were performed on key variables and different vaccination scenarios. **RESULTS:** With 20% screen coverage and 20% vaccine coverage, quadrivalent vaccine plus screening by protocol 2 had the most attractive cost-effectiveness ratio ($6,691 per QALY saved) compared to when using a willingness to pay (WTP) for a QALY threshold of $22,433 (three times of GDP per capita in China). The bivalent vaccine and its combination with the screening program could reduce much more incidence and mortality of cervical cancer compared to the quadrivalent vaccine, while the cost per QALY acquired of the quadrivalent vaccine is lower. The combined strategies are cost-effective compared to the counterparts of vaccination alone and can achieve much more health benefits compared to screening alone. The coverage of the screening and the vaccination serve as a crucial factor of variations in the cost-effectiveness of different strategies. **CONCLUSIONS:** HPV vaccinations integrated into the current screening programs are cost-effectiveness strategies, and should be considered a potential strategy to reduce disease burden of cervical cancer in China. Selection of the appropriate strategy can be flexible for policy makers, because of geographical and socioeconomic diversities.

PCN77

USE OF ABIRATERONE IN THE MANAGEMENT OF CASTRATION-RESISTANT PROSTATE CANCER: A REAL-LIFE COST-EFFECTIVENESS STUDY

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Abiraterone acetate (Abi) therapy showed survival and clinical benefits in the treatment of metastatic castration-resistant prostate cancer (mCRPC) in phase III trials. In Quebec, Abi reimbursement was approved for docetaxel-naïve and refractory patients in 2014 and 2012, respectively.**OBJECTIVES:** Evaluated the cost-effectiveness and survival impact of Abi treatment in the management of CRPC post-docetaxel. **METHODS:** The study cohort was selected from the public healthcare insurance programs: Régie de l'Assurance Maladie du Québec (RAMQ) and Med-Echo databases. It consisted of patients with CRPC starting chemotherapy or abiraterone treatments beteween 2009-2010 (docetaxel), defined as pre-Abi era, and 2012-2013 (docetaxel+Abi), defined as Abi era. Survival was evaluated by Kaplan-Maier and the difference in survival between pre-Abi and Abi eras by log-rank test. Association between Abi exposure and survival was evaluated by cox proportional hazards model adjusted for co-variables. The incremental cost-effectiveness ratio was obtained by dividing changes in costs (Docetaxel alone, Docetaxel+Abi) and survival in the two periods. **RESULTS:** Survival was significantly increased by the addition of Abi to CRPC management. Mean survival were 11.47 (±0.6; N=115) vs 15.26 (± 0.85; N= 67) months in the pre-Abi vs Abi era ($p<0.001$). Mean treatment duration for Abi was 163 days (±108.7) and for chemotherapy during Abi period was 4.4 cycles (±3.1) and 4.6 clycles in the pre-Abi era (±4.2). The adjusted harzard ratio when comparing pre-Abi vs Abi era was 1.32 (95%CI 0.98-1.78). The cost per patient for docetaxel treatment was $3,680 and for docetaxel+Abi was C$49,650. As expected, the addition of Abi resulted in a cost increment of C$45,970/patient. The incremental cost-effectiveness ratio was C$145,569 per life-year gained. **CONCLUSIONS:** Our real-life study indicates that patients receiving Abi plus docetaxel had a survival benefit when compared to chemotherapy alone. Addition of Abi was associated with an important increase in CRPC therapy costs.

PCN78

COST EFFECTIVENESS ANALYSIS OF ERIBULIN MESYLATE AS A TREATMENT FOR METASTATIC BREAST CANCER IN SPAIN: MANAGEMENT IN THE LATER LINES OF THERAPY

