PCN93
A COST-EFFECTIVENESS ANALYSIS OF 4 CHEMOTHERAPY REGIMENS IN THE TREATMENT OF PLATINUM SENSITIVE RECURRENT EPITHELIAL OVARIAN CARCINOMA
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OBJECTIVES: Compare the cost effectiveness of 4 chemotherapy treatments for platinum-sensitive recurrent epithelial ovarian carcinoma (EOC). METHODS: A Markov model was used to simulate a hypothetical cohort of 500 women (median age 60) to compare 4 NCCN recommended treatment regimens for platinum sensitive recurrent EOC: carboplatin/paclitaxel (C/P); carboplatin/gemcitabine (C/G); C/G with bevacizumab (C/G-B); and carboplatin/pegylated liposomal doxorubicin (C/PLD). These treatments were chosen as they are the 4 best supported by Phase III trials. An indirect comparison treatment methodology was used to obtain evidence of the difference in treatment effects of each regimen. Progression free survival (PFS) and overall survival (OS) were used for surrogate outcomes. This study was run for thirty years. Cost calculations were based on data from Medicare and published literature, and were based on median cycle number from each trial. Published values of health utilities were used for QALY calculations. Cost effectiveness ratios (CER) were calculated for each regimen, and expressed as 3 incremental cost effectiveness ratios (ICER): additional month PFS, month OS, and QALY. Reported rates of grade 3/4 toxicities from each trial were added to the cost of each treatment. Cost, survival, and toxicity rate were varied over a range for sensitivity analysis. RESULTS: C/G was a cost-effective regimen. The cost for treating 1 woman with 6 cycles of C/G ranged from $1,140 (no toxicity) to $7,030 (toxicities at the reported rate). Treatment with C/G produced a dominant ICER of $236,318/month-PFS. For each PFS-month QALY was gained over the next most cost-effective option, over $200,000 was saved. C/G was a cost-effective regimen, resulting in a savings compared to the next most cost effective regimen.

PCN94
MOBILIZING AUTOLOGOUS HEMATOPOIETIC STEM CELLS IN PATIENTS WITH MYELOMA: A COMPARATIVE ANALYSIS OF 4 COMMON MOBILIZATION STRATEGIES
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OBJECTIVES: Autologous stem cell transplantation (ASCT) is an integral part in the management of Multiple Myeloma (MM), the 2nd most common blood cancer. The collection of self stem cells – mobilization is required for ASCT. The optimal approach to procurement of stem cells remains debatable, with multiple competing clinical, cost and transplant-centre factors. In order to rationalize a preferred collection strategy, we undertook Monte Carlo simulations (MCS) and calculated cost effectiveness of 4 common mobilization strategies used in Canada: Cyclophosphamide/G-CSF (Strategy 1), G-CSF alone (Strategy 2), Upfront use of Plerixafor (Strategy 3), and “just-in-time” use of Plerixafor (Strategy 4). METHODS: Clinical data was derived from published systematic reviews, randomized trials and observational studies. Further, a local audit was performed to evaluate external validity of the published data. Costing data for SC collection and adverse events were derived locally, The Ottawa Hospital. The Markov model 11 runs attempts with each strategy were assumed to be followed by plerixafor re-mobilization. Probabilistic sensitivity analysis around costs and collection probabilities were varied simultaneously across their plausible range of values using Monte Carlo simulations (MCS). RESULTS: Successful collection of stem cells was 94.5%, 88.3%, 97.8% and 98.0% respectively for Strategies 1-4, with rates of adverse event of febrile neutropenia of 25.7%, 0%, 0% and 0% Costs/patient were estimated as $8649, $9098, $17,309 and $11,139 respectively. Strategy 1 dominated Strategy 2 in terms of cost and successful mobilization. The incremental cost per successful mobilization was $137,000 for strategy 4 vs. 1 and $1.6 million for strategy 4 vs. 3. MCS found that the probability that strategy 4 was most successful was 70.6% and 5% was 72.6% of simulations. CONCLUSIONS: Within the constraints of our model, our analyses suggest that Cyclophosphamide/G-CSF is a reasonable stem cell mobilization strategy in patients with myeloma requiring an ASCT, balancing costs and successful mobilization.

PCN95
BRAF TARGETED THERAPIES FOR THE TREATMENT OF METASTATIC MELANOMA: A COST-EFFECTIVENESS ANALYSIS
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OBJECTIVES: Melanoma is one of the fastest growing cancers worldwide and progression is poor with metastases. In about 50% of melanoma patients the BRAFV600 protein kinase mutation is present. T wo BRAF V600 targeted therapies dabrafenib and vemurafenib were 0.37, 0.5 and 0.52 LY, respectively and dominance was achieved in 72.6% of simulations. CONCLUSIONS: Within the constraints of our model, our analyses suggest that Cyclophosphamide/G-CSF is a reasonable stem cell mobilization strategy in patients with myeloma requiring an ASCT, balancing costs and successful mobilization.

