without any correction. RESULTS: Under the given Markov model, the participants could score the same three e-values. CONCLUSIONS: The study showed that there is no significant difference in the results of the half-cycle correction method for all the scenarios tested.
addition, the Dutch National Health Care Institute commented on usefulness for decision-makers. A separate group convened to draft comments during a workshop at ISPOR Montreal 2014. RESULTS: 35 Validation techniques were identified and grouped into four categories: conceptual model validation, computerized model validation, data validation and operational validation. Around 30 HE experts commented on the draft, given for the first time in line with the item draft tool. The Dutch health care advisory institute suggested to add one more item. Participants from the ISPOR workshop delivered 19 filled-in questionnaires. A fourth round of the review included three Delphi rounds. This led to a final list of 16 items which is currently sent out for a final, fifth round. CONCLUSIONS: When filled out by the modellers, ADVISHE (Assessment of the Validation Status of Health Economic decision models) supports model users in assessing the validation status of a model. It will be useful as part of reimbursement dossier, by providing systematic and transparent insight into the validation efforts performed and their results.

PMR60 MODELLING SURVIVAL IN THE PRESENCE OF DIFFERENT MECHANISMS OF ACTION: IPILIMUMAB AND VEMURafenib IN ADVANCED MELANOMA
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OBJECTIVES: Traditional indistinct treatment comparison methods assume the underlying survival profiles of treatments are similar (i.e. proportional hazards). This assumption is unlikely to hold for the comparison of ipilimumab and vemurafenib. Whereas vemurafenib exhibits improved short-term survival compared with ipilimumab, pooled study data for ipilimumab consistently show that patients achieve durable long-term survival. We present a method to compare across trials with differing survival profiles accounting for follow-on treatments and different baseline characteristics. METHODS: Comparative survival estimates for ipilimumab and vemurafenib were produced using patient-level data from trial CA184-024 for ipilimumab and survival curves for vemurafenib. The BRIM-3 vemurafenib overall survival curve was adjusted to account for (a) the effect of second-line ipilimumab (via a funnel-state methodology) and (b) patient baseline characteristics. RESULTS: Estimated survival for ipilimumab was 3.3 years (mean). Predicted survival for vemurafenib, using a naive comparison, was 3.0 years (mean). Adjusting for second-line ipilimumab and different baseline characteristics resulted in an estimate of 2.8 years for vemurafenib. When a hazard ratio was applied to the ipilimumab data, which underlies the here strong assumption that the vemurafenib overall survival profile is similar to that of ipilimumab, predicted survival for vemurafenib increased to 4.2 years (mean). CONCLUSIONS: By accounting on the methodology used, the mean predicted survival for vemurafenib varied from 2.8 to 4.2 years. Alternative methods that incorporate the long-term survival profile of ipilimumab (naïve comparison or more sophisticated ad hoc methodology) demonstrate a higher number of life years with ipilimumab versus vemurafenib.

PMR81 HEALTH ECONOMIC MODELS IN ALZHEIMER’S DISEASE: A CRITICAL ASSESSMENT
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OBJECTIVES: Alzheimer’s Disease destroys brain cells, causing problems with memory, thinking, and behavior severe enough to affect work, family and social relationships. However, the most basic activities of daily living. Different modeling approaches have been introduced and evaluated from a health economic perspective. However, given the specific characteristics of the disease an evaluation of existing models is needed. METHODS: The following databases were searched systematically: PubMed, Health Technology Assessment Database, NHS Economic Evaluation Database, Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, DAHTA database, PSYNDEx and PsychINFO. For the abstracts that met the pre-defined inclusion criteria, full text articles were obtained and evaluated for inclusion in the assessment. RESULTS: After eliminating duplicates the search yielded 2’219 articles of which 940 were excluded based on the title selection. Finally 59 articles have been reviewed in full text after abstract review. Out of those articles 39 were deemed to be relevant based on the research question. The majority of models (48%) have been Markov models, other methods being used were various statistical analysis applications, micro-simulation, and discrete-event simulations. Limitations of existing models include the following: Focus on cognitive function as disease progression only, lack of inclusion of correlation between disease progression and other factors (e.g. residential status), lack of complete structure of diagnosis and treatment of disease (e.g. including non-drug treatments). Based on the Drummond checklist for health economic models the quality of models proved generally to be high but the majority of those lack presenting 10% of the inclusive pathway of the natural history of the disease. CONCLUSIONS: Current models do not allow decision makers optimally characterizing the disease, to better assess the costs and benefits of a wide range of potential interventions. Potential new models need to take the disease characteristics and specifics more appropriately into account.