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OBJECTIVES: The objective of this study was to estimate Incremental Cost-Effectiveness Ratio (ICER) of utilizing eribulin for Metastatic Breast Cancer (MBC) in Spain for the second line (2L) treatment of HER2 negative (HER2NEG) patients. **METHODS:** Eribulin is indicated for the treatment of patients with locally advanced or MBC who have progressed following one prior chemotherapeutic regimen (FOPC). An economic model was developed to evaluate the cost-effectiveness of eribulin in HER2NEG MBC FOPC population in Spain. The data on progression free survival and overall survival was derived from randomized clinical trial of eribulin against capecitabine (study 301). A five year partitioned survival model was developed to estimate the ICER of the patients in this sub-group. Health state utility data was obtained by mapping quality of life collected in study 301 to EQ-5D using validated algorithm. Frequencies of adverse events and utilization of direct medical resources were also obtained from study 301. Local Spain tariffs were applied for all costs i.e. drug, administration, adverse event treatment, and direct medical costs including hospitalization, physician visits, end of life and palliative care. **RESULTS:** Incremental life years (LYs) and Quality Adjusted Life Years (QALYs) gained by these patients were 0.26 and 0.23 respectively. At a cost of eribulin of €320 per vial, the ICERs per LY and QALY saved were €32,865 and €36,951 respectively. Sensitivity analysis results were also consistent with the basecase findings. **CONCLUSIONS:** According to reviewed HTA decisions in the past, eribulin was found to be cost-effective in 2L HER2NEG populations. Given the limited number of effective therapeutic options available to these patients, cost effective eribulin represents a valid option for optimizing the treatment pathways.

PCN79

IDELALISIB PLUS RITUXIMAB VERSUS PLACEBO PLUS RITUXIMAB FOR RELAPSED CHRONIC LYMPHOCYTIC LEUKEMIA: A COST-EFFECTIVENESS ANALYSIS

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BACKGROUND: No published economic evidence currently exists with regards to idelalisib for relapsed chronic lymphocytic leukemia (CLL). Given its recent approval, comparator products on the market, and the high cost of care in this setting, there is a need for additional information on the clinical and economic impact of idelalisib to inform decisions about utilization, coverage, and reimbursement. **OBJECTIVES:** The objective of this study was to evaluate the cost-effectiveness of idelalisib plus rituximab versus rituximab alone from a payer's perspective. **METHODS:** We developed a partition survival model to evaluate idelalisib plus rituximab versus rituximab alone. The model included three health states – Pre-Progressed, Progressed, and Death. The pivotal trial Study 116 (Furman et al., 2014) served as the basis for this study by providing data on Progression-Free-Survival (PFS) and Overall-Survival (OS), dosing, and adverse events. We used longer-term data from a trial of bendamustine plus rituximab in CLL plus Weibull cumulative distribution functions to extrapolate incomplete PFS and OS curves. Cost data was derived from Wolters Kluwer Health, Centers for Medicare and Medicaid Services data, and publicly available literature. One-way and probabilistic sensitivity analyses were performed to evaluate uncertainty. We used a lifetime horizon, payer perspective, and a 3% discount rate. **RESULTS:** Total costs were $585,493 and QALYs were 3.34 for the idelalisib plus rituximab group, while total costs were $66,698 and QALYs were 1.20 for the rituximab alone group. This yielded an incremental cost-effectiveness ratio of $242,884/QALY. The result was most sensitive to changes in the hazard ratio for death and idelalisib drug costs. The probability that idelalisib was cost-effective was 1% at both a willingness to pay of $100,000/QALY and $150,000/QALY. **CONCLUSIONS:** Idelalisib plus rituximab does not appear to be cost-effective since it greatly exceeds the commonly cited thresholds of $100,000/QALY and $150,000/QALY. However, it is in line with other commonly used treatments in cancer.

PCN80

COST-EFFECTIVENESS OF EML4-ALK GENE TARGETED FIRST-LINE CERITINIB TREATMENT AMONG PATIENTS WITH ADVANCED ALK-POSITIVE NON–SMALL CELL LUNG CANCER

