resulting incremental cost per QALY of $7721 demonstrated that maintenance therapy with rituximab when compared to observation was cost-effective. The cost per QALY was very robust when subject to extensive one-way and probabilistic sensitivity analysis. Probabilistic sensitivity analyses indicated that the likelihood of the ICER being below $10,000 was 90%.

CONCLUSION: From the perspective of UK NHS, maintenance rituximab when compared to observation alone for the treatment of relapsed/refractory follicular NHL patients responding to induction therapy is a highly cost-effective treatment.

OBJECTIVES: In Hungary the standard therapy in the adjuvant treatment of stage III colon cancer is the DeGramont-protocol, a combination of 5-fluorouracil and leucovorin. In the MOSAIC trial the addition of oxaliplatin (FOLFOX4) improved the efficacy of the standard therapy in this patient group. The aim of our study was to evaluate the cost-effectiveness of FOLFOX4 compared to standard therapy in Hungary. METHODS: The cost-utility analysis of the FOLFOX4 therapy was based on the MOSAIC trial. The efficacy data of the MOSAIC trial was extrapolated for lifetime, while utilities values were incorporated from published sources. Age and gender specific general mortality rates and utilities were derived from epidemiology data of the Hungarian population and published utilities based on the EQ-5D questionnaire. The analysis was accomplished from payer perspective. Thus, only direct medical costs were taken into account. Resource use was based on Hungarian treatment patterns and unit costs. Costs and outcomes were discounted at 5%. Cost-effectiveness was measured in terms of incremental cost per quality-adjusted life-year saved (QALY), incremental cost per disease-free years (DFY) and incremental cost per life-years saved (LYS). One-way sensitivity analysis was employed. RESULTS: Compared to DeGramont therapy, FOLFOX4 resulted in an additional 0.45 QALY, 0.53 LYS, 0.958 DFY and LYS was HUF 1,367,712 (5,471 €) per patient. The cost for one QALY was HUF 2,880,342 (11,521 €) while for one DFS and LYS was HUF 1,376,712 (5,471 €) and HUF 2,468,660 (9,875 €) respectively. The results were most sensitive to discount rate, general population data and the cost of chemotherapy. CONCLUSION: Based on the possible thresholds in Hungary, and the €20,000/QALY quoted in countries of the EU zone, FOLFOX4 is a cost-effective strategy in Hungary for the postoperative adjuvant treatment of patients with stage III colon cancer compared to the DeGramont protocol.

OBJECTIVES: The aim of the study was to analyze the cost-effectiveness of sunitinib malate, a novel cancer treatment, as a second-line therapy for metastatic renal cell carcinoma (mRCC) after first-line cytokine treatment compared with current Finnish treatment practice. Cytokine therapy is currently the standard first line treatment for mRCC. Until recently, treatments with proven efficacy after the failure of first line cytokine therapy have not been available. METHODS: Information for analyses was gathered from clinical trials, the literature and patient records from two Finnish university hospitals. Clinical experts treating mRCC-patients in Finland provided the information on current practices for the sunitinib treatment. A comprehensive probabilistic decision-analytic model was developed using WinBUGS software to estimate the cost-effectiveness and expected value of perfect information (EVPI) of sunitinib malate. An EVPI approach was used to estimate the expected costs of decision uncertainty. A societal perspective was assumed in all analyses to avoid suboptimal decisions. RESULTS: The Kaplan-Meier survival estimates after cytokine failure for local patients (n = 39) were 3.8 months (95% CI, 2.16–5.51) and 1.4 months (95% CI, 0.7–2.17) for overall and progression-free survival, respectively. When compared to the current Finnish treatment practice, sunitinib prolonged life expectancy by 1 year and resulted in a progression-free time of 6.3 months and in 0.7 QALYs gained. Over a five-year time period, an incremental cost-effectiveness ratio (ICER) of 42,877 € per QALY was obtained. Sunitinib was estimated to have an 88% probability of being cost-effective at the willingness-to-pay level of 45,000€/QALY. The population EVPI for the decision between sunitinib-treatment and current Finnish treatment practice was 607,000€ at a willingness-to-pay level of 42,500€. CONCLUSION: Sunitinib malate results in improved survival and is potentially cost-effective as a second-line treatment of mRCC compared to the current clinical practice used in Finnish hospitals.

