to induction cost and percentage transplants. At a willingness-to-pay threshold of 35,000€ per QALY gained, VTD has a 57.1% probability to be cost-effective in this setting. **CONCLUSIONS:** VTD induction is a cost-effective strategy for ndMM patients eligible for ASCT in Germany compared to TD.

PCN101

A COST-EFFECTIVENESS ANALYSIS OF CISPLATIN PLUS PEMETREXED DOUBLET INDUCTION TREATMENT FOLLOWED BY PEMETREXED MAINTENANCE COMPARED WITH BEVACIZUMAB PLUS CISPLATIN PLUS GEMCITABINE TRIPLET INDUCTION TREATMENT FOLLOWED BY BEVACIZUMAB MAINTENANCE FOR NON-SQUAMOUS NSCLC IN SWEDEN

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OBJECTIVES: This analysis compares the cost effectiveness (CE) of an induction and maintenance sequence of a cisplatin plus pemetrexed (cis+pem) doublet followed by pemetrexed, with that of a bevacizumab (7.5mg or 15mg) plus cisplatin plus gemcitabine (bev+cis+gem) triplet followed by bevacizumab (7.5mg or 15mg) for the treatment of non-squamous non-small cell lung cancer (NSCLC) in Sweden. **METHODS:** As no head-to-head trial data are available comparing these relevant regimens in the first-line induction and maintenance treatment settings, decision modelling and evidence synthesis were used to estimate CE. A series of network meta-analyses were performed to obtain hazard ratios for overall survival (OS) and progression-free survival (PFS) for each induction and maintenance comparator, and odds ratios for response for induction comparators. Bevacizumab doses were pooled in the meta-analyses. The CE model was structured using an area-under-the-curve approach. Costs and benefits were discounted at 3% per annum, consistent with Swedish practice. **RESULTS:** Cis+pem induction followed by pemetrexed maintenance was associated with a higher median PFS, OS, total life-years gained and quality-adjusted life-years (QALYs) than the bevacizumab triplets. Total costs were 416,478Kr for the bev(7.5mg)+cis+gem induction triplet plus bevacizumab 7.5mg maintenance sequence, 478,862Kr for the cis+pem doublet followed by pemetrexed maintenance sequence, and 541,677Kr for the bev(15mg)+cis+gem induction triplet followed by bevacizumab 15mg maintenance sequence. Total QALYs were 0.73 and 0.97 for the bevacizumab triplets and pemetrexed induction and maintenance sequence. The incremental cost-effectiveness ratio (ICER) of cis+pem followed by pemetrexed compared with bev(7.5mg)+cis+gem followed by bevacizumab 7.5mg was 260,831Kr (30,477Euro). The higher bevacizumab dose of 15mg was dominated by the cis+pem followed by pemetrexed sequence. The results of the probabilistic analysis support these results. **CONCLUSIONS:** The results of the CE analysis suggest that cis+pem doublet induction followed by pemetrexed maintenance is a cost-effective treatment sequence compared with the bevacizumab options for NSCLC in Sweden.

PCN102

A COST-EFFECTIVENESS ANALYSIS OF AXITINIB AND SORAFENIB FOR 2ND LINE TREATMENT OF ADVANCED RENAL CELL CARCINOMA AFTER FAILURE OF CYTOKINES IN THE UNITED STATES

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OBJECTIVES: To assess the cost-effectiveness of axitinib compared to sorafenib from the perspective of a US third-party payer for second-line treatment of patients with advanced RCC who failed cytokines. **METHODS:** Phase III AXIS trial reported that axitinib increased median progression free survival (PFS) compared to sorafenib (12.0 vs. 6.6 months, p<0.0001), while overall survival (OS) showed no difference (29.4 vs. 27.8 months, p=0.144) in patients failing treatment with cytokines. A cohort partition model was constructed to estimate direct medical costs and health outcomes, discounted at 3.0% per annum. Patients were apportioned into 3 health states (progression-free, progressed and dead) based on OS and PFS Kaplan-Meier curves from the AXIS trial. Active treatment was applied until progression, followed by best supportive care (BSC) thereafter. The wholesale acquisition costs and adverse event (AE) costs were obtained from published sources. AE rates and utility values were informed by the AXIS trial. US administrative claims data (MarketScan®) was analyzed to estimate routine care costs. Probabilistic sensitivity analysis (PSA) was conducted. **RESULTS:** The total per-patient lifetime costs were estimated to be $242,750 for axitinib and $168,880 for sorafenib and 84% of the cost difference was due to the higher total medication cost of axitinib. The quality-adjusted life-years (QALY) gained on axitinib vs. sorafenib was 1.3 vs. 1.2 and the incremental cost-effectiveness ratio (ICER) was $683,209/QALY. 100% of the PSA iterations showed that axitinib was more expensive than sorafenib and the QALY difference between axitinib and sorafenib was no greater than 0.7. **CONCLUSIONS:** For post-cytokine subgroup, axitinib resulted in an ICER > $650,000/QALY versus sorafenib due to high drug costs and lack of OS benefit, indicating that axitinib may not present good value for money as 2nd line treatment of advanced RCC when compared to sorafenib in the US.