PCN96
COST-EFFECTIVENESS OF AFABIN, ERLTINIB, AND CISPLATIN/PEMTREXED FOR FIRST-LINE TREATMENT OF METASTATIC EGFR-MUTATION POSITIVE NON- SMALL CELL LUNG CANCER
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OBJECTIVES: To evaluate the cost-effectiveness of afatinib, erlotinib, and cisplatin/peptemrexed chemotherapy, for first-line treatment of metastatic EGFR-mutation positive non-small cell lung cancer (NSCLC). METHODS: A Markov model simulated the lifetime progression of EGFR-mutation positive stage IIIb/ IV NSCLC patients, under each treatment option, from a US societal perspective. Probabilities, survival rates and health utilities were obtained from clinical trials (LUX-3, LUX-6, EURTAC and OPTIMAL) and published literature. Progression-free and overall survival in the erlotinib trial were adjusted up to account for differences in poorer ECOC performance status compared to the afatinib trial. Costs included drug costs and adverse event cost associated with adverse event. Published values of QALYs were calculated. The impact of varying parameters on model outcomes was examined using probabilistic sensitivity analyses. RESULTS: In the base-case model treatment with afatinib was least expensive, with lifetime cost of $38,406, followed by cisplatin/peptemrexed ($40,714), and erlotinib ($41,344). Survival was highest with erlotinib (2.7 quality-adjusted-life-months saved [QALMS], followed by cisplatin/peptemrexed (2.5 QALMS). When compared to erlotinib, afatinib had lower monthly drug costs ($5,648 versus $5,853), but higher overall side effects costs ($3,669 versus $1,690). Cisplatin/peptemrexed was dominated by afatinib. Erlotinib was cost-effective compared with afatinib (ICER = $18,380/QALY). In a model without survival values a rare disease compared with erlotinib had an ICER over the WTP threshold (ICER = $542,745/QALYS), with erlotinib remaining the cost-effective option. Afatinib becomes more cost-effective than both when its monthly drug cost decreased from $5,648 to below $5,282. CONCLUSIONS: Based on our analyses, we recommend erlotinib as the most cost-effective first-line treatment for EGFR-mutation positive NSCLC. Given the potentially similar relative efficacy between afatinib and erlotinib in the clinical setting, the primary driver of cost in NSCLC is the substantially higher cost of the drug in afatinib compared to erlotinib.

PCN97
COST-EFFECTIVENESS OF ARSENIC TRIODIDE IN THE TREATMENT OF RELAPSED/REFRACTORY ACUTE PROMYELOCYTIC LYMPHOMA LEUKEMIA IN CANADA
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OBJECTIVES: To examine the costs of hematologic malignancies (HMs) in relation to clinical outcomes. Methods: A Markov model of HMs was developed with 9 decision nodes: diagnosis, treatment, progression, and death. The length of each Markov cycle was one month or relapse, post-failure, and death. The length of each Markov cycle was one month or relapse, post-failure, and death. The length of each Markov cycle was one month or relapse, post-failure, and death.

PCN98
COST-EFFECTIVENESS ANALYSIS OF INHIBITOR TREATMENTS IN HEMATOLOGIC MALIGNANCIES
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OBJECTIVES: To examine the costs of hematologic malignancies (HM) treatment based on survival gains from Medicare beneficiaries. METHODS: Using the Surveillance, Epidemiology, and End Results (SEER)-Medicare databases, we identified 9,721