PMR82 APPROACHES USED TO MODEL THE RELATIONSHIP BETWEEN PROGRESSION- FREE SURVIVAL (FPS) / TIME-TO-PROGRESSION (TTP) AND OVERALL SURVIVAL (OS) WITHIN HEALTH ECONOMIC MODELS OF CANCER THERAPIES
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OBJECTIVES: Within health economic models of metastatic cancer therapies assumptions made for progression-free survival (PFS) / time-to-progression (TTP) and overall survival (OS) are typically required, notably when OS data are immature or unavailable. A review was undertaken to identify the methods that have been used within health economic models regarding this relationship and to identify the assumptions made for the sake of consistency when OS data were not available or immature. METHODS: All NICE technology appraisals in the advanced and/or metastatic cancer setting completed by December 2013 were reviewed. The review included all relevant appraisal documents publicly available on the NICE website containing information on the methods used and/or rationale for the approach taken to model the relationship between OS and PFS/TTP within the health economic model. This included the sponsor submission and updated analyses, the Technology Appraisal Assessment Report, and other supporting analyses relevant to the appraisal process. RESULTS: In those instances where OS data were immature or not available, PFS/TTP was typically assumed to be a valid surrogate of OS. Justification for this assumption was inconsistently reported. In some cases a quantification of the assumed relationship was informed by published evidence and/or expert judgement. In some cases attempts were made to explore the potential impact of this relationship in sensitivity analysis. CONCLUSIONS: The methods and/or rationale for the approach taken to model the relationship between OS and PFS/TTP in health economic models has been inconsistently reported and justified. Whilst some health economic models attempted to quantify this relationship, further transparency is required. A consensus needs to emerge on the most appropriate approaches to be used within health economic models to quantify this relationship, specifically when OS data are not available or immature and to identify the circumstances when particular approaches may be most relevant.

PMR83 COMPARISON OF METHODS TO ESTIMATE HEALTH STATE UTILITIES IN METASTATIC BREAST CANCER THERAPIES
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OBJECTIVES: Patient-level utility values for different stages of MBC and toxicities commonly associated with chemotherapy regimens are useful for health economic assessments. Three methods to estimate utilities exist when direct utility data are not available: using utility ‘mapping’ from existing disease-specific scales, vignette studies that describe the health states; or derivation of preference-based measures from an existing condition-specific scale. This study compares utility estimates in MBC utilizing the above methods. METHODS: Based on data from a phase 3 clinical trial in MBC (N=1102) utility mapping was conducted using a published regression algorithm to convert the EORTC QLQ-C30 questionnaire to the EQ-5D utility measure. The utility values were estimated for relevant health states: stable disease (SD), tumor response (TR), stable disease progressing (SDP), and relapse (R). The results show that state utilities were highly correlated with direct utility data. CONCLUSIONS: Utilization of different methods to estimate utilities in MBC may lead to a wide range of estimated values with potentially significant implications for health economic evaluation. Caution must be exercised when comparing utility values derived using different methods. It is preferable to use utility data from patients directly and use vignettes as a last resort.

PMR84 COST-EFFECTIVENESS MODELS FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD): CROSS-MODEL COMPARISON OF HYPOTHETICAL TREATMENT SCENARIOS
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OBJECTIVES: To compare different COPD cost-effectiveness models with respect to structure and input parameters and to cross validate the models by running the same hypothetical treatment scenarios. METHODS: COPD modeling groups simulated four hypothetical interventions with their model and compared the results with a reference scenario of no intervention. The four interventions modeled assumed: 1) 20% reduction in decline in lung function, 2) 25% reduction in exacerbation frequency, 3) 10% reduction in disabling symptoms, and 4) 5% reduction in dyspnea. The results of these effects combined. The interventions were simulated for a five-year and lifetime horizon with standardization, if possible, for sex, age, COPD severity, smoking status, comorbidities to ethics, non-drug costs, utilities and discount rates. Furthermore, uncertainty around the outcomes of intervention four was compared. RESULTS: Seven out of nine contacted COPD modeling groups agreed to participate. Differences in 5-year QALY gains ranged from 0.0020 to 0.039 for intervention four, 0.0089 to 0.075 for intervention two and 0.118 to 0.161 for intervention three. The difference in costs ranged from €561 to €912 for intervention one, €739 to €1350 for intervention two and €140 to €1618 for intervention three. The 5-year cost-effectiveness ratios (ICERs) for the most comprehensive intervention, intervention four, was €17,000/QALY for two models, €25,000+28,000/QALY for three models