PCN103

COST-EFFECTIVENESS OF COBAS® EGFR MUTATION TEST VERSUS SANGER SEQUENCING IN THE TREATMENT OF LOCALLY ADVANCED OR METASTATIC NSCLC: A PAYER PERSPECTIVE IN THE UNITED KINGDOM

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OBJECTIVES: We explored the cost-effectiveness of using the CE-IVD marked cobas® EGFR Mutation Test versus Sanger sequencing for identifying EGFR mutations in locally advanced or metastatic NSCLC patients from a UK payer perspective. **METHODS:** A decision-tree model was developed to compare testing methodologies and resulting treatment pathways in a hypothetical NSCLC population in the UK with a baseline EGFR mutation prevalence of 16.6%. Model inputs included parameters describing mutation testing accuracy, treatment response (EGFR inhibitor, standard chemo therapy or best supportive care) and adverse events arising from treatment. Inputs were based on published literature and costs in the NHS in England and Wales. The model examined cost-effectiveness over the patients' lifetime. A one-way sensitivity analysis was conducted. **RESULTS:** Using £32,500/QALY as a threshold, the cobas EGFR Mutation Test was cost-effective at an incremental cost per QALY gained of £18,394 for the target population as a result of better test accuracy and lower detection limit relative to Sanger sequencing. The cobas EGFR Mutation test was able to correctly identify more patients with EGFR mutations (lower rate of false negatives) and more appropriately direct patient treatment than Sanger sequencing. **CONCLUSIONS:** The cobas EGFR Mutation Test, by correctly identifying more patients for proper treatment, can be considered a cost-effective strategy for identification of EGFR mutations in locally advanced or metastatic NSCLC patients from a UK payer perspective.

PCN104

A CRITICAL APPRAISAL OF COST-EFFECTIVENESS ANALYSES OF HUMAN PAPILLOMAVIRUS TESTING IN CERVICAL SCREENING: MAKING APPROPRIATE COMPARISONS AND USEFULLY INTERPRETING RESULTS

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OBJECTIVES: To critically appraise published cost-effectiveness analyses (CEAs) of human papillomavirus (HPV) testing in cervical screening regarding the appropriateness of comparisons between strategies and the usefulness of the interpretation of cost-effectiveness estimates. **METHODS:** The PubMed database was searched for relevant CEAs of cervical screening using HPV testing. The identified CEAs were carefully appraised for their quality of analyses, reporting and interpretation of results. Specific examples of modelling shortcomings were selected as illustrations of what to avoid when estimating the cost-effectiveness of HPV-based screening. **RESULTS:** The review identified 29 relevant CEAs. Regarding basic errors, 11 of the 29 calculated the incremental cost-effectiveness ratios (ICERs) either partly or completely incorrectly. Ten studies failed to fully report costs and effects; either simply reporting ICERs or depicting a cost-effectiveness plane. Regarding more fundamental errors, 23 failed to include sufficient screening interval comparators against which to meaningfully estimate ICERs; effectively leading to average cost-effectiveness ratios being mistakenly identified as ICERs, which biases cost-effectiveness ratio estimates downwards. Finally, none of the studies gave specific consideration to the magnitude of the change in costs and effects of adding HPV testing to a given strategy, either with a simple graphical interpretation or with a formal interpretation using the net benefit framework. **CONCLUSIONS:** Model specification is typically the most difficult part of a model-based CEA, whereas simulating relevant strategies is relatively straightforward once the model is built. Similarly, once results have been generated, their correct presentation and interpretation is relatively straightforward. However, this analysis shows that these relatively easy aspects of CEA are being performed poorly in the HPV screening literature. Consequently, a few simple improvements to basic aspects of CEAs of HPV-based screening could greatly enhance the usefulness of such analyses to decision makers.

PCN105

COST-EFFECTIVENESS OF EML4-ALK FUSION TESTING AND FIRST-LINE CRIZOTINIB TREATMENT FOR PATIENTS WITH ADVANCED ALK POSITIVE NON-SMALL CELL LUNG CANCER IN A PUBLICLY FUNDED SYSTEM (ONTARIO, CANADA)

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OBJECTIVES: ALK-targeted therapy with crizotinib offers significant improvement in clinical outcomes for the treatment of EML4–ALK fusion positive NSCLC. We estimated the cost-effectiveness of EML4-ALK testing in combination with first-line crizotinib for ALK positive NSCLC in Ontario. **METHODS:** A cost-effectiveness analysis was conducted, using a Markov model from the Canadian public health (Ontario) perspective and a lifetime horizon in Stage IV NSCLC patients with non-squamous histology. Transition probabilities and mortality rates were calculated from the Ontario Cancer Registry and Cancer Care Ontario New Drug Funding Program (CCO NDFP). Costs were obtained from the Ontario Case Costing Initiative, CCO NDFP, University Health Network and the literature. Population-based ALK testing included initial IHC testing followed by FISH confirmation for positive cases. **RESULTS:** The strategy of genomic testing linked to targeted crizotinib treatment gained 0.11 QALYs compared to no testing or crizotinib treatment in the advanced non-squamous NSCLC population. The incremental cost was CAD $4,179 per patient compared to the previous standard of care without ALK testing; the incremental cost-effectiveness ratio for the base case was $392,538 per QALY. The incremental cost and ICER for crizotinib therapy in known ALK positive advanced NSCLC patients was $96,554 and $254,617/QALY. The cost of testing was less relevant to the ICER at a biomarker frequency of 7% and higher. The major drivers of cost-effectiveness are drug cost and low biomarker frequency in the population. **CONCLUSIONS:** EML4–ALK genomic testing in combination with crizotinib treatment for all Stage IV non-squamous NSCLC patients is not cost-effective in the setting of high drug costs and a low biomarker frequency in the general population. Modifying these key drivers will be important in improving the cost-effectiveness and accessibility to novel therapies with major clinical benefit in advanced NSCLC.

PCN106

OVERVIEW ON COST-EFFECTIVENESS RESULTS OF DECISION-ANALYTIC STUDIES FOR THE TREATMENT OF MULTIPLE MYELOMA

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