dominated vemurafenib. For sensitivity analysis, 95% of the variance was accounted for by health state utilities and cost of dabrafenib. CONCLUSIONS: dabrafenib is the most cost-effective treatment for metastatic melanoma in patients with BRAFV600 mutation given our assumptions. Given the similar QALYs and side effects profile of dabrafenib and vemurafenib, but higher drug cost of vemurafenib, a 25% price reduction in dabrafenib into the market would achieve a significant decrease of 63% in utility of progression on dabrafenib or a minimum decrease of 28% for utility of stable disease on dabrafenib is needed to make vemurafenib the most cost-effective option.
Medicare beneficiaries aged ≥66 diagnosed with HM between January 1, 1995 and December 31, 2007. Incidence of acute myeloid leukemia (AML, n=10,173); chronic myelogenous leukemia (CML, n=4,169); Hodgkin lymphoma (HL, n=2,252), non-Hodgkin lymphoma (NHL, n=51,087); and multiple myeloma (MM, n=18,297). We used a discrete hazard model to estimate survival, and projected future costs using a generalized linear model with a log-link and gamma distribution. Models were adjusted for year of diagnosis, age, race, gender, and comorbidity. We calculated the incremental cost-effectiveness ratio (ICER) for each life-year (LY) and quality-adjusted life-year (QALY) gained by referencing the real world resources using a Japanese claim data set. The result of the cost-effectiveness analysis of abiraterone in 2013 ISPOR Europe PCN99 COST-EFFECTIVENESS EVALUATION OF SUNITINIB AS FIRST- LINE TARGETED THERAPY FOR METASTATIC RETINAL CELL CARCINOMA IN KAZAKHSTAN
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OBJECTIVES: Sunitinib is one of the first targeted treatments for metastatic retinal cell carcinoma (MRCC) and is currently considered as the standard of care for most patients. Our objective is to calculate the cost-effectiveness of sunitinib in the first-line setting. In particular, we compared the incremental costs and QALYs of patients receiving sunitonib with a median overall survival of more than 2 years, improves quality of life and is becoming the first-line standard of care for MRCC. The introduction of targeted treatments, led to improvements in disease management and survival of the patient, however, with increasing costs. Future research is needed to assess the economic value of sunitinib as first-line therapy in MRCC within the Kazakh health care system. METHODS: Cost-effectiveness of sunitinib has been assessed on several occasions and a systematic literature search was conducted to find all published research articles as well as all research abstracts presented in various congresses. An adapted Markov model with a 10-year time horizon was used to analyse the cost effectiveness of sunitinib vs. sorafenib (SFn) and bevacizumab/interferon (BEV/IFN) as first-line therapy from the Kazakh perspective. RESULTS: Progression-free survival and overall survival data from sunitinib, SFN and BEV/IFN pivotal trials were extrapolated to project survival and costs in 6-week cycles. Results in progression-free life-years (PFLY), life-years (LY) and quality-adjusted life-years (QALY) gained, expressed as incremental cost-effectiveness ratios (ICER) with costs and benefits discounted annually approximate 3%, were obtained using deterministic and probabilistic analyses. Survival was projected using life tables and bevacizumab and lenalidomide with SFN and SFN/FN with average cost savings/patients, respectively. Using a willingness-to-pay threshold, sunitinib achieved an incremental net benefit compared with SFN and BEV/IFN, respectively. At a willingness-to-pay threshold of $114,377 per QALY gained, the probability of sunitinib providing the highest incremental net benefit was 72%. CONCLUSIONS: Our analysis suggests that sunitinib is a cost-effective alternative to other targeted therapies as first-line MRCC therapy in the Kazakh health care setting.

PCN100 COST-EFFECTIVENESS ANALYSIS OF RADIOJODINE THERAPY IN PATIENTS WITH LOW- AND INTERMEDIATE-RISK HODGKIN LYMPHOMA
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OBJECTIVES: The main research questions were “can we save money by delaying RAI treatment until after chemotherapy?” and “is RAI still cost-effective when performed after chemotherapy in the setting of advanced stage with residual risk?” METHODS: A Markov model was used to assess the cost-effectiveness of RAI vs no RAI in patients with LIR HL. The model takes into account progression and QoL. We assessed the effect of the intervention on treatment costs and QALYs. The base-case analysis considered patients with stage I to III, with a 10% risk of progression, and the treatment was delivered as a single dose. Sensitivity analysis was performed across a range of possible values of the study parameters. RESULTS: Results showed that delaying RAI treatment until after chemotherapy, when compared to performing RAI after chemotherapy, improved survival at the cost of an increased treatment cost. The ICER was found to be $5,251/ QALY gained. CONCLUSIONS: Our results suggest that delaying RAI treatment until after chemotherapy may offer cost savings. However, an individualised approach may allow clinicians to tailor treatment to best meet patient needs.