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OBJECTIVES: Mortality associated with the lung cancer is maximum among all forms of cancer in the US. Among all lung cancer patients, 85% have non-small cell lung cancer (NSCLC). Of these NSCLC patients, 5% are EML4-ALK gene positive patients. In these patients, standard therapy [platinum doublet (cisplatin and gemcitabine) as first-line therapy, pemetrexed as second-line therapy, and erlotinib as third-line therapy] has shown plateau effect. In 2014, FDA has approved Ceritinib as a first line therapy based on the results from phase one study, under the orphan drug category for ALK+NSLCC. Study aims to evaluate the cost-effectiveness of EML4-ALK fusion targeted ceritinib treatment as compare to treatment by standard therapy among ALK+NSCLC patients in the US. **METHODS:** A decision analytic model with the embedded Markov model was developed to compare the lifetime benefits in terms of quality adjusted life years [QALYs] and direct medical costs of the treatment strategies for patients with advanced NSCLC. Progression free survival rate during each treatment alternatives, rates of adverse events, mortality rates, and utility values on standard therapy and ceritinib were obtained from published literature. Cost inputs were based on 2013 Medicare reimbursement rates. Primary outcome of incremental cost effectiveness ratio (ICER) was estimated as an incremental cost of treating with Ceritinib per QALY gained. USD 100,000 was considered as the willingness to pay threshold. **RESULTS:** The use of EML4-ALK targeted ceritinib treatment for EML4-ALK–positive advanced NSCLC results in added benefits (0.09 QALYs) and extra costs ($1897.82) for the average patient with NSCLC. The ICER was $21,263 for per QALY gained. **CONCLUSIONS:** Study suggests that the treatment by Ceritinib compared to the treatment by standard therapy alone is a cost-effective strategy based upon the decision analysis model. Study limitation includes non-inclusion of the cost of EML4-ALK gene testing, which could change the total treatment cost significantly.

PCN81

COST-EFFECTIVENESS OF SORAFENIB FOR TREATMENT OF RADIOACTIVE IODINE (RAI)-REFRACTORY LOCALLY ADVANCED/METASTATIC DIFFERENTIATED THYROID CANCER (DTC) IN TURKEY

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OBJECTIVES: Sorafenib is the first product approved for treatment of RAI refractory locally advanced/metastatic DTC patients. This study was conducted in order to analyze cost-effectiveness of sorafenib for treatment of patients with RAI refractory locally advanced/metastatic DTC in Turkey. **METHODS:** A cohort partition model assigning patients to one of three health states according to the proportion of patients who are progression-free, progressed, or dead in each 28-days cycle was adapted to Turkish setting. The incremental cost-effectiveness ratios (ICER) were calculated per quality-adjusted life years (QALYs) and life-years (LYs) gained. Turkish payer's perspective was taken and time-horizon was set as patient's lifetime (maximum 30 years). Sorafenib was compared to the best supportive care (BSC) within the model since there are no agents for treatment of patients on this stage of the disease. Essential clinical inputs were derived from DECISION trial and local resource-utilization data were based on expert opinions through an expert panel. Sensitivity of the results was evaluated in terms of key inputs by deterministic one-way and probabilistic sensitivity analyses. All costs were calculated in Turkish Liras (TL) and converted to USD using TL/USD currency rate as 2.2 (mid-2014). **RESULTS:** Total cost of sorafenib-treated patients is 24,384 USD higher compared to BSC. Besides, sorafenib is associated with increments of 1.29 LYs and 0.80 QALYs compared to BSC. The ICER of sorafenib per LYs and QALYs gained compared to BSC were determined as 18,851 USD and 30,485 USD respectively. One-way sensitivity analysis demonstrated that results are not sensitive to the changes in model inputs

and pharmacoeconomic analysis results were validated by probabilistic sensitivity analysis. **CONCLUSIONS:** Sorafenib is cost-effective for treatment of patients with RAI refractory locally advanced/metastatic DTC compared to BSC with an ICER value below the willingness-to-pay threshold (3-times GDP per capita — 32,346 USD) for Turkey.

