PRM29
COMPARISON OF DISCRETE DISCOUNTING AND NON-CONSTANT EXPONENTIAL DISCOUNTING APPROACHES TO CALCULATE FUTURE GAINS IN QUALITY-ADJUSTED LIFE-YEARS
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OBJECTIVES: Several large scale surveys conducted to measure time-preferences of people in various fields, other than those in the health outcomes, have shown that time-preferences adhere to current non-constant exponential discounting. In pharmacoeconomic studies, however, all outcomes measures including quality-adjusted life-years (QALYs) use discrete discounting. Disability-adjusted life-years (DALYs) is an exception that is discounted using the non-constant exponential discounting approach. The objective of this study is to review the current literature on time-preferences specific to health outcomes and compare the differences between QALYs obtained through discrete discounting and non-constant exponential discounting approaches. METHODS: We searched PubMed and EconLit for methodological studies examining time-preferences specific to health outcomes. We projected gains of 0.1 QALY/person/year over 1 to 75 years in a hypothetical dataset of 1000 persons. We calculated differences in present values of QALYs obtained through discrete discounting and non-constant exponential discounting approaches, i.e. QALYs from discrete discounting subtracted by QALYs from non-constant discounting. RESULTS: For a 0.1 QALY/person/year over 1 to 75 years, the differences in present values of QALYs obtained through discrete discounting and non-constant exponential discounting approaches are: 1) 0.3% for 1 year, 2) 0.7% for 2 years, 3) 1.3% for 5 years, 4) 2.1% for 10 years, 5) 3.4% for 25 years. CONCLUSIONS: We found no published research comparing discrete discounting to non-constant exponential discounting approaches for QALYs. Over long time horizons, we found significant intertemporal differences between QALYs will be estimated by these approaches. Therefore, we recommend future studies to address time-preferences specific to determine if non-constant exponential discounting is relevant to health outcomes such as QALYs.

PRM30
A MODEL TO PREDICT RISK OF NON-ADHERENCE TO MEDICATIONS HIGHLIGHTED IN CMS STAR-RATINGS
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OBJECTIVES: The Center for Medicare and Medicaid Services (CMS) has created plan Star ratings that indicate the quality of Medicare plans. In 2012, CMS added plan Star ratings that indicate the quality of Medicare plans. In 2012, CMS added Medicare and com-mercially insured patients over age 55 from 2008-2010 who are new to the Star rating medication categories are included. Patients included in the model have a full year of Medicare enrollment.star rating is generated from the normative database. The model will conduct a sensitivity analysis by varying the model inputs and comparing the results. RESULTS: The model will be conducted using appropriate regression models based on the distribution of the measure. A logistic regression model will be estimated (p<0.05 for non-compliance). Results of a logistic regression will be presented as odds ratios associated with each independent variable. The parameter estimates from the above econometric model will be retained and used to estimate the probability of non-compliance on a new set of patients. To test the accuracy of the predictive model, we will choose a random sample of patients new to these medications in 2011, as exhibited by the average FDC in each risk group (high, medium, low). CONCLUSIONS: An adherence predictive model can be useful to identify patients who may benefit from a drug adherence intervention program.

PRM31
EVALUATION OF DECISION ANALYTIC MODELS IN COST-EFFECTIVENESS ANALYSIS IN KOREA: FROM GUIDELINE TO PRACTICE
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OBJECTIVES: Korea’s Health Insurance Review and Assessment Service (HIRA) has been in charge of formulating economic evaluation guideline and evaluating sub-missions for reimbursement decision. The purpose of this study is to observe cur- rent practice patterns of using decision analytic models in submissions considered by HIRA. METHODS: Thirty-four dossiers were submitted by industry from January 2007 until December 2009, and they were evaluated by two independent research- ers at HIRA. The adherence to current HIRA’s recommendation was assessed. RESULTS: Out of 34 submissions, 23 applied model-based evaluations, and more than half (14) submissions were based on markov modeling. Dynamic models were not applied any of the submissions. Submissions frequently omitted the justification of the assumptions, definition of markov states or cycle length. Parameter search/collection criteria were rarely provided, and usually extrapolated in favor of the applicants. Transparency was lacking especially models with long time horizon and multiple assumptions, and submitted models were rarely validated. CONCLUSIONS: Decision analytic models are frequently applied in economic evaluations, however the quality of provided models varies greatly. We recommend HIRA’s guideline could specify the minimum standard of modeling to increase the com- parability of submitted dossiers.

