difficulties. RESULTS: Three methods were identified for mitigating the challenges of simulation modeling. First, the implementation of the model can be simplified by minimizing the dependence on random number draws whenever possible. For example, a single, cumulative probability of treatment discontinuation can replace a series of separate, time-dependent discontinuation probabilities. Second, the transparency and efficiency of the computations can be improved by anticipating all the random draws required to determine a patient’s experiences and organizing the calculations so that a sufficient batch of random numbers can be generated at the beginning of the patient’s journey through the model. Lastly, and perhaps most importantly, the face validity of the model can be enhanced through the visual representation of sample patient experiences that highlight the ability of the model to more accurately represent reality. CONCLUSIONS: Our modeling experiences have demonstrated that meaningful steps can be taken to capitalize on the feasibility of patient-level simulation modeling while maintaining critical aspects of transparency and efficiency.

PMR50 MAPPING AND ANALYZING STAKEHOLDERS IN CHINA’S ESSENTIAL DRUG OPERATION SYSTEM BY USING CIRCULAR MODEL: WHO WE SHOULD DEAL WITH NEXT?
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OBJECTIVES: To classify each of the stakeholders in the National Essential Drug System (NEDS) in China by three major attributes: power, legitimacy, and urgency. To predict the outcome of the whole system by using the Stakeholder Impact Index (SII).
METHODS: A circular model has been developed to map all major stakeholders in the NEDS using qualitative data collected by Delphi method involving 36 experts in implementation of essential drug policy and key interviewees. RESULTS: The central government in the circular model for essential drug system was a dominant stakeholder of the whole stakeholder system. The provincial governments were definitive stakeholders while local governments and medical institutions were dependent stakeholders. Furthermore, media and drug stores were dormant stakeholders, pharmaceutical manufacturers and distribution enterprises were dangerous stakeholders. Patients, community residents and medical insurance programs were discretionary stakeholders. The Stakeholder Impact Index for the NEDS was interviewed.
RESULTS: The central government in the circular model for essential drug system was a dominant stakeholder of the whole stakeholder system. The provincial governments were definitive stakeholders while local governments and medical institutions were dependent stakeholders. Furthermore, media and drug stores were dormant stakeholders, pharmaceutical manufacturers and distribution enterprises were dangerous stakeholders. Patients, community residents and medical insurance programs were discretionary stakeholders. The Stakeholder Impact Index for the NEDS was positive (SIIproj* = 2.72).
CONCLUSIONS: Our modeling experiences have demonstrated that meaningful steps can be taken to capitalize on the feasibility of patient-level simulation modeling while maintaining critical aspects of transparency and efficiency.

PMR51 THE EXPECTED VALUE OF SAMPLE INFORMATION FROM THE PHARMACEUTICAL PERSPECTIVE UNDER CONDITIONS OF VALUE BASED PRICING
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OBJECTIVES: To modify the traditional framework for conducting ENBS, which is not compatible with drug development in the pharmaceutical industry. Traditional approaches to ENBS value trials according to the expected benefits to society and the price of the intervention is assumed to be fixed. We use expected profit forecasts to value trials and assume that the price of the drug is variable and conditional on the trial outcomes. Value Based Pricing (VBP) is a pricing strategy where drug prices are generated in a CE model according to the cost-per-QALY threshold. We use this criterion to determine price. We assume that there is a threshold price below which the company would not market the new intervention and would receive zero profits. The expected price varies as different trial characteristics are simulated. A case study in which the sample size and trial duration are varied in a Pharmaceutical Systematic Literature Erythromasus (SLE) model. For each trial design we sampled 1000 trial outcomes. VBP was estimated for each simulated trial using a SLE CE model. Expected profit of the trial is estimated by averaging the expected profit over all the trials.
RESULTS: A clinical trial with longer follow-up generated greater ENBS than a shorter trial with larger sample size. The trial was large variation in the expected profits for the clinical trials. CONCLUSIONS: ENBS can be adapted to value clinical trials in the pharmaceutical industry to optimise the expected profits. However, the analyses can be very time-consuming to run for complex CE models.

