case, the costs of therapy are partly offset by reducing the frequency of relapses and the progression of the disease.

**ECONOMIC MODELING FOR TREATMENT FAILURE PATIENTS USING MULTIPLE ROUNDS OF THERAPY AS COMPARATOR**

**OBJECTIVES:** Treatment failure patients in various disease areas are often treated by multiple rounds of therapy. However, new treatment options are emerging that have potential to replace that treatment with single-agent or single round of combination treatment. It is challenging to demonstrate cost-effectiveness of these new agents, especially when comparator is not one single regimen but sequential treatment. We present an approach derived from a study where we developed a model that can deal with multiple rounds of treatment or relapses to estimate cost-effectiveness of new emerging therapies. **METHODS:** Intervention was chosen as an emerging T-cell lymphoma drug candidate. Comparator was chosen as sequential treatment with 1–3 chemo regimens (called DHAP, ESAP, ICE, HyperCVAD, and EPCHI). All comparator chemo regimens are generics and their prices were obtained from Medispan's PriceRx. Intervention's price was assumed as median price of branded chemotherapy agents. Costs, efficacy, adverse events, and utilities were sourced and estimated from published studies for T and B-cell lymphoma. Relapses and number of chemo regimens for comparators were varied from 1–5. Sensitivity analyses were performed for all base calculations. **RESULTS:** Model results show that a new agent that can replace multiple rounds of treatment is relatively more cost-effective than another agent that replaces relatively fewer rounds of treatments. Our base-case incremental cost-effectiveness ratio (ICER) with one chemo regimen as comparator was $262,908. However, if there are 2, 3, 4, or 5 sequential rounds, the ICER values change to $233,078, $183,249, $143,420, and $103,591, respectively. **CONCLUSIONS:** For newer agents that are indicated for treatment failure patients, the use of sequential treatments as comparator can significantly improve their cost-effectiveness. The model approach described here can be used for arthrisis, hepatitis C, and diabetes and oncology TF patients.

**COST-EFFECTIVENESS ANALYSIS OF OXALPLATIN IN ADJUVANT THERAPY FOR STAGE 3 COLON CANCER PATIENTS IN JAPAN**

**Fukuda T1, Shiroiwa T2, Takeuchi T1, Shimozuma K2, Ohashi Y1**

1Tokyo University, Tokyo, Japan; 2Jitsumekun University, Kusatsu, Shiga, Japan. **OBJECTIVE:** Oxaliplatin (folinic acid [l-LV], 5-FU, and oxaliplatin) is a standard therapy for metastatic colorectal cancer. FOLFOX in adjuvant therapy was approved in 2009. However, cost-effectiveness of FOLFOX, which can prolong DFS (disease-free survival), is not known. **METHODS:** We performed cost-effectiveness analysis of FOLFOX in adjuvant therapy for stage 3 colon cancer patients compared with FU/LV as a standard regimen. Our analysis was based on the patient-level data of MOSAIC (the Multicenter International Study of Oxaliplatin/S-Folfox6) used in the adjuvant treatment of Colon Cancer (Cancer) trial. Survival curve of DFS and OS (overall survival) was extrapolated by Markov model, which uses parametric regression considering some patients can cure without recurrence. Death of any other causes was treated as competing risk. Expected value of mean survival year was gained by calculating area under the estimated survival curve during 15 years. QALY (quality-adjusted life-year) was calculated by multiplying age and utilities and utilizing systematic and timely evidence-assessment accessible to stakeholders. **RESULTS:** Model results show that a new agent that can replace multiple rounds of treatment is relatively more cost-effective than another agent that replaces relatively fewer rounds of treatments. Our base-case incremental cost-effectiveness ratio (ICER) with one chemo regimen as comparator was $262,908. However, if there are 2, 3, 4, or 5 sequential rounds, the ICER values change to $233,078, $183,249, $143,420, and $103,591, respectively. **CONCLUSIONS:** For newer agents that are indicated for treatment failure patients, the use of sequential treatments as comparator can significantly improve their cost-effectiveness. The model approach described here can be used for arthrisis, hepatitis C, and diabetes and oncology TF patients.