PRM32
ONE DAY MONEY WILL ONLY BE SPENT ON EFFECTIVE DRUGS FROM Payers’ ASPIRATIONS TO PERFORMANCE-BASED RISK-SHARING OPERATIONS
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OBJECTIVES: To define an operational modelling framework intended to help the design of a performance-based Risk-Sharing (PBRS) schemes. A time-to-event end-point is used as a performance criterion. Such survival endpoints are commonly used in clinical studies, notably in oncology where PBRS schemes are gaining momentum. METHODS: The framework is based on an open population model with a monthly cycle and 3-year time horizon. RESULTS: The framework provides both payer and manufacturer with valuable insight into the operational and financial dimensions of the potential PBRS schemes they may contemplate as they negotiate patient access conditions. Both parties can better anticipate the implications of the schemes and better plan resources, logistics and financial ar-rangements accordingly.

PRM33
VALIDATING A WEB-BASED, INCREMENTAL COST-EFFECTIVENESS SOFTWARE PROGRAM THAT IMPLEMENTS A MARKOV CHAIN MONTE CARLO (MCMC) ANALYSIS MODEL
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OBJECTIVES: To evaluate a web-based software program which incorporates Markov Chain Monte Carlo (MCMC) analysis to compare the cost-effectiveness of any two treatments, allowing modifiable inputs of key variables. METHODS: A web-based software program was developed, which incorporates Markov Chain Monte Carlo (MCMC) analysis to compare the cost-effectiveness of any two treatments. The online software program was based on calculation methods described in “Decision Making in Health and Medicine” textbook from Hunink et al. The MCMC analysis used graphically displays the results using JavaScript algorithms and is available for free at www.healthstrategy.com. We compared the online results with analyses using Decision Maker software available from UMDNJ. The variable inputs that can be modified in the web-based ap- program include: state transition probabilities, number of patients, number of cycles, cost per state, and utility per state. RESULTS: The web-based tool creates plots of incremental costs versus incremental utilities, in cost-effectiveness quadrants; and if death is the absorbing state, also graphs life expectancy curves for two treatment comparisons. As an example of the similarity of findings, when consid-ering three transition states per treatment, the online software versus the Decision Maker model results were as follows: treatment cost (means: $1417 vs. $1300 and standard deviations: 1706 vs. 1604); treatment effectiveness (means: 7.6 vs. 7.8 and standard deviations: 7.2 vs. 7.0). CONCLUSIONS: With this online MCMC program, the user can input their own therapy parameters, and then generate key means and standard deviations, incremental costs, incremental utilities, life expectancy curves, and incremental cost effectiveness ratios. MCMC has advantages over Markov cohort analyses because means and standard deviations can be generated from MCMC calculations. This web-based application has potential benefit as a more basic educational tool for students and health professionals interested in exploring these analytical approaches.

PRM34
ESTIMATING MARKOV CHAIN TRANSITION MATRICES IN LIMITED DATA SAMPLES: A MONTE CARLO EXPERIMENT
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OBJECTIVES: Markov models are often used in Health Economics to represent dis- ease progression in Cost-Utility models. The transition probabilities, however, may be difficult to populate when the data are limited. This note applies the Markov chain approximation method using vector autoregression (VAR) to estimate the transition matrix when the sample size is small. METHODS: We compared the per-formance of the standard (count) method versus the VAR method to estimate transition probabilities in small samples. For the small count, one counts the