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 wherever 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 sojourn through the model. Lastly, and perhaps most importantly, the face validity of the model can be ensured 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 flexibility of patient-level simulation modeling while maintaining critical aspects of transparency and efficiency.

PRM90

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 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). To evaluate the current performances of each main stakeholder and identify definitive stakeholders and dangerous stakeholders. To develope a circular model for NEDS based on indexes collected by Delphi method. **METHODS:** A circular model has been developed to map all major stakeholders in the NEDS using quantitative data collected by Delphi method involving 36 experts with experience in implementation of essential drug policy were 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 (SII_{proj}^{*} = 2.72). **CONCLUSIONS:** Our finding indicates that the overall anticipation of national essential drug policy is optimistic. Provincial governments, which should be in the position of leading the implementation of essential drug policy, need to be given more autonomy and the constrcution of an experience exchanging platform within provinces in the form of annual symposium, seasonal meeting, learning class or video conferences may accelerate the pace of implementation of national essential drug policy. Pharmaceutical manufacturers and distribution enterprises should be taken more seriously care of in order to make sure they follow the policy rather than devastate it for their own benefits. Constructing a fare, balanced and self-sustained bidding platform may be the key solution for preventing such a phenomenon.

PRM91

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. **METHODS:** We modify the traditional framework for conducting ENBS and make it more relevant to 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 Phase III trial for Systemic Lupus Erythematosus (SLE). 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 across all trial samples. ENBS is calculated as the expected profits minus the costs of the trial. **RESULTS:** A clinical trial with longer follow-up generated greater ENBS than a shorter trial with larger sample size. There is 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.

PRM93

ASSESING 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. Importance analysis involves use of quantitative methods aiming at identifying the contribution of uncertain input model parameters to output uncertainty. Expected value of partial perfect information (EVPPI) measure is a current gold-standard technique for measuring parameters importance in health economics models. The current standard approach of estimating EVPPI 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 alternative technique with shorter run time that will identify parameters with greatest contribution to uncertainty in model output. **METHODS:** A health economics model was updated and served as a tool to implement various importance analysis techniques. Twelve alternative techniques were applied: rank correlation analysis, contribution to variance analysis, mutual information analysis, dominance analysis, regression analysis, analysis of elasticity, ANCOVA, maximum separation distances analysis, sequential bifurcation, double MCS EVPPI, EVPPI-quadrature and EVPPI- single MCS method. **RESULTS:** Among all these techniques, the dominance analysis resulted with the closest correlated calibrated scores when compared with EVPPI 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 EVPPI analysis on the selected will reduce the overall run time.

PRM94

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 face/internal 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 ¼ 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), by 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 for each category was aggregated and compared. The analysis 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 models. **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 a 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, the rate of validation was similarly low throughout the 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.

PRM95

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 D'Hoore version of 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 the current year and next year. Additional variables included in the multivariable model were demographic characteristics, the number of prescribed medications and refills (NPM), and the number of emergency visits. **RESULTS:** The mean age (± Standard Deviation) in the study was 47.48±0.87 years and the mean total health expenditure was $8,285±500. Most of the selected patients were female (68%) and the vast majority of them were white (82%). The CDS-1 (adj R2 for current year=0.2483, and adj R2 for next year = 0.2469) performed better than D'Hoore (adj R2 for current year=0.1286, and adj R2 for next year = 0.1271) when they were added individually. The best predictive model included age, sex, NPM, and either D'Hoore (adj R2 for current year = 0.4334 and adj R2 for next year =0.4294) or CDS-1 (adj R2 for current year =0.4346 and adj R2 for next year =0.4304). **CONCLUSIONS:** The best predictive model for the current and the prospective year was the model that includes demographics, number of prescriptions, and either pharmacy-based or diagnosis-based indexes