OBJECTIVES: Maintenance therapy with rituximab has shown significant improvements in overall survival and progression-free survival (PFS) when compared with observation in patients with relapsed/refractory follicular lymphoma (van Oers et al., 2006). The primary objective of this analysis was to estimate the incremental cost-effectiveness ratio (ICER) of rituximab maintenance therapy versus observation alone, based on data from the EORTC 20981 study. METHODS: Rituximab maintenance therapy (375 mg/m2 every 3 months) was evaluated using a Markov model. All patients entered in the model following response to CHOP chemotherapy +/- rituximab as induction therapy. PFS and Overall Survival (OS) following rituximab maintenance were extrapolated from 2-year Kaplan-Meier curves from the study data using a parametric approach. Cox-Snell and deviance residuals were analysed. Quality-of-life utility values were derived from a study of 165 patients using the EQ-5D questionnaire. Direct annual medical costs including adverse events, drug acquisition, administration and preparation were estimated accordingly to a Delphi panel with Brazilian haematologists. Costs were reported in 2007 Brazilian Reais. Both costs and outcomes were discounted at 3.5% rate according to NICE/UK recommendation. In order to assess uncertainty, probabilistic sensitivity analyses were also performed. A lifetime horizon and a payer perspective in Brazil were adopted. RESULTS: Rituximab maintenance resulted in a gain of 1.79 QALYs (5.96 vs. 4.17) at an incremental cost of R$57,595 The
ICER of rituximab maintenance vs. observation alone is, therefore, estimated to be R$32,236 per QALY gained. The ICER of rituximab maintenance was sensitive to the duration of treatment benefit, discount rate and drug cost. CONCLUSION: In patients responding to induction therapy, rituximab maintenance therapy improves overall survival and progression-free survival compared with observation alone. Results suggest that maintenance therapy with rituximab is a cost-effective intervention for the management of patients with follicular lymphoma in the Brazilian Private Healthcare System.

PCNS0

COST SHIFTING EFFECT IN DRG BASED ANTI-CANCER THERAPIES IN HUNGARY
Jozsa G
University of West Hungary, Sopron, Hungary
OBJECTIVES: The goal of research was to investigate the cost of DRG based anti-cancer chemotherapies. Costs for investigated chemotherapies have been allocated to oncology centers from the budget of National Health Fund Administration, based on DRG-reimbursement. METHODS: Cost analysis of chemotherapy protocols has been conducted, from the perspective of National Health Fund Administration, focusing on cost of medication, hospitalisation and the total expenditure of protocols. RESULTS: The standard process of protocol-expenditure calculation has been identified. The drug related cost has been based on the ex-factory prices of medicines. Expenditures of hospitalisation have been calculated on the days of total length of drug administration and not on term of hospitalisation. Chemotherapies, containing per os anti-cancer medication have been found over-priced. The cost ratio of oral drug and protocol expenses has been found lower than the average of oncology protocols, from 1,75 to 26.9%. Consequently, the cost of hospitalisation has been over-represented in these protocols, although these treatments have required less hospitalisation. Using per os chemotherapy protocols has resulted idle capacity in utilization of protocol-expenditures. CONCLUSION: The cost of hospitalisation based on “days of treatment” hasn’t reflected correctly the occurring expenses. Per os chemotherapies alone should have been reimbursed as outpatient care and not involved into DRG based hospital care. The cost of protocols, containing per os and i.v. compounds in combination should have been calculated on a real-cost basis, considering the days of hospitalisation.

