independent data. CONCLUSIONS: We found several well-designed models for different CML treatment strategies. However, the quality of reporting varied substantially. We recommend that future models should include novel treatment options, subgroup evaluations for a more personalized decision making, and validation using independent data. Already available models with a short time horizon could be updated with new survival data.

**EXTRAPOLATION IN TRIAL-BASED COST-EFFECTIVENESS MODELING:**

**PCN162**

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**BACKGROUND:** Extrapolation is often a key element in health economic modeling. Although any model should use empirical data if possible, the effects of treatments on long-term health outcomes are seldom observed within the follow-up time of a clinical study. Extrapolation over a lifetime horizon will generally be required in economic models where treatments have different cumulative survival at the end of the clinical trial. Typically, a within-trial analysis of costs and health effects, in which outcomes are truncated at the conclusion of the trial, will be overly conservative.

**OBJECTIVES:** The purpose of this study is to compare different methods of extrapolation in the context of examples concerning oncology, although the principles apply across all therapeutic areas. METHODS: There is a set of standard assumptions regarding extrapolation of survival data from clinical studies, ranging from very cautious (“stop-and drop”) to very optimistic (“continued benefit”). The impact of different assumptions regarding extrapolation is explored, and the implications are discussed. CONCLUSIONS: The choice of extrapolation method has significant impacts on clinical and economic effects, costs, and cost-effectiveness. Based on our findings and supporting examples, we propose the following: 1) Analyses should perform and report results under a range of specific standard extrapolation assumptions to assess comparability across studies. 2) The choice of a base-case approach in any particular study should be guided by knowledge about the biology of the indication under evaluation and the mechanism of action of the treatment. A case could be made for a reference case method of extrapolation, but we believe that sensitivity analyses to increase comparability across studies is sufficient. Adherence to these modeling principles will reduce the challenge of extrapolation and enhance the comparability of cost-effectiveness analyses building on modeling and extrapolation.

**EXTENDING FIXED EFFECT MODELS TO CENSORED COST DATA:**

**PCN163**

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**OBJECTIVES:** Challenges in analyzing cost data include addressing skewness in cost distributions, observed and unobserved heterogeneity across samples, and even more challenging complexities due to censoring. We combined generalized random effect models with inverse probability weighted (IPW) estimation techniques to address those challenges in a single model. METHODS: Generalized fixed effect models have been used with weights that are calculated as inverse due to probability being uncensored. The Gaussian family and log link function was chosen and we applied a test to see if possibly censoring bias exists. We also calculated the deviation from the consistent values of the standard ordinary least square used to RESULTS: A total of 482,143 observations were used in the analysis. We obtained Medicare claim file for the 2 years following patients’ lung cancer diagnosis. Costs had high kurtosis and skewness. Moreover, 40% of the cases were censored, and therefore, their annual costs were not observed. The total cost of all care was $63,000 for the 2 years following a lung cancer diagnosis and $57,000 for incomplete cases. Results significantly diverged from the standard regression model ($p < 0.000). CONCLUSIONS: This paper applied inverse probability weighted estimation and fixed effect panel data models to an inception cohort of patients newly diagnosed with lung cancer. Our findings suggest that standard regression models yield inconsistent estimators due to censoring bias. The IPW least square estimation method removes that bias.

**THE ECONOMICS OF CHRONIC MYELOGENOUS LEUKEMIA: A COMPARISON OF MODELING APPROACHES**

**PCN164**

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**OBJECTIVES:** Chronic myelogenous leukemia (CML) is a progressive disease which arises from damage to the DNA of a stem cell in the bone marrow. This results in the uncontrolled growth of white blood cells which, in turn, can lead to severe impairment of an individual’s functioning. The National Institute for Health and Clinical Excellence (NICE) models the costs and benefits of medicines. The structure of these models is not prespecified. All wins are typically observed, both in the model’s choice of input parameters and in the structure of the modeling approach. While there is no such thing as a “correct” model, it is important that different models are compared and critiqued in order to identify any particular strengths and weaknesses of differing approaches. METHODS: A review was undertaken, identifying existing published models for CML. The data sources and choice of inputs were compared across each model and presented in a comparative table. Furthermore, the different approaches to model structure were examined, and attempts were made to explore the consequences of each approach on the models, costs, effectiveness, and cost-effectiveness findings. RESULTS: The results were consistent across the three modeling CML with significant variations between different studies. While different data sources are utilized in each model, this can usually be explained by emerging data which were not available to other researchers. However, the overall approach to modeling the disease varied considerably across each study. Model structures and assumptions for long-term outcomes were key drivers of the cost-effectiveness results in each model, but were often based on contrasting and contradicting approaches. CONCLUSIONS: This review has highlighted significant variation in approaches to modeling CML. It is recommended that long-term outcomes are predicted based on considering the likely outcomes associated with shorter-term outcomes, such as treatment response.