PCN101 THE EFFECT OF HERD IMMUNITY IN DIFFERENT HUMAN PAPILLOMAVIRUS VACCINATION STRATEGIES: AN ECONOMIC EVALUATION OF THE BEST II STUDY
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OBJECTIVES: Italian recommendations for human papillomavirus (HPV) immunization currently consider females only. However, males can be vectors in viral transmission and at risk of infection. The BEST II study was designed to evaluate the cost-effectiveness (CE) of different interventions targeting females as well as males; and the economic impact of vaccination on a wide range of HPV-induced diseases. METHODS: A dynamic Bayesian Markov model was developed to investigate the transmission between sexual partners and the cost-effectiveness of vaccination targeting female and male cohorts in comparison to screening and female cohorts only. A range of HPV-induced diseases was considered (cervical, vaginal, vulvar, vaginal intraepithelial neoplasia, and genital warts). The process of sexual mixing was calculated based on age, gender and sexual behavioural specific matrices to estimate the force of infection dynamically. Increased susceptibility to the virus, associated with early sexual debut, a high number of partners, smoking and previous STDs, were included. We considered several scenarios; the baseline assumes universal vaccination to be implemented for 12-year-old females and males. The follow-up period was 55 years. RESULTS: According to our preliminary analysis, universal vaccination resulted in incremental CE ratios (ICERs) corresponding to €910 and €5,770, when compared to screening-only and female-only vaccination, respectively. We performed extensive sensitivity analysis and found the good CE profile of vaccination in Italy. CONCLUSIONS: A universal HPV vaccination of male and female programme is more cost-effective than screening and female-only vaccination when accounting for a high vaccination coverage and the herd immunity and provide indirect protection to unvaccinated girls against HPV. The herd immunity plays a significant role in the economic evaluation of HPV immunization programmes. A universal vaccination may be further useful considering that males are both at risk of infection and vectors in viral transmission.

PCN102 COST-EFFECTIVENESS ANALYSIS OF BENDAMUSTINE-RITUXIMAB TREATMENT COMPARED WITH FLUDARABINE-RITUXIMAB TREATMENT, IN PATIENTS WITH INDOLENT NON-HODGKIN'S LYMPHOMA IN COSTA RICA
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OBJECTIVES: To assess the cost-effectiveness of Bendamustine-Rituximab (BR) compared with Fludarabine-Rituximab (FR) treatment, in patients with Indolent Non-Hodgkin's Lymphoma (NHL) that have progressed or during within six months of treatment with Rituximab or a Rituximab-containing Regimen in Costa Rica. METHODS: A three-health state cohort simulation Markov Model (progression-free, progressive disease, and death) was developed based on time-dependent pre-specified transition matrices. The analysis was conducted from the public health payer's perspective. The time horizon was 5 years (the perspective was that of the National Health System of Costa Rica). The health outcomes of interest were Quality Adjusted Life Years (QALYs), Life Years (LYs) and Progression-free Life Years (PFLYs). Resource consumption for health states was elicited with the support of Latin American hematologists. Utilities for health states and disutilities for adverse reactions were taken from published studies. All costs and Incremental Cost Effectiveness Ratios (ICERs) are presented in Costa Rican currency (Colones). Costs and outcomes were discounted at 3%. One way and probabilistic sensitivity (PSA) analysis were performed. RESULTS: BR resulted in 4,641 QALYs vs 4,632 ELYs and 3,564 PFLYs, per patient, respectively. FR resulted in 3,557 QALYs, 138 ELYs and 2,047 PFLYs, per patient, respectively. Total costs were: 76,309,813 for BR and 73,045,490 for FR. ICERs were: 3,013.664 per QALY gained, 2,523.307 per ELY gained and 2,151.945 per PFLY gained. In all outcomes, results were highly sensitive to Hazard Ratio of overall survival. According to the PSA, with QALYs as outcome, BR had a probability of 63% of being cost effective when considering the threshold of 3 times the Gross Domestic Product per capita (GDPPC) of Costa Rica (34140.792). CONCLUSIONS: BR can be considered very cost-effective compared with FR in the study population (NHL) in Costa Rica, according to the threshold suggested by the World Health Organization [very cost effective below 1 GDPPC (4713.597)].

PCN103 REANALYSIS OF COST-EFFECTIVENESS OF ABRIRATONER ACE AETASE AS SECOND-LINE TREATMENT FOR METASTATIC PROSTATE CANCER IN JAPAN USING A JAPANESE CLAIMS DATA SET
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OBJECTIVES: The objective of this study is to evaluate cost-effectiveness of abiraterone plus prednisolone compared to prednisolone alone in Japan. We presented the results of a cost-effectiveness analysis of abiraterone acetate (AA) plus prednisolone in Japan at the COST CONGRESS. In the present study we reanalyze the cost-effectiveness of abiraterone by referencing the real world resources using a Japanese claim data set. METHODS: Cost-effectiveness analysis was performed using a Markov model based on data from the abiraterone and prednisolone in clinical trials and a literature evaluation conducted from the public health care payer’s perspective. The abiraterone plus prednisolone was compared with prednisolone alone. The base case was assumed to be a 73-year-old man with metastatic castration-resistant prostate cancer (CRPC). The model used a time horizon of 10 years. Outcomes were measured in quality-