three specific problems associated with the use of RCT data which may create misleading results: randomization and sample selection bias, clinically appropriate comparator groups, and indirect treatment effects. These issues are illustrated with a decision model analyzing Medicare's coverage of erythropoietin (EPO) for patients with End-Stage Renal Disease (ESRD). We show how logistic and multiple regression can be used to estimate branch probabilities and payoffs for each treatment group. The incorporation of additional data from the United States Renal Data System into the model enables us to update probabilities and payoffs when patients are not randomly assigned to treatment modalities. To highlight the potential bias that exists when models rely solely on RCT data, we compare our results to a previous study in which the authors employed a computerized decision model to estimate the net costs to Medicare of EPO coverage at 1 and 5 years. This exercise will offer policy analysts and others a method of updating RCT-based decision models to more accurately reflect clinical practice and predict policy effects.

MM5

COMPARING COMPUTERIZED OPTIONS IN PHARMACOECONOMICS: SPREADSHEETS, DECISION TREES, AND EDUCATIONAL TOOLS: AN OPEN WORKSHOP FOR DEMONSTRATING SOFTWARE

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This session is intended for sharing and comparing computer software applications for research, management, and practice. Software applications will be demonstrated for decision analysis, cost effectiveness analysis, multiattribute utility computation, and assessing patient utilities. Desktop applications will be discussed. Laptop and handheld computer software will be demonstrated. Pharmacoeconomic software allows data to be analyzed from different perspectives: patient, provider, hospital, managed care, and society. Software models also allow assessment of health care products or services from different quantitative perspectives: cost of illness, cost minimization, cost-benefit, cost-effectiveness, and cost-utility. The integration of decision analysis and spreadsheets will also be discussed. Software is utilized to collect information, analyze data, present findings, or educate managers, providers and patients. Pros and cons of each analytical and software approach will be discussed. Participants are encouraged to bring their own laptops to demonstrate their own software or related Internet offerings in an informal roundtable fashion. Software beta versions allowed; "viruses" discouraged.

MM6

DECISION ANALYSIS: WHAT IS ITS UTILITY FOR PHARMACOECONOMIC ANALYSIS?

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Among many techniques available for pharmacoeconomic analysis (PEA), some, such as decision analysis (DA), have been formally defined, whereas others are still in the early stages of development and are less well defined. Used for quite some time in the business sector, DA has been adopted for PEA for its apparent straightforward nature and ease of use.

METHODS: To evaluate the utility of DA techniques for PEA, an analysis of treatment for gastroesophageal reflux disease (GERD) will be presented as an example and the basic tenets of DA examined.

RESULTS: Although the basic decision tree for the GERD model appeared straightforward, it became clear upon implementation just how difficult it is to fit disease management and progression into such a model. Instead of the standard two alternative–two outcome textbook examples, there were six initial choices, three potential early outcomes, and countless subsequent resulting "next steps." As with most PEA, it was also necessary to explicitly account for time as many model elements depended on time.

CONCLUSIONS: Among problems with DA are: time is not explicitly accounted for, the use of dual values (cost, effectiveness) was not intended, and cost and effectiveness values must be specified at a terminal node though they are actually cumulative. Thus, DA is clear only for simple models — more often it is overly complex, computationally inefficient, and very difficult to validate. Techniques better suited to PEA will be discussed. Any person who uses, or is interested in using, PEA in his or her work will benefit from attending this session.

MM7

ISSUES IN DEVELOPING ECONOMIC MODELS FOR MANAGED CARE: THE CASE OF OSTEOPOROSIS PREVENTION

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Although efficacy and safety data remain the mainstay of formulary decisions, the need for economic evaluation of new pharmaceutical products has become increasingly important within the managed care environment. For many new products, insufficient information is generated from clinical trials to conduct a comprehensive economic evaluation. Therefore, economic modeling is often the only feasible option for delivering timely information to decision makers about a new product's value. Unfortunately, economic models presented to managed care plans often have limited usefulness because they lack relevance or applicability to the plan's members or the overall goals