population are 18.5% for males and 9.8% for females. CONCLUSIONS: Random sampling of patients and data provided the best approximation of actual NHANES population predicted CVD rates. The cholesky 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 underestimation of 10-20%, 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 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 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. Results: From a randomized controlled trial are extrapolated to lifetime horizons 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 structure remains. This study developed an MCDA framework that was proposed by Hughes-Wilson et al. 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 model was used to translate the aggregate index scores (AIC or BIC) parameters. RESULTS: Evaluating solely on BIC values, the lognormal distribution was the best model for both survival curves. This resulted in the lowest observed ICER. When model selection was based on considerations involving the log-cumulative hazard plots, clinical plausibility, and AIC/BIC for each distribution, the Weibull distribution was selected for both curves, resulting in a 29% and 27% increase in the ICER for QALY and LY, respectively. Similar increases were observed when model averaging was applied using BIC-derived weights. In this case, model averaging produced results that were similar to those where model selection was based on multiple criteria.

CONCLUSIONS: Choice of parametric models often has the biggest impact on the outcomes in CEAs in oncology. Model averaging takes into account the structural uncertainty surrounding the choice of parametric models.

PRM75
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 at all. We tested the performance of the different correction methods in terms of sensitivity analysis by changing the input parameters of our model. In total we examined 80 cases. RESULTS: In our Markov model Simpson’s method provided the most accurate results when the difference from results was lower than 0.1% in 67 of the 80 cases. The second most accurate method was the using mid-values. The standard half-cycle correction method provided more accurate results than calculations with- out any type of half-cycle correction with the exception of one set of input param- eters. CONCLUSIONS: Based on our model the most accurate method for half-cycle correction is Simpson’s method as in most cases it was the closest to real data. It is important to note that with a few exceptions even the standard method’s results were more accurate than in cases where no half-cycle correction was applied.

PRM77
APPLICATION OF A MODEL OF DECISION BASED ON Fuzzy Logic TO PHARMACOECONOMICS: TREATMENT OF CROHN’S DISEASE WITH ANTITNF IN OUT-OF-LABEL USE
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OBJECTIVE: We present a model based on fuzzy logic and applied to off label use of anti-TNF in Crohn’s disease (CD) (Infliximab (IFB) 30 mg/kg/1 week, adalimumab (ADA) 80mg/2 weeks, Certolizumab (CZB) 200mg/2weeks). The term “fuzzy logic” (FL) was introduced in 1965 by L.A.Zadeh. 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 values of these fuzzy variables, three linguistic variables (High, Medium, Low) are defined to express convenience of choice. The combination of the three possible values for each of the variables gives us 81 possible decision rules, so that the (RRRHRH) would be the most favorable option and (LLLLLL) the most unfavorable. So a new fuzzy variable called “ranking” is established for classifying these options with 7 possible values (very-unfavorable, unfavorable, slightly-unfavorable, neutral, slightly-favorable, favorable, very-favorable) The value of the fuzzy variables for anti-TNF at 52 weeks of treatment, were established based recent meta-analysis and reviews. RESULTS: The matrices obtained and corresponding decision rules were: for IFB (0.65, 6.3 10-5, 0.17 10-5, 1.17 10-4, 0.075) / (MMML); For ADA (0.41, 9.21 10-5, 6.4 10-5, 0.075) / (MMLM); for CZB (0.52, 1.30 10-4 1.50 10-4 0.75) / (MMMH). Thus the CZB would be the “slightly-favorable” option, versus IFB and ADA (unfavorables). CONCLUSIONS: It is possible to apply meth- ods of FL thoroughly accurate to pharmacoeconomics 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 sug- gested that the general method of approach to drug reimbursement is not neces- sarily 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 develop an MCDA framework that was proposed by Hughes-Wilson et al. 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 model was used to translate the aggregate index scores (AIC or BIC) parameters. RESULTS: Evaluating solely on BIC values, the lognormal distribution was the best model for both survival curves. This resulted in the lowest observed ICER. When model selection was based on considerations involving the log-cumulative hazard plots, clinical plausibility, and AIC/BIC for each distribution, the Weibull distribution was selected for both curves, resulting in a 29% and 27% increase in the ICER for QALY and LY, respectively. Similar increases were observed when model averaging was applied using BIC-derived weights. In this case, model averaging produced results that were similar to those where model selection was based on multiple criteria.

CONCLUSIONS: Choice of parametric models often has the biggest impact on the outcomes in CEAs in oncology. Model averaging takes into account the structural uncertainty surrounding the choice of parametric models.

PRM79
ADVISE: A NEW TOOL TO REPORT VALIDATION OF HEALTH-ECONOMIC DECISION MODELS
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BACKGROUND: Models and reimbursement decision makers could both profit from a more systematic reporting of the efforts to validate health-economic (HE) model results. OBJECTIVES: Development of a tool to systematically report validation efforts of HE decision models and their outcomes. METHODS: A gross list of model validation techniques was collected using a literature review, including sources outside the HE file. A panel then selected the most important items. Based on the selected list of items, the partners could score items in three -criterion rounds. Participants were HE modelling experts, covering various nationalities and work environments. They could comment on relevance, feasibility and formulation of the items and received feedback on comments from others. RESULTS: This resulted in a draft tool of selected items, which was tested and improved in two further rounds. In