PCN83

WITHDRAWN

PCN84

COST-EFFECTIVENESS OF PRIMARY PROPHYLAXIS WITH PEGFILGRASTIM VS LIPEGFILGRASTIM TO REDUCE THE INCIDENCE OF FEBRILE NEUTROPENIA IN PATIENTS WITH EARLY STAGE BREAST CANCER OR NON-HODGKIN LYMPHOMA

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OBJECTIVES: To evaluate the cost-effectiveness of primary prophylaxis (PP) with pegfilgrastim vs lipegfilgrastim to reduce the incidence of febrile neutropenia (FN) in patients with stage II breast cancer receiving 4-cycle TC (docetaxel, cyclophosphamide) and patients with non-Hodgkin lymphoma receiving 6-cycle R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone) over a lifetime horizon from a Belgian payer perspective. **METHODS:** A Markov cycle tree model tracks FN events during chemotherapy (3-week cycles) and long-term survival (1-year cycles). Model inputs include: the odds ratio of FN between lipegfilgrastim PP and pegfilgrastim PP (median [95% credible interval]: 1.39 [0.54–3.50]), estimated from a meta-analysis of randomized controlled trials using mixed-treatment comparison; equivalent prices of lipegfilgrastim and pegfilgrastim since the launch of lipegfilgrastim in Belgium (August 2014); mortality (which is affected by FN and chemotherapy relative dose intensity); costs (in 2014 €); and utilities. All inputs were estimated from public sources, research databases, and peer-reviewed publications. Quality-adjusted life-years (QALYs) and expected lifetime costs were estimated for each strategy. Probabilistic sensitivity analyses (PSA) and scenario analyses were conducted. **RESULTS:** Pegfilgrastim PP dominated lipegfilgrastim PP, with total lifetime costs of €7,482 vs €7,806 for TC and €19,149 vs €19,801 for R-CHOP and total lifetime QALYs of 13.379 vs 13.348 for TC and 4.241 vs 4.184 for R-CHOP. At a willingness-to-pay threshold of €30,000 per QALY, pegfilgrastim PP was cost-effective vs lipegfilgrastim PP in approximately 75% of PSA simulations for both regimens. In a scenario analysis when the lipegfilgrastim price was set at 90% that of pegfilgrastim, the incremental cost-effectiveness ratios for pegfilgrastim PP vs lipegfilgrastim PP were €4,700 per QALY gained for TC and €857 per QALY gained for R-CHOP. **CONCLUSIONS:** From a Belgian payer perspective, pegfilgrastim PP is cost-effective vs lipegfilgrastim PP in patients with stage II breast cancer receiving TC and in patients with non-Hodgkin lymphoma receiving R-CHOP.

PCN85

COST-EFFECTIVENESS OF TREATING ADVANCED PROGRESSIVE PANCREATIC NEUROENDOCRINE TUMOR PATIENTS WITH EVEROLIMUS VERSUS SUNITINIB IN SWEDEN

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OBJECTIVES: Everolimus and sunitinib are indicated to treat patients with advanced, progressive pancreatic neuroendocrine tumors (pNETs). This analysis examines the projected cost-effectiveness of everolimus versus sunitinib in this setting from a Swedish payer's perspective. **METHODS:** A lifetime Markov model was developed to simulate a cohort of advanced, progressive pNET patients to estimate the incremental cost-effectiveness when treating with everolimus (10 mg/day) versus sunitinib (37.5 mg/day). Efficacy inputs were based on a weight-adjusted indirect comparison of the therapies using the respective phase 3 trial data (Signorovitch et al. 2013 and data on file). The disease pathway is reflected through mutually exclusive health states: stable disease without adverse events, stable disease with adverse events, disease progression, and death. Unit costs were obtained from public official Swedish sources. The model includes only direct costs. Resource use was based on a German physician survey, validated and adapted to Swedish conditions. Costs were represented in 2014 Swedish Krona (SEK). The incremental cost-effectiveness ratio (ICER) was calculated. Two-way sensitivity analyses were conducted to test the model's robustness. **RESULTS:** In the base case, the estimated gain of everolimus over sunitinib was 0.357 LYs (0.261 QALYs), which results in an ICER that ranges from 100,000 -200,000 SEK/QALY depending on the assumptions around the duration of therapy for active treatment. The analysis is sensitive to the uncertainty of the indirect analysis results and variables such as dose intensity. **CONCLUSIONS:** This model, based on an indirect comparison of phase 3 studies, indicates that everolimus is cost-effective relative to sunitinib in advanced pNET. Its reliance on an indirect analysis due to the lack of head-to-head randomized controlled trial data warrants future research; however, model results indicate that everolimus is a valuable treatment option for pNET patients in Sweden.

