population are 18.5% for males and 9.8% for females. **CONCLUSIONS:** Random sampling from patients level data provided the best approximation of actual NHANES population predicted CVD rates. The cholescy 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 under-estimation could be underestimated as many individuals in the construction of Markov models creates patients with this approach. Researchers should be cautious in their use of summary statistics when populating individual simulation models.

**PRM74 VALIDATION OF THE SPR 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 current model. **Methods:** An individual patient simulation was developed to predict longitudinal 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 the Health Survey for England (HSE) 2003 cohort was simulated for eight years to compare predicted disease incidence and metabolic outcomes in their use of summary statistics when populating individual simulation models. **RESULTS:** We found that the model overestimated three-year incidence of diabetes and was different in high risk (HbA1c > 6.0) individuals, but underestimated diabetes incidence in medium risk individuals (HbA1c 5.5-5.9) compared with the EPIC-Norfolk data. Predictions from HSE 2003 were fairly accurate. Predictions for mortality were slightly underestimated. **CONCLUSIONS:** The SPHR Diabetes model appears to be fairly accurate at predicting diabetes and mortality. However, the risk of overestimating diabetes and underestimate cardiovascular disease and mortality compared with the UKDFD.

**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 CED data are used. We often need to extrapolate to a lifetime horizon using parametric regression techniques. To capture parameter uncertainty in the analysis, regression parameters along with other model parameters are varied in probabilistic sensitivity analysis. However, structural uncertainty in the choice of regression model parameters is also a concern. **Methods:** This study provides an example to assess structural uncertainty in CEA. **METHODS:** Using a cohort partition model, the numbers of patients in “progression-free”, “progressed”, and “dead” health states were calculated from progression-free survival (PFS) and overall survival (OS) curves. Weibull, exponential, log-logistic, generalized gamma, and Gompertz parametric models were used to extrapolate these curves to a lifetime horizon. Total costs, life expectancy, and quality adjusted life year (QALY) for each regression model were calculated (Calatx) and compared. **RESULTS:** All models were calculated, based on weights that were derived from Akaike’s or Bayesian Information Criterion (AIC or BIC) parameters. **CONCLUSIONS:** Choice of parametric models often has the biggest impact on the outcomes in CEA. Model averaging takes into account the structural uncertainty surrounding the choice of parametric models.

**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 practise. We applied 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:** With all the three methods, the parameters members could score in three e–scores. Participants were HE modelling experts, covering various nationalities and work environments. They could comment on relevance, feasibility and formulation of the tools and received feedback on comments from others. This resulted in a draft tool of selected items, which was tested and improved in two further rounds. In

**PRM77 ADJUDICATION OF A MODEL OF DECISION BASED ON FUZZY LOGIC**

**PHARMAECOENOMICS: TREATMENT OF CROHN’S DISEASE WITH ANTITNF IN OUT OF LABEL USE**

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**OBJECTIVE:** We present a model based on a systematic review and apply to out label use cd. **METHODS:** The model of antiTNF (infliximab (IFX) 30 mg/kg/18 weeks, adalimumab (ADA) 80mg/2 weeks, Certolizumab (CZB) 200mg/2weeks). The term “fuzzy logic” (FL) introduced in 1965 by LAZadeh. Compared to traditional logic, FL variables may have a truth value in degree. FL has been applied to many fields, from medicine to pharmacoeconomics. **METHODS:** According to a decision analysis model based on FL four fuzzy variables that affect the choice of treatment are defined: treatment success (expressed as a probability), cost of success, cost of failure (expressed as inverses), and other conditions about the cost (negotiation, handling of drugs...). Based on the value of these fuzzy variables, three linguistic variables (High, Medium, Low) are defined to expressing convenience of choice. The combination of the three possible values for each of the variables gives us 81 possible decision rules, so that the (HHHL) would be the most favorable option and (LLLL) the more unfavorable. So a new fuzzy variable called “ranking” is established for classifying these options with 7 possible values (very-unfavorable, unfavorable, neutral, slightly-favorable, favorable, very-favorable). The value of the fuzzy variables for antiTNF at 52 weeks of treatment, were established based recent meta-analysis and reviews. **RESULTS:** The model was built using the等候on models and clinical criteria. The most favorable option was antiTNF (IFX), followed by ADA (80 mg/kg), if the disease required treatment, and then by IFX (30 mg/kg). If the disease was severe, ADA (80 mg/kg) was the most favorable option. This resulted in the lowest observed ICERs. When model averaging was based on weights that were derived from Akaike’s or Bayesian Information Criterion (AIC or BIC) parameters. **CONCLUSIONS:** It is possible to apply methods of FL to highly accurate pharmacoeconomic studies. According to the model, Certolizumab would be a most favorable choice in off-label use for CD.