PMR52 ASSESSING PARAMETER IMPORTANCE IN HEALTH ECONOMICS MODELS. CAN WE MAKE IT FASTER?
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Uncertainty in parameters is present in many risk assessment and decision making problems and leads to uncertainty in model predictions. Therefore an analysis of the degree of uncertainty around the model inputs is often needed. Imprecision in parameter estimation and the correlation between parameters can be used to quantify the contribution of uncertain input model parameters to output uncertainty. Expected value of perfect information (EVPI) is a current gold-standard measure of parameters importance in health economics models. The current standard approach of estimating EVPI through performing double Monte Carlo simulation (MCS) can be associated with a long run time. OBJECTIVES: To investigate different importance analysis techniques with an aim to find a shorter technique for analyzing the parameters with greatest contribution to uncertainty in model output. METHODS: A health economics model was updated and served as a tool to project the differential impact analyses. Twelve alternative techniques were applied: rank correlation analysis, contribution to variance analysis, mutual information analysis, dominance analysis, regression analysis, ANOVA, maximum separation distances analysis, sequential bifurcation, double MCS EVPI, EVPI-quadrature and EVPI single MCS method. RESULTS: Among these all techniques, the dominance analysis resulted with the closest correlated calibrated scores when compared with EVPI calibrated scores. CONCLUSIONS: Performing a dominance analysis as a screening method to identify subgroup of parameters as candidates for being most important parameters and subsequently only performing EVPI analysis on the selected will reduce the overall run time.

PMR54 VARIANCES IN THE RATE OF FACE, INTERNAL, AND THIRD PARTY MODEL VALIDITY BY TYPE OF PUBLICATION, TYPE OF MODEL, AND GEOGRAPHIC REGION
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OBJECTIVES: A study of recently published health economic models found that the rate of model validation, while recommended by ISPOR guidelines, was reported in less than half and third party validation (performed by individuals outside of the model building process with no stake in model results) was utilized in less than 10% of published models. This study follows up on those primary results to investigate whether the rates of face, internal, and third-party model validation varies by type of publication, type of model, and geographic region.
METHODS: The published models (n=136) from the primary study were categorized by type of publication (HEOR or non-HEOR) and type of model (cost-effectiveness analysis, cost-utility analysis, budget impact analysis, or other), and by geographic region (North America, Europe, or rest of the world). The rate of face and internal validation, and the rate of third party validation for each category was calculated. The rate of face and internal validation was also supplemented with additional published modeling studies for categories with limited numbers of studies from the primary analysis. The primary study’s methodology for determining model validation was followed for the supplemental model validations. RESULTS: The percentage of models that were either face/ internally validated varied with respect to the region, publication type, or type of model. Among the three different categories analyzed, each failed to conduct model validation at greater than 50% rate. More specifically, the universally lowest method of validation by authors in all categories surveyed was through the use of a third party. CONCLUSIONS: Whether models were published in different types of journals, from a variety of countries, or varied by type of model, rate of validation was similarly low throughout published scientific literature. While the rate varies among the model characteristics analyzed, the results suggest that, regardless of model characteristic, ISPOR validation guidelines are not widely followed.

PMR55 COMPARISON OF PHARMACY BASED AND DIAGNOSIS BASED INDEXES FOR PREDICTING OF THE TOTAL HEALTH CARE EXPENDITURE AMONG ADULT ASTHMATICS
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OBJECTIVES: The purpose of the study was to compare pharmacy-based and diagnosis-based indexes in predicting the total health care expenditure in current year and next year for the adult asthmatic population. METHODS: Data from panel 11 involving asthmatic patients aged 18 years or more were selected from the 2006-2007 Medical Expenditure Panel Survey (MEPS). The diagnosis-based index was coded according to the Charlson comorbidity index, and the pharmacy-based index was defined using Chronic Disease Score-1 (CDS-1). The performance of both indexes was evaluated for each year and next year for the adult asthmatic population. RESULTS: The diagnosis-based index was superior in predicting the total health care expenditure. The diagnosis-based index was superior in predicting the total health care expenditure. CONCLUSIONS: The results suggest that, regardless of model characteristic, ISPOR validation guidelines are not widely followed.