PCN86

COST-EFFECTIVENESS OF CETUXIMAB+FOLFIRI VERSUS BEVACIZUMAB+FOLFIRI AT THE PUBLIC HEALTHCARE SYSTEM IN BRAZIL Â€“ THE FIRE 3 TRIAL ECONOMIC PERSPECTIVE

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OBJECTIVES: The aim of the study was to analyze the cost-effectiveness of cetuximab compared to bevacizumab, both in combination with cytotoxic chemotherapy (folinic acid, fluorouracil and irinotecan, FOLFIRI), for first-line treatment of RAS wild-type metastatic colorectal cancer, under the public perspective in Brazil. **METHODS:** A cost-effectiveness analysis has been developed based on a Markov model, comparing the use of cetuximab+FOLFIRI versus bevacizumab+FOLFIRI. Only 2014 direct medical costs were considered in the analyses and outcomes were measured in terms of life years saved. Efficacy data were obtained from the recently published clinical trial FIRE-3, a head-to-head trial between cetuximab+FOLFIRI and Bevacizumab+FOLFIRI, and costs were obtained from national databases, reflecting the perspective of the public healthcare sector in Brazil as a third party payer. Costs and outcomes were discounted to present value at a 5% annual rate. The time horizon considered 10 years. The total number of patients was calculated by the number of patients currently receiving chemotherapy who would be considered RAS wild-type and eligible to use cetuximab. **RESULTS:** In a 10 years time horizon, the use of cetuximab + FOLFIRI achieved clinical gains of 0,51 life years saved compared to bevacizumab + FOLFIRI, with an average cost reduction of R$1,953 per patient. Cetuximab was shown to be a dominant therapy compared to bevacizumab, saving resources up to BRL 14,450,940.00 considering 5,171 patients in 2015. **CONCLUSIONS:** The use of cetuximab as first-line treatment for wild-type RAS metastatic colorectal cancer has shown significant and clinically meaningful benefits while being cost-saving to the Brazilian public healthcare system.

PCN87

COST-EFFECTIVENESS OF MULTIPLEXED PREDICTIVE BIOMARKER SCREENING IN NON-SMALL CELL LUNG CANCER

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OBJECTIVES: Population-wide screening for epidermal growth factor receptor (EGFR) mutations and anaplastic lymphoma kinase (ALK) gene rearrangements to inform cancer therapy in non-small cell lung cancer (NSCLC) is recommended by guidelines. We estimated cost-effectiveness of multiplexed predictive biomarker screening in metastatic NSCLC from a societal perspective in the US. **METHODS:** We constructed a microsimulation model to compare the life expectancy and costs of multiplexed testing and molecularly guided therapy vs treatment with cisplatin-pemetrexed (CisPem). All testing interventions included a two-step algorithm of concurrent EGFR mutation and ALK overexpression testing with immunohistochemistry (IHC) followed by ALK rearrangement confirmation with a fluorescence in situ hybridization (FISH) assay for IHC positive results. Three strategies were included: 'Test-treat' approach, where molecularly guided therapy was initiated after obtainment of test results; 'Empiric switch therapy', with concurrent initiation of CisPem and testing and immediate switch to test-result conditional treatment after one cycle of CisPem; and 'Empiric therapy' approach in which CisPem was continued for four cycles before start of a tyrosine kinase inhibitor (TKI). **RESULTS:** The incremental cost-effectiveness ratio (ICER) for 'Test-treat' compared to treatment with CisPem was $136,000 per quality-adjusted life year (QALY) gained. Both empiric treatment approaches had less favorable ICERs. 'Test-treat' and 'Empiric switch therapy' yielded higher expected outcomes in terms of QALYs and life-years (LYs) than 'Empiric therapy'. These results were robust across plausible ranges of model inputs. **CONCLUSIONS:** From a societal perspective, our cost-effectiveness results support the value of multiplexed genetic screening and molecularly guided therapy in metastatic NSCLC.