**PRM78 MULTI-CRITERIA DECISION ANALYSIS (MCDA): TESTING A PROPOSED MCDA MODEL FOR ORPHAN DRUGS**

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**OBJECTIVES:** Since the introduction of the orphan drugs in Europe, it has been suggested that the general method of appraising orphan drugs (i.e. reimbursement) is not necessarily suitable for orphan drugs. The National Institute for Health and Clinical Excellence indicated that several criteria other than cost and efficacy could be considered in reimbursement decisions for orphan drugs. The aim of this study was to provide an MCDA framework that was proposed by the Agency for Care Research (2012) to a range of orphan drugs in different diseases to test the correlation between drug price and aggregated MCDA scores for each product. **METHODS:** A MCDA framework was developed using the nine criteria suggested by Hughes-Wilson et al. A supplementary literature review was conducted to identify other attributes described in the application of MCDA in rare diseases. A numerical scoring method was used to evaluate each criterion. Combinations between the average annual cost of the drugs and aggregate MCDA scores were tested and plotted graphically. Different weightings for each of the attributes were also tested. A further analysis was conducted to test the impact of including the drug cost as an attribute in the aggregate index scores. **RESULTS:** The literature review identified further commonly cited criteria: ‘convenience of administration’, ‘age of the target population’, ‘quality of life’, and ‘drug innovation’ that were added to the aggregate index scores. In the studies they tested, the K was 0.808 and 0.704 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively. **CONCLUSIONS:** This quantitative study provided insight into using MCDA and its framework that was proposed by the Agency for Care Research (2012) and the correlation between the average annual cost of the drugs and aggregate MCDA scores was tested and plotted graphically. Different weightings for each of the attributes were also tested. A further analysis was conducted to test the impact of including the drug cost as an attribute in the aggregate index scores. **RESULTS:** The literature review identified further commonly cited criteria: ‘convenience of administration’, ‘age of the target population’, ‘quality of life’, and ‘drug innovation’ that were added to the aggregate index scores. In the studies they tested, the K was 0.808 and 0.704 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively. The standard error of the slope varied from 771.9 to 11433.3 when costs were included and not included, respectively.
addition, the Dutch National Health Care Institute commented on usefulness for decision makers. The same group of experts observed in their PRM80 article that a clear and transparent insight into the validation efforts performed and their results is needed. Economic decision models support model users in assessing the validation status carried out by the modellers, AdVISHE (Assessment of the ValIdation Status of Health-economics) provides model users in assessing the validation status of a model. It will be useful as part of reimbursement dossiers, by providing systematic and transparent insight into the validation efforts performed and their results.

**OBJECTIVES:** With health economic models of metastatic cancer therapies assuming increasing importance, it is essential to ensure that the methods used to assess cost-effectiveness are transparent. This is particularly true for the comparison of ipilimumab and vemurafenib. In this study, we provide an overview of the methods used to assess the cost-effectiveness of these two agents.

**METHODOLOGY:** We conducted a systematic review of the literature to identify studies that compared ipilimumab and vemurafenib. We searched MEDLINE, EMBASE, and Cochrane Library databases, and we included studies that used health economic models. We identified 39 relevant studies that met our criteria. We then assessed the methods used to compare the two treatments and summarized the results.

**RESULTS:** Most studies used health economic models to compare the two treatments. The methods used varied, with some studies using systematic reviews and others using expert opinion. The results of these models suggested that ipilimumab and vemurafenib have similar cost-effectiveness profiles, with both agents showing some potential benefits in certain patient subgroups.

**CONCLUSIONS:** The methods used to compare the two treatments and the results of these models suggest that ipilimumab and vemurafenib have similar cost-effectiveness profiles. Further research is needed to confirm these findings and to address the limitations of the current models.