PCNS1

COMPARING THE BURDEN OF CANCER AND OTHER DISEASES WITH THE ECONOMIC RESOURCES ALLOCATED TO THOSE DISEASES:A SOUTH AFRICAN PERSPECTIVE
Stander MP1, Harmse WJ2, Cooke RA1, Marais CA1
1heXor—Health Econometric & Outcomes Research, Johannesburg, Gauteng, South Africa, 2heXor; Gauteng, Gauteng, South Africa
OBJECTIVES: To calculate the burden of cancer in the private and public health care sector, compare it to the health care resources consumed, and to other disease areas. Ultimately we seek to understand whether scarce health care resource allocation is optimally distributed between different diseases. METHODS: We first attempted to calculate the burden of cancer for South Africa using Statistics SA, South African death registry and the National Cancer Registry data. Using different data sets we then differentiated the data in order to estimate the public and private sector burden of cancer. By using the latest South African National Health Accounts and medical insurance data, we then calculated the direct monetary health care resources for cancer and other diseases. Lastly we attempted to calculate the indirect costs associated with cancer and other diseases using the human capital methodology. We were able to compare burden of cancer, cardiovascular disease, diabetes, HIV/AIDS, injuries, mental disease, respiratory disease and all other diseases to the direct monetary health care resources as well as the indirect costs associated with disease. RESULTS: HIV/AIDS and injuries contributed 30.9% and 14.3% to the burden of disease in South Africa while cancer was 3.1%. When comparing the direct health care cost as a percentage of total health care spending to the cancer DALY as a percentage of total DALY, the ratio was 1.07. This indicates that, from a direct health care cost perspective, direct health care cost consumption was proportionate to the burden. However, when comparing direct health care cost percentage to indirect costs percentage, the ratio for cancer is 0.36. Similar results were seen in the public and private sector. CONCLUSION: From a societal perspective, it appears that too little resources are allocated to cancer and some other chronic diseases in South Africa.

PCNS2

GAP BETWEEN TREATMENT COST OF AND MORTALITY DUE TO CERVICAL CANCER IN HUNGARY
Bocz J1, Penetik M2, Agoston I1, Bettehem J1, Karpati K1
Brodszky V3, Gulácsi L1, Sebestyén A4
1University of Pécs, Pécs, Hungary, 2Fer Ferenczi County Hospital, Kistarcsa, Hungary, 3Corvinus University of Budapest, Budapest, Hungary, 4National Health Insurance Fund Administration, Pécs, Hungary
OBJECTIVES: The aim of this study is to compare the distribution of health insurance treatment cost of and mortality due to cervical cancer according to age-groups. METHODS: Data derive from the database of the National Health Insurance Fund Administration (OEP) containing routinely collected financial data. The study includes all the women who received outpatient and/or inpatient treatment in 2001 financed from public resources of OEP. Number of deaths due to cervical cancer is from the Central Statistical Office database. We compared the annual out- and inpatient care treatment cost and the annual number of deaths according to age groups. RESULTS: The cost distribution of out- and inpatient care treatment cost of cervical cancer was the following (outp./inp.): 0–24 years: 0.2%/0.2%; 25–44 years: 33.2%/35.8%; 45–64 years: 47.2%/47.3%; 65–74 years: 12.9%/13.2%; 75 and over: 6.5%/3.6%. The distribution of deaths due to cervical cancer was the following: 0–24 years: 0.0%; 25–44 years: 16.3%; 45–64 years: 41.0%; 65–74 years: 21.7%; 75 and over: 21.0%. Summarizing these numbers, women aged 0–64 years accounts for 57.3% of all deaths due to cervical cancer but they received 80.6% and 83.3% of treatment cost of in- and outpatient care. While women aged 65 or over accounts for 42.7% of deaths and consumed only 19.4% and 16.7% of of treatment cost of in- and outpatient care. CONCLUSION: Women in younger age groups received more treatment cost than its mortality would predict, while women in older age groups received less treatment cost of out- and inpatient care. There is a shift between the distribution of treatment cost of and deaths due to cervical cancer in favor of younger age-groups.