**COST-EFFECTIVENESS ANALYSIS OF ERLOTINIB TREATMENT IN NON-SMALL-CELL LUNG CANCER: A SWEDISH PERSPECTIVE**

**Shroff S1, Martin M1, Kearney M2, Lothgren M2, Bracco A2**

1University of Washington, Department of Pharmacy, Seattle, WA, USA; 2University of North Carolina, Chapel Hill, NC, USA. **OBJECTIVES:** The objective of the study was to assess the cost-effectiveness of erlotinib for metastatic colorectal cancer. FOLFOX in adjuvant therapy was approved in 2009. However, cost-effectiveness of FOLFOX, which can prolong DFS (disease-free survival), is not known. **METHODS:** We performed cost-effectiveness analysis of FOLFOX in adjuvant therapy for stage 3 colon cancer patients compared with FU/LV as a standard regimen. Our analysis was based on the patient-level data of MOSAIC (the Multicenter International Study of Oxaliplatin/S-Folfox6) used in the adjuvant treatment of Colon Cancer (Cancer) trial. Survival curve of DFS and OS (overall survival) was extrapolated by Markov model, which uses parametric regression considering some patients can cure without recurrence. Death of any other causes was treated as competing risk. Expected value of mean survival year was gained by calculating area under the estimated survival curve during 15 years. QALY (quality-adjusted life-year) was calculated by multiplying age and utilities and utilizing systematic and timely evidence-assessment accessible to stakeholders. **RESULTS:** Model results show that a new agent that can replace multiple rounds of treatment is relatively more cost-effective than another agent that replaces relatively fewer rounds of treatments. Our base-case incremental cost-effectiveness ratio (ICER) with one chemo regimen as comparator was $262,908. However, if there are 2, 3, 4, or 5 sequential rounds, the ICER values change to $233,078, $183,249, $143,420, and $103,591, respectively. **CONCLUSIONS:** For newer agents that are indicated for treatment failure patients, the use of sequential treatments as comparator can significantly improve their cost-effectiveness. The model approach described here can be used for arthrisis, hepatitis C, and diabetes and oncology TF patients.

**A COST-EFFECTIVENESS ANALYSIS (CEA) FOR DENOSUMAB, A FULLY HUMAN MONOClonAL ANTIBODY FOR CANCER TREATMENT: INDUCED BONE LOSS (CTIBL) IN NON-METASTATIC PROSTATE CANCER (PRCA): A SWEDISH PERSPECTIVE**

**Svedj H1, Martin M1, Kvarnery M2, Lodgren M2, Bracco A3**

1University of Linköping, Linköping, Sweden; 2University of Linköping, Linköping, Sweden; 3University of Linköping, Linköping, Sweden. **BACKGROUND:** Denosumab, a fully human monoclonal antibody for cancer treatment, reduces bone turnover, decreases incidence of bone fractures and decreasing quality of life over time. Until recently, there were no licensed treatments despite high unmet medical need. In a randomized, double-blind, placebo-controlled trial, denosumab increased BMD and reduced the incidence of vertebral fracture in nonmetastatic prostate cancer patients receiving ADT. **OBJECTIVES:** To assess the cost-effectiveness (CE) of denosumab versus no treatment in nonmetastatic prostate cancer patients receiving ADT. **METHODS:** To assess the cost-effectiveness of denosumab for patients with nonmetastatic prostate cancer, a model was developed. The model was developed using data extracted from literature. Sensitivity analyses were performed. **RESULTS:** A total of 522 patients were enrolled between March 2007 and March 2008. Median age was 63 years; 32% were females; 65% had adenocarcinoma; and 8% had EGFR mutation. The strategy which consists to treat all patients was dominated, as it was both less effective and the most expensive strategy (0.495 QALY/622,396). The clinical-guided strategy was slightly more effective than the biological-guided strategy (respectively 0.568 and 0.563 QALY), but it was also more expensive (respectively €326,299 and €315,187). The dominant strategy was then the biological-guided strategy (£269,795/ QALY). The model was robust to variations of baseline exam costs, palliative costs, and utility data. Biological-guided strategy appeared the most effective and the less cost-effective strategy when the prevalence of EGFR mutation was 10%. **CONCLUSIONS:** Biological-guided strategy appears the dominant strategy if the prevalence of EGFR mutation was >10%. This suggests determining EGFR mutation status in priority to non-smoker females, smokers with